# Appendix 9-1.1- GDG Trial Pits

View of TP. Water trickling from the interface of peat and clay (continuous weak flow). Walls slightly unstable and crumbling (mostly on water path).

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|---|---|
| | Close-up of gravelly clay. Large amount of water comes from the water gathered at the bottom of the pit. |
| | Close up of large angular boulders in gravelly clay. Large amount of water comes from the water gathered at the bottom of the pit. |

| INSPECTION DETAILS | |
|---|---|
| **Site Location:** | Derryadd Wind Farm Area 1 |
| **Trial Pit No:** | TP03 |
| **Turbine No:** | T28<br>(Formally Turbine No. 3 prior to issue of Site Layout Drawing 8057-1004 D02 Jan 2017) |
| **Coordinates:** | E209901.918207 N264072.96959 |
| **Date & Time:** | 1st December 2016 |
| **Testing details:** | Trial pit |
| **Observations & recommendations:** | The below points were observed during this Ground investigation<br>0 – 0.80m: Plastic Fibrous Black Organic PEAT<br>0.80 – 3.50m: Plastic Fibrous Brown PEAT<br>3.50 – 4.50m: very loose to loose light grey silty gravely SAND with abundant cobbles<br><br>Samples: 4.00 – 4.50m<br><br>Trial pit stopped as the maximum depth achievable with the excavator was reached |

| PHOTOGRAPHS | |
|---|---|
| | End of the trial pit at the location of T03 |

| INSPECTION DETAILS | |
|---|---|
| **Site Location:** | Derryadd Wind Farm Area 1 |
| **Trial Pit No:** | TP04 |
| **Turbine No:** | T26<br>(Formally Turbine No. 4 prior to issue of Site Layout Drawing 8057-1004 D02 Jan 2017) |
| **Coordinates:** | E209708.785509 N264640.974938 |
| **Date & Time:** | 1st December 2016 |
| **Testing details:** | Trial pit |
| **Observations & recommendations:** | The below points were observed during this Ground investigation<br>0 – 0.05m: Plastic Fibrous Black Organic PEAT<br>0.05 – 0.40m: Very soft to soft light brown slightly clayey sandy gravelly SILT with numerous cobbles<br>0.40 – 2.2m: Very soft to soft light grey slightly sandy gravelly SILT/CLAY with numerous cobbles and occasional boulders<br><br>Samples: 0.30 – 0.40m / 2.00 – 2.20m<br><br>Trial pit stopped due to an obstruction (possible boulders) |

| PHOTOGRAPHS | |
|---|---|
| | End of the trial pit at the location of T4 |
| | Close-up of the Very soft to soft light brown slightly clayey sandy gravelly SILT with numerous cobbles |

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|---|---|
| | General view of the Very soft to soft light grey slightly sandy gravelly SILT/CLAY with numerous cobbles and occasional boulders |
| | Close-up the Very soft to soft light grey slightly sandy gravelly SILT/CLAY with numerous cobbles and occasional boulders |

| INSPECTION DETAILS | |
|---|---|
| **Site Location:** | Derryadd Wind Farm Area 1 |
| **Trial Pit No:** | TP05 |
| **Turbine No:** | T27<br>(Formally Turbine No. 5 prior to issue of Site Layout Drawing 8057-1004 D02 Jan 2017) |
| **Coordinates:** | E209886.277494 N265235.56172 |
| **Date & Time:** | 1st December 2016 |
| **Testing details:** | Trial pit |
| **Observations & recommendations:** | The below points were observed during this Ground investigation<br>0 – 0.10m: Plastic Fibrous Black Organic PEAT<br>0.10 – 1.30m: Plastic Fibrous Brown PEAT<br>1.30 – 2.7m: Very soft to soft light grey slightly clayey sandy SILT with abundant cobbles<br><br>Samples: 2.50 – 2.70m<br><br>Trial pit stopped due to an obstruction (possible boulders) |

| PHOTOGRAPHS | |
|---|---|
| | End of the trial pit at the location of T5 |
| | General view of the Very soft to soft light grey slightly clayey sandy SILT with abundant cobbles |

| | |
|---|---|
| | Close-up of the Very soft to soft light grey slightly clayey sandy SILT with abundant cobbles |

| INSPECTION DETAILS | |
|---|---|
| **Site Location:** | Derryadd Wind Farm Area 1 |
| **Trial Pit No:** | TP06 |
| **Turbine No:** | T23<br>(Formally Turbine No. 6 prior to issue of Site Layout Drawing 8057-1004 D02 Jan 2017) |
| **Coordinates:** | E208360.322402 N264306.308806 |
| **Date & Time:** | 1st December 2016 |
| **Testing details:** | Trial pit |
| **Observations & recommendations:** | The below points were observed during this Ground investigation<br>0 – 0.10m: Plastic Fibrous Black Organic PEAT<br>0.10 – 1.10m: Plastic Fibrous Brown PEAT<br>1.10 – 2.00m: Very soft to soft light grey slightly clayey SILT with abundant gravels and cobbles<br>2.00 – 2.50m: Very soft to soft light grey slightly clayey SILT with abundant gravels, cobbles and boulders<br><br>Samples: 1.50 – 1.80m / 2.20 – 2.50m<br><br>Trial pit stopped due to an obstruction (possible boulders)<br><br>Remark: Too many gravels to make a Vane Shear Test |

| PHOTOGRAPHS | |
|---|---|
| N/A | |

| INSPECTION DETAILS | |
|---|---|
| **Site Location:** | Derryadd Wind Farm Area 1 |
| **Trail Pit:** | TP07 |
| **Turbine No:** | T24<br>(Formally Turbine No. 7 prior to issue of Site Layout Drawing 8057-1004 D02 Jan 2017) |
| **Coordinates:** | E209253.267958 N264198.25332 |
| **Date & Time:** | 1st December 2016 |
| **Testing details:** | Trial pit |
| **Observations & recommendations:** | The below points were observed during this Ground investigation<br>0 – 0.10m: Plastic Fibrous Black Organic PEAT<br>0.10 – 1.10m: Plastic Fibrous Brown PEAT<br>1.10 – 1.40m: Very soft to soft light grey slightly silty CLAY with occasional gravels<br>1.40 – 2.00m: Very loose to loose silty SAND with numerous gravels and cobbles<br><br>Vane Test at 1.30m: 38, 40, 60<br><br>Samples: 1.20 – 1.40m / 1.7 – 2.00m<br><br>Trial pit stopped due to an obstruction (possible boulders)<br><br>Remark: Water table at 2.00m |

| PHOTOGRAPHS | |
|---|---|
| | End of the trial pit at the location of T7 |
| | Close-up of the Very soft to soft light grey slightly silty CLAY with occasional gravels |

| | |
|---|---|
| | General view of the Very loose to loose silty SAND with numerous gravels and cobbles |

| INSPECTION DETAILS | |
|---|---|
| **Site Location:** | Derryadd Wind Farm Area 1 |
| **Trail Pit:** | TP08 |
| **Turbine No:** | T25<br>(Formally Turbine No. 8 prior to issue of Site Layout Drawing 8057-1004 D02 Jan 2017) |
| **Coordinates:** | E209447.797401 N263626.549651 |
| **Date & Time:** | 1st December 2016 |
| **Testing details:** | Trial pit |
| **Observations & recommendations:** | The below points were observed during this Ground investigation<br>0 – 0.10m: Plastic Fibrous Black Organic PEAT<br>0.10 – 2.00m: Plastic Fibrous Brown PEAT<br>2.00 – 2.70m: Soft light grey slightly clayey gravelly SILT<br>2.70 – 3.70m: Very loose to loose light grey silty gravelly SAND with numerous cobbles and boulders<br><br>Vane Test at 2.5m: 48, 52, 48<br><br>Samples: 2.50 – 2.70m / 3.50 – 3.70m<br><br>Trial pit stopped due to an obstruction (possible boulders) |

| PHOTOGRAPHS | |
|---|---|
| | End of the trial pit at the location of T7 |
| | Close-up of the Soft light grey slightly clayey gravelly SILT |

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|---|---|
| | General view of the Very loose to loose light grey silty gravelly SAND with numerous cobbles and boulders |

| PHOTOGRAPHS | |
|---|---|
| | General overview of terrain |
| | Close up of gravelly clay with the yellow sand lens (in circle) |

| INSPECTION DETAILS | |
|---|---|
| **Site Location:** | Derryadd Wind Farm Area 1 |
| **Trial Pit No:** | 101 |
| **Turbine No:** | T22 |
| **Coordinates:** | E207835.669044 N264626.489012 |
| **Date & Time:** | 11th January 2017 |
| **Testing details:** | Trial pit |
| **Observations & recommendations:** | The following layers were observed in this Trial Pit:<br><br>**0.00 – 0.90 m**: Black peat with very little discernible fibres and roots<br>**0.90 – 3.10 m**: Light grey soft slightly sandy gravelly CLAY with significant amount of cobbles and boulders and occasional minor lenses of yellow fine to medium sand.<br><br>TP terminated at 3.10 m due to abundance of large angular boulders.<br><br>**Shear Vane Tests**:<br>0.25 m (in-situ soil): 7, 34, 22, 17, 33 (likely interfered with existing vegetation roots)<br>2.20 m (excavated soil): 9, 10, 10 (on softer parts with less gravel)<br><br>**Samples**: [0.50 m] / [2.20 m]<br><br>**Remarks**:<br>• Difficult access. Unused part of bog – dense vegetation cover of small trees, grass and moss<br>• Significant amount of water trickling from the interface of peat and gravelly clay (from several points)<br>• TP walls crumbling / slightly unstable<br>• Increasing amount of gravels and cobbles with depth<br>• After 2.50 m, significant amount of large boulders |

# Appendix 9-1.2- TOBIN Trial Pits

| Name | Substation | x | y | Peat | Marl | Subsoil | Subsoil 2 |
|---|---|---|---|---|---|---|---|
| **STP1** | **Substation 1** | 205076 | 268648 | 1.5m Peat, Brown to Black peat. H4 to H7, B2 | NA | 1.5 -3.1, Grey to dark grey, soft. Moist. Thinly laminated slightly sandy SILT/CLAY. (Alluvial/lacustrine deposits) | 3.1 -3.3 Moderately firm to firm, Sandy, gravelly SILT/CLAY with Large cobbles of sandstone and limestone. |
| **STP2** | **Substation 1** | 205095 | 268590 | 1.5m Peat, H4 to H7, B3 | NA | 1.5 -3.2, Grey to dark grey, soft. Moist. Thinly laminated slightly sandy SILT/CLAY. (Alluvial/lacustrine deposits) | 3.2 -3.3 Moderately firm to firm, Sandy, gravelly SILT/CLAY with Large cobbles of sandstone and limestone. |
| **STP3** | **Substation 1** | 205019 | 268571 | 1.2m Peat H4-H7, B2 | NA | 1.2 -3.1, Grey to dark grey, soft. Moist. Thinly laminated slightly sandy SILT/CLAY. (Alluvial/lacustrine deposits) | 3.1 -3.3 Moderately firm to firm, Sandy, gravelly SILT/CLAY with Large cobbles of sandstone and limestone. (boulder clay) |
| **STP4** | **Substation 1** | 205041 | 268513 | 1.2m Peat H4-H7, B2 | NA | 1.2 -3.1, Grey to dark grey, soft. Moist. Thinly laminated slightly sandy SILT/CLAY. (Alluvial/lacustrine deposits) | 3.1 -3.3 Moderately firm to firm, Sandy, gravelly SILT/CLAY with Large cobbles of sandstone and limestone. (boulder clay) |
| **STP5** | **Substation 3** | 205797 | 265084 | 1.5m Red/Brown Fibrous Peat, H2-H3, B2 | 1.5 - 2.2m, Cream, very soft, organic shelly marl with occasional rootlets. | 2.2m to 4m Grey to dark grey, soft. Moist. Thinly laminated slightly sandy SILT/CLAY. (Alluvial/lacustrine deposits) | |
| **STP6** | **Substation 3** | 205815 | 265035 | 1.5m Red/Brown Fibrous Peat, H2-H3, B3 | 1.6 - 2.3m, Cream, very soft, organic shelly marl with occasional rootlets. | 2.3m to 4.5m Grey to dark grey, soft. Moist. Thinly laminated slightly sandy SILT/CLAY. (Alluvial/lacustrine deposits) | |

# Appendix 9-1.3- TOBIN Trial Pits - Borrow Pits

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP1 | | |
| **Date & Time:** | 4th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.2 m**: Shallow Black fibrous with rootlets | | |
| | **0.2 – 0.50 m**: Light grey, soft, slightly sandy, gravelly CLAY | | |
| | **0.5m – 0.8 m**: Light grey very soft slightly sandy silty CLAY with significant amount of gravel, cobbles and boulders. | | |
| | Trial pit terminated at 0.7 m due to abundance of large angular boulders. | | |
| **Observations & recommendations:** | No water present | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |

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| PEAT |
| MARL |
| TILL |
| BEDROCK |
| Possible BEDROCK |
| Archaeology |

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| Borrow Pit Assessment - Trial Pits | | | |
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP2 | | |
| **Date & Time:** | 4th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.5 m**: Shallow Black/brown fibrous with rootlets | | |
| | **0.5 – 2.5 m**: Light grey, soft, slighty sandy, gravelly CLAY | | |
| | **2.5 m**: Significant amount of gravel, cobbles and boulders. Bouldsers change from SR to Angular. Spring inflow from TP base, possible bedrock | | |
| | Trial pit terminated at 2.5m due to abundance of large angular boulders and Bedrock | | |
| **Observations & recommendations:** | Spring water inflow from TP base, possible bedrock | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |

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| PEAT |
| MARL |
| TILL |
| BEDROCK |
| Possible |
| Archaeol |

| Borrow Pit Assessment - Trial Pits | | | |
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| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP3 | | |
| **Date & Time:** | 4th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.5 m**: Shallow Black/brown fibrous with rootlets | | |
| | **0.5 – 2.5 m**: Light grey, soft, slighty sandy, gravelly CLAY | | |
| | **2.5 m**: Significant amount of gravel, cobbles and boulders. Bouldsers change from SR to Angular. Spring inflow from TP base, possible bedrock | | |
| | Trial pit terminated at 2.5 m due to abundance of large angular boulders. | | |
| **Observations & recommendations:** | Spring water inflow from TP base, possible bedrock | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |

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|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP4 | | |
| **Date & Time:** | 4th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.2 m**: Shallow Black fibrous with rootlets | | |
| | **TP terminated at possibel ARCHAEOLOGY feature.** | | |
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| **Observations & recommendations:** | Possible Archaeology | | |
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| PEAT |
| MARL |
| TILL |
| BEDROCK |
| Possible BEDROCK |
| Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP5 | | |
| **Date & Time:** | 4th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.15 m**: Shallow Black fibrous with rootlets | | |
| | **0.15 – 1.2 m**: Light grey, soft, slighty sandy, gravelly SILT/CLAY | | |
| | **1.2m**: Significant amount of gravel, cobbles and boulders. Boulders change from SR to Angular. Spring inflow from TP base, bedrock evident | | |
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| **Observations & recommendations:** | Large inflow at the base of the trail pit. Inflow is from the bedrock | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |

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| PEAT |
| MARL |
| TILL |
| BEDROCK |
| Possible BEDROCK |
| Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP6 | | |
| **Date & Time:** | 4th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 1.2 m**: Shallow Black fibrous with rootlets | | |
| | **1.2 – 2.80 m**: Light gre, soft, slighty sandy, gravelly CLAY. Cobbles SR becoming | | |
| | | | |
| | nated at 2.8 m due to abundance of large angular boulders and water inflows. Po | | |
| **Observations & recommendations:** | Possible Archaeology on the southern face of the trial pit | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |

PEAT
MARL
TILL
BEDROCK
Possible BEDROCK
Archaeology

| Borrow Pit Assessment - Trial Pits | | | |
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| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP6 | | |
| **Date & Time:** | 4th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 1.0 m**: Shallow Black/brown peat with rootlets | | |
| | **1.0 – 1.4 m**: Light grey/olive, soft, organic silts and shelly marl. | | |
| | **1.4 – 2.70 m**: Light grey, soft, slightly sandy, gravelly CLAY. Cobbles SR . Obstruction at the base | | |
| **Observations & recommendations:** | Trial pit terminated at 2.7 m due to a large boulders. Possible bedrock however not major water inflows suggesting bedrock maybe deeper at this location | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |

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| PEAT |
| MARL |
| TILL |
| BEDROCK |
| Possible BEDROCK |
| Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
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| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP6 | | |
| **Date & Time:** | 4th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 1.2 m**: Shallow Black fibrous with rootlets | | |
| | **1.2 – 2.80 m**: Light gre, soft, slighty sandy, gravelly CLAY. Cobbles SR becoming | | |
| | | | |
| | nated at 2.8 m due to abundance of large angular boulders and water inflows. Po | | |
| **Observations & recommendations:** | | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |

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| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible B |
| | Archaeolo |

| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP6 | | |
| **Date & Time:** | 4th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 1.2 m**: Black fibrous overlying reddish brown peat with rootlets and timber | | |
| | **1.2 – 1.4 m**: Light grey/olive, soft, organic silts and shelly marl. Cobbles SR becoming angular at base | | |
| | **1.4 – 2.70 m**: Light grey, soft, slightly sandy, gravelly CLAY. Cobbles SR . Obstruction at the base | | |
| | | | |
| **Observations & recommendations:** | 2.8 m due to obstruction. Possible bedrock however cobbles remained subround | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |
| | No Water inflows | | |

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| PEAT |
| MARL |
| TILL |
| BEDROCK |
| Possible BEDROCK |
| Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
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| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP8 | | |
| **Date & Time:** | 4th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.20 m**: Interbedded black and brown organic peat | | |
| | **0.2 – 2.5 m**: Sandy very silty/clayey GRAVEL with numerous cobbles and boulders. | | |
| | **Moist and moderately dense. Mottled light brown, olive, grey in top 1.4 m** | | |
| | Trial pit terminated at 2.5 m due to abundance of large boulders. | | |
| **Observations & recommendations:** | | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
| | No Water inflows | | |

PEAT
MARL
TILL
BEDROCK
Possible BEDROCK
Archaeology

| Borrow Pit Assessment - Trial Pits | | | |
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| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP9 | | |
| **Date & Time:** | 4th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.20 m**: Interbedded black and brown organic peat | | |
| | **0.2 – 2.5 m**: Sandy very silty/clayey GRAVEL with numerous cobbles and boulders. | | |
| | **Moist and moderately dense. Mottled light brown, olive, grey in top 1.2 m** | | |
| | | | |
| **Observations & recommendations:** | no major water inflows | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
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| PEAT |
| MARL |
| TILL |
| BEDROCK |
| Possible BEDROCK |
| Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
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| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP10 | | |
| **Date & Time:** | 4th Dec 2017 | | |
| **BP Testing details:** | | | |
| | **0.00 – 0.20 m**: Interbedded black and brown organic peat | | |
| | **0.2 – 2.5 m**: Sandy very silty/clayey GRAVEL with numerous cobbles and boulders. | | |
| | **Moist and moderately dense. Mottled light brown, olive, grey in top 1.4 m** | | |
| | | | |
| | Trial pit terminated at 2.5 m due to abundance of large angular boulders. | | |
| **Observations & recommendations:** | No major water inflows | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
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| | PEAT |
| | MARL |
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| | Possible BEDROCK |
| | Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP11 | | |
| **Date & Time:** | 4th Dec 2017 | | |
| **BP Testing details:** | | | |
| | **0.00 – 0.20 m**: Interbedded black and brown organic peat | | |
| | **0.2 – 2.4m**: Sandy very silty/clayey GRAVEL with numerous cobbles and boulders. | | |
| | **Moist and moderately dense. Mottled light brown, olive, grey in top 1.6 m** | | |
| | | | |
| | Trial pit terminated at 2.4m due to abundance of large angular boulders. | | |
| **Observations & recommendations:** | | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
| | No major water inflows | | |

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| Possible BEDROCK |
| Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP12 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.20 m**: black organic peat | | |
| | **0.2 – 0.50 m**: Weathered bedrock with regular angular blocks of pale grey, | | |
| | | | |
| | | | |
| **Observations & recommendations:** | Water inflows at the bedrock | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
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Possible BEDROCK
Archaeology

| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP13 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.20 m**: black organic peat | | |
| | **0.2 – 0.50 m**: Weathered bedrock with regular angular blocks of pale grey, | | |
| | | | |
| | | | |
| **Observations & recommendations:** | Water inflows at the bedrock surface | | |
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Archaeology

| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP14 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.10 m**: black organic peat | | |
| | **0.1– 2.3 m**: Light grey/olive, soft, slightly sandy, gravelly CLAY. Cobbles SR . | | |
| | | | |
| | | | |
| **Observations & recommendations:** | No water inflow. Not certain that bedrock is present however angular blocks of limestone are present | | |
| | Possible Bedrock or Obstruction at 2.3m | | |
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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP15 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.30 m**: black organic peat | | |
| | **0.3– 2.5 m**: Light grey/olive, soft, slightly sandy, gravelly CLAY. Cobbles SR . | | |
| | | | |
| | | | |
| **Observations & recommendations:** | No significant water inflows | | |
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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP16 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.30 m**: black organic peat | | |
| | **0.3– 2.2 m**: Light grey/olive, soft, slightly sandy, gravelly CLAY. Cobbles SR . | | |
| | | | |
| | | | |
| **Observations & recommendations:** | Water inflows at the bedrock | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
| | Possible Bedrock or Obstruction at 2.2m | | |

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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP17 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.30 m**: black organic peat | | |
| | **0.3– 2.1 m**: Light grey/olive, soft, slightly sandy, gravelly CLAY. Cobbles SR . | | |
| | **Obstruction at 2.1m** | | |
| | | | |
| **Observations & recommendations:** | No significant water inflows | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP18 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.30 m**: black organic peat | | |
| | **0.3– 3 m**: Light grey/olive, soft, slightly sandy, gravelly CLAY. Cobbles SR . | | |
| | Possible Bedrock or Obstruction at 3m | | |
| | | | |
| **Observations & recommendations:** | Water inflows at the bedrock surface | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP19 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.20 m**: black organic peat | | |
| | **0.2– 2 m**: Light grey/olive, soft, slightly sandy, gravelly CLAY. Cobbles SR . | | |
| | **Obstruction at 2m** | | |
| | | | |
| **Observations & recommendations:** | No significant water inflows | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP20 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.30 m**: black organic peat | | |
| | **0.3– 2.5 m**: Light grey/olive, soft, slightly sandy, gravelly CLAY. Cobbles SR . Obstruction at | | |
| | Possible Bedrock or Obstruction at 2.5m | | |
| | | | |
| **Observations & recommendations:** | Water inflow at base of peat and in the base of trial pit | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP21 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.10 m**: Black organic peat | | |
| | **0.1 – 0.80 m**: Light grey/olive, very soft, slightly sandy, gravelly SILT/CLAY. | | |
| | | | |
| | Trial pit terminated at 0.8 due to bedrock | | |
| **Observations & recommendations:** | Trial pit collapsing - water inflows from the base of trial pit | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP12 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.20 m**: black organic peat | | |
| | **0.2 – 0.50 m**: Weathered bedrock with regular angular blocks of pale grey, | | |
| | | | |
| | | | |
| **Observations & recommendations:** | Dry - no major inflows | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP22 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.3 m**: Interbedded black and brown/red organic peat. | | |
| | **0.3 – 1.2 m**: Very soft running sands and sandy gravelly silt/CLAY | | |
| | **1.2m - Bedrock and large water inflows** | | |
| | Trial pit terminated at 1.2 m due to abundance of large angular boulders & bedrock. | | |
| **Observations & recommendations:** | Large water inflows | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP23 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.3 m**: Interbedded black and brown/red organic peat. | | |
| | **0.3 – 1.2 m**: Very soft running sands and sandy gravelly silt/CLAY | | |
| | **1.2m - Bedrock and large water inflows** | | |
| | Trial pit terminated at 1.2 m due to abundance of large angular boulders & bedrock. | | |
| **Observations & recommendations:** | Water inflows in the base of trial pit | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |

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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP24 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 1.1 m**: Interbedded black and brown/red organic peat. | | |
| | **1.1 – 2.3 m**: Very soft running sands and sandy gravelly silt/CLAY | | |
| | **2.2m - Bedrock and large water inflows** | | |
| | Trial pit terminated at 2.3 m due to abundance of large angular boulders & bedrock. | | |
| **Observations & recommendations:** | | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |

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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP25 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.3 m**: Interbedded black and brown/red organic peat. | | |
| | **0.3 – 2.1 m**: Light grey/ mid grey silty sandy GRAVEL - TP at this location | | |
| | **No Bedrock encountered - Obstruction at 2.1m** | | |
| | Trial pit terminated at 2.1 m due to large boulders | | |
| **Observations & recommendations:** | | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP26 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.4 m**: Interbedded black and brown/red organic peat. | | |
| | **0.4-2 m**: Light grey/ mid grey silty sandy GRAVEL - TP at this location | | |
| | **2 m- obstruction at 2m** | | |
| | Trial pit terminated at 2 m due to abundance of large angular boulders & bedrock. | | |
| **Observations & recommendations:** | | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP27 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.6 m**: Interbedded black and brown/red organic peat. | | |
| | **0.6– 1.7 m**: Very soft running sands and sandy gravelly silt/CLAY | | |
| | **1.7m - Bedrock and large water inflows** | | |
| | Trial pit terminated at 1.7 m due to abundance of large angular boulders & bedrock. | | |
| **Observations & recommendations:** | Large inflow at 1.7m | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP28 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.8 m**: Interbedded black and brown/red organic peat. | | |
| | **0.8– 2.3m**: Very soft sandy gravelly silt/CLAY | | |
| | **2.3m - Large cobbles and angular bedrock at 2.3m. Possible bedrock** | | |
| | Trial pit terminated at 2.3 m due to abundance of large angular boulders & bedrock. | | |
| **Observations & recommendations:** | Minor inflow at base of trial pit | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit slightly unstable and crumbling | | |
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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP29 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.2 m**: Interbedded black and brown/red organic peat. | | |
| | | | |
| | **0.2m - Large Bedrock outcrop and exposure at this location** | | |
| | | | |
| **Observations & recommendations:** | Rock at surface | | |
| | Minor inflows at the base of trial pit | | |
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| Borrow Pit Assessment - Trial Pits | | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP30 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.2 m**: Interbedded black and brown/red organic peat. | | |
| | | | |
| | **0.2m - Large Bedrock outcrop and exposure at this location** | | |
| | | | |
| **Observations & recommendations:** | Rock at surface | | |
| | No inflows | | |
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| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP/BP Dec 2017 |
| Prepared by | John Dillon | Date | 13th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | BP31 | | |
| **Date & Time:** | 5th Dec 2017 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.2 m**: Interbedded black and brown/red organic peat. | | |
| | | | |
| | **0.2m - Large Bedrock outcrop and exposure at this location** | | |
| | | | |
| **Observations & recommendations:** | Rock at surface | | |
| | No inflows | | |
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| MARL |
| TILL |
| BEDROCK |
| Possible BEDROCK |
| Archaeology |

# Appendix 9-1.4- TOBIN Trial Pits

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 27th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | ITM | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-1 | | |
| **Date & Time:** | 27th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.1 m: Shallow Black fibrous PEAT with rootlets** | | |
| | **0.7 – 2.0 m**: Light grey, moist, moderately Firm, slightly sandy, gravelly CLAY. | | |
| | **2.0-2.9 m**: Light grey moderately firm very silty, slightly sandy GRAVEL with significant amount of gravel, cobbles and boulders. | | |
| | | | |
| | | | |
| | | | |
| | Trial pit terminated at 2.9m due to abundance of large boulders. | | |
| **Observations & recommendations:** | No water present | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |
| | | | |

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|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 27th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-2 | | |
| **Date & Time:** | 27th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.1 m: Shallow Black fibrous PEAT with rootlets** | | |
| | **0.2 – 0.50 m**: Light grey, soft, slightly sandy, gravelly CLAY | | |
| | **0.5m – 2.7 m**: Light grey mod firm slightly sandy silty CLAY with significant amount of gravel, cobbles and boulders. | | |
| | | | |
| | | | |
| | | | |
| | Trial pit terminated at 2.7m due to abundance of large boulders. | | |
| **Observations & recommendations:** | No water present | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |
| | | | |

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|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 28th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-3 | | |
| **Date & Time:** | 28th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.3 m: Shallow Black fibrous PEAT with rootlets** | | |
| | **0.3m – 0.8 m**: Light grey moderately dense silty SAND. | | |
| | **0.8-2.2m; Moist, soft, Sandy gravelly SILT with 0.1 to 0.2 m sand lens** | | |
| | **Possible bedrock at 2.2m** | | |
| | | | |
| | | | |
| | Trial pit terminated at 2.2m due to abundance of large boulders/bedrock. | | |
| **Observations & recommendations:** | No water present | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |
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|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |
| | Sand/Gravel |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 28th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-4 | | |
| **Date & Time:** | 28th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 1.6 m: Black/brown fibrous PEAT - H4 to H6** | | |
| | **1.6-3 m**: Light grey, soft, very sandy, gravelly SILT/CLAY . Occasional limestone | | |
| | | | |
| | | | |
| | **Possible bedrock at 3m** | | |
| | | | |
| | Trial pit terminated at 3m due to possiblebedrock. | | |
| **Observations & recommendations:** | Minor water inflows at base present | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |
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| PEAT |
| MARL |
| TILL |
| BEDROCK |
| Possible BEDROCK |
| Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 28th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-5 | | |
| **Date & Time:** | 28th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.1 m: Shallow Black fibrous PEAT with rootlets** | | |
| | **0.1 – 1.3 m**: Light grey, soft, very sandy, gravelly SILT. Occasional sand lens between 1.0 | | |
| | | | |
| | **Bedrock at 1.3m** | | |
| | | | |
| | | | |
| | Trial pit terminated at 1.3 due to bedrock | | |
| **Observations & recommendations:** | No water present | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |
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|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 28th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-6 | | |
| **Date & Time:** | 28th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.8 m: Shallow Black fibrous PEAT with rootlets** | | |
| | **0.8 – 1.2 m**: Olive/green, moist, laminated, very soft shelly marl and organic clays. | | |
| | **1.2-2.9 m**: Light grey very soft slightly sandy laminated silts and clays. - Lacustrine deposits. | | |
| | **Possible gravelly SILT at the base however TP collapsing** | | |
| | | | |
| | | | |
| | Trial pit terminated at 2.9m due to abundance of subidence of ground around trial pit and the collapse of the trial pit. . | | |
| **Observations & recommendations:** | No water present | | |
| | · Very soft conditions at surface. | | |
| | · Walls of trial pit unstable | | |
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|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 28th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-7 | | |
| **Date & Time:** | 28th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.1 m: Black/brown fibrous PEAT with rootlets - H4 to H6** | | |
| | **0.1-0.6 m**: Light grey/brown, loose, slightly gravelly SAND. | | |
| | **0.6-1.5 m**: Light grey/brown, loose, slightly gravelly SAND. | | |
| | | | |
| | | | |
| | | | |
| | Trial pit terminated at 1.5m due to large water inflows and collapsing trial pit walls | | |
| **Observations & recommendations:** | Large water inflows at base present | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit unstable | | |
| | | | |

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| PEAT |
| MARL |
| TILL |
| BEDROCK |
| Possible BEDROCK |
| Archaeology |
| Sand/Gravel |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 28th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-7S | | |
| **Date & Time:** | 28th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **No Peat** | | |
| | **0.0-1.2 m**: Light grey/brown, loose, slightly gravelly SAND. | | |
| | **1.2-2.2 m**: Light grey, loose, slightly gravelly SAND. | | |
| | | | |
| | | | |
| | | | |
| | Trial pit terminated at 1.5m due to large water inflows and collapsing trial pit walls | | |
| **Observations & recommendations:** | Large water inflows at base present | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit unstable | | |
| | | | |

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|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |
| | Sand and Gravel# |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 28th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-8 | | |
| **Date & Time:** | 28th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 1.7 m: Shallow Red/Brown fibrous PEAT. H1-H5** | | |
| | **1.7 – 3.3 m**: Light grey, soft, Laminated sandy SILT and silty SAND, predominantly silty SAND below 2.4m, walls unstable. Moist, minor inflows in sand. | | |
| | | | |
| | | | |
| | | | |
| | Trial pit terminated at 3.3 due to maximum reach of excavator | | |
| **Observations & recommendations:** | Minor inflows from sand lens | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |
| | | | |

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|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |
| | Sand/Gravel |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 27th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-9 | | |
| **Date & Time:** | 27th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 1.6 m: Shallow Brown/Black fibrous PEAT with rootlets** | | |
| | **1.6-3 m: Light grey, soft, very sandy, gravelly SILT/CLAY . Occasional limestone** | | |
| | **Running sand at 2.6m, water rising** | | |
| | | | |
| | | | |
| | | | |
| | Trial pit terminated at 3m due to water ingress | | |
| **Observations & recommendations:** | | | |
| | · Very soft conditions at surface. | | |
| | · Walls of trial pit unstable | | |
| | | | |

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|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 27th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-10 | | |
| **Date & Time:** | 27th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.3 m: Shallow Black fibrous PEAT with rootlets** | | |
| | **0.3-2.3 m**: Light grey/olive, moderately firm, slightly sandy gravelly SILT. | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Trial pit terminated at 2.3m due to abundance of large boulder | | |
| **Observations & recommendations:** | No water present | | |
| | · Very soft conditions at surface. | | |
| | · Walls of trial pit stable | | |
| | | | |

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| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 27th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-11 | | |
| **Date & Time:** | 27th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.4 m: Black/brown fibrous PEAT with rootlets - H4 to H6** | | |
| | **0.4-1.3m Light grey, moist, soft to moderately firm gravelly SILT.** | | |
| | **Obstruction at 1.3m - bedrock, water rising to 1.2m** | | |
| | | | |
| | | | |
| | | | |
| | Trial pit terminated at 1.3m due to bedrock | | |
| **Observations & recommendations:** | Large water inflows at base present | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |
| | | | |

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|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |
| | Sand and Gravel# |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 27th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-12 | | |
| **Date & Time:** | 27th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 2 m: Shallow Red/Brown fibrous PEAT with rootlets. H3-H7** | | |
| | **2 – 2.6 m**: Light to dark grey, soft, Laminated sandy SILT | | |
| | **2.6-3.2m light grey, firm gravelly SILT/CLAY** | | |
| | | | |
| | | | |
| | | | |
| | Trial pit terminated at 3.2 due to maximum reach of excavator | | |
| **Observations & recommendations:** | No water present | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |
| | | | |

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|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 27th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-13 | | |
| **Date & Time:** | 27th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.7 m: Shallow Brown/Black fibrous PEAT with rootlets** | | |
| | **1.6-3 m: Light grey, soft, very sandy, gravelly SILT/CLAY . Occasional limestone** | | |
| | **Water bearing sand at 2.6m, water rising** | | |
| | | | |
| | | | |
| | | | |
| | Trial pit terminated at 3m due to water ingress | | |
| **Observations & recommendations:** | | | |
| | · Very soft conditions at surface. | | |
| | · Walls of trial pit unstable | | |
| | | | |

| | |
|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |

| | | | |
|---|---|---|---|
| Borrow Pit Assessment - Trial Pits | | | |
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 27th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | IMT | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-14 | | |
| **Date & Time:** | 27th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.6 m: Shallow Black fibrous PEAT with rootlets** | | |
| | | | |
| | | | |
| | | | |
| | **Possible archaeology at 0.6m. Peat probe at 2.1m, possible gravel/ gravelly till/bedrock.** | | |
| | | | |
| | Trial pit terminated at 0.8m due to possible archaeology | | |
| **Observations & recommendations:** | No water present | | |
| | · Very soft conditions at surface. | | |
| | · Walls of trial pit stable | | |
| | | | |

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|---|
| PEAT |
| MARL |
| TILL |
| BEDROCK |
| Possible BEDROCK |
| Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 27th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | ITM | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-14A | | |
| **Date & Time:** | 27th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 0.8 m: Shallow Black fibrous PEAT with rootlets** | | |
| | | | |
| | | | |
| | | | |
| | **Possible archaeology at 0.8m. Peat probe at 2.1m, possible gravel/ gravelly till/bedrock.** | | |
| | | | |
| | Trial pit terminated at 0.8m due to possible archaeology | | |
| **Observations & recommendations:** | No water present | | |
| | · Very soft conditions at surface. | | |
| | · Walls of trial pit unstable | | |
| | | | |

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|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 26th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | ITM | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-15 | | |
| **Date & Time:** | 26th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 1 m: Black/brown fibrous PEAT with rootlets - H4 to H6** | | |
| | **1-2.6 m**: Light grey, very soft, slightly sandy SILT/CLAY. | | |
| | **2.6-3m, firm very silty sandy GRAVEL. Large sub-angular to subrounded boulders and cobbles to 3m.** | | |
| | | | |
| | | | |
| | | | |
| | Trial pit terminated at 3m due to boulders | | |
| **Observations & recommendations:** | | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit unstable | | |
| | | | |

| | |
|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |
| | Sand and Gravel# |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 26th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | ITM | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-16 | | |
| **Date & Time:** | 26th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0-2.1m: Shallow Red/Brown fibrous PEAT with rootlets. H3-H7** | | |
| | **1.7 – 3.7 m**: Light grey, soft, sandy gravelly SILT/CLAY. Moist. | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Trial pit terminated at 3.7 due to possible bedrock | | |
| **Observations & recommendations:** | Minor inflows present | | |
| | · Relatively firm surface. | | |
| | · Walls of trial pit stable | | |
| | | | |

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|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |

| Borrow Pit Assessment - Trial Pits | | | |
|---|---|---|---|
| | | | |
| Project title | Derryadd Wind Farm | Job number | 10325 |
| Client | Bord na Mona | File reference | TP -Turbine locations Mar 18 |
| Prepared by | John Dillon | Date | 26th March 2018 |
| Subject | Ground investigation (Trial Pits) | | |
| | ITM | | |
| **Site Location:** | Derryadd | | |
| **Trial Pit No:** | TP18-17 | | |
| **Date & Time:** | 26th March 2018 | | |
| **BP Testing details:** | | | |
| | The following layers were observed in this Trial Pit: | | |
| | **0.00 – 1.6 m: Brown/Black fibrous PEAT with rootlets** | | |
| | **1.6-2.7 m: Light grey, soft to moderately firm, sandy, gravelly SILT/CLAY .** | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | Trial pit terminated at 2.7m due to boulders | | |
| **Observations & recommendations:** | | | |
| | · Soft conditions at surface. | | |
| | · Walls of trial pit stable | | |
| | | | |

| | |
|---|---|
| | PEAT |
| | MARL |
| | TILL |
| | BEDROCK |
| | Possible BEDROCK |
| | Archaeology |

# Appendix 9-1.5- IDL Rotary Cores

irish drilling ltd
old galway road
loughrea

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Co Longford | **RC01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2017-LD-102 | 02-06-17<br>02-06-17 | 42.37 | E 205,878.0 N 265,255.0 |

| Engineer | Sheet |
|---|---|
| Tobin | 1 of 2 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0<br>(-)<br>- | NA | | | (2.00) | 0.00 - 7.10 : overburden. | | Open hole drilling - no recovery. | | |
| 2.00 | | | 40.37 | | 2.00 | | | | | |
| 2.00 | 16<br>(-)<br>- | (4)<br>NA | | | (5.10) | | | Soft light brownish grey SILT/MARL with rootlets and broken white gastropod shells.<br>(0.85m recovered). | | |
| 6.50 | | | | | | | | | | |
| 6.50 | 80<br>(27)<br>0 | (49/150mm) | 35.27 | | 7.10 | | | | | |
| 8.00 | | NI | 34.37 | | (0.90)<br>8.00 | 7.10 - 8.00 Non-intact as weathered rock. | | Weathered LIMESTONE rock. Recovered as angular medium to coarse gravel and cobble sized clasts of grey limestone with a little light grey silt. | | |
| 9.20 | 100<br>(88)<br>73 | 4 | | | | 8.00 - 13.80 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, rough, with 0.5 to 1mm thick light grey silt smear. | | Strong thinly bedded light grey cherty fine and medium grained LIMESTONE with subvertical 0.5 to 1mm thick milky white calcitic veinlets. | | |
| | 100 | 4 | | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 15.20 | water | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone - 8.50m to 15.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Co Longford | **RC01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2017-LD-102 | 02-06-17<br>02-06-17 | 42.37 | E 205,878.0 N 265,255.0 |

| Engineer | Sheet |
|---|---|
| Tobin | 2 of 2<br>Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main (DESCRIPTION) | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 10.80 | (98)<br>96 | 2 | | | (5.80) | | | Strong thinly bedded light grey cherty fine and medium grained LIMESTONE with subvertical 0.5 to 1mm thick milky white calcitic veinlets. *(continued)* | | |
| 12.20 | 100<br>(97)<br>95 | 3 | | | | | | | | |
| 13.80 | 100<br>(98)<br>96 | 3<br>1 | 28.57 | | 13.80 | | | 13.00m to 13.40m: dark grey. | | |
| 15.20 | 100<br>(98)<br>96 | 3 | 27.17 | | (1.40)<br>15.20 | 13.80 - 15.20 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, rough, with 0.5 to 1mm thick light grey silt smear. | | Very strong apparently massive light orangish brown crystalline fine and medium grained DOLOMITISED LIMESTONE. | | |
| | | | | | | | | BH terminated at 15.20m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

50mm standpipe installed. Response zone - 8.50m to 15.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Co Longford | **RC02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2017-LD-102 | 25-05-17<br>26-05-17 | 43.16 | E 206,689.9 N 267,999.7 |

| Engineer | Sheet |
|---|---|
| Tobin | 1 of 3 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00<br>1.50 | 0<br>(-)<br>- | NA | 41.66 | | (1.50)<br>1.50 | 0.00 - 7.50 : overburden. | | Open hole drilling - no recovery. | | |
| 1.50<br>3.00 | 20<br>(-)<br>- | (17) | | | | | | Stiff light brown slightly sandy gravelly SILT/CLAY with cobbles. Sand is fine and medium. Gravel is rounded to subangular fine to coarse of assorted sandstone dolomitised limestone and limestone. Cobbles are of assorted grey limestone. | | |
| 3.00<br>4.60 | 38<br>(-)<br>- | | | | | | | | | |
| 4.60<br>6.00 | 85<br>(-)<br>- | NA<br>(59/225mm) | | | (6.00) | | | | | |
| 6.00<br>7.00 | 30<br>(-)<br>- | | | | | | | | | |
| 7.00<br>8.60 | 88<br>(67)<br>63 | | 35.66 | | 7.50<br>(1.20)<br>8.70 | 7.50 - 15.35 Non-intact as possible weathered rock. No recovery as washout of fines during drilling. No record of cavity. | | Possible weathered LIMESTONE rock.<br>Recovered as cobble and boulder sized clasts of strong thinly bedded grey cherty fine and medium grained limestone. | | |
| 8.60 | 67<br>(40)<br>28 | NR/NI | 34.46 | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 20.00 | polymer | 100 |

## GENERAL REMARKS

2 gallons of polydrill used.
50mm standpipe installed.
Response zone - 8.50m to 20.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Co Longford | **RC02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2017-LD-102 | 25-05-17<br>26-05-17 | 43.16 | E 206,689.9 N 267,999.7 |

| Engineer | Sheet |
|---|---|
| Tobin | 2 of 3<br>Rev. DRAFT |

## RUN DETAILS

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) |
|---|---|---|---|---|---|
| 10.10 | | | | | |
| | 46 (13) 0 | | | | (3.00) |
| 11.20 | | | | | |
| | 80 (56) 11 | | 31.46 | | 11.70 |
| 12.20 | | | | | |
| | 89 (71) 56 | NR/NI | 29.56 | | (1.90) 13.60 |
| 14.00 | | | | | |
| | 83 (68) 20 | | 27.81 | | (1.75) 15.35 |
| 15.20 | | | | | |
| | 100 (91) 79 | 8 | | | |
| | | 7 | | | |
| 16.80 | | | | | |
| | 100 (94) 25 | 15 | | | (4.65) |
| 18.20 | | | | | |
| | 100 (98) 68 | 6 | | | |
| 19.00 | | | | | |
| | 100 (97) 54 | 8 | 23.16 | | 20.00 |
| 20.00 | | | | | |

## STRATA DESCRIPTION

| Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|
| | | Possible weathered LIMESTONE rock. Recovered as angular fine to coarse gravel cobble and boulder sized clasts of orangish brown dolomitised limestone with rounded and subangular fine and medium assorted limestone and dolomitised limestone gravel and some light brown silty sand. *(continued)* | | |
| | | Possible weathered LIMESTONE rock. Recovered as very strong thinly bedded light grey cherty fine grained limestone. | | |
| | | Possible weathered LIMESTONE rock. Recovered as strong thinly bedded light creamish grey fine and coarse grained limestone. | | |
| 15.35 - 20.00 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, rough, with 0.5 to 2mm thick grey silt smear. | | Very strong thinly bedded grey cherty fine and medium grained LIMESTONE. | | |
| 17.00 - 17.60 Joint, vertical dip, stepped, rough, with 0.5 to 2mm thick grey silt smear, open.<br>17.80 - 18.25 Joint, vertical dip, stepped, rough, with 0.5 to 2mm thick grey silt smear, open. | | 17.00m to 18.00m: coarse grained. | | |
| 19.30 - 19.90 Joint, vertical dip, stepped, rough, with 0.5 to 2mm thick grey silt smear, open. | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

2 gallons of polydrill used. 50mm standpipe installed. Response zone - 8.50m to 20.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Co Longford | **RC02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2017-LD-102 | 25-05-17<br>26-05-17 | 43.16 | E 206,689.9 N 267,999.7 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Tobin | 3 of 3 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| | | | | | | | | BH terminated at 20.00m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) |
| | | | | | | | | | | | |

**GENERAL REMARKS**

2 gallons of polydrill used. 50mm standpipe installed. Response zone - 8.50m to 20.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Co Longford | **RC03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2017-LD-102 | 24-05-17<br>24-05-17 | 42.82 | E 205,861.7 N 268,522.9 |

| Engineer | Sheet |
|---|---|
| Tobin | 1 of 2 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00<br>1.50 | 0<br>(-)<br>- | NA | 41.32 | | (1.50)<br>1.50 | 0.00 - 2.70 : overburden. | | Open hole drilling - no recovery. | | |
| 1.50<br>2.50 | 50<br>(-)<br>- | (39/150mm)<br>NA | 40.12 | | (1.20)<br>2.70 | | | Stiff light grey slightly sandy slightly gravelly SILT/CLAY with cobbles. Sand is fine. Gravel is subangular fine of assorted grey limestone. Cobbles are of assorted grey limestone. | | |
| 4.10 | 100<br>(84)<br>64 | 0<br>7 | | | | 2.70 - 15.30 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, rough, with 0.5 to 1mm thick grey silt smear.<br><br>3.80 - 4.55 2 No parallel joints, subvertical dip, planar, smooth, with 0.5 to 1mm thick grey silt smear, open. | | Very strong thinly bedded grey cherty fine and medium grained LIMESTONE. | | |
| 5.70 | 100<br>(95)<br>59 | 8<br>3 | | | | | | | | |
| 7.30 | 100<br>(91)<br>78 | 6 | | | | | | | | |
| 8.90 | 100<br>(95)<br>90 | 3<br>3 | | | | | | | | |
| | 100<br>(96)<br>95 | 2 | | | (12.60) | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 15.30 | polymer | 100 |

## GENERAL REMARKS

1 gallon of polydrill used. 50mm standpipe installed. Response zone - 3.50m to 15.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Co Longford | **RC03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2017-LD-102 | 24-05-17<br>24-05-17 | 42.82 | E 205,861.7 N 268,522.9 |

| Engineer | Sheet |
|---|---|
| Tobin | 2 of 2<br>Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth<br>Date | TCR<br>(SCR)<br>RQD | (SPT)<br>Fracture<br>Spacing | Red'cd<br>Level | Legend | Depth<br>(Thick-ness) | DESCRIPTION<br>Discontinuities | Detail | Main | Geology | Instrument/<br>Backfill |
| 10.50 | | 3 | | | | | | Very strong thinly bedded grey cherty fine and medium grained LIMESTONE. *(continued)* | | |
| 12.10 | 100<br>(95)<br>94 | 3 | | | | | | | | |
| 13.70 | 100<br>(98)<br>97 | 2<br>5 | | | | | | | | |
| 15.30 | 100<br>(95)<br>93 | 3<br>1 | 27.52 | | 15.30 | | | BH terminated at 15.30m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | 1 gallon of polydrill used. 50mm standpipe installed. Response zone - 3.50m to 15.30m bgl. |

| All dimensions in metres<br>Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Co Longford | **RC04** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2017-LD-102 | 31-05-17<br>31-05-17 | 42.88 | E 206,240.4 N 266,283.4 |

| Engineer | Sheet |
|---|---|
| Tobin | 1 of 2 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00<br>1.50 | 0<br>(-)<br>- | NA | 41.38 | | (1.50) | 0.00 - 3.80 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | 20<br>(-)<br>- | NA | | | (2.30) | | | Subrounded to subangular fine to coarse milky white quartz and assorted grey and dark grey limestone GRAVEL with some grey silt. | | |
| 4.00 | 100<br>(14)<br>0 | | 39.08 | | 3.80 | | | | | |
| 5.00 | 100<br>(58)<br>23 | NI | | | (2.40) | 3.80 - 6.20 Non-intact as weathered rock. | | Weathered LIMESTONE rock. Recovered as angular fine to coarse gravel cobble and boulder sized clasts of grey limestone with a little grey silt. Core run - 4.00m to 5.00m: 1 No grey limestone boulder 250mm in length | | |
| 6.00 | 100<br>(67)<br>24 | | 36.68 | | 6.20 | | | Core run - 5.00m to 6.00m: 1 No grey limestone boulder 290mm in length. | | |
| 7.50 | 100<br>(87)<br>58 | 8<br>1 | | | | 6.20 - 15.00 Discontinuities, medium spaced, locally closely spaced, dipping 18 to 20°, stepped, rough, with 0.5 to 1mm thick grey silt smear.<br>6.50 - 6.80 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick grey silt smear, open. | | Very strong thinly bedded grey slightly bioclastic cherty fine and medium grained LIMESTONE. | | |
| 9.00 | 100<br>(95)<br>87 | 2 | | | | 8.30 - 8.55 Joint, subvertical dip, planar, smooth, with 0.5mm thick milky white calcitic veneer, open as drilling induced? | | | | |
| | 100<br>(95)<br>61 | 6 | | | | 9.65 - 9.85 Joint, subvertical dip, | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 15.00 | polymer | 100 |

## GENERAL REMARKS

1 gallon of polydrill used. 50mm standpipe installed. Response zone - 3.50m to 15.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Co Longford | **RC04** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2017-LD-102 | 31-05-17<br>31-05-17 | 42.88 | E 206,240.4 N 266,283.4 |

| Engineer | Sheet |
|---|---|
| Tobin | 2 of 2<br>Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 10.50 | | | | | | stepped, rough, with 0.5 to 1mm thick grey silt smear, open. | | Very strong thinly bedded grey slightly bioclastic cherty fine and medium grained LIMESTONE. *(continued)* | | |
| | | 7 | | | (8.80) | 10.20 - 10.55 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick grey silt smear and minor orange brown iron stain, open. | | | | |
| | 100 (98) 94 | | | | | | | 10.90m to 11.30m: dark grey cherty fine grained. | | |
| | | 3 | | | | | | | | |
| 12.00 | | | | | | | | | | |
| | 100 (98) 94 | 5 | | | | | | | | |
| | | | | | | | | 12.90m to 13.00m: dark grey cherty fine grained. | | |
| 13.50 | | | | | | | | | | |
| | | 7 | | | | 13.60 - 14.40 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | 13.50m to 13.70m: dark grey cherty fine grained. | | |
| | 100 (84) 45 | | | | | | | | | |
| | | 9 | | | | | | | | |
| 15.00 | | | 27.88 | | 15.00 | | | 14.60m to 14.80m: dark grey cherty fine grained. | | |
| | | | | | | | | BH terminated at 15.00m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) |
| | | | | | | | | | | | |

**GENERAL REMARKS**

1 gallon of polydrill used. 50mm standpipe installed. Response zone - 3.50m to 15.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Co Longford | **RC05** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2017-LD-102 | 29-05-17<br>30-05-17 | 47.19 | E 206,871.5 N 266,208.1 |

| Engineer | Sheet |
|---|---|
| Tobin | 1 of 3 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main (DESCRIPTION) | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (1.50) | 0.00 - 22.50 : overburden. | | Open hole drilling - no recovery. | | |
| 1.50 | | | 45.69 | | 1.50 | | | | | |
| 1.50 | 40 (-) - | (21) | | | | | | Medium dense subrounded to subangular fine to coarse brown dolomitised limestone and assorted grey and dark grey limestone GRAVEL with cobbles and boulders. Cobbles are of limestone. Boulders are of limestone.<br>Core run - 2.50m to 3.40m: 1 No light grey limestone boulder 250mm in length. 1 No light grey limestone boulder 340mm in length.<br>Core run - 3.40m to 4.50m: 1 No light grey limestone boulder 240mm in length. | | |
| 2.50 | | | | | | | | | | |
| 3.40 | 100 (-) - | | | | (3.00) | | | | | |
| 4.50 | 55 (-) - | | 42.69 | | 4.50 | | | | | |
| 6.00 | 20 (-) - | NA (21) | | | | | | Medium dense light orangish brown slightly silty gravelly fine and coarse quartz SAND. Gravel is rounded to subrounded fine and medium of quartz and limestone. | | |
| 7.50 | 10 (-) - | | | | | | | | | |
| 9.00 | 27 (-) - | | | | | | | | | |
| | 27 (-) - | | | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0<br>15 | 15.00 | polymer | 100 |

## GENERAL REMARKS

2 gallons of polydrill used. 50mm standpipe installed. Response zone - 20.50m to 25.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS3 UK DH LANESBOROUGH RC ALL JUNE 21 2017.GPJ IDL TP TEMPLATE.GDT 21/06/17

irish drilling ltd
old galway road
loughrea

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Co Longford | **RC05** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2017-LD-102 | 29-05-17<br>30-05-17 | 47.19 | E 206,871.5 N 266,208.1 |

| Engineer | Sheet |
|---|---|
| Tobin | 2 of 3 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 10.50 | | | | | | | | Medium dense light orangish brown slightly silty gravelly fine and coarse quartz SAND. Gravel is rounded to subrounded fine and medium of quartz and limestone. *(continued)*<br>10.50m: becoming dense. | | |
| 10.50 | 20 (-) - | (30) | | | | | | | | |
| 12.00 | | | | | (15.00) | | | | | |
| | 47 (-) - | | | | | | | | | |
| 13.50 | | | | | | | | | | |
| | 40 (-) - | | | | | | | | | |
| 15.00 | | | | | | | | | | |
| 15.00 | | (NA) | | | | | | 15.00m: becoming very dense. | | |
| | 40 (-) - | | | | | | | | | |
| 16.50 | | | | | | | | | | |
| | 40 (-) - | | | | | | | | | |
| 18.00 | | | | | | | | | | |
| | 40 (-) - | | | | | | | | | |
| 19.50 | | | 27.69 | | 19.50 | | | | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| | | | | | | | | | 25.60 | polymer | 100 | 2 gallons of polydrill used. 50mm standpipe installed. Response zone - 20.50m to 25.60m bgl. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS3 UK DH LANESBOROUGH RC ALL JUNE 21 2017.GPJ IDL TP TEMPLATE.GDT 21/06/17

irish drilling ltd
old galway road
loughrea

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Co Longford | **RC05** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2017-LD-102 | 29-05-17<br>30-05-17 | 47.19 | E 206,871.5 N 266,208.1 |

| Engineer | Sheet |
|---|---|
| Tobin | 3 of 3<br>Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 21.00 | 53<br>(-)<br>- | NA | | | (3.00) | | | Very dense light orangish brown slightly silty gravelly fine and coarse quartz SAND with cobbles and boulders. Gravel is rounded to subrounded fine and medium of quartz and limestone. Cobbles are of limestone. Boulders are of limestone.<br>*(continued)*<br>Core run - 21.00m to 22.50m: 1 No light grey limestone boulder 230mm in length. | | |
| 22.50 | 67<br>(-)<br>- | | 24.69 | | 22.50 | | | | | |
| 24.00 | 100<br>(92)<br>14 | 6<br>9 | | | | 22.50 - 22.70 Joint, subvertical dip, stepped, rough, with 0.5 to 6mm thick greenish grey silt smear, moderately wide.<br>22.50 - 25.60 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 3mm thick light brown clay smear.<br>23.00 - 23.35 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick light brown silt smear, open.<br>23.80 - 24.80 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick light brown silt smear, open. | | Strong thinly bedded light brownish grey cherty fine grained LIMESTONE.<br>23.00m: becoming grey. | | |
| 25.60 | 100<br>(89)<br>38 | 11<br>5 | 21.59 | | (3.10)<br>25.60 | | | | | |
| | | | | | | | | BH terminated at 25.60m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | 2 gallons of polydrill used. 50mm standpipe installed. Response zone - 20.50m to 25.60m bgl. |
| | | | | | | | | | | | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

# Appendix 9-1.6- IDL PP

**April 4th, 6th & 7th 2017**

| Probe No. | Depth (m) | Easting | Northing | Remarks |
|---|---|---|---|---|
| 1 | 6.2 | 203457 | 269548 | peat /soft silt |
| 2 | 4.9 | 203608 | 269620 | peat/soft silt |
| 3 | 2.3 | 204070 | 269911 | peat/soft silt |
| 4 | 3.3 | 204057 | 270129 | peat/soft silt |
| 5 | 2.7 | 203905 | 270419 | peat/soft silt |
| 6 | 1.6 | 203562 | 270723 | peat |
| 7 | 1.4 | 203331 | 271138 | peat |
| 8 | 0.6 | 203536 | 271475 | peat |
| 9 | 1.1 | 203826 | 271640 | peat |
| 10 | 5.1 | 204183 | 271792 | peat/soft silt |
| 11 | 2.4 | 204103 | 271435 | peat/soft silt |
| 12 | 2.3 | 204097 | 271251 | peat/soft silt |
| 13 | 1 | 203833 | 271099 | peat |
| 14 | 2.3 | 204341 | 271086 | peat/soft silt |
| 15 | 1.3 | 204532 | 270696 | peat |
| 16 | 1.4 | 204262 | 270228 | peat/soft silt |
| 17 | 1.5 | 204750 | 270274 | peat |
| 18 | 0.8 | 204862 | 269851 | peat |
| 19 | 1.8 | 204829 | 269587 | peat |
| 20 | 0.7 | 204513 | 269436 | peat |
| 21 | 3 | 204856 | 269244 | peat/soft silt |
| 22 | 2.2 | 204235 | 269845 | peat/soft silt |
| 23 | 1.4 | 205350 | 268812 | peat/soft silt |
| 24 | 0.6 | 205654 | 268647 | peat |
| 25 | 0.8 | 206030 | 268468 | peat |
| 26 | 0.4 | 206268 | 268323 | peat |
| 27 | 0.7 | 205578 | 268184 | peat |
| 28 | 0.8 | 206043 | 268033 | peat |
| 29 | 1 | 206750 | 267564 | peat |
| 30 | 2.1 | 206717 | 267828 | peat |
| 31 | 1 | 205832 | 267775 | peat |
| 32 | 3.6 | 205569 | 267244 | peat/soft silt |
| 33 | 5.8 | 205727 | 266895 | peat/soft silt |
| 34 | 3.9 | 205852 | 266624 | peat/soft silt |
| 35 | 5.8 | 205965 | 266386 | peat/soft silt |
| 36 | 1.8 | 206050 | 266089 | peat |
| 37 | 1.7 | 206116 | 265845 | peat |
| 38 | 1.4 | 206394 | 265911 | peat |
| 39 | 0.8 | 206750 | 266023 | peat |
| 40 | 1 | 206875 | 266307 | peat |
| 41 | 1.9 | 206836 | 266617 | peat |
| 42 | 2.6 | 206803 | 266888 | peat |
| 43 | 2.1 | 206776 | 267218 | peat |
| 44 | 0.3 | 205878 | 265755 | peat |
| 45 | 1.5 | 205654 | 265695 | peat |
| 46 | 1 | 205859 | 265623 | peat |
| 47 | 1.3 | 206288 | 266270 | peat |

| | | | | |
|---|---|---|---|---|
| 48 | 1.6 | 206189 | 265662 | peat |
| 49 | 1.6 | 206195 | 265352 | peat |
| 50 | 1.5 | 206222 | 265081 | peat |
| 51 | 3.4 | 206255 | 264936 | peat |
| 52 | 3 | 206321 | 264830 | peat |
| 53 | 4 | 206638 | 264744 | peat |
| 54 | 2 | 206862 | 264593 | peat |
| 55 | 1.1 | 207285 | 264560 | peat |
| 56 | 0.7 | 208004 | 264546 | peat |
| 57 | 0.8 | 208222 | 264401 | peat |
| 58 | 1 | 208546 | 264210 | peat |
| 59 | 1.9 | 208836 | 264109 | peat |
| 60 | 0.4 | 209073 | 264142 | peat |
| 61 | 1.2 | 209106 | 263892 | peat |
| 62 | 1.1 | 209278 | 263588 | peat |
| 63 | 1.1 | 209548 | 263720 | peat |
| 64 | 0.3 | 209760 | 263931 | peat |
| 65 | 1.2 | 209991 | 264123 | peat |
| 66 | 0.9 | 209951 | 264387 | peat |
| 67 | 0.4 | 209634 | 264367 | peat |
| 68 | 0.6 | 209344 | 264255 | peat |
| 69 | 0.6 | 209740 | 264776 | peat |
| 70 | 0.8 | 209845 | 265119 | peat |

# Appendix 9-1.7- TOBIN PP

**March 2018**

| Name | Easting | Northing | Peath Depth |
|---|---|---|---|
| 0 | 205902.4 | 264784.7 | 3.5 |
| 1 | 205929.4 | 264778.7 | 3 |
| 2 | 205950.4 | 264781.7 | 1.2 |
| 3 | 206003.4 | 264791.7 | 2.5 |
| 4 | 206037.4 | 264839.8 | 3.1 |
| 5 | 206130.5 | 264876.8 | 3.6 |
| 6 | 206145.5 | 264847.8 | 3.5 |
| 7 | 206258.5 | 264849.8 | 1.2 |
| 8 | 206328.5 | 264825.8 | 3 |
| 9 | 206359.5 | 264812.7 | 3.2 |
| 10 | 206394.5 | 264808.7 | 4 |
| 11 | 206394.5 | 264801.7 | 4 |
| 12 | 206535.5 | 264779.7 | 3.6 |
| 13 | 206548.5 | 264773.7 | 4 |
| 14 | 206676.6 | 264767.7 | 2.5 |
| 15 | 206645.6 | 264764.7 | 4 |
| 16 | 206587.6 | 264769.7 | 4 |
| 17 | 206724.6 | 264762.7 | 0.5 |
| 18 | 206740.6 | 264755.7 | 1 |
| 19 | 206688.6 | 264725.7 | 2.4 |
| 20 | 206718.6 | 264698.7 | 3 |
| 21 | 206747.6 | 264681.7 | 2.1 |
| 22 | 206853.6 | 264602.7 | 1.6 |
| 23 | 206876.6 | 264736.7 | 1.2 |
| 24 | 206963.6 | 264733.7 | 0.2 |
| 25 | 206954.6 | 264510.7 | 0.4 |
| 26 | 206961.6 | 264527.7 | 0.5 |
| 27 | 207008.7 | 264499.7 | 0.4 |
| 28 | 207029.7 | 264479.7 | 0.3 |
| 29 | 207074.7 | 264447.7 | 0.4 |
| 30 | 207104.7 | 264400.7 | 0.2 |
| 31 | 207191.7 | 264330.6 | 0.1 |
| 32 | 207220.7 | 264304.6 | 0.4 |
| 33 | 207262.7 | 264279.6 | 2 |
| 34 | 207372.7 | 264253.6 | 0.3 |
| 35 | 207400.7 | 264255.6 | 0.4 |
| 36 | 207471.8 | 264247.6 | 0.4 |
| 37 | 207651.8 | 264208.6 | 1.9 |
| 38 | 207776.8 | 264156.6 | 2.2 |
| 39 | 207876.8 | 264113.6 | 2.3 |
| 40 | 207968.9 | 264161.6 | 2.1 |
| 41 | 208053.9 | 264299.6 | 2.1 |
| 42 | 208199.9 | 264430.7 | 1.8 |
| 43 | 208206.9 | 264466.7 | 1.1 |
| 44 | 208149.9 | 264467.7 | 2 |
| 45 | 208073.9 | 264508.7 | 2.1 |
| 46 | 208022.9 | 264533.7 | 1.5 |

| | | | |
|---|---|---|---|
| 47 | 207915.8 | 264608.7 | 0.6 |
| 48 | 207925.8 | 264590.7 | 0.9 |
| 49 | 207876.8 | 264629.7 | 1.2 |
| 50 | 207810.8 | 264643.7 | 1 |
| 51 | 207601.8 | 264663.7 | 0.8 |
| 52 | 207475.8 | 264683.7 | 1.1 |
| 53 | 207354.7 | 264695.7 | 0.9 |
| 54 | 207337.7 | 264697.7 | 1 |
| 55 | 207170.7 | 264707.7 | 1.3 |
| 56 | 207012.7 | 264714.7 | 0.7 |
| 57 | 208571 | 264200.6 | 1.6 |
| 58 | 208705 | 264164.6 | 2 |
| 59 | 209112.1 | 264164.6 | 0.6 |
| 60 | 209294.1 | 264236.6 | 0.8 |
| 61 | 209643.2 | 264503.7 | 0.1 |
| 62 | 209600.2 | 264371.7 | 0.3 |
| 63 | 209760.2 | 264871.8 | 0.6 |
| 64 | 210015.3 | 265304.9 | 2 |
| 65 | 206212.5 | 265187.8 | 1.8 |
| 66 | 206071.4 | 265877 | 1.5 |
| 67 | 205987.4 | 266294.1 | 3.5 |
| 68 | 205923.4 | 266609.1 | 1.8 |
| 69 | 205821.4 | 266883.2 | 1.7 |
| 70 | 205750.4 | 267108.2 | 2.1 |
| 71 | 205691.3 | 267402.3 | 1.4 |
| 72 | 205652.3 | 267595.3 | 0.6 |
| 73 | 205422.3 | 268739.6 | 0.8 |
| 74 | 205290.3 | 268874.6 | 2.7 |
| 75 | 205250.2 | 268914.6 | 3 |
| 76 | 204891.2 | 269334.7 | 1.5 |
| 77 | 204708.1 | 269664.8 | 1.3 |
| 78 | 204432.1 | 269833.8 | 0.7 |
| 79 | 204589.1 | 269882.8 | 1.5 |
| 80 | 204636.1 | 270065.9 | 0.1 |
| 81 | 204616.1 | 270021.9 | 1.4 |
| 82 | 204308 | 271191.1 | 1.7 |
| 83 | 204276 | 271286.1 | 1.2 |
| 84 | 204201 | 271448.2 | 1 |
| 85 | 203596.9 | 271604.2 | 1.1 |
| 86 | 203295.8 | 271473.2 | 0.5 |
| 87 | 203207.8 | 271124.1 | 1.6 |
| 88 | 203452.8 | 270612 | 0.9 |
| 89 | 203325.8 | 270815 | 1.5 |
| 90 | 203746.9 | 270769 | 1.8 |
| 91 | 203633.9 | 270320.9 | 0.5 |
| 92 | 203856.9 | 269961.8 | 0.7 |
| 93 | 203984 | 269756.8 | 0.5 |
| 94 | 204075 | 269611.8 | 1.1 |
| 95 | 203910 | 269508.7 | 4 |
| 96 | 203818.9 | 269451.7 | 4 |

| | | | |
|---|---|---|---|
| 97 | 203766.9 | 269419.7 | 4 |
| 98 | 203956 | 269537.7 | 2 |
| 99 | 204019 | 269576.8 | 1.6 |
| 100 | 205274.3 | 268693.6 | 1.4 |
| 101 | 206295.5 | 268229.5 | 0.8 |
| 102 | 206202.5 | 268258.5 | 0.8 |
| 103 | 205962.4 | 268333.5 | 0.7 |
| 104 | 205706.3 | 267990.4 | 0.6 |
| 105 | 208456 | 264271.6 | 2 |
| 106 | 209019.1 | 264005.6 | 3.1 |
| 107 | 209045.1 | 263963.6 | 2.5 |
| 108 | 209148.1 | 263799.5 | 0.8 |
| 109 | 209698.2 | 263277.4 | 0.8 |
| 110 | 209661.2 | 263499.5 | 1 |
| 111 | 205038.2 | 269129.7 | 3.2 |
| 112 | 204919.2 | 269283.7 | 1.4 |
| 113 | 204624.1 | 270243.9 | 1.5 |
| 114 | 204512.1 | 270582 | 0.3 |
| 115 | 204366 | 271031.1 | 0.5 |
| 116 | 204142 | 271824.2 | 4.2 |
| 117 | 204097 | 271805.2 | 1.8 |
| 118 | 204008 | 271755.2 | 0.4 |
| 119 | 203925.9 | 271736.2 | 0.2 |
| 120 | 203593.9 | 270674 | 0.5 |
| 121 | 203700.9 | 270748 | 1.4 |
| 122 | 204292 | 269745.8 | 0.3 |
| 123 | 206045.4 | 266045 | 2 |
| 124 | 206392.5 | 266169 | 2 |
| 125 | 206404.5 | 266153 | 2.1 |
| 126 | 206294.5 | 266150 | 0.7 |
| 127 | 206910.6 | 266167 | 0.3 |
| 128 | 206783.6 | 266164 | 0.3 |
| 129 | 206826.6 | 266165 | 0.5 |
| 130 | 206938.6 | 266168 | 1.1 |

# Appendix 9-1.8- Lab Testing

**TESTCONSULT IRELAND LTD**
Materials Laboratory, Clonminam Industrial Estate, Portlaoise, Co. Laois
Tel. (057) 8664885 Fax. (057) 8664380

# LABORATORY TEST REPORT

**PARTICLE SIZE DISTRIBUTION-BS 1377 Part 2 : 1990 - Cl. 9.2 / 9.3 (Wet & Dry)**
**DETERMINATION OF MOISTURE CONTENT - BS 1377 - PART 2 - 1990. Oven Drying Method**

| | | | |
|---|---|---|---|
| **Site:** | Bord na Mona Trial Pits | **Job No** | PL |
| **Client :** | Gavin & Doherty Geosolutions Ltd<br>Unit A2, Nutgrove Office Park<br>Rathfarnham<br>Dublin 14, D14 X627 | **Lab Ref No**<br>**Date Received**<br>**Date Reported**<br>**Material** | ST 77545<br>22/12/2016<br>13/01/2017<br>Earthworks |
| **Order No.:** | N/A | **Material Type:** | Light Gray Fine Soil Uncompact Very Soft with some Stone |
| **Originator :** | Paddy Curren | **Specification** | NRA |

***Sample Ref:*** **T3 4.5m**

***Supplier:*** Client Info

***Source:*** T3

***Location :*** 4.5m Depth

***Ticket No.:*** N/A

***Date Sampled :*** Client Info

***Sample Type:*** Bulk

***Sampled By:*** Client

***Sampling Cert.:*** No

***Sampling Reason:*** Request

***Specification:*** NRA

**SIEVE ANALYSIS**

| Sieve size | % Passing | Specification |
|---|---|---|
| 500mm | 100 | |
| 300mm | 100 | |
| 125mm | 100 | |
| 100mm | 100 | |
| 75mm | 100 | |
| 37.5mm | 95 | |
| 28mm | 90 | |
| 20mm | 86 | |
| 14mm | 82 | |
| 10mm | 78 | |
| 6.3mm | 72 | |
| 5mm | 70 | |
| 3.35mm | 67 | |
| 2.00mm | 63 | |
| 1.18mm | 58 | |
| 425mm | 51 | |
| 600µm | 55 | |
| 300µm | 50 | |
| 150µm | 37 | |
| 63µm | 27 | |

**Additional Results**

*Moisture Content %* 12.0

Tested in accordance with the above methods

**Approved Signature**
**TESTCONSULT IRELAND LIMITED**

☐ **Michael Robinson, Director & Lab. Manager**
☑ **James Ward, Senior Technician**

**TESTCONSULT LIMITED**
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Testconsult Ireland Ltd.
Clonminam Ind. Est., Portlaoise, Co. Laois

**DETERMINATION OF MOISTURE CONTENT - BS 1377 PART 2 : 1990 - Oven Drying Method**

| | | | |
|---|---|---|---|
| **Project:** | Bord na Mona Trial Pits | **Job No.:** | PL |
| **Client:** | Gavin & Doherty Geosolutions Ltd | **Lab Ref. No.:** | ST 77546 |
| | Unit A2, Nutgrove Office Park | **Date Received:** | 22/12/2016 |
| | Rathfarnham | **Date Reported:** | 09/01/2017 |
| | Dublin 14, D14 X627 | **Material:** | Fine Soil Mid Gray Uncompact Very Soft + Stone |
| **Order No.:** | N/A | | |
| **Originator:** | Paddy Curran | **Specification:** | Client |

**Sample Details** **Fine Soil Mid Gray Uncompact Very Soft + Stone**

| | | | |
|---|---|---|---|
| **Supplier:** | Client Info. | **Date of Sampling:** | Client Info |
| **Source:** | T4 | **Sampled By:** | Client |
| **Sample Location:** | 0.3m Depth | **Sampling Reason:** | Request |

## Results

| Sample Reference | Moisture Content (%) |
|---|---|
| T4 0.3m | 11.4 |

**Comments:**
None

**Tested in accordance with the above specifications**

**Approved Signature**
**TESTCONSULT IRELAND LIMITED**

☐ **Michael Robinson, Director & Lab. Manager**
☑ **James Ward, Senior Technician**

**TESTCONSULT LIMITED**
40A Hardwick Grange, Warrington, WA1 4RF
Testconsult Ireland Ltd.
Clonminam Ind. Est., Portlaoise, Co. Laois

# LABORATORY TEST REPORT

**To determine the chemical analysis of a sample as per client request**

| | | | |
|---|---|---|---|
| **Site:** | Bord na Mona Trial Pits | **Job No** | PL |
| **Client :** | Gavin & Doherty Geosolutions Ltd<br>Unit A2, Nutgrove Office Park<br>Rathfarnam<br>Dublin 14, D14 X6 | **Lab Ref No** | ST 77547 |
| | | **Date Received** | 22/12/2016 |
| | | **Date Reported** | 08/02/2017 |
| | | **Material** | Earthworks |
| | | **Description** | Fine Soil Sandy Gravel<br>Uncompact Soft Mid Gray |
| **Order No.:** | N/A | | |
| **Originator :** | Paddy Curran | **Specification** | NRA |

**Sample Details** **T4 2.2m**

| | | | |
|---|---|---|---|
| **Certificate of sampling:** | Yes | **Sampling Reason:** | Request |
| **Sample Supplier:** | Client info | **Date of Sampling:** | Client Info |
| **Sample Source:** | T4 | **Ticket No.** | N/A |
| **Sample Location:** | 2.2m Depth | **Sampled By:** | Client |

| | | |
|---|---|---|
| **Metals** | | |
| Magnesium Aqueous Extract | **mg/l** | *<10* |
| **Inorganics** | | |
| pH | | *8.6* |
| Ammonia Aqueous Extracts as N | **mg/l** | *<10* |
| Chloride Aqueous Extract | **mg/l** | *3.9* |
| Nitrate Aqueous Extract as NO3 | **mg/l** | *<1.0* |
| Sulphate Aqueous Extract as SO4 | **mg/l** | *20* |
| Sulphur as S, Total | **%** | *0.01* |
| Sulphate as SO4, Total | **%** | *0.02* |

**Comments:**
None

**Tested in accordance with the above specifications**
**Subcontracted to a laboratory UKAS accredited for this testing**

**Approved Signature**
**TESTCONSULT IRELAND LIMITED**
☐ **Michael Robinson, Director & Lab. Manager**
☑ **James Ward, Senior Technician**

**TESTCONSULT IRELAND LTD**
Materials Laboratory, Clonminam Industrial Estate, Portlaoise, Co. Laois
Tel. (057) 8664885 Fax. (057) 8664380

# LABORATORY TEST REPORT

## PARTICLE SIZE DISTRIBUTION-BS 1377 Part 2 : 1990 - Cl. 9.2 / 9.3 (Wet & Dry)
## DETERMINATION OF MOISTURE CONTENT - BS 1377 - PART 2 - 1990. Oven Drying Method

| | | | |
|---|---|---|---|
| **Site:** | Bord na Mona Trial Pits | **Job No** | PL |
| **Client :** | Gavin & Doherty Geosolutions Ltd | **Lab Ref No** | ST 77548 |
| | Unit A2, Nutgrove Office Park | **Date Received** | 22/12/2016 |
| | Rathfarnham | **Date Reported** | 13/01/2017 |
| | Dublin 14, D14 X627 | **Material** | Earthworks |
| **Order No.:** | N/A | **Material Type:** | Fine Soil Sandy Gravel Uncompact Soft Mid Gray |
| **Originator :** | Paddy Curren | **Specification** | NRA |

***Sample Ref:*** **T4 2.2m**

***Supplier:*** Client Info

***Source:*** T4

***Location :*** 2.2m Depth

***Ticket No.:*** N/A

***Date Sampled :*** Client Info

***Sample Type:*** Bulk

***Sampled By:*** Client

***Sampling Cert.:*** No

***Sampling Reason:*** Request

***Specification:*** NRA

**Additional Results**

*Moisture Content %* 13.6

| SIEVE ANALYSIS | | |
|---|---|---|
| Sieve size | % Passing | Specification |
| 500mm | 100 | |
| 300mm | 100 | |
| 125mm | 100 | |
| 100mm | 100 | |
| 75mm | 100 | |
| 37.5mm | 96 | |
| 28mm | 92 | |
| 20mm | 88 | |
| 14mm | 85 | |
| 10mm | 81 | |
| 6.3mm | 77 | |
| 5mm | 75 | |
| 3.35mm | 73 | |
| 2.00mm | 69 | |
| 1.18mm | 65 | |
| 425mm | 58 | |
| 600µm | 62 | |
| 300µm | 56 | |
| 150µm | 45 | |
| 63µm | 34 | |

Tested in accordance with the above methods

**Approved Signature**
**TESTCONSULT IRELAND LIMITED**

☐ **Michael Robinson, Director & Lab. Manager**
☑ **James Ward, Senior Technician**

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# LABORATORY TEST REPORT

## PARTICLE SIZE DISTRIBUTION-BS 1377 Part 2 : 1990 - Cl. 9.2 / 9.3 (Wet & Dry)
## DETERMINATION OF MOISTURE CONTENT - BS 1377 - PART 2 - 1990. Oven Drying Method

| | | | |
|---|---|---|---|
| **Site:** | Bord na Mona Trial Pits | **Job No** | PL |
| **Client :** | Gavin & Doherty Geosolutions Ltd | **Lab Ref No** | ST 77549 |
| | Unit A2, Nutgrove Office Park | **Date Received** | 22/12/2016 |
| | Rathfarnham | **Date Reported** | 13/01/2017 |
| | Dublin 14, D14 X627 | **Material** | Earthworks |
| **Order No.:** | N/A | **Material Type:** | Mid Gray Fine Soil, Uncompact, Soft, Sandy & Gravel |
| **Originator :** | Paddy Curren | **Specification** | NRA |

***Sample Ref:*** **T5 2.7m**

***Supplier:*** Client Info

***Source:*** T5

***Location :*** 2.7m Depth

***Ticket No.:*** N/A

***Date Sampled :*** Client Info

***Sample Type:*** Bulk

***Sampled By:*** Client

***Sampling Cert.:*** No

***Sampling Reason:*** Request

***Specification:*** NRA

**Additional Results**

*Moisture Content %* 11.9

| SIEVE ANALYSIS | | |
|---|---|---|
| Sieve size | % Passing | Specification |
| 500mm | 100 | |
| 300mm | 100 | |
| 125mm | 100 | |
| 100mm | 100 | |
| 75mm | 100 | |
| 37.5mm | 89 | |
| 28mm | 81 | |
| 20mm | 76 | |
| 14mm | 74 | |
| 10mm | 70 | |
| 6.3mm | 64 | |
| 5mm | 61 | |
| 3.35mm | 57 | |
| 2.00mm | 52 | |
| 1.18mm | 47 | |
| 425mm | 40 | |
| 600µm | 43 | |
| 300µm | 39 | |
| 150µm | 33 | |
| 63µm | 26 | |

Tested in accordance with the above methods

**Approved Signature**
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UKAS TESTING 0955

# LABORATORY TEST REPORT
## LIQUID & PLASTIC LIMIT TESTS
**In accordance with BS 1377: Part 2:1990 Cl 4.4 ( Liquid Limit Single Point ) & Cl 5.3 (Plastic Limit)**

| | | | |
|---|---|---|---|
| **Project:** | Bord na Mona Trial Pits | **Job No:** | PL |
| **Client:** | Gavin & Doherty Geosolutions Ltd | **Lab Ref No.:** | ST 77550 |
| | Unit A2, Nutgrove Office Park | **Date Received:** | 22/12/2016 |
| | Rathfarnham | **Date Reported:** | 16/01/2017 |
| | Dublin 14, D14 X627 | **Material:** | Earthworks |
| | | **Visual Description:** | Mid gray fine soil uncompact soft sandy & gravel |
| **Order No:** | N/A | | |
| **Originator:** | Paddy Curren | **Specification** | NRA |

| | | | |
|---|---|---|---|
| **Site Ref:** | **T5 2.7m** | **Ticket No.:** | N/A |
| **Supplier:** | Client Info. | **Date Sampled:** | Client Info. |
| **Source:** | T5 | **Sample Type:** | Bulk |
| **Location:** | 2.7m Depth | **Sampled By:** | Client |
| **Sampling Reason:** | Request | **Sampling Cert.:** | Yes |

**Comments :**

| | | |
|---|---|---|
| **Preparation Method :** | **Washing** | **(Drying or washing)** |
| **Disturbed or Undisturbed :** | **Disturbed** | |
| **% Passing 425 micron sieve** | **35.8** | |

| Sample Ref. | Liquid Limit | Plastic Limit | Plasticity Index |
|---|---|---|---|
| **ST 77550** | **28** | **N/A** | **N/A** |

| | |
|---|---|
| Observed or inferred sample disturbance, incliding possible loss of moisture | None |
| Unavoidable variations from specified procedure & reasons | None |
| History of material - tested in natural state, after wet sieving, etc. | Wet Sieving |

Tested in accordance with BS 1377: Part 2:1990 Cl 4.4 & Cl 5.3 (Single Point)

**Approved Signature**
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# LABORATORY TEST REPORT

**PARTICLE SIZE DISTRIBUTION-BS 1377 Part 2 : 1990 - Cl. 9.2 / 9.3 (Wet & Dry)**
**DETERMINATION OF MOISTURE CONTENT - BS 1377 - PART 2 - 1990. Oven Drying Method**

| | | | |
|---|---|---|---|
| **Site:** | Bord na Mona Trial Pits | **Job No** | PL |
| **Client :** | Gavin & Doherty Geosolutions Ltd | **Lab Ref No** | ST 77551 |
| | Unit A2, Nutgrove Office Park | **Date Received** | 22/12/2016 |
| | Rathfarnham | **Date Reported** | 13/01/2017 |
| | Dublin 14, D14 X627 | **Material** | Earthworks |
| **Order No.:** | N/A | **Material Type:** | Mid Gray Fine Soil Uncompact Very Soft Slight Sandy + Gravel |
| **Originator :** | Paddy Curren | **Specification** | NRA |

***Sample Ref:*** **T6 1.5m**

***Supplier:*** Client Info

***Source:*** T6

***Location :*** 1.5m Depth

***Ticket No.:*** N/A

***Date Sampled :*** Client Info

***Sample Type:*** Bulk

***Sampled By:*** Client

***Sampling Cert.:*** No

***Sampling Reason:*** Request

***Specification:*** NRA

**Additional Results**

*Moisture Content %* 22.5

| SIEVE ANALYSIS | | |
|---|---|---|
| Sieve size | % Passing | Specification |
| 500mm | 100 | |
| 300mm | 100 | |
| 125mm | 100 | |
| 100mm | 100 | |
| 75mm | 100 | |
| 37.5mm | 89 | |
| 28mm | 86 | |
| 20mm | 81 | |
| 14mm | 79 | |
| 10mm | 76 | |
| 6.3mm | 73 | |
| 5mm | 72 | |
| 3.35mm | 71 | |
| 2.00mm | 69 | |
| 1.18mm | 67 | |
| 425mm | 62 | |
| 600µm | 65 | |
| 300µm | 59 | |
| 150µm | 49 | |
| 63µm | 37 | |

Tested in accordance with the above methods

**Approved Signature**
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UKAS TESTING 0955

# LABORATORY TEST REPORT
## LIQUID & PLASTIC LIMIT TESTS
**In accordance with BS 1377: Part 2:1990 Cl 4.4 ( Liquid Limit Single Point ) & Cl 5.3 (Plastic Limit)**

| | | | |
|---|---|---|---|
| **Project:** | Bord na Mona Trial Pits | **Job No:** | PL |
| **Client:** | Gavin & Doherty Geosolutions Ltd<br>Unit A2, Nutgrove Office Park<br>Rathfarnham<br>Dublin 14, D14 X627 | **Lab Ref No.:** | ST 77552 |
| | | **Date Received:** | 22/12/2016 |
| | | **Date Reported:** | 27/01/2017 |
| | | **Material:** | Earthworks |
| | | **Visual Description:** | Mid Grey Fine Soil uncompact Very Soft Slightly Sandy & Gravel |
| **Order No:** | N/A | | |
| **Originator:** | Paddy Curran | **Specification** | NRA |

| | | | |
|---|---|---|---|
| **Site Ref:** | **T6 1.5m** | **Ticket No.:** | N/A |
| **Supplier:** | Client Info. | **Date Sampled:** | Client Info. |
| **Source:** | T6 | **Sample Type:** | Bulk |
| **Location:** | 1.5m Depth | **Sampled By:** | Client |
| **Sampling Reason:** | Request | **Sampling Cert.:** | Yes |

**Comments :**

| | | |
|---|---|---|
| **Preparation Method :** | **Washing** | **(Drying or washing)** |
| **Disturbed or Undisturbed :** | **Disturbed** | |
| **% Passing 425 micron sieve** | **88.4** | |

| Sample Ref. | Liquid Limit | Plastic Limit | Plasticity Index |
|---|---|---|---|
| **ST 77552** | **31** | **Non Plastic** | **N/A** |

| | |
|---|---|
| Observed or inferred sample disturbance, including possible loss of moisture | None |
| Unavoidable variations from specified procedure & reasons | None |
| History of material - tested in natural state, after wet sieving, etc. | Wet Sieving |

Tested in accordance with BS 1377: Part 2:1990 Cl 4.4 & Cl 5.3 (Single Point)

**Approved Signature**
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**DETERMINATION OF MOISTURE CONTENT - BS 1377 PART 2 : 1990 - Oven Drying Method**

| | | | |
|---|---|---|---|
| **Project:** | Bord na Mona Trial Pits | **Job No.:** | PL |
| **Client:** | Gavin & Doherty Geosolutions Ltd<br>Unit A2, Nutgrove Office Park<br>Rathfarnham<br>Dublin 14, D14 X627 | **Lab Ref. No.:** | ST 77553 |
| | | **Date Received:** | 22/12/2016 |
| | | **Date Reported:** | 09/01/2017 |
| | | **Material:** | Mid Gray Fine Soil Uncompact Very Soft Slight Sandy Gravel |
| **Order No.:** | N/A | | |
| **Originator:** | Paddy Curran | **Specification:** | Client |

**Sample Details**

**Mid Gray Fine Soil Uncompact Very Soft Slight Sandy Gravel**

| | | | |
|---|---|---|---|
| **Supplier:** | Client Info. | **Date of Sampling:** | Client Info |
| **Source:** | T6 | **Sampled By:** | Client |
| **Sample Location:** | 2.5m Depth | **Sampling Reason:** | Request |

## Results

| Sample Reference | Moisture Content (%) |
|---|---|
| T6 2.5m | 8.2 |

**Comments:**
None

**Tested in accordance with the above specifications**

**Approved Signature**
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# LABORATORY TEST REPORT

**To determine the pH Value of Soils**
**in accordance with BS EN 1377:Part3:1990 - Clause 9, Electrometric Method**

| | | | |
|---|---|---|---|
| **Site:** | Bord na Mona Trial Pits | **Job No** | PL |
| **Client :** | Gavin & Doherty Geosolutions Ltd<br>Unit A2, Nutgrove Office Park<br>Rathfarnam<br>Dublin 14, D14 X6 | **Lab Ref No** | ST 77554 |
| | | **Date Received** | 22/12/2016 |
| | | **Date Reported** | 06/02/2017 |
| | | **Material** | Earthworks |
| | | **Description** | Mid Grey Fine Soil, Uncompacted, Very Soft, Sandy Gravel |
| **Order No.:** | N/A | | |
| **Originator :** | Paddy Curran | **Specification** | NRA |

**Sample Details** **T6 2.5m**

| | | | |
|---|---|---|---|
| **Certificate of sampling:** | Yes | **Sampling Reason:** | Request |
| **Sample Supplier:** | Client info | **Date of Sampling:** | Client Info |
| **Sample Source:** | T6 | **Ticket No.** | N/A |
| **Sample Location:** | 2.5m Depth | **Sampled By:** | Client |

| Parameter | RESULT | *95% Confidence limit* |
|---|---|---|
| **pH Value** | **8.6** | *8.38% - 8.82%* |

**Comments:**
* 95% Confidence Limit is the expanded uncertainty which is the combined uncertainty standard multiplied by a factor (k) of 2

**Tested in accordance with the above specifications**
**Subcontracted to a laboratory UKAS accredited for this testing**

**Approved Signature**
**TESTCONSULT IRELAND LIMITED**

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# LABORATORY TEST REPORT

## PARTICLE SIZE DISTRIBUTION-BS 1377 Part 2 : 1990 - Cl. 9.2 / 9.3 (Wet & Dry)
## DETERMINATION OF MOISTURE CONTENT - BS 1377 - PART 2 - 1990. Oven Drying Method

| | | | |
|---|---|---|---|
| **Site:** | Bord na Mona Trial Pits | **Job No** | PL |
| **Client :** | Gavin & Doherty Geosolutions Ltd<br>Unit A2, Nutgrove Office Park<br>Rathfarnham<br>Dublin 14, D14 X627 | **Lab Ref No**<br>**Date Received**<br>**Date Reported**<br>**Material** | ST 77555<br>22/12/2016<br>13/01/2017<br>Earthworks |
| **Order No.:** | N/A | **Material Type:** | Dark Gray Fine Soil Uncompact Very Soft + Stone |
| **Originator :** | Paddy Curren | **Specification** | NRA |

***Sample Ref:*** **T7 1.2m**

***Supplier:*** Client Info

***Source:*** T7

***Location :*** 1.2m Depth

***Ticket No.:*** N/A

***Date Sampled :*** Client Info

***Sample Type:*** Bulk

***Sampled By:*** Client

***Sampling Cert.:*** No

***Sampling Reason:*** Request

***Specification:*** NRA

**SIEVE ANALYSIS**

| Sieve size | % Passing | Specification |
|---|---|---|
| 500mm | 100 | |
| 300mm | 100 | |
| 125mm | 100 | |
| 100mm | 100 | |
| 75mm | 100 | |
| 37.5mm | 91 | |
| 28mm | 89 | |
| 20mm | 85 | |
| 14mm | 83 | |
| 10mm | 82 | |
| 6.3mm | 80 | |
| 5mm | 80 | |
| 3.35mm | 80 | |
| 2.00mm | 79 | |
| 1.18mm | 78 | |
| 425mm | 76 | |
| 600µm | 77 | |
| 300µm | 75 | |
| 150µm | 72 | |
| 63µm | 68 | |

**Additional Results**

*Moisture Content %* 27.1

Tested in accordance with the above methods

**Approved Signature**
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UKAS TESTING 0955

# LABORATORY TEST REPORT
## LIQUID & PLASTIC LIMIT TESTS
**In accordance with BS 1377: Part 2:1990 Cl 4.4 ( Liquid Limit Single Point ) & Cl 5.3 (Plastic Limit)**

| | | | |
|---|---|---|---|
| **Project:** | Bord na Mona Trial Pits | **Job No:** | PL |
| **Client:** | Gavin & Doherty Geosolutions Ltd | **Lab Ref No.:** | ST 77556 |
| | Unit A2, Nutgrove Office Park | **Date Received:** | 22/12/2016 |
| | Rathfarnham | **Date Reported:** | 20/01/2017 |
| | Dublin 14, D14 X627 | **Material:** | Earthworks |
| | | **Visual Description:** | Dark Grey Fine Soil, Uncompact & Very Soft with Stone |
| **Order No:** | N/A | | |
| **Originator:** | Paddy Curran | **Specification** | NRA |

| | | | |
|---|---|---|---|
| **Site Ref:** | **T7 1.2m** | **Ticket No.:** | N/A |
| **Supplier:** | Client Info. | **Date Sampled:** | Client Info. |
| **Source:** | T7 | **Sample Type:** | Bulk |
| **Location:** | 1.2m Depth | **Sampled By:** | Client |
| **Sampling Reason:** | Request | **Sampling Cert.:** | Yes |

**Comments :**

| | | |
|---|---|---|
| **Preparation Method :** | **Washing** | **(Drying or washing)** |
| **Disturbed or Undisturbed :** | **Disturbed** | |
| **% Passing 425 micron sieve** | **51.5** | |

| Sample Ref. | Liquid Limit | Plastic Limit | Plasticity Index |
|---|---|---|---|
| **ST 77556** | **34** | **26** | **8** |

| | |
|---|---|
| Observed or inferred sample disturbance, incliding possible loss of moisture | None |
| Unavoidable variations from specified procedure & reasons | None |
| History of material - tested in natural state, after wet sieving, etc. | Wet Sieving |

Tested in accordance with BS 1377: Part 2:1990 Cl 4.4 & Cl 5.3 (Single Point)

**Approved Signature**
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**DETERMINATION OF MOISTURE CONTENT - BS 1377 PART 2 : 1990 - Oven Drying Method**

| | | | |
|---|---|---|---|
| **Project:** | Bord na Mona Trial Pits | **Job No.:** | PL |
| **Client:** | Gavin & Doherty Geosolutions Ltd | **Lab Ref. No.:** | ST 77557 |
| | Unit A2, Nutgrove Office Park | **Date Received:** | 22/12/2016 |
| | Rathfarnham | **Date Reported:** | 09/01/2017 |
| | Dublin 14, D14 X627 | **Material:** | Mid Gray Sandy Gravel Uncompact Soft |
| **Order No.:** | N/A | | |
| **Originator:** | Paddy Curran | **Specification:** | Client |

**Sample Details** **Mid Gray Sandy Gravel Uncompact Soft**

| | | | |
|---|---|---|---|
| **Supplier:** | Client Info. | **Date of Sampling:** | Client Info |
| **Source:** | T7 | **Sampled By:** | Client |
| **Sample Location:** | 2m Depth | **Sampling Reason:** | Request |

## Results

| Sample Reference | Moisture Content (%) |
|---|---|
| T7 2m | 12.0 |

**Comments:**
None

**Tested in accordance with the above specifications**

**Approved Signature**
**TESTCONSULT IRELAND LIMITED**

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# LABORATORY TEST REPORT

**PARTICLE SIZE DISTRIBUTION-BS 1377 Part 2 : 1990 - Cl. 9.2 / 9.3 (Wet & Dry)**
**DETERMINATION OF MOISTURE CONTENT - BS 1377 - PART 2 - 1990. Oven Drying Method**

| | | | |
|---|---|---|---|
| **Site:** | Bord na Mona Trial Pits | **Job No** | PL |
| **Client :** | Gavin & Doherty Geosolutions Ltd | **Lab Ref No** | ST 77558 |
| | Unit A2, Nutgrove Office Park | **Date Received** | 22/12/2016 |
| | Rathfarnham | **Date Reported** | 18/01/2017 |
| | Dublin 14, D14 X627 | **Material** | Earthworks |
| **Order No.:** | N/A | **Material Type:** | Mid Grey Uncompact Fine Soil, Very Soft |
| **Originator :** | Paddy Curran | **Specification** | NRA |

***Sample Ref:*** **T8 2.5m**

***Supplier:*** Client Info

***Source:*** T8

***Location :*** 2.5m Depth

***Ticket No.:*** N/A

***Date Sampled :*** Client Info

***Sample Type:*** Bulk

***Sampled By:*** Client

***Sampling Cert.:*** No

***Sampling Reason:*** Request

***Specification:*** NRA

**SIEVE ANALYSIS**

| Sieve size | % Passing | Specification |
|---|---|---|
| 500mm | 100 | |
| 300mm | 100 | |
| 125mm | 100 | |
| 100mm | 100 | |
| 75mm | 100 | |
| 37.5mm | 100 | |
| 28mm | 100 | |
| 20mm | 100 | |
| 14mm | 100 | |
| 10mm | 100 | |
| 6.3mm | 100 | |
| 5mm | 100 | |
| 3.35mm | 100 | |
| 2.00mm | 100 | |
| 1.18mm | 99 | |
| 425mm | 99 | |
| 600µm | 99 | |
| 300µm | 98 | |
| 150µm | 98 | |
| 63µm | 98 | |

**Additional Results**

*Moisture Content %* 186.8

Tested in accordance with the above methods

**Approved Signature**
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UKAS TESTING 0955

# LABORATORY TEST REPORT
## LIQUID & PLASTIC LIMIT TESTS
**In accordance with BS 1377: Part 2:1990 Cl 4.4 ( Liquid Limit Single Point ) & Cl 5.3 (Plastic Limit)**

| | | | |
|---|---|---|---|
| **Project:** | Bord na Mona Trial Pits | **Job No:** | PL |
| **Client:** | Gavin & Doherty Geosolutions Ltd | **Lab Ref No.:** | ST 77559 |
| | Unit A2, Nutgrove Office Park | **Date Received:** | 22/12/2016 |
| | Rathfarnham | **Date Reported:** | 16/01/2017 |
| | Dublin 14, D14 X627 | **Material:** | Earthworks |
| | | **Visual Description:** | Mid Grey Fine Soil, Uncompact, Very Soft |
| **Order No:** | N/A | | |
| **Originator:** | Paddy Curren | **Specification** | NRA |

| | | | |
|---|---|---|---|
| **Site Ref:** | **T8 2.5m** | **Ticket No.:** | N/A |
| **Supplier:** | Client Info. | **Date Sampled:** | Client Info. |
| **Source:** | T8 | **Sample Type:** | Bulk |
| **Location:** | 2.5m Depth | **Sampled By:** | Client |
| **Sampling Reason:** | Request | **Sampling Cert.:** | Yes |

**Comments :**

| | | |
|---|---|---|
| **Preparation Method :** | **Washing** | **(Drying or washing)** |
| **Disturbed or Undisturbed :** | **Disturbed** | |
| **% Passing 425 micron sieve** | **88.9** | |

| Sample Ref. | Liquid Limit | Plastic Limit | Plasticity Index |
|---|---|---|---|
| **ST 77559** | **29** | **23** | **6** |

| | |
|---|---|
| Observed or inferred sample disturbance, incliding possible loss of moisture | None |
| Unavoidable variations from specified procedure & reasons | None |
| History of material - tested in natural state, after wet sieving, etc. | Wet Sieving |

Tested in accordance with BS 1377: Part 2:1990 Cl 4.4 & Cl 5.3 (Single Point)

**Approved Signature**
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UKAS TESTING 0955

# LABORATORY TEST REPORT

## PARTICLE SIZE DISTRIBUTION-BS 1377 Part 2 : 1990 - Cl. 9.2 / 9.3 (Wet & Dry)
## DETERMINATION OF MOISTURE CONTENT - BS 1377 - PART 2 - 1990. Oven Drying Method

| | | | |
|---|---|---|---|
| **Site:** | Bord na Mona Trial Pits | **Job No** | PL |
| **Client :** | Gavin & Doherty Geosolutions Ltd | **Lab Ref No** | ST 77560 |
| | Unit A2, Nutgrove Office Park | **Date Received** | 22/12/2016 |
| | Rathfarnham | **Date Reported** | 16/01/2017 |
| | Dublin 14, D14 X627 | **Material** | Earthworks |
| **Order No.:** | N/A | **Material Type:** | Mid Gray Fine Sandy Soil Uncompact Soft & Gravel |
| **Originator :** | Paddy Curren | **Specification** | NRA |

***Sample Ref:*** **T8 3.5m**

***Supplier:*** Client Info

***Source:*** T8

***Location :*** 3.5m Depth

***Ticket No.:*** N/A

***Date Sampled :*** Client Info

***Sample Type:*** Bulk

***Sampled By:*** Client

***Sampling Cert.:*** No

***Sampling Reason:*** Request

***Specification:*** NRA

**Additional Results**

*Moisture Content %* 9.0

| SIEVE ANALYSIS | | |
|---|---|---|
| Sieve size | % Passing | Specification |
| 500mm | 100 | |
| 300mm | 100 | |
| 125mm | 100 | |
| 100mm | 100 | |
| 75mm | 100 | |
| 37.5mm | 88 | |
| 28mm | 85 | |
| 20mm | 78 | |
| 14mm | 74 | |
| 10mm | 71 | |
| 6.3mm | 67 | |
| 5mm | 65 | |
| 3.35mm | 61 | |
| 2.00mm | 57 | |
| 1.18mm | 53 | |
| 425mm | 47 | |
| 600µm | 48 | |
| 300µm | 45 | |
| 150µm | 36 | |
| 63µm | 27 | |

Tested in accordance with the above methods

**Approved Signature**
**TESTCONSULT IRELAND LIMITED**

☐ **Michael Robinson, Director & Lab. Manager**
☑ **James Ward, Senior Technician**

**TESTCONSULT LIMITED**
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UKAS TESTING 0955

# LABORATORY TEST REPORT
## LIQUID & PLASTIC LIMIT TESTS
**In accordance with BS 1377: Part 2:1990 Cl 4.4 ( Liquid Limit Single Point ) & Cl 5.3 (Plastic Limit)**

| | | | |
|---|---|---|---|
| **Project:** | Bord na Mona Trial Pits | **Job No:** | PL |
| **Client:** | Gavin & Doherty Geosolutions Ltd | **Lab Ref No.:** | ST 77561 |
| | Unit A2, Nutgrove Office Park | **Date Received:** | 22/12/2016 |
| | Rathfarnham | **Date Reported:** | 27/01/2017 |
| | Dublin 14, D14 X627 | **Material:** | Earthworks |
| | | **Visual Description:** | Mid Grey Fine & Sandy Soil, Uncompact Soft & Gravel |
| **Order No:** | N/A | | |
| **Originator:** | Paddy Curran | **Specification** | NRA |

| | | | |
|---|---|---|---|
| **Site Ref:** | **T8 3.5m** | **Ticket No.:** | N/A |
| **Supplier:** | Client Info. | **Date Sampled:** | Client Info. |
| **Source:** | T8 | **Sample Type:** | Bulk |
| **Location:** | 3.5m Depth | **Sampled By:** | Client |
| **Sampling Reason:** | Request | **Sampling Cert.:** | Yes |

**Comments :**

| | | |
|---|---|---|
| **Preparation Method :** | **Washing** | **(Drying or washing)** |
| **Disturbed or Undisturbed :** | **Disturbed** | |
| **% Passing 425 micron sieve** | **91.6** | |

| Sample Ref. | Liquid Limit | Plastic Limit | Plasticity Index |
|---|---|---|---|
| **ST 77561** | **20** | **Non Plastic** | **N/A** |

| | |
|---|---|
| Observed or inferred sample disturbance, incliding possible loss of moisture | None |
| Unavoidable variations from specified procedure & reasons | None |
| History of material - tested in natural state, after wet sieving, etc. | Wet Sieving |

Tested in accordance with BS 1377: Part 2:1990 Cl 4.4 & Cl 5.3 (Single Point)

**Approved Signature**
**TESTCONSULT IRELAND LIMITED**

☑ **Michael Robinson, Director & Lab. Manager**
☐ **James Ward, Senior Technician**

**IRISH DRILLING LTD.**
Loughrea Co. Galway.

Tel: (091)841274

Lab@IrishDrilling.ie

Contract: **Derrad Windfarm, Lanesborough, Co Longford.**
Client:
Engineer: **Tobin**

Date: 21.4.17 Code: 17LD102
Tested By: ED Checked: DCD

# Summary of Soil Classification Tests

**BS1377: Part 2: 1990**

| | | | Clause 7.2 | Clause 3.2 | Clause 8.2 | Clause 4.3 | Clause 5.3 | Clause 5.4 | Clause 9 | | BS5930:2015 Section 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Borehole/ Trialpit | Type | Depth m | Bulk Density Mg/m3 | Moisture Content % | Particle Density Mg/m3 | Liquid Limit % | Plastic Limit % | Plasticity Index % | % passing 425 micron % | | Description of fraction passing 425 micron sieve. |
| | | | | | | | | | | | |
| S1 | | | | 75.8 | | 67.6 | 34.2 | 33.4 | 100 | | Silt - High Plasticity |
| S2 | | | | 38.5 | | 42.9 | 23.7 | 19.2 | 100 | | Clay - Intermediate Plasticity |
| S3 | | | | 41.7 | | 45.2 | 27.9 | 17.3 | 100 | | Silt - Intermediate Plasticity |
| S4 | | | | 31.5 | | 42.5 | 21.4 | 21.1 | 100 | | Clay - Intermediate Plasticity |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

**IRISH DRILLING LTD.**
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Tel: (091)841274

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**Derrad Windfarm, Lanesborough, Co Longford.**

**0**

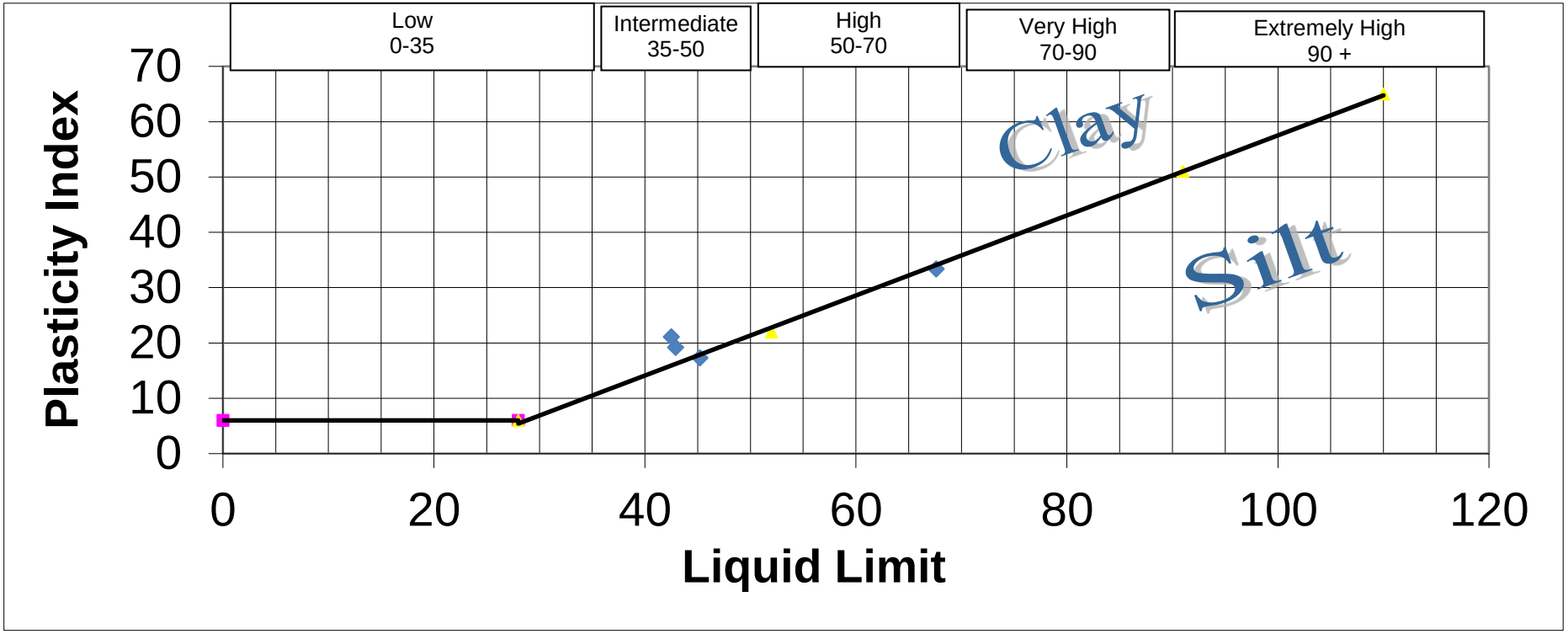
**Tobin**

21.4.17

Note: Soils are described using BS5930:2015
V: visual only description
P: description using values obtained from PSD results.

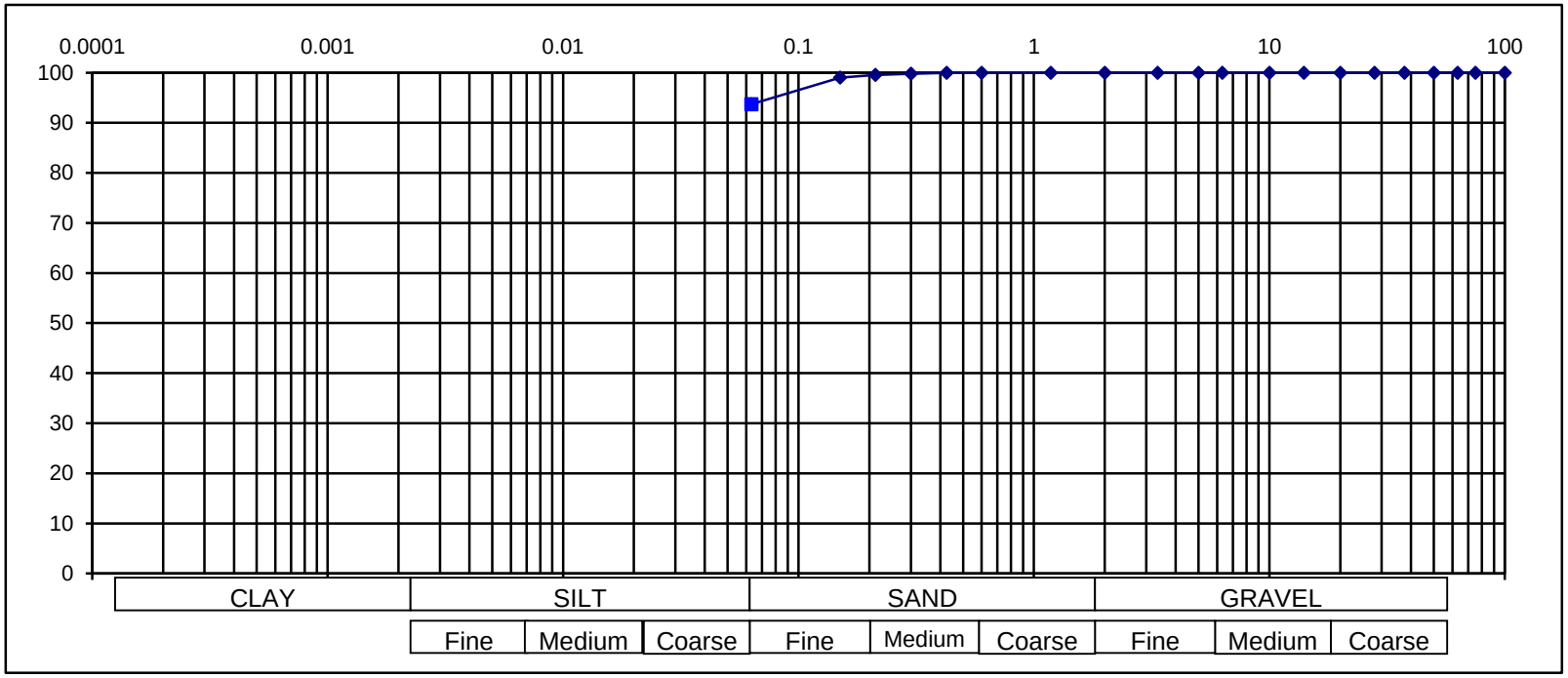
| Borehole/ Trialpit | Type | Depth m | | Visual Description of Natural soil BS5930:2015 | Liquidity Index (w-wp)/IP) | Consistency Limit (wl-w)/(IP) |
|---|---|---|---|---|---|---|
| | | | | | | |
| S1 | | | P | Grey slightly sandy SILT / CLAY | 1.25 | -0.25 |
| S2 | | | P | Grey slightly sandy SILT / CLAY | 0.77 | 0.23 |
| S3 | | | P | Grey slightly sandy SILT / CLAY | 0.80 | 0.20 |
| S4 | | | P | Grey slightly sandy SILT / CLAY | 0.48 | 0.52 |
| | | | | | | |
| | | | | | | |

| | | | |
|---|---|---|---|
| **IRISH DRILLING LTD.**<br>Loughrea Co. Galway.<br><br>Tel: (091)841274<br>Fax: (091) 847687<br>Lab@IrishDrilling.ie | Contract: | **Derrad Windfarm, Lanesborough, Co Longford.** | |
| | Client: | **0** | |
| | Engineer: | **Tobin** | |
| | Date: | **21.4.17** | |
| | Tested By: | **ED** | Checked: **DCD** |



# PARTICLE SIZE DISTRIBUTION BS 1377: 1990: PART 2 (9.2, 9.5)

| Sieve size mm | Percentage passing, % |
|---|---|
| 100 | 100 |
| 75 | 100 |
| 63 | 100 |
| 50 | 100 |
| 37.5 | 100 |
| 28 | 100 |
| 20 | 100 |
| 14 | 100 |
| 10 | 100 |
| 6.3 | 100 |
| 5 | 100 |
| 3.35 | 100 |
| 2 | 100 |
| 1.18 | 100 |
| 0.600 | 100 |
| 0.425 | 100 |
| 0.300 | 100 |
| 0.212 | 100 |
| 0.150 | 99 |
| 0.063 | 94 |
| 0.054 | |
| 0.038 | |
| 0.028 | |
| 0.020 | |
| 0.014 | |
| 0.011 | |
| 0.008 | |
| 0.0054 | |
| 0.0039 | |
| 0.0027 | |
| 0.0016 | |




| Clay | Fine silt | Med Silt | Coarse Silt | Fine Sand | Medium sand | Co. Sand | Fine Grav | Med Grav | Co. Grav |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 6 | 0 | 0 | 0 | 0 | 0 |
| 94 | | | | 6 | | | 0 | | |

**Soil Description:** Grey slightly sandy SILT/ CLAY.

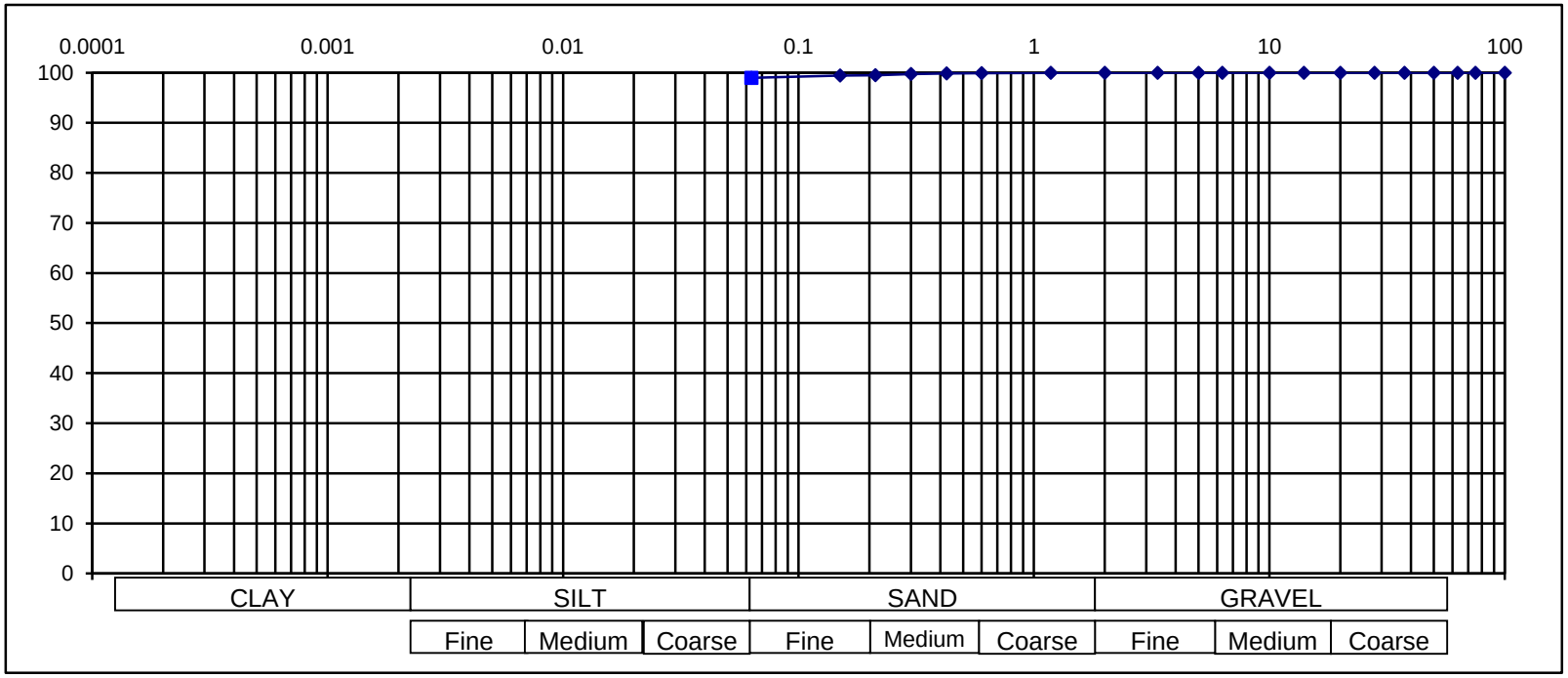
**Contract:** Derrad Windfarm, Lanesborough, Co. Longford.
**Client:**
**Engineer:** Tobin
**Date:** 21.4.17 **Code:** 17LD102
**Tested by:** JN **Checked:** DCD

Location **S1**

Depth: **m**

# PARTICLE SIZE DISTRIBUTION BS 1377: 1990: PART 2 (9.2, 9.5)

| Sieve size mm | Percentage passing, % |
|---|---|
| 100 | 100 |
| 75 | 100 |
| 63 | 100 |
| 50 | 100 |
| 37.5 | 100 |
| 28 | 100 |
| 20 | 100 |
| 14 | 100 |
| 10 | 100 |
| 6.3 | 100 |
| 5 | 100 |
| 3.35 | 100 |
| 2 | 100 |
| 1.18 | 100 |
| 0.600 | 100 |
| 0.425 | 100 |
| 0.300 | 100 |
| 0.212 | 100 |
| 0.150 | 99 |
| 0.063 | 99 |
| 0.054 | |
| 0.038 | |
| 0.028 | |
| 0.020 | |
| 0.014 | |
| 0.011 | |
| 0.008 | |
| 0.0054 | |
| 0.0039 | |
| 0.0027 | |
| 0.0016 | |




| Clay | Fine silt | Med Silt | Coarse Silt | Fine Sand | Medium sand | Co. Sand | Fine Grav | Med Grav | Co. Grav |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | 0 | 0 | 0 | 0 | 0 |
| 99 | | | | 1 | | | 0 | | |

**Soil Description:** Grey slightly sandy SILT/ CLAY.

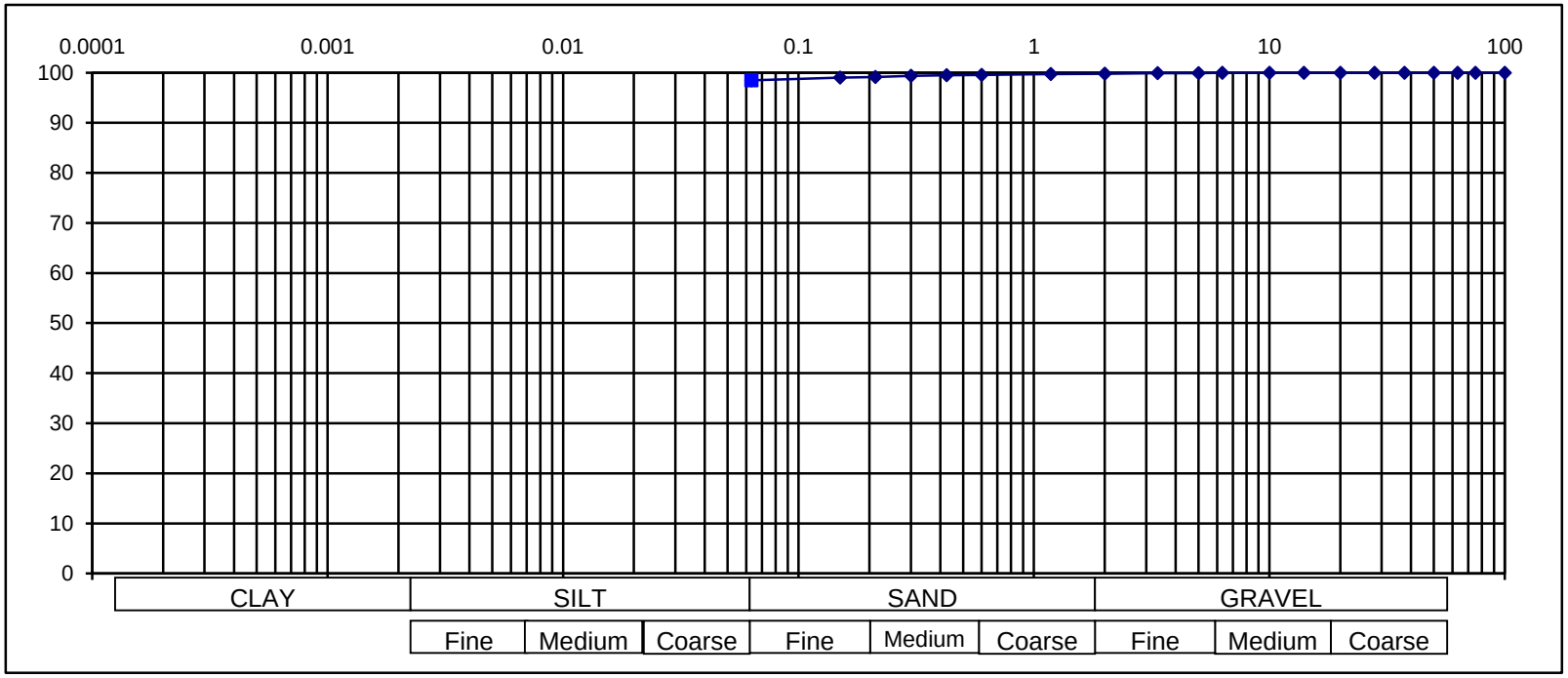
**Contract:** Derrad Windfarm, Lanesborough, Co. Longford.
**Client:**
**Engineer:** Tobin
**Date:** 21.4.17 **Code:** 17LD102
**Tested by:** JN **Checked:** DCD

Location **S2**

Depth: **m**

# PARTICLE SIZE DISTRIBUTION BS 1377: 1990: PART 2 (9.2, 9.5)

| Sieve size mm | Percentage passing, % |
|---|---|
| 100 | 100 |
| 75 | 100 |
| 63 | 100 |
| 50 | 100 |
| 37.5 | 100 |
| 28 | 100 |
| 20 | 100 |
| 14 | 100 |
| 10 | 100 |
| 6.3 | 100 |
| 5 | 100 |
| 3.35 | 100 |
| 2 | 100 |
| 1.18 | 100 |
| 0.600 | 100 |
| 0.425 | 99 |
| 0.300 | 99 |
| 0.212 | 99 |
| 0.150 | 99 |
| 0.063 | 98 |
| 0.054 | |
| 0.038 | |
| 0.028 | |
| 0.020 | |
| 0.014 | |
| 0.011 | |
| 0.008 | |
| 0.0054 | |
| 0.0039 | |
| 0.0027 | |
| 0.0016 | |




| Clay | Fine silt | Med Silt | Coarse Silt | Fine Sand | Medium sand | Co. Sand | Fine Grav | Med Grav | Co. Grav |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | 0 | 0 | 0 | 0 | 0 |
| 98 | | | | 1 | | | 0 | | |

**Soil Description:** Grey slightly sandy SILT/ CLAY.

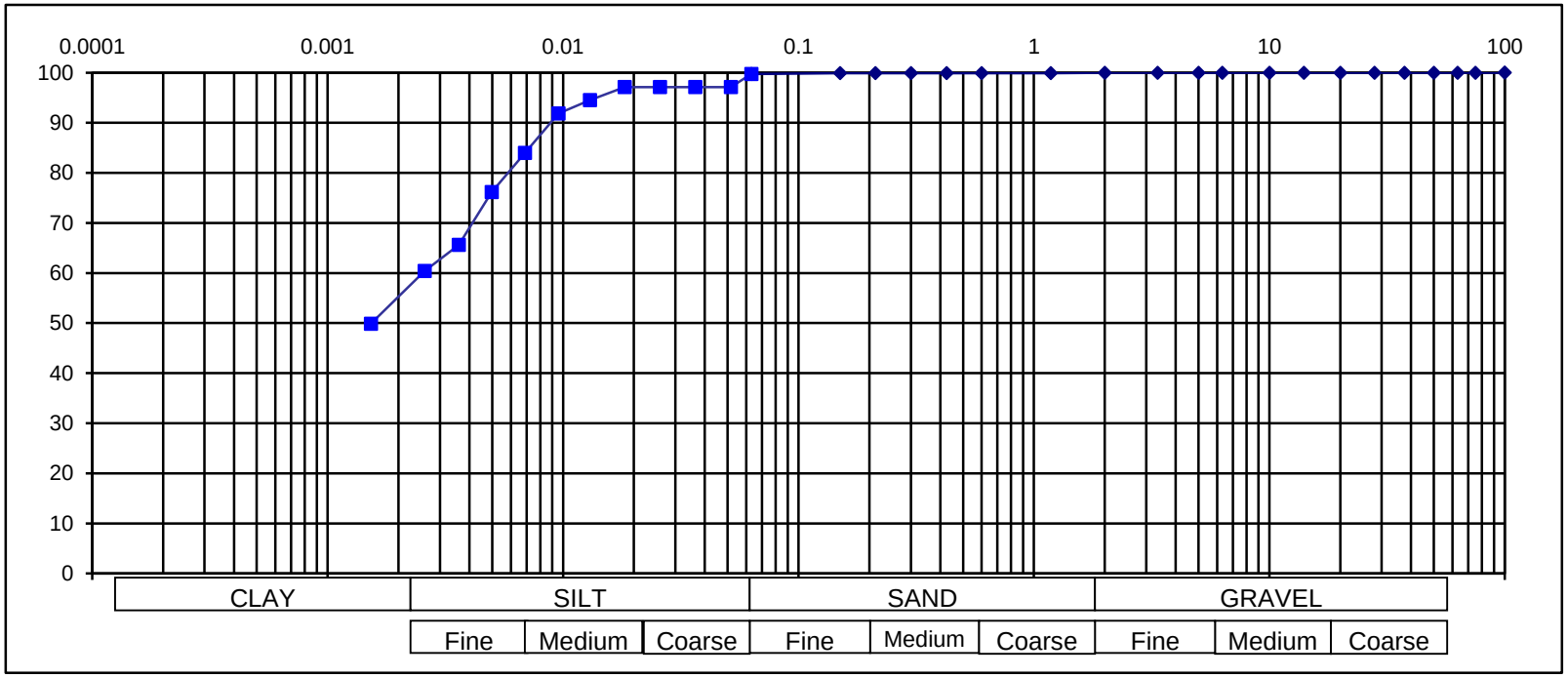
**Contract:** Derrad Windfarm, Lanesborough, Co. Longford.
**Client:**
**Engineer:** Tobin
**Date:** 21.4.17 **Code:** 17LD102
**Tested by:** JN **Checked:** DCD

Location **S3**

Depth: **m**

# PARTICLE SIZE DISTRIBUTION BS 1377: 1990: PART 2 (9.2, 9.5)

| Sieve size mm | Percentage passing, % |
|---|---|
| 100 | 100 |
| 75 | 100 |
| 63 | 100 |
| 50 | 100 |
| 37.5 | 100 |
| 28 | 100 |
| 20 | 100 |
| 14 | 100 |
| 10 | 100 |
| 6.3 | 100 |
| 5 | 100 |
| 3.35 | 100 |
| 2 | 100 |
| 1.18 | 100 |
| 0.600 | 100 |
| 0.425 | 100 |
| 0.300 | 100 |
| 0.212 | 100 |
| 0.150 | 100 |
| 0.063 | 100 |
| 0.052 | 97 |
| 0.036 | 97 |
| 0.026 | 97 |
| 0.018 | 97 |
| 0.013 | 95 |
| 0.010 | 92 |
| 0.007 | 84 |
| 0.0050 | 76 |
| 0.0036 | 66 |
| 0.0026 | 60 |
| 0.0015 | 50 |




| Clay | Fine silt | Med Silt | Coarse Silt | Fine Sand | Medium sand | Co. Sand | Fine Grav | Med Grav | Co. Grav |
|---|---|---|---|---|---|---|---|---|---|
| 55 | 21 | 21 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 | | | | 0 | | | 0 | | |

**Soil Description:** Grey slightly sandy CLAY.

**Contract:** Derrad Windfarm, Lanesborough, Co. Longford.
**Client:**
**Engineer:** Tobin
**Date:** 21.4.17 **Code:** 17LD102
**Tested by:** JN **Checked:** DCD

Location **S4**

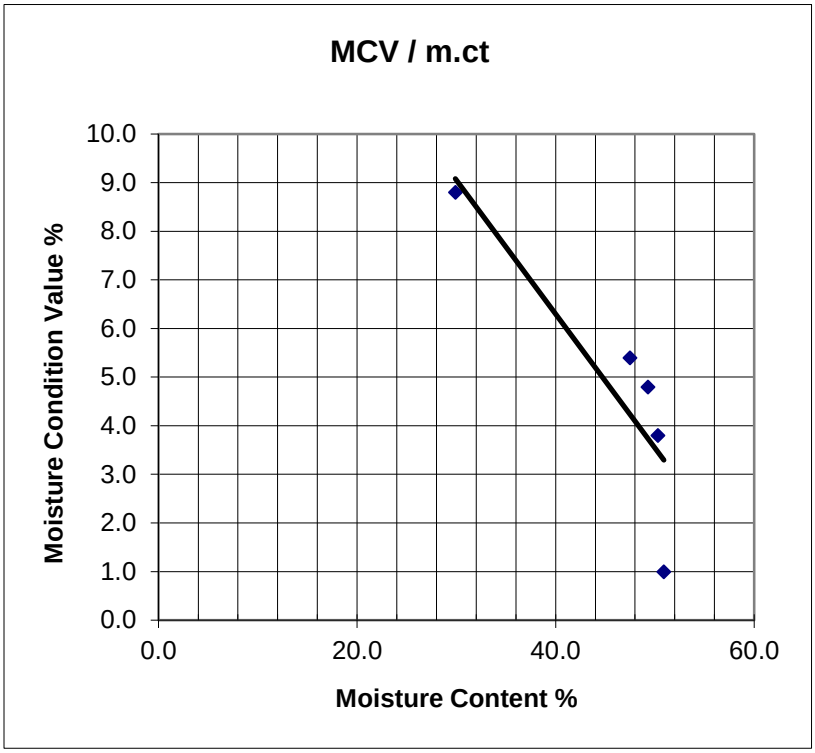
Depth: **m**

**Moisture Condition Value /**
**Moisture Content Relationship.** *BS1377:1990; Part 4, Clause 5*

| | | | | |
|---|---|---|---|---|
| **Contract:** | Derrad Windfarm, Lanesborough | | | **Location:** SAMPLE 1 |
| **Client:** | | | | |
| **Engineer:** | TOBIN | | | |
| **Date:** | 21.4.17 | **Code:** | 17LD102 | **Depth:** |
| **Tested:** | ED | **Chckd:** | DCD | |

**Description:** Grey SILT / CLAY.

| mct | MCV |
|---|---|
| 29.9 | 8.8 |
| 47.5 | 5.4 |
| 49.3 | 4.8 |
| 50.3 | 3.8 |
| 50.9 | 1.0 |
| | |



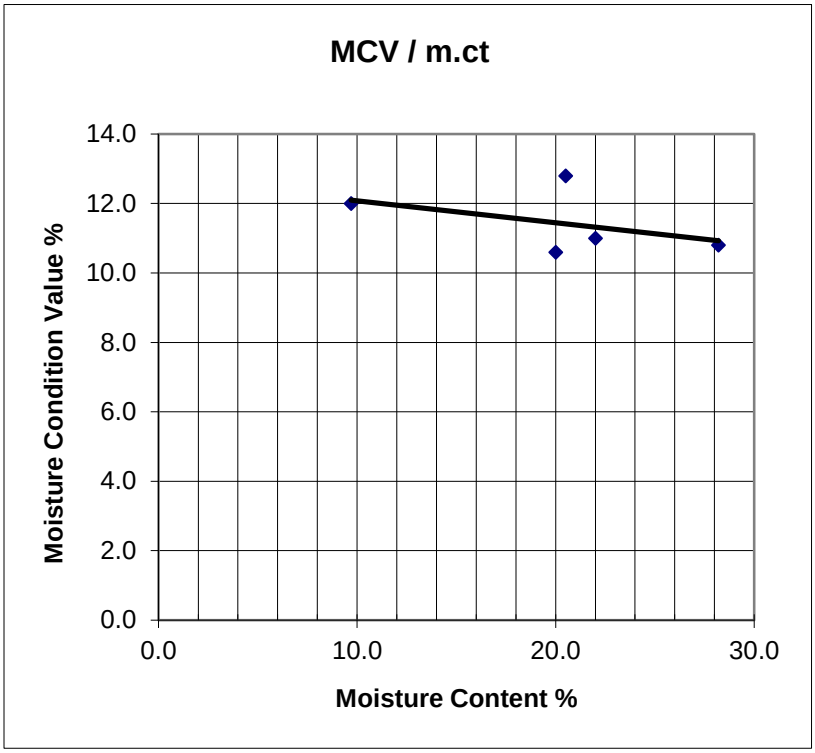

| | | |
|---|---|---|
| **Natural Moisture Content*:** | 75.8 % | * refers to bulk sample before removal of coarse particles |
| **Retained on 20mm Sieve:** | 0 % | |
| **Natural Moisture Content** :** | 75.8 % | ** refers to sample after removal of coarse particles |

**Moisture Condition Value /**
**Moisture Content Relationship.** *BS1377:1990; Part 4, Clause 5*

| | | | | |
|---|---|---|---|---|
| **Contract:** | Derrad Windfarm, Lanesborough | | | **Location:** SAMPLE 2 |
| **Client:** | | | | |
| **Engineer:** | TOBIN | | | |
| **Date:** | 21.4.17 | **Code:** | 17LD102 | **Depth:** |
| **Tested:** | ED | **Chckd:** | DCD | |

**Description:** Grey SILT / CLAY.

| mct | MCV |
|---|---|
| 9.7 | 12.0 |
| 20.0 | 10.6 |
| 20.5 | 12.8 |
| 22.0 | 11.0 |
| 28.2 | 10.8 |
| | |



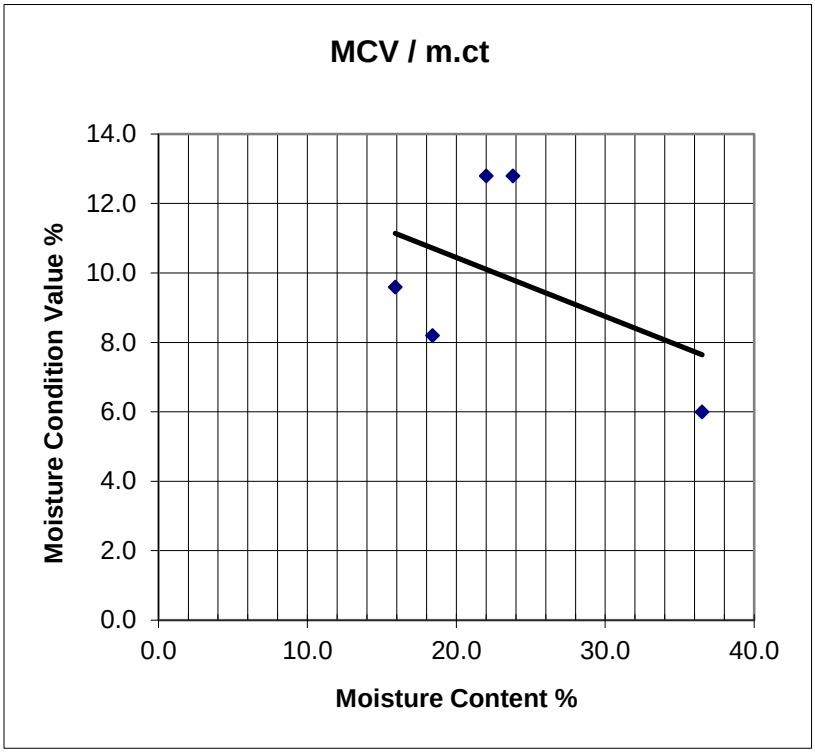

| | | |
|---|---|---|
| **Natural Moisture Content*:** | 38.5 % | * refers to bulk sample before removal of coarse particles |
| **Retained on 20mm Sieve:** | 0 % | |
| **Natural Moisture Content** :** | 38.5 % | ** refers to sample after removal of coarse particles |

**Moisture Condition Value /**
**Moisture Content Relationship.** *BS1377:1990; Part 4, Clause 5*

| | | | | |
|---|---|---|---|---|
| **Contract:** | Derrad Windfarm, Lanesborough | | | **Location:** SAMPLE 3 |
| **Client:** | | | | |
| **Engineer:** | TOBIN | | | |
| **Date:** | 21.4.17 | **Code:** | 17LD102 | **Depth:** |
| **Tested:** | ED | **Chckd:** | DCD | |

**Description:** Grey SILT / CLAY.

| mct | MCV |
|---|---|
| 15.9 | 9.6 |
| 18.4 | 8.2 |
| 22.0 | 12.8 |
| 23.8 | 12.8 |
| 36.5 | 6.0 |
| | |



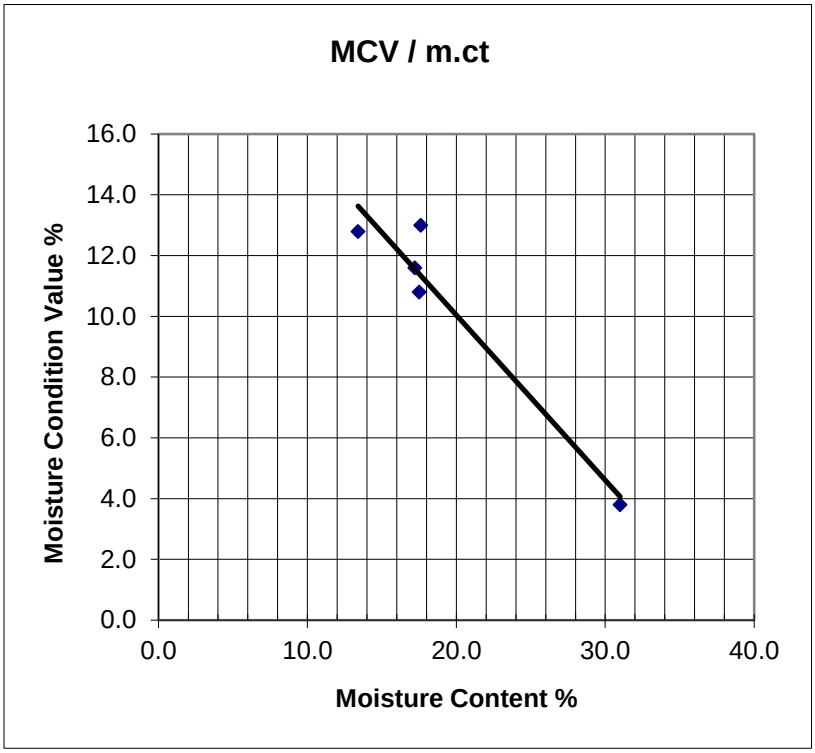

| | | |
|---|---|---|
| **Natural Moisture Content*:** | 41.7 % | * refers to bulk sample before removal of coarse particles |
| **Retained on 20mm Sieve:** | 0 % | |
| **Natural Moisture Content** :** | 41.7 % | ** refers to sample after removal of coarse particles |

**Moisture Condition Value /**
**Moisture Content Relationship.** *BS1377:1990; Part 4, Clause 5*

| | | | | |
|---|---|---|---|---|
| **Contract:** | Derrad Windfarm, Lanesborough | | | **Location:** SAMPLE 4 |
| **Client:** | | | | |
| **Engineer:** | TOBIN | | | |
| **Date:** | 21.4.17 | **Code:** | 17LD102 | **Depth:** |
| **Tested:** | ED | **Chckd:** | DCD | |

**Description:** Grey SILT / CLAY.

| mct | MCV |
|---|---|
| 13.4 | 12.8 |
| 17.2 | 11.6 |
| 17.5 | 10.8 |
| 17.6 | 13.0 |
| 31.0 | 3.8 |
| | |




| | | |
|---|---|---|
| **Natural Moisture Content*:** | 36.5 % | * refers to bulk sample before removal of coarse particles |
| **Retained on 20mm Sieve:** | 0 % | |
| **Natural Moisture Content** :** | 36.5 % | ** refers to sample after removal of coarse particles |

IRISH DRILLING LTD.
Loughrea Co. Galway
Lab@IrishDrilling.ie
Tel: (091) 841274
Fax: (091) 847687

| | | | |
|---|---|---|---|
| Contract: | Derryadd Windfarm, Lanesborough, Co. Longford. | | Code: 17LD102 |
| Client: | Tobins | | |
| Engineer: | Tobins | | |
| Date: | 21/07/2017 | | |
| Tested by: | **SS** | Checked: | DCD |

# Point Load Tests

## ISRM Commission on Testing Methods. Suggested Methods for Determining Point Load Strength.

Int. Jour. Mechanics and Mining Sciences and Geomech. Abstract, 1985, 22(2), 51-60.

## (UCS by calculation from Rock Slope Engineering: E.Hoek and JW Bray )

| Borehole | Depth Top (m) | Depth Base(m) | Height mm | Width mm | $De^2$ $mm^2$ | P kN | Is MPa | F | **$Is_{(50)}$ MPa** | Factor | UCS (calc) MPa | Strength Designation BSEN 14689-1:2003 | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RC01 | 8.85 | 9.02 | 63.2 | 63.2 | 3994.2 | **19.07** | 4.77 | 1.111 | 5.31 | 25.36 | 134.52 | Very Strong | Diametrical |
| RC02 | 8.08 | 8.26 | 63.4 | 63.4 | 4019.6 | **11.05** | 2.75 | 1.113 | 3.06 | 25.39 | 77.68 | Strong | Diametrical |
| RC02 | 8.88 | 9.18 | 63.4 | 63.4 | 4019.6 | **18.02** | 4.48 | 1.113 | 4.99 | 25.39 | 126.67 | Very Strong | Diametrical |
| RC03 | 3.50 | 3.75 | 63.4 | 63.4 | 4019.6 | **19.16** | 4.77 | 1.113 | 5.30 | 25.39 | 134.69 | Very Strong | Diametrical |
| RC03 | 5.00 | 5.20 | 63.4 | 63.4 | 4019.6 | **18.35** | 4.57 | 1.113 | 5.08 | 25.39 | 128.99 | Very Strong | Diametrical |
| RC04 | 4.30 | 4.55 | 63.2 | 63.2 | 3994.2 | **16.49** | 4.13 | 1.111 | 4.59 | 25.36 | 116.32 | Very Strong | Diametrical |
| RC04 | 5.82 | 6.00 | 63.2 | 63.2 | 3994.2 | **16.11** | 4.03 | 1.111 | 4.48 | 25.36 | 113.64 | Very Strong | Diametrical |
| RC04 | 7.00 | 7.20 | 63.2 | 63.2 | 3994.2 | **16.07** | 4.02 | 1.111 | 4.47 | 25.36 | 113.35 | Very Strong | Diametrical |
| RC04 | 8.17 | 8.33 | 63.2 | 63.2 | 3994.2 | **18.61** | 4.66 | 1.111 | 5.18 | 25.36 | 131.27 | Very Strong | Diametrical |
| RC05 | 23.56 | 23.65 | 63.3 | 63.3 | 4006.9 | **15.55** | 3.88 | 1.112 | 4.32 | 25.37 | 109.50 | Very Strong | Diametrical |
| RC05 | 25.10 | 25.26 | 63.3 | 63.3 | 4006.9 | **19.38** | 4.84 | 1.112 | 5.38 | 25.37 | 136.47 | Very Strong | Diametrical |

Note: UCS calculated as 21.4 x Point Load is an estimate of expected strength for a 42mm core.
Note: UCS calculated as 25.4 x Point Load is an estimate of expected strength for a 63mm core.
Note: UCS calculated as 29.4 x Point Load is an estimate of expected strength for a 85mm core.

# SINGLE POINT MOISTURE CONDITION VALUE TEST

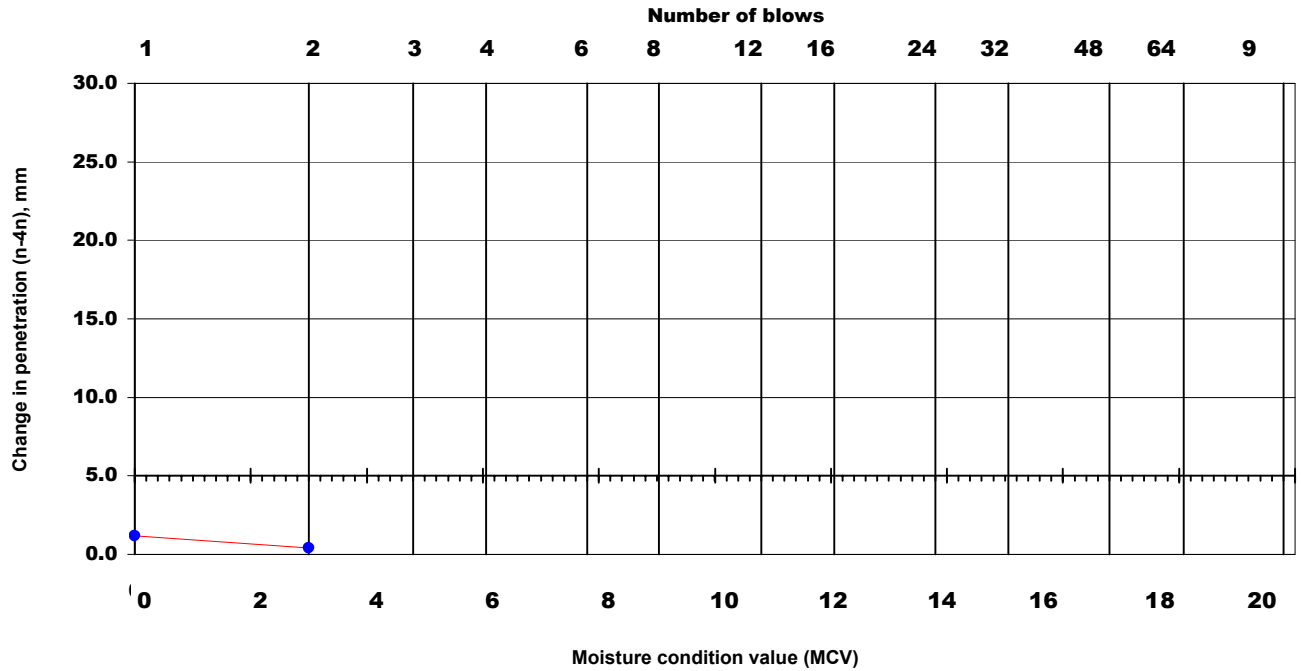
| | | | |
|---|---|---|---|
| Single sample mass | | | |
| Initial sample mass | 1490.65 g | | |
| Moisture content | 12.0 % | | |
| Dry mass | 1331.2 g | | |
| Mass retained on 20mm sieve | g 30.1 % | | |

| | | | |
|---|---|---|---|
| Project Name: Longford Windfarm | | Job ref. | NMTL_2386 |
| | | Borehole/ Pit No. | BPA |
| Soil description: Dark grey slightly sandy gravelly silty CLAY with some cobbles. | | Sample no. | B |
| | | Depth | N/A |
| Test method | BS 1377 : Part 4 : 1990 : 5 | Date Tested | 03/01/2018 |
| | | Date Sampled | N/A |

* Delete as appropriate

**MCV** **N/A** **Natural**

| Total number of blows n | Penetration or protrusion mm | Change in penetration n to 4n mm |
|---|---|---|
| 1 | 35.3 | 1.2 |
| 2 | 34.5 | 0.4 |
| 3 | 34.1 | |
| 4 | 34.1 | |
| 6 | 34.1 | |
| 8 | 34.1 | |
| 12 | | |
| 16 | | |
| 24 | | |
| 32 | | |
| 48 | | |
| 64 | | |
| 96 | | |
| 128 | | |
| 192 | | |
| 256 | | |




***NMTL Ltd***

| Operator | Checked | Approved |
|---|---|---|
| Tch | Nc | Bc |

# SINGLE POINT MOISTURE CONDITION VALUE TEST

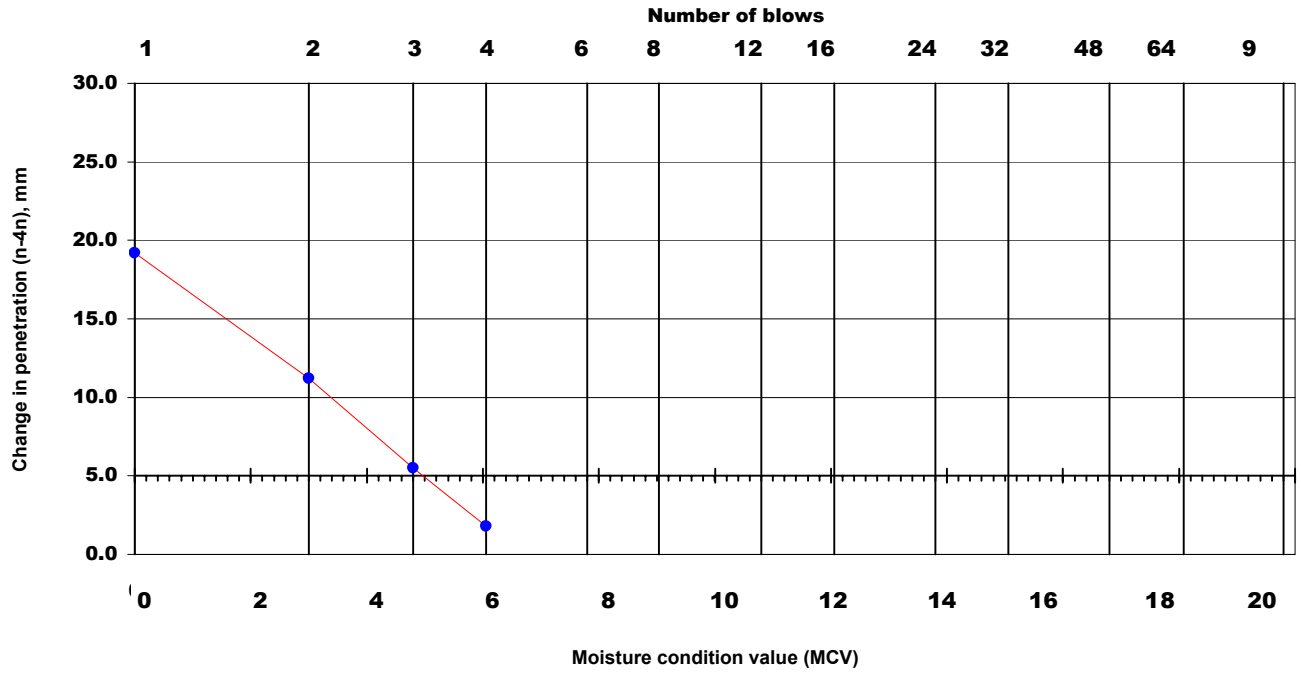
| | | | |
|---|---|---|---|
| Single sample mass | | | |
| Initial sample mass | 1488.75 g | | |
| Moisture content | 9.9 % | | |
| Dry mass | 1354.4 g | | |
| Mass retained on 20mm sieve | g 8.8 % | | |

| | | | |
|---|---|---|---|
| Project Name: Longford Windfarm | | Job ref. | NMTL_2386 |
| | | Borehole/ Pit No. | BPB |
| Soil description: Dark grey slightly gravelly sandy silty CLAY. | | Sample no. | B |
| | | Depth | N/A |
| Test method | BS 1377 : Part 4 : 1990 : 5 | Date Tested | 03/01/2018 |
| | | Date Sampled | N/A |

* Delete as appropriate

**MCV** **5.0** **Natural**

| Total number of blows n | Penetration or protrusion mm | Change in penetration n to 4n mm |
|---|---|---|
| 1 | 52.6 | 19.2 |
| 2 | 43.0 | 11.2 |
| 3 | 37.2 | 5.5 |
| 4 | 33.4 | 1.8 |
| 6 | 32.1 | |
| 8 | 31.8 | |
| 12 | 31.7 | |
| 16 | 31.6 | |
| 24 | | |
| 32 | | |
| 48 | | |
| 64 | | |
| 96 | | |
| 128 | | |
| 192 | | |
| 256 | | |




| Operator | Checked | Approved |
|---|---|---|
| Tch | Nc | Bc |

***NMTL Ltd***

# SINGLE POINT MOISTURE CONDITION VALUE TEST

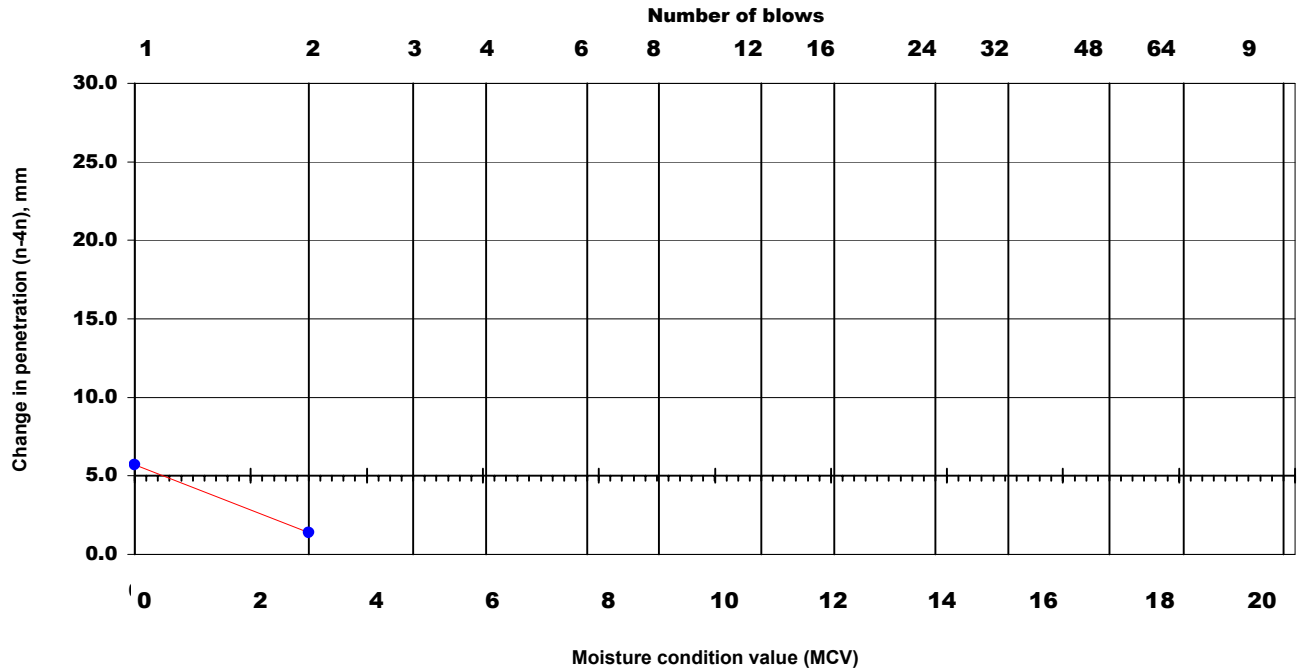
| | | | |
|---|---|---|---|
| Single sample mass | | | |
| Initial sample mass | 1480.35 g | | |
| Moisture content | 10.8 % | | |
| Dry mass | 1335.9 g | | |
| Mass retained on 20mm sieve | g 19.8 % | | |

* Delete as appropriate

| | | | |
|---|---|---|---|
| Project Name: Longford Windfarm | | Job ref. | NMTL_2386 |
| | | Borehole/ Pit No. | BPC |
| Soil description: Grey brown silty very sandy GRAVEL with occasional cobbles | | Sample no. | B |
| | | Depth | N/A |
| Test method | BS 1377 : Part 4 : 1990 : 5 | Date Tested | 03/01/2018 |
| | | Date Sampled | N/A |

**MCV** **0.5** **Natural**

| Total number of blows n | Penetration or protrusion mm | Change in penetration n to 4n mm |
|---|---|---|
| 1 | 38.7 | 5.7 |
| 2 | 34.3 | 1.4 |
| 3 | 33.0 | |
| 4 | 33.0 | |
| 6 | 33.0 | |
| 8 | 32.9 | |
| 12 | | |
| 16 | | |
| 24 | | |
| 32 | | |
| 48 | | |
| 64 | | |
| 96 | | |
| 128 | | |
| 192 | | |
| 256 | | |




| Operator | Checked | Approved |
|---|---|---|
| Tch | Nc | Bc |

***NMTL Ltd***

# SINGLE POINT MOISTURE CONDITION VALUE TEST

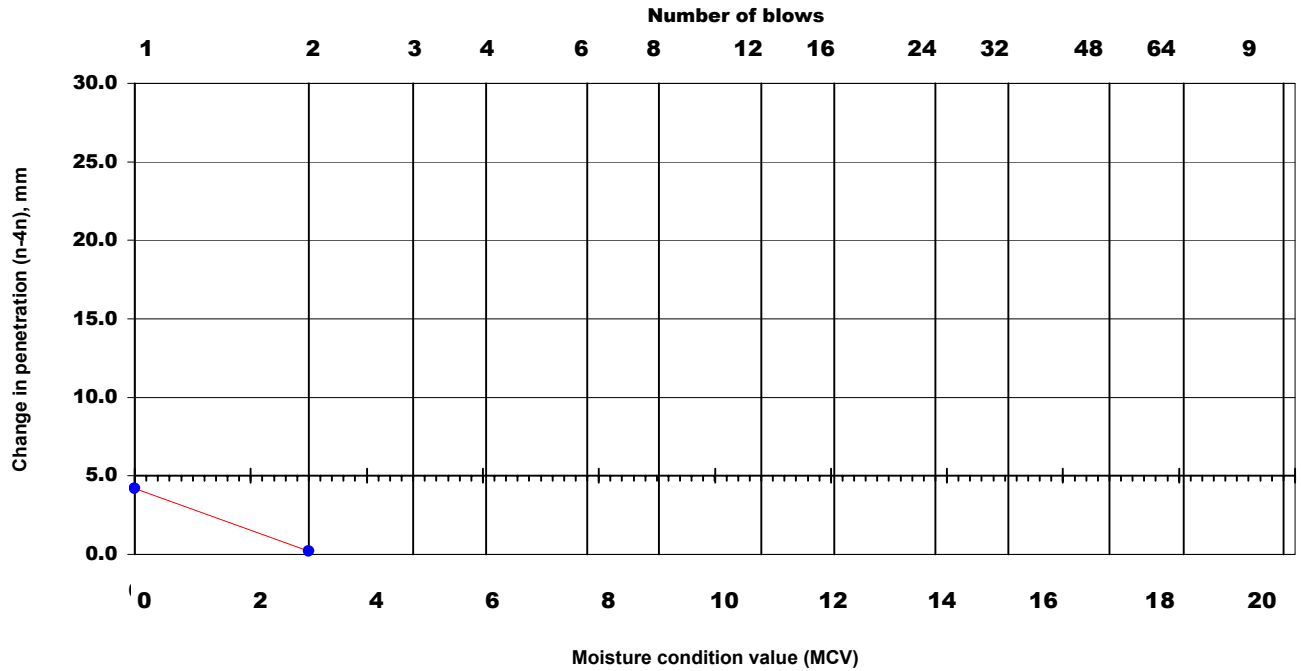
| | | | |
|---|---|---|---|
| Single sample mass | | | |
| Initial sample mass | 1489.39 g | | |
| Moisture content | 12.5 % | | |
| Dry mass | 1323.4 g | | |
| Mass retained on 20mm sieve | g 19.5 % | | |

| | | | |
|---|---|---|---|
| Project Name: Longford Windfarm | | Job ref. | NMTL_2386 |
| | | Borehole/ Pit No. | BPD |
| Soil description: Grey slightly sandy gravelly silty CLAY. | | Sample no. | B |
| | | Depth | N/A |
| Test method | BS 1377 : Part 4 : 1990 : 5 | Date Tested | 03/01/2018 |
| | | Date Sampled | N/A |

* Delete as appropriate

**MCV** **N/A** **Natural**

| Total number of blows n | Penetration or protrusion mm | Change in penetration n to 4n mm |
|---|---|---|
| 1 | 38.6 | 4.2 |
| 2 | 34.4 | 0.2 |
| 3 | 34.5 | |
| 4 | 34.4 | |
| 6 | 34.2 | |
| 8 | 34.2 | |
| 12 | | |
| 16 | | |
| 24 | | |
| 32 | | |
| 48 | | |
| 64 | | |
| 96 | | |
| 128 | | |
| 192 | | |
| 256 | | |




| Operator | Checked | Approved |
|---|---|---|
| Tch | Nc | Bc |

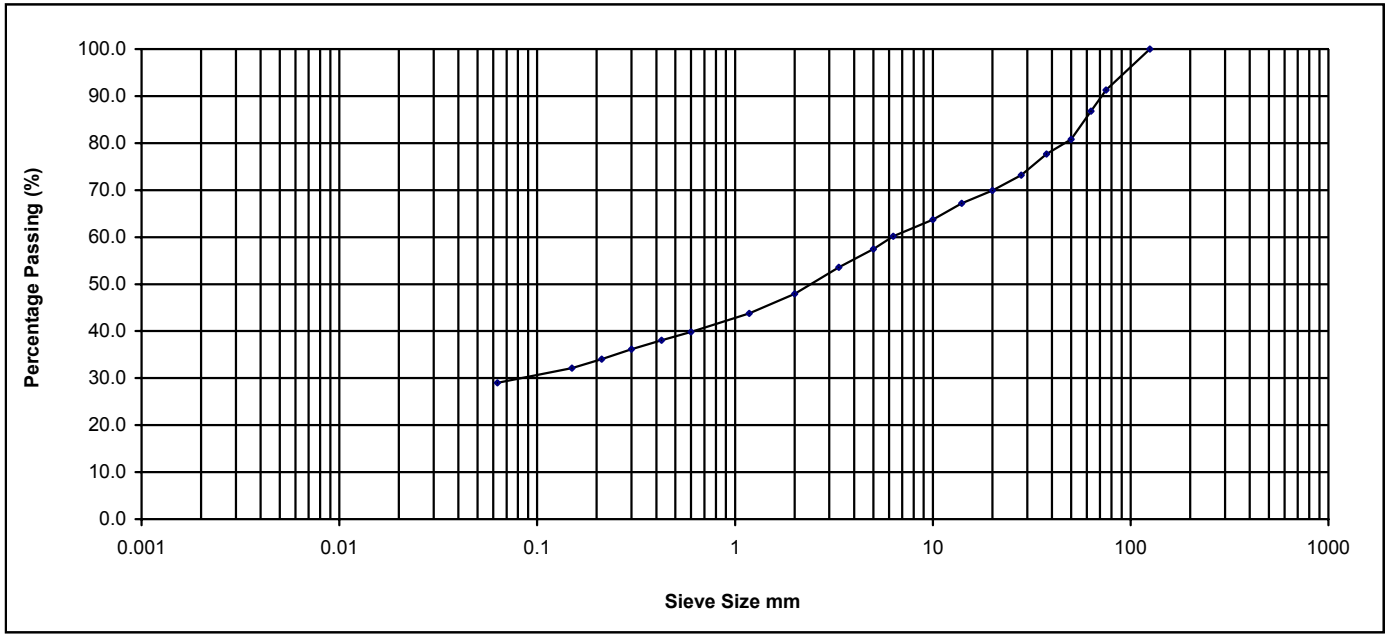
***NMTL Ltd***

**NMTL Ltd**

# Determination of Particle Size Distribution

**BS 1377 : 1990 : Part 2 : Clauses 9.2 & 9.5**

| Sieve Size mm | % Passing |
|---|---|
| 125.000 | 100.0 |
| 75.000 | 91.3 |
| 63.000 | 86.8 |
| 50.000 | 80.8 |
| 37.500 | 77.7 |
| 28.000 | 73.2 |
| 20.000 | 69.9 |
| 14.000 | 67.2 |
| 10.000 | 63.7 |
| 6.300 | 60.2 |
| 5.000 | 57.5 |
| 3.350 | 53.6 |
| 2.000 | 47.9 |
| 1.180 | 43.8 |
| 0.600 | 39.8 |
| 0.425 | 38.0 |
| 0.300 | 36.1 |
| 0.212 | 34.0 |
| 0.150 | 32.1 |
| 0.063 | 29.0 |




Percentage Particle Size

| Clay | Fine | Medium | Coarse | Fine | Medium | Coarse | Fine | Medium | Coarse | Cobbles | Boulder |
|---|---|---|---|---|---|---|---|---|---|---|---|
| silt | | | | Sand | | | Gravel | | | | |
| 29.0 | | | | 18.9 | | | 38.8 | | | 13.2 | 0.0 |

| | | | |
|---|---|---|---|
| Sample Description | Dark grey slightly sandy gravelly silty CLAY with some cobbles. | Project No. | NMTL 2386 |
| | | BH/TP No. | BPA |
| Project | Lonford Windfarm | Sample No. | B |
| Operator Tzr | Checked Nc | Approved Bc | Date sample tested 02/01/2018 | Depth | N/A |

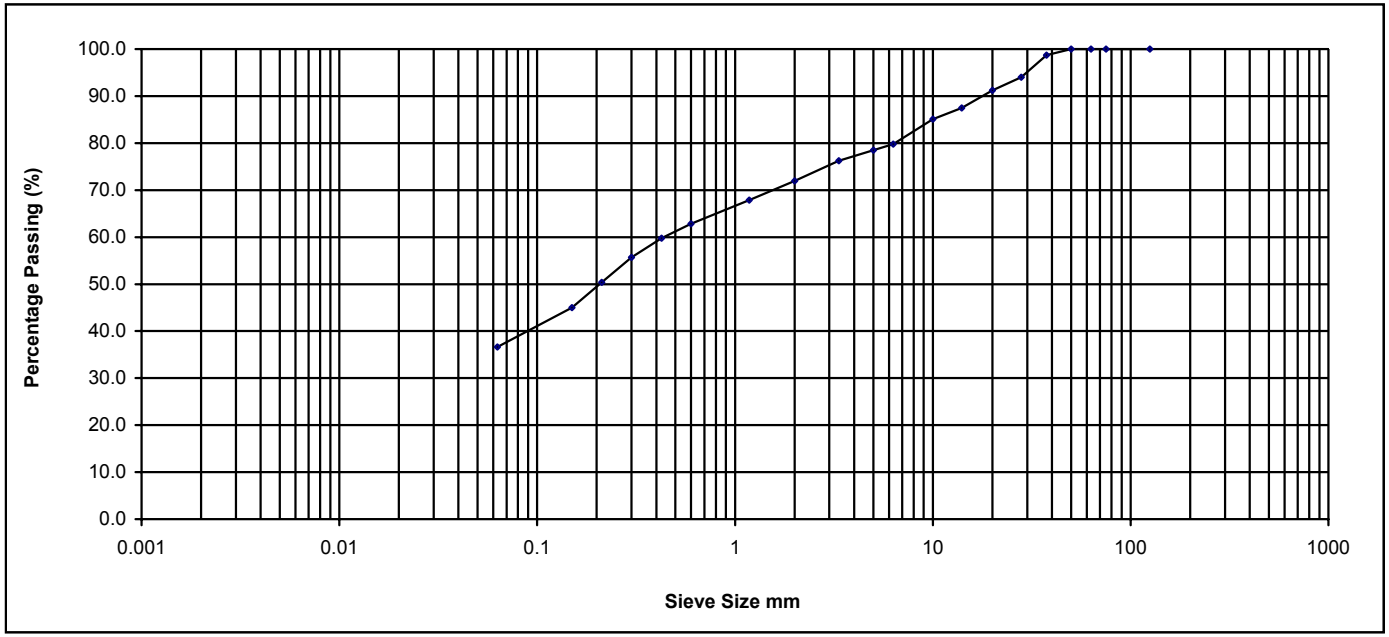
**NMTL Ltd**

**NMTL Ltd**

# Determination of Particle Size Distribution

**BS 1377 : 1990 : Part 2 : Clauses 9.2 & 9.5**

| Sieve Size mm | % Passing |
|---|---|
| 125.000 | 100.0 |
| 75.000 | 100.0 |
| 63.000 | 100.0 |
| 50.000 | 100.0 |
| 37.500 | 98.7 |
| 28.000 | 94.0 |
| 20.000 | 91.2 |
| 14.000 | 87.4 |
| 10.000 | 85.1 |
| 6.300 | 79.8 |
| 5.000 | 78.5 |
| 3.350 | 76.2 |
| 2.000 | 71.9 |
| 1.180 | 67.9 |
| 0.600 | 62.8 |
| 0.425 | 59.8 |
| 0.300 | 55.7 |
| 0.212 | 50.4 |
| 0.150 | 45.0 |
| 0.063 | 36.7 |




Percentage Particle Size

| Clay | Fine | Medium | Coarse | Fine | Medium | Coarse | Fine | Medium | Coarse | Cobbles | Boulder |
|---|---|---|---|---|---|---|---|---|---|---|---|
| silt | | | | Sand | | | Gravel | | | | |
| 36.7 | | | | 35.3 | | | 28.1 | | | 0.0 | 0.0 |

Sample Description Dark grey slightly gravelly sandy silty CLAY.

Project Lonford Windfarm

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Operator | Tzr | Checked | Nc | Approved | Bc | Date sample tested | 02/01/2018 | Depth | N/A |

| | |
|---|---|
| Project No. | NMTL 2386 |
| BH/TP No. | BPB |
| Sample No. | B |

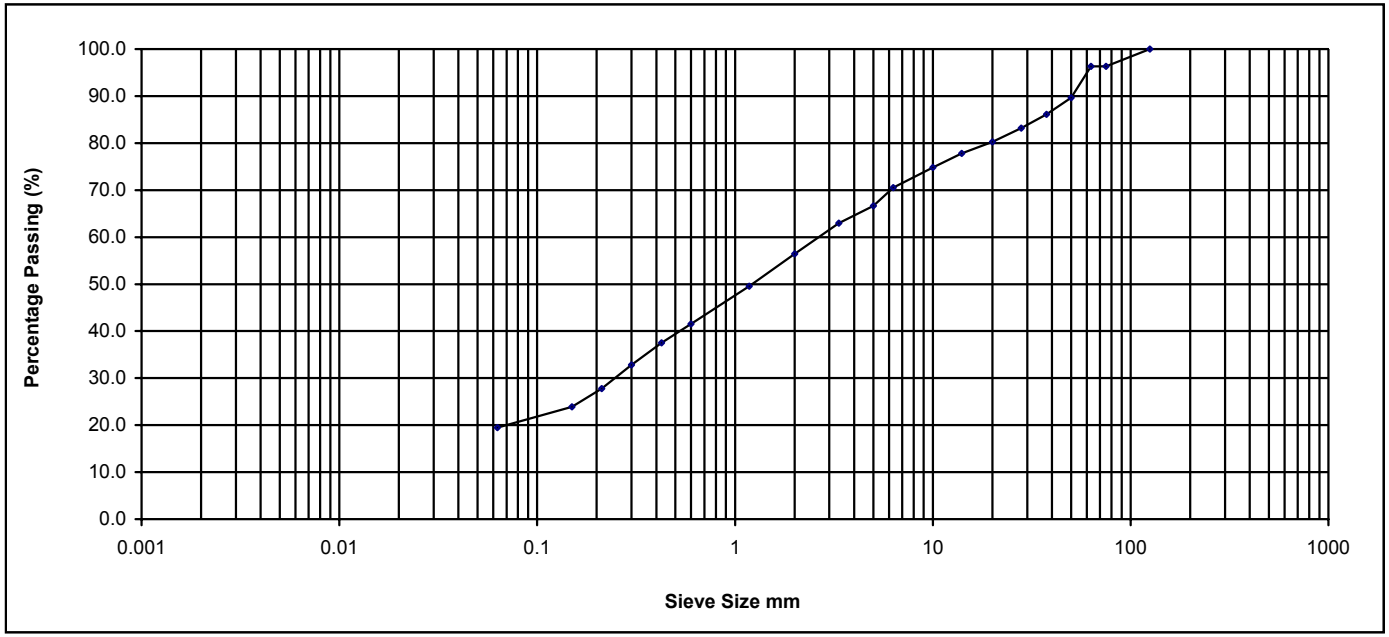
**NM TL Ltd**

**NMTL Ltd**

# Determination of Particle Size Distribution

**BS 1377 : 1990 : Part 2 : Clauses 9.2 & 9.5**

| Sieve Size mm | % Passing |
|---|---|
| 125.000 | 100.0 |
| 75.000 | 96.3 |
| 63.000 | 96.3 |
| 50.000 | 89.6 |
| 37.500 | 86.1 |
| 28.000 | 83.2 |
| 20.000 | 80.2 |
| 14.000 | 77.8 |
| 10.000 | 74.8 |
| 6.300 | 70.5 |
| 5.000 | 66.7 |
| 3.350 | 63.0 |
| 2.000 | 56.4 |
| 1.180 | 49.5 |
| 0.600 | 41.5 |
| 0.425 | 37.5 |
| 0.300 | 32.8 |
| 0.212 | 27.8 |
| 0.150 | 23.9 |
| 0.063 | 19.5 |




Percentage Particle Size

| Clay | Fine | Medium | Coarse | Fine | Medium | Coarse | Fine | Medium | Coarse | Cobbles | Boulder |
|---|---|---|---|---|---|---|---|---|---|---|---|
| silt | | | | Sand | | | Gravel | | | | |
| 19.5 | | | | 37.0 | | | 39.9 | | | 3.7 | 0.0 |

| | | | |
|---|---|---|---|
| Sample Description | Grey brown silty very sandy GRAVEL with occasional cobbles | Project No. | NMTL 2386 |
| | | BH/TP No. | BPC |
| Project | Lonford Windfarm | Sample No. | B |
| Operator Tzr | Checked Nc | Approved Bc | Date sample tested 02/01/2018 | Depth | N/A |

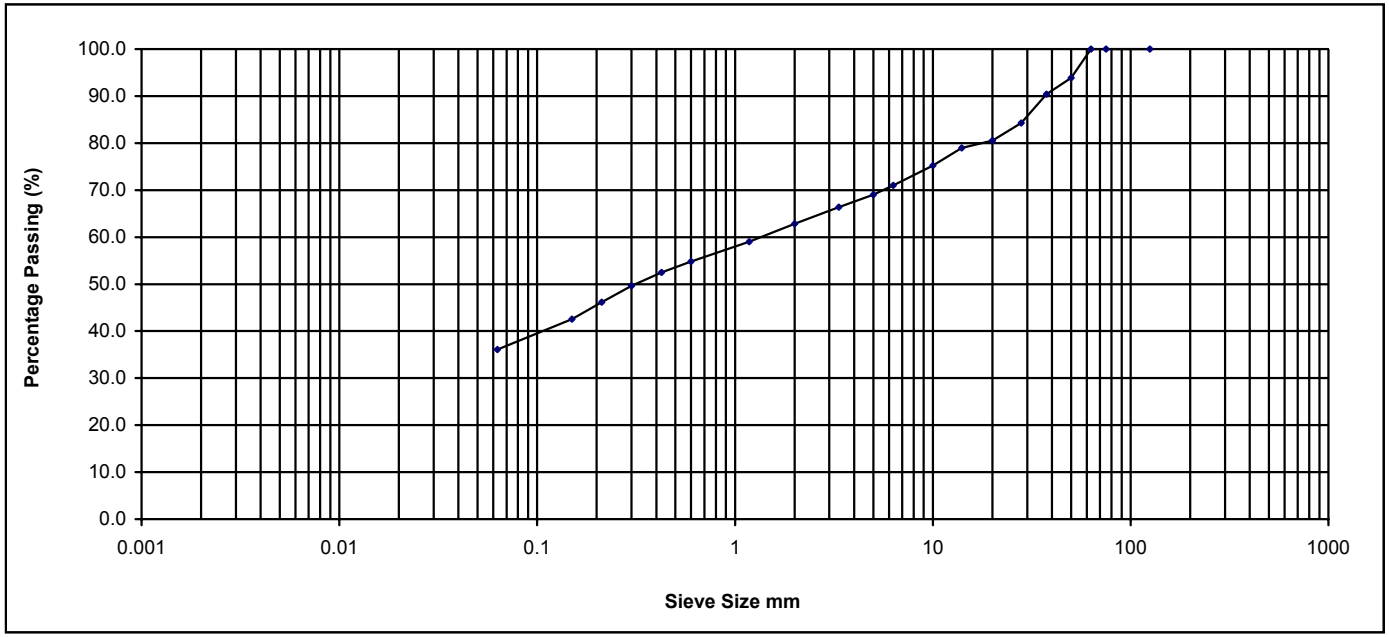
**NM TL Ltd**

**NMTL Ltd**

# Determination of Particle Size Distribution

**BS 1377 : 1990 : Part 2 : Clauses 9.2 & 9.5**

| Sieve Size mm | % Passing |
|---|---|
| 125.000 | 100.0 |
| 75.000 | 100.0 |
| 63.000 | 100.0 |
| 50.000 | 93.9 |
| 37.500 | 90.4 |
| 28.000 | 84.3 |
| 20.000 | 80.5 |
| 14.000 | 78.9 |
| 10.000 | 75.3 |
| 6.300 | 71.0 |
| 5.000 | 69.0 |
| 3.350 | 66.4 |
| 2.000 | 62.8 |
| 1.180 | 59.0 |
| 0.600 | 54.8 |
| 0.425 | 52.5 |
| 0.300 | 49.6 |
| 0.212 | 46.1 |
| 0.150 | 42.5 |
| 0.063 | 36.1 |




Percentage Particle Size

| Clay | Fine | Medium | Coarse | Fine | Medium | Coarse | Fine | Medium | Coarse | Cobbles | Boulder |
|---|---|---|---|---|---|---|---|---|---|---|---|
| silt | | | | Sand | | | Gravel | | | | |
| 36.1 | | | | 26.7 | | | 37.2 | | | 0.0 | 0.0 |

Sample Description Grey slightly sandy gravelly silty CLAY.

Project Lonford Windfarm

| | |
|---|---|
| Project No. | NMTL 2386 |
| BH/TP No. | BPD |
| Sample No. | B |
| Depth | N/A |

| Operator | Tzr | Checked | Nc | Approved | Bc | Date sample tested | 02/01/2018 |
|---|---|---|---|---|---|---|---|

**NM TL Ltd**

# Laboratory Report

2788

GEO Site & Testing Services Ltd

## Contract Number: 38923

Client Ref: **7597-03-18**
Client PO:

Report Date: **27-04-2018**

Client **Ground Investigation Ireland**
**Catherinestown House**
**Hazelhatch Road**
**Newcastle**
**Co. Dublin**

Contract Title: **Derryad, Longford**
For the attention of: **Tom Mcintyre**

Date Received: **17-04-2018**
Date Commenced: **17-04-2018**
Date Completed: **27-04-2018**

| Test Description | Qty |
|---|---|
| **Moisture Content**<br>BS 1377 : Part 2 : 3.2 - * UKAS | 20 |
| **4 Point Liquid & Plastic Limit (LL/PL)**<br>BS 1377 Part 2 : 4.3 & 5.3 - * UKAS | 20 |
| **PSD Wet Sieve method**<br>1377 : 1990 Part 2 : 9.2 - * UKAS | 20 |
| **Disposal of Samples on Project** | 1 |

**Notes:** **Observations and Interpretations are outside the UKAS Accreditation**
*** - denotes test included in laboratory scope of accreditation**
**# - denotes test carried out by approved contractor**
**@ - denotes non accredited tests**

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

**Approved Signatories:**
Alex Wynn (Associate Director) - Ben Sharp (Contracts Manager) - Emma Sharp (Office Manager)
Paul Evans (Quality/Technical Manager) - Richard John (Advanced Testing Manager) - Sean Penn (Administrative/Quality Assistant)
Wayne Honey (Administrative/Quality Assistant)

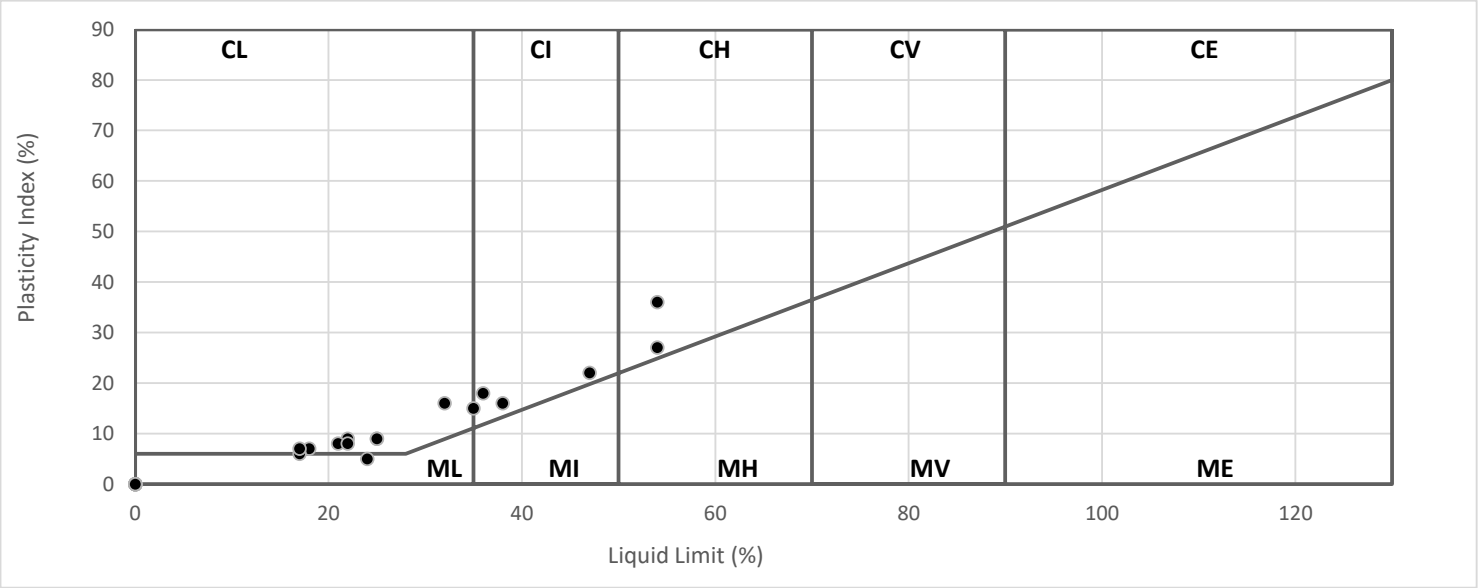
GEO Site & Testing Services Ltd
Unit 3-4, Heol Aur, Dafen Ind Estate, Dafen, Llanelli, Carmarthenshire SA14 8QN
Tel: 01554 784040 Fax: 01554 784041 info@gstl.co.uk gstl.co.uk

| GSTL | LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX<br>( BS 1377 : Part 2 : 1990 Method 5 ) | |
|---|---|---|
| Contract Number | **38923** | |
| Site Name | **Derryad, Longford** | |
| | | |
| | | |

| Hole Reference | Sample Number | Sample Type | Depth (m) | | | Moisture Content % | Liquid Limit % | Plastic Limit % | Plasticity index % | Passing .425mm % | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| T1 | | | 2.00 | - | 2.50 | 12 | 22 | 13 | 9 | 66 | CL Low Plasticity |
| T2 | | | | - | | 12 | 18 | 11 | 7 | 62 | CL Low Plasticity |
| T3 | | | 1.00 | - | 2.00 | 14 | 32 | 16 | 16 | 76 | CL Low Plasticity |
| T4 | | | 2.50 | - | | 12 | 21 | 13 | 8 | 59 | CL Low Plasticity |
| T5 | | | 0.10 | - | 1.30 | 15 | 25 | 16 | 9 | 60 | CL Low Plasticity |
| T6 | | | 3.00 | - | | 17 | 24 | 19 | 5 | 86 | ML Low Plasticity |
| T7 | | | 0.00 | - | 1.50 | 5.7 | | NP | | 21 | |
| T8 | | | 2.40 | - | 3.20 | 42 | | NP | | 99 | |
| T9 | | | | - | | 16 | | NP | | | |
| T10 | | | 1.00 | - | 2.30 | 12 | 17 | 11 | 6 | 50 | M/CL Low Plasticity |
| T12 | | | 2.90 | - | | 23 | 35 | 20 | 15 | 61 | CL/I Low/Inter. Plasticity |
| T13 | | | 1.50 | - | | 59 | 54 | 18 | 36 | 99 | CH High Plasticity |
| T13 | | | 2.50 | - | | 62 | 54 | 27 | 27 | 100 | CH High Plasticity |
| T15 | | | 2.50 | - | 3.00 | 10 | 17 | 10 | 7 | 38 | CL Low Plasticity |
| T16 | | | 3.00 | - | | 10 | 22 | 14 | 8 | 49 | CL Low Plasticity |
| T17 | | | 2.00 | - | 2.70 | 14 | 36 | 18 | 18 | 42 | CI Intermediate Plasticity |
| T19 | | | 2.00 | - | 3.00 | 14 | 25 | 16 | 9 | 50 | CL Low Plasticity |
| T20 | | | 2.00 | - | | 28 | 47 | 25 | 22 | 75 | CI Intermediate Plasticity |
| T20 | | | 2.60 | - | | 29 | 38 | 22 | 16 | 56 | CI Intermediate Plasticity |
| T75 | | | 1.20 | - | | 8.5 | | NP | | 15 | |
| | | | | - | | | | | | | |
| | | | | - | | | | | | | |
| | | | | - | | | | | | | |
| | | | | - | | | | | | | |

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

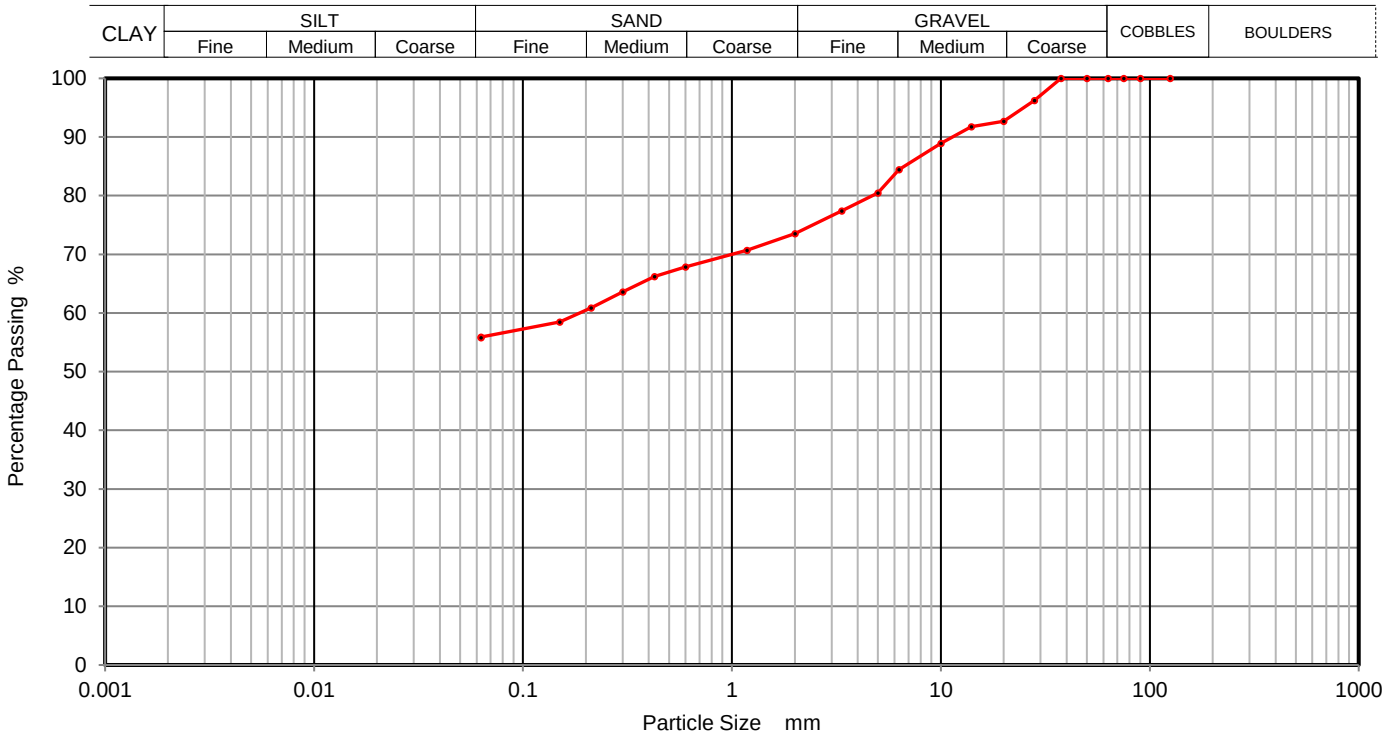
**PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION**
**BS 5930:1999+A2:2010**




| Operators | Checked | 28/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| DB | Approved | 29/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T1 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey fine to coarse sandy fine to coarse gravelly SILT/CLAY | Depth Top | 2.00 |
| | | Depth Base | 2.50 |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 96 | | |
| 20 | 93 | | |
| 14 | 92 | | |
| 10 | 89 | | |
| 6.3 | 84 | | |
| 5 | 80 | | |
| 3.35 | 77 | | |
| 2 | 74 | | |
| 1.18 | 71 | | |
| 0.6 | 68 | | |
| 0.425 | 66 | | |
| 0.3 | 64 | | |
| 0.212 | 61 | | |
| 0.15 | 58 | | |
| 0.063 | 56 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 26 |
| Sand | 18 |
| Silt and Clay | 56 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

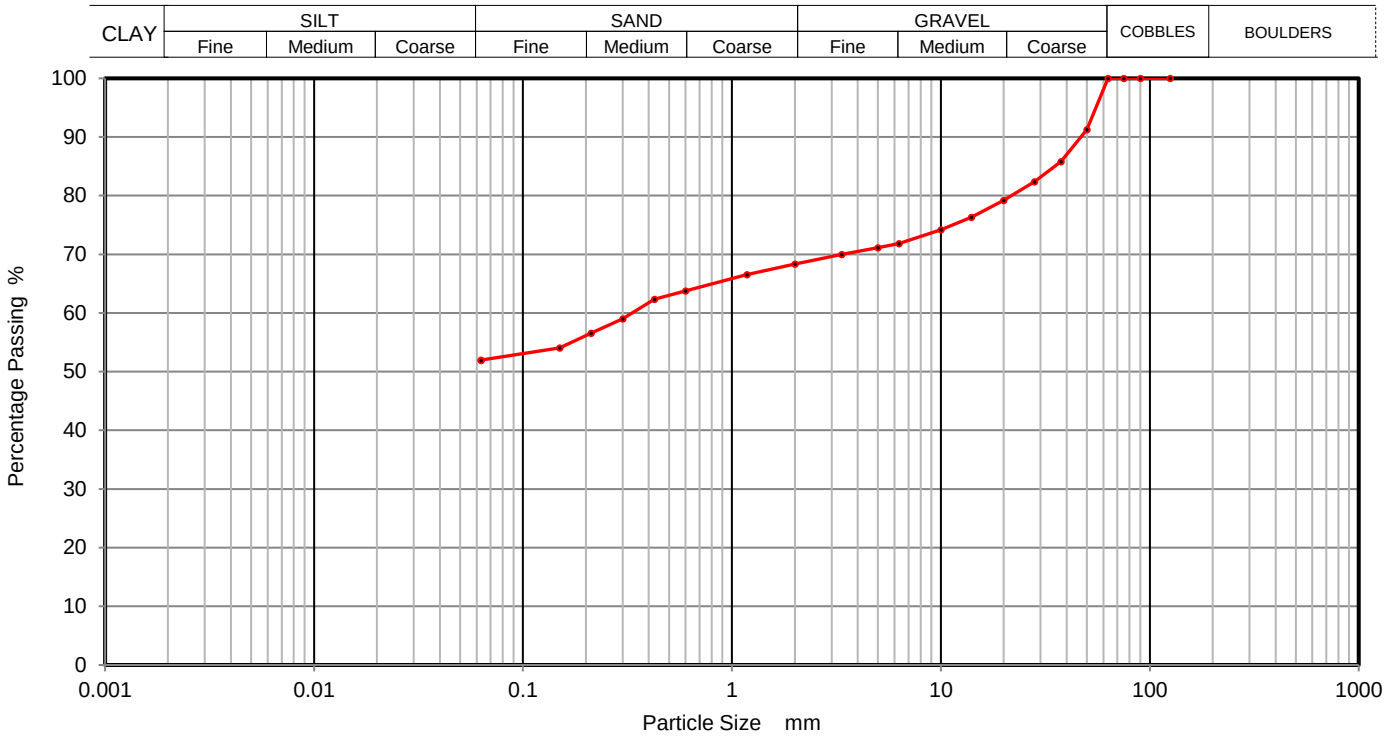
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 26/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 27/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T2 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey fine to coarse sandy fine to coarse gravelly SILT/CLAY | Depth Top | |
| | | Depth Base | |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 91 | | |
| 37.5 | 86 | | |
| 28 | 82 | | |
| 20 | 79 | | |
| 14 | 76 | | |
| 10 | 74 | | |
| 6.3 | 72 | | |
| 5 | 71 | | |
| 3.35 | 70 | | |
| 2 | 68 | | |
| 1.18 | 67 | | |
| 0.6 | 64 | | |
| 0.425 | 62 | | |
| 0.3 | 59 | | |
| 0.212 | 57 | | |
| 0.15 | 54 | | |
| 0.063 | 52 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 32 |
| Sand | 16 |
| Silt and Clay | 52 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

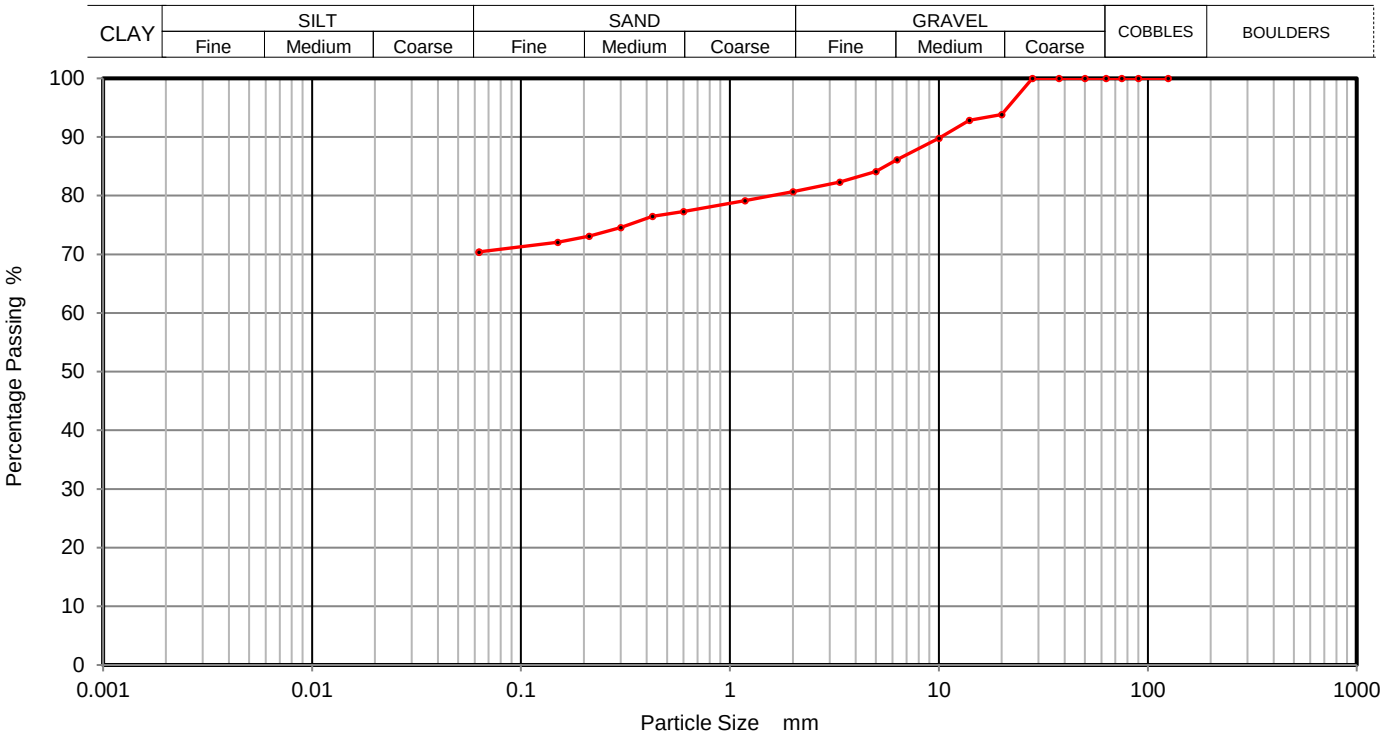
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 26/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 27/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T3 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey fine to coarse sandy fine to coarse gravelly SILT/CLAY | Depth Top | 1.00 |
| | | Depth Base | 2.00 |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 94 | | |
| 14 | 93 | | |
| 10 | 90 | | |
| 6.3 | 86 | | |
| 5 | 84 | | |
| 3.35 | 82 | | |
| 2 | 81 | | |
| 1.18 | 79 | | |
| 0.6 | 77 | | |
| 0.425 | 76 | | |
| 0.3 | 75 | | |
| 0.212 | 73 | | |
| 0.15 | 72 | | |
| 0.063 | 70 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 19 |
| Sand | 11 |
| Silt and Clay | 70 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

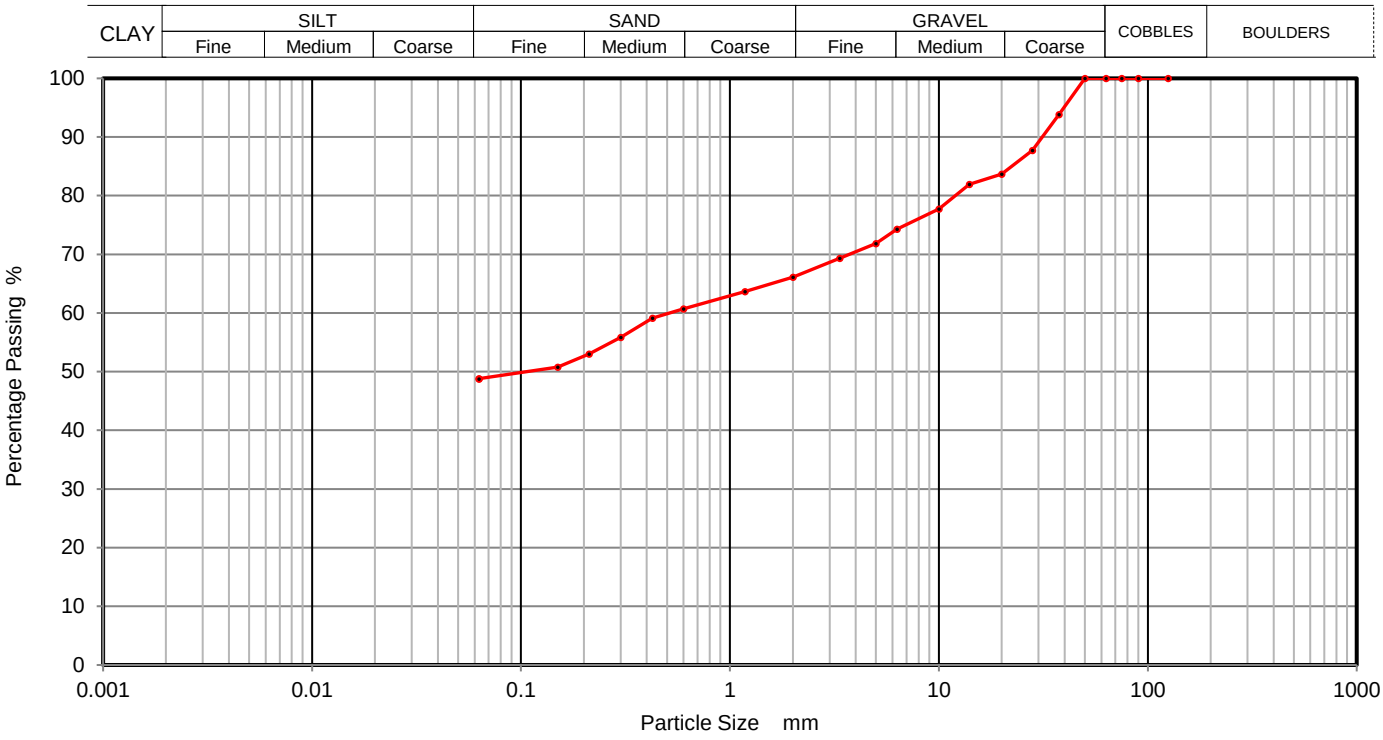
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 26/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 27/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T4 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey fine to coarse sandy fine to coarse gravelly SILT/CLAY | Depth Top | 2.50 |
| | | Depth Base | |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 94 | | |
| 28 | 88 | | |
| 20 | 84 | | |
| 14 | 82 | | |
| 10 | 78 | | |
| 6.3 | 74 | | |
| 5 | 72 | | |
| 3.35 | 69 | | |
| 2 | 66 | | |
| 1.18 | 64 | | |
| 0.6 | 61 | | |
| 0.425 | 59 | | |
| 0.3 | 56 | | |
| 0.212 | 53 | | |
| 0.15 | 51 | | |
| 0.063 | 49 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 34 |
| Sand | 17 |
| Silt and Clay | 49 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

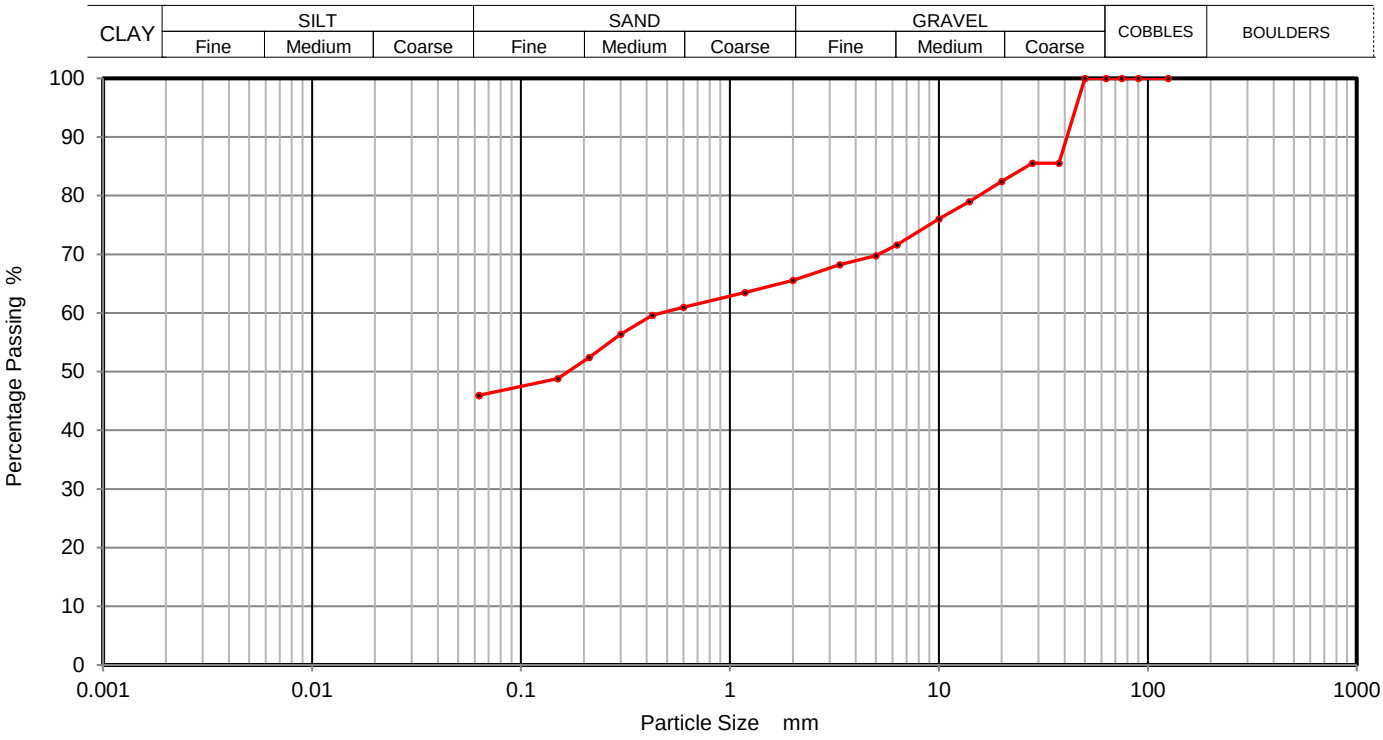
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 26/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 27/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T5 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey fine to coarse sandy fine to coarse gravelly SILT/CLAY | Depth Top | 0.10 |
| | | Depth Base | 1.30 |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 86 | | |
| 28 | 86 | | |
| 20 | 82 | | |
| 14 | 79 | | |
| 10 | 76 | | |
| 6.3 | 72 | | |
| 5 | 70 | | |
| 3.35 | 68 | | |
| 2 | 66 | | |
| 1.18 | 63 | | |
| 0.6 | 61 | | |
| 0.425 | 60 | | |
| 0.3 | 56 | | |
| 0.212 | 52 | | |
| 0.15 | 49 | | |
| 0.063 | 46 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 34 |
| Sand | 20 |
| Silt and Clay | 46 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

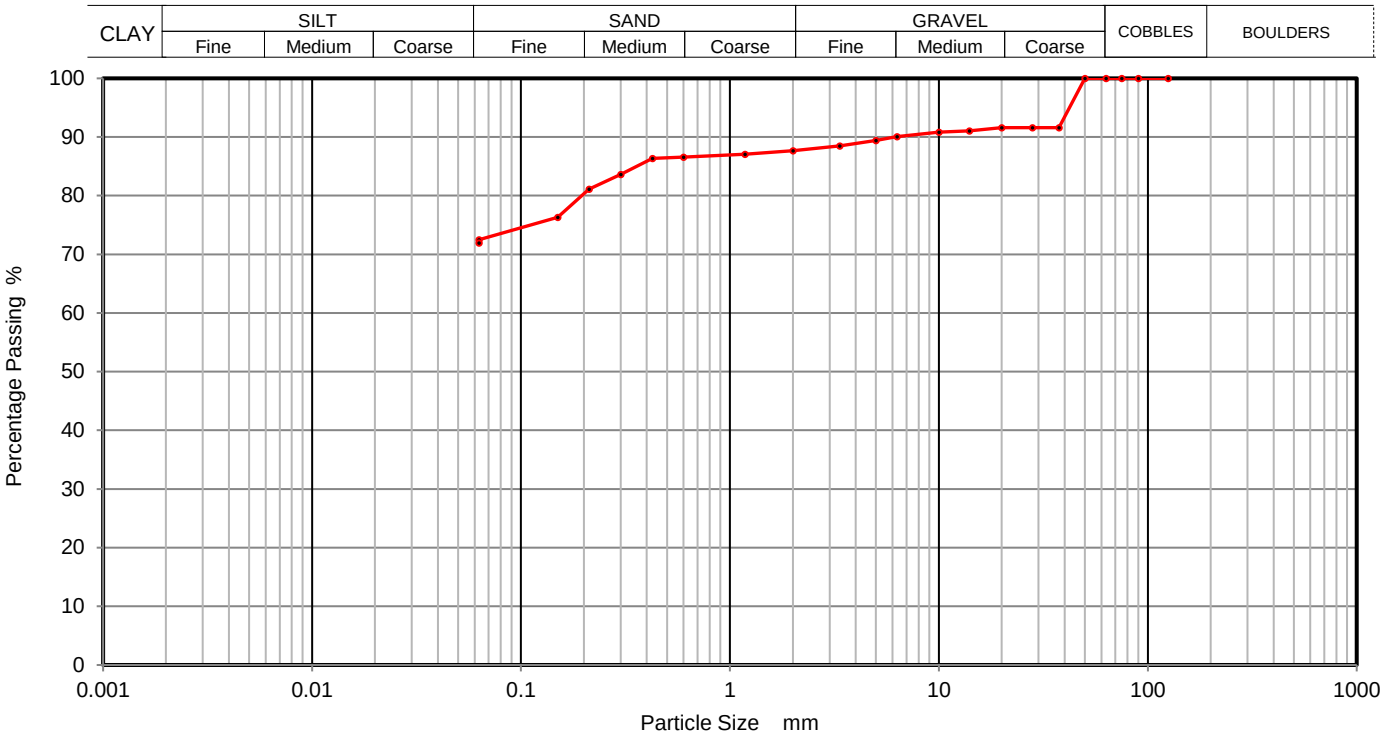
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 26/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 27/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T6 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey fine to coarse sandy fine to coarse gravelly SILT/CLAY | Depth Top | 3.00 |
| | | Depth Base | |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 92 | | |
| 28 | 92 | | |
| 20 | 92 | | |
| 14 | 91 | | |
| 10 | 91 | | |
| 6.3 | 90 | | |
| 5 | 89 | | |
| 3.35 | 88 | | |
| 2 | 88 | | |
| 1.18 | 87 | | |
| 0.6 | 87 | | |
| 0.425 | 86 | | |
| 0.3 | 84 | | |
| 0.212 | 81 | | |
| 0.15 | 76 | | |
| 0.063 | 72 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 12 |
| Sand | 16 |
| Silt and Clay | 72 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

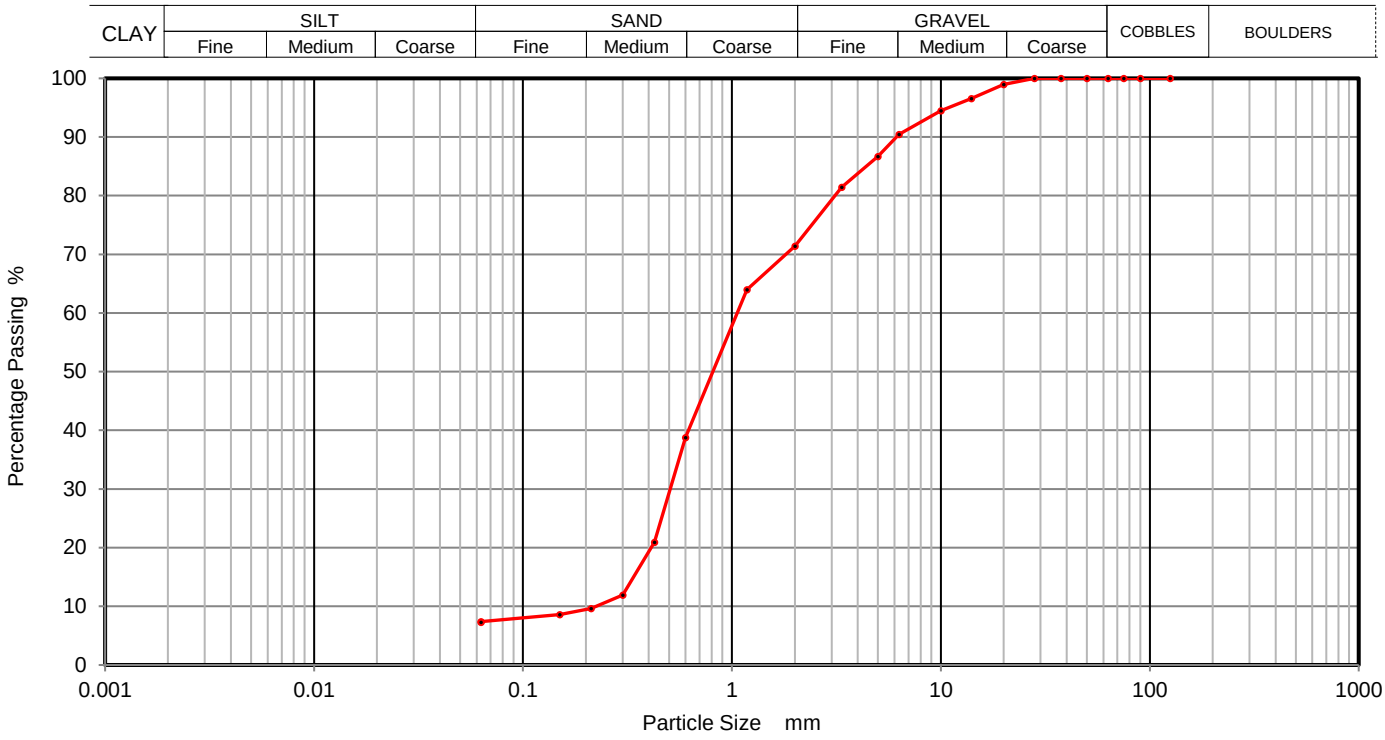
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 26/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 27/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T7 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey slightly silt/clay fine to coarse gravelly fine to SAND | Depth Top | 0.00 |
| | | Depth Base | 1.50 |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 99 | | |
| 14 | 97 | | |
| 10 | 94 | | |
| 6.3 | 90 | | |
| 5 | 87 | | |
| 3.35 | 81 | | |
| 2 | 71 | | |
| 1.18 | 64 | | |
| 0.6 | 39 | | |
| 0.425 | 21 | | |
| 0.3 | 12 | | |
| 0.212 | 10 | | |
| 0.15 | 9 | | |
| 0.063 | 7 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 29 |
| Sand | 64 |
| Silt and Clay | 7 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

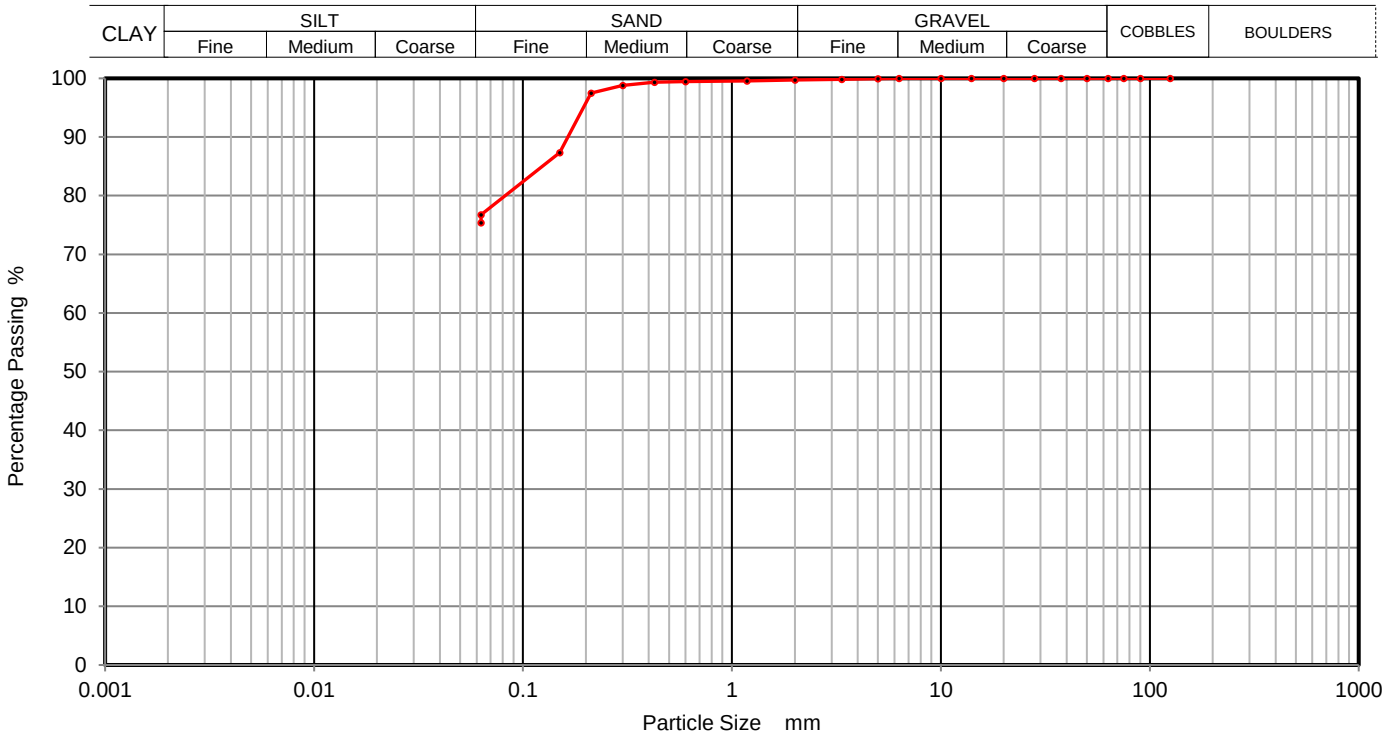
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 26/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 27/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T8 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Brown fine to coarse sandy SILT/CLAY | Depth Top | 2.40 |
| | | Depth Base | 3.20 |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 99 | | |
| 0.425 | 99 | | |
| 0.3 | 99 | | |
| 0.212 | 97 | | |
| 0.15 | 87 | | |
| 0.063 | 77 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 0 |
| Sand | 23 |
| Silt and Clay | 77 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

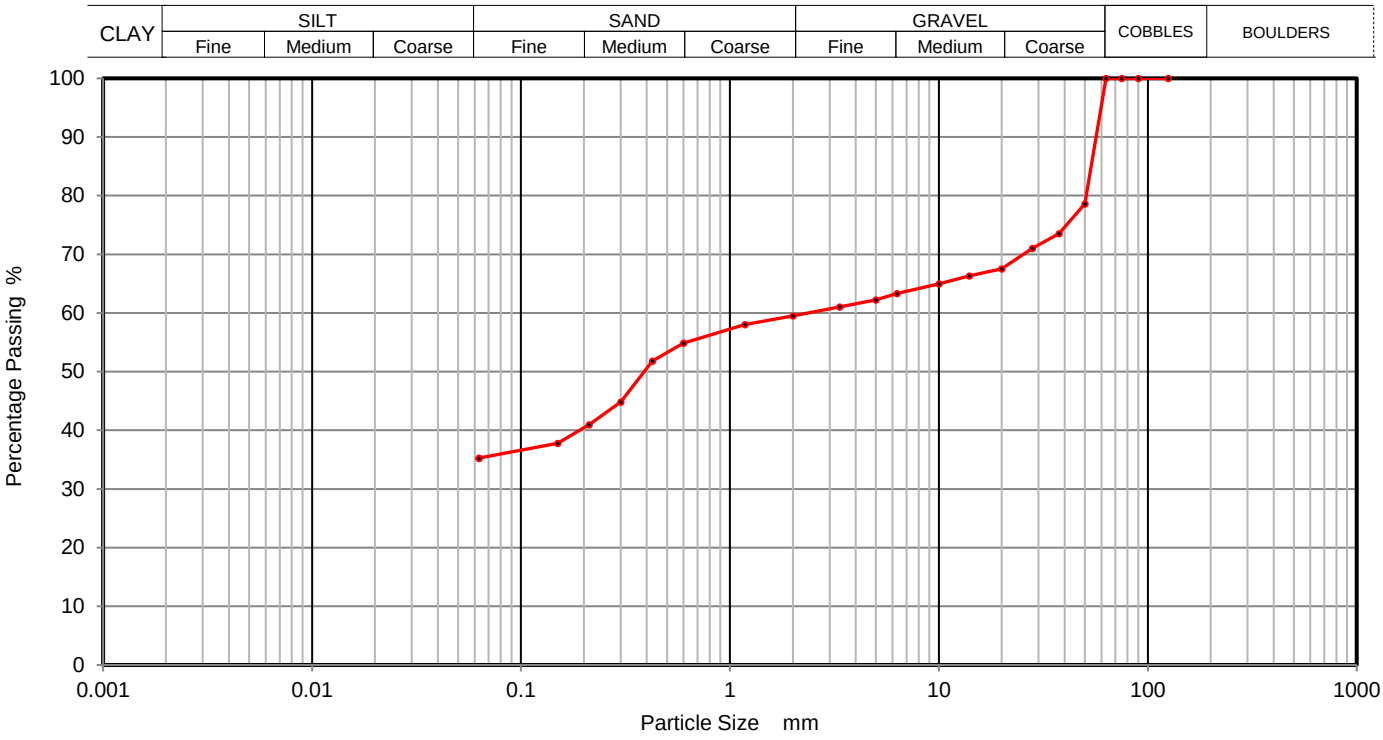
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 26/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 27/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T9 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey fine to coarse sandy silty clayey fine to coarse GRAVEL | Depth Top | |
| | | Depth Base | |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 79 | | |
| 37.5 | 74 | | |
| 28 | 71 | | |
| 20 | 68 | | |
| 14 | 66 | | |
| 10 | 65 | | |
| 6.3 | 63 | | |
| 5 | 62 | | |
| 3.35 | 61 | | |
| 2 | 59 | | |
| 1.18 | 58 | | |
| 0.6 | 55 | | |
| 0.425 | 52 | | |
| 0.3 | 45 | | |
| 0.212 | 41 | | |
| 0.15 | 38 | | |
| 0.063 | 35 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 41 |
| Sand | 24 |
| Silt and Clay | 35 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

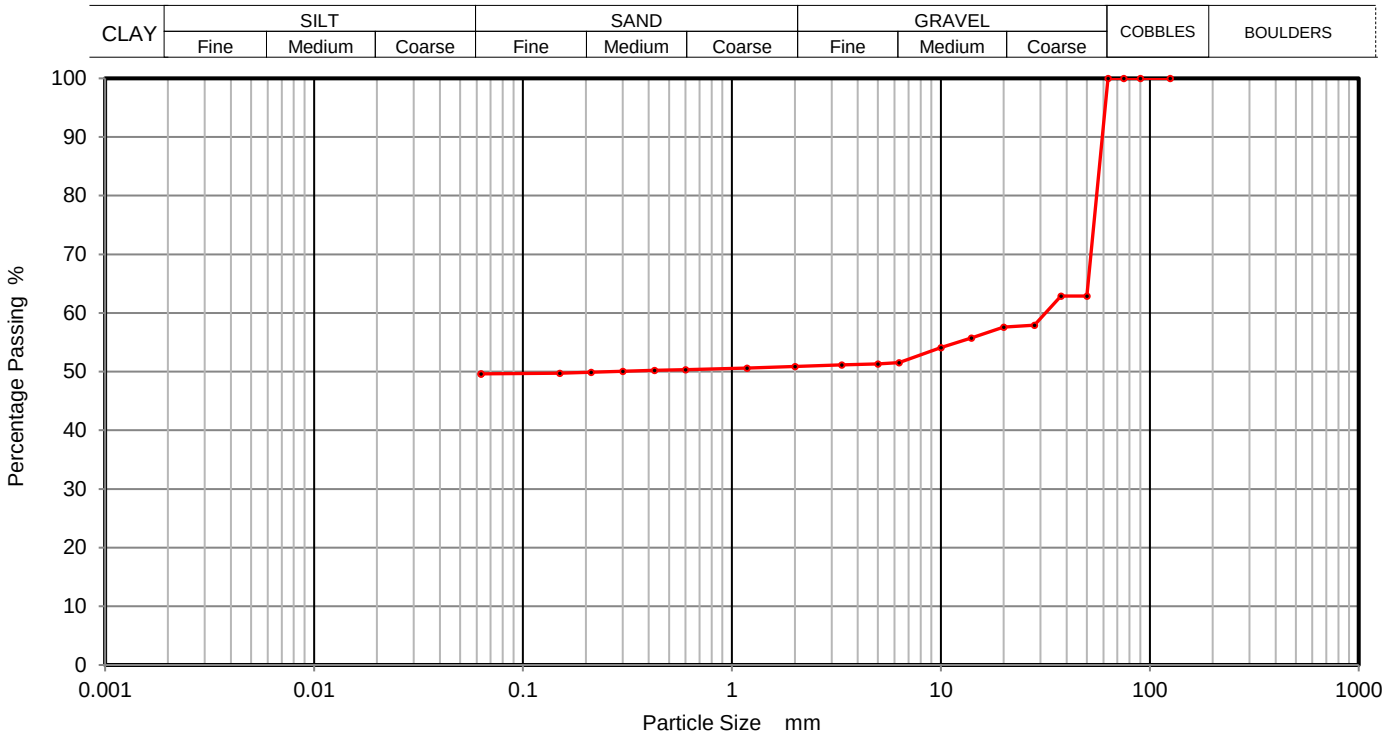
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 26/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 27/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T10 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey slightly fine to coarse sandy fine to coarse gravelly SILT/CLAY | Depth Top | 1.00 |
| | | Depth Base | 2.30 |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 63 | | |
| 37.5 | 63 | | |
| 28 | 58 | | |
| 20 | 58 | | |
| 14 | 56 | | |
| 10 | 54 | | |
| 6.3 | 52 | | |
| 5 | 51 | | |
| 3.35 | 51 | | |
| 2 | 51 | | |
| 1.18 | 51 | | |
| 0.6 | 50 | | |
| 0.425 | 50 | | |
| 0.3 | 50 | | |
| 0.212 | 50 | | |
| 0.15 | 50 | | |
| 0.063 | 50 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 49 |
| Sand | 1 |
| Silt and Clay | 50 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

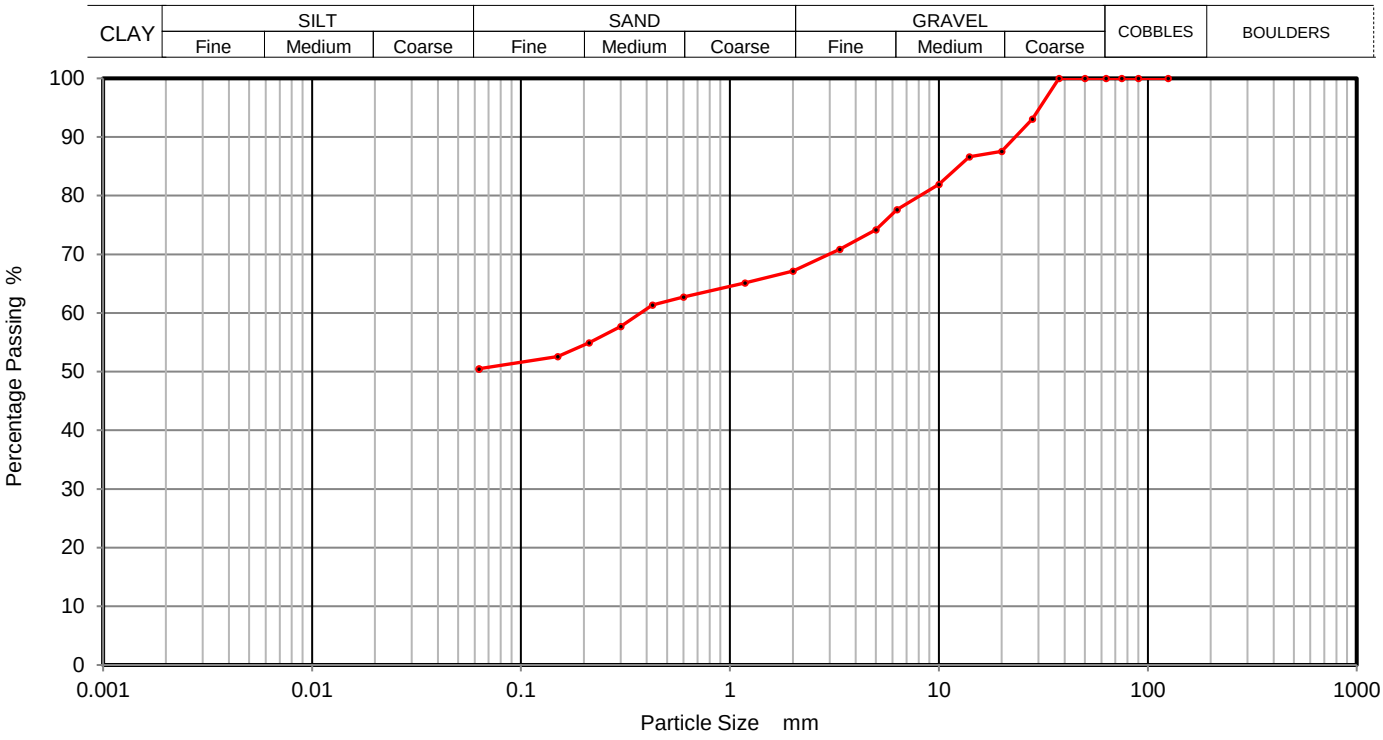
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 26/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 27/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T12 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey fine to coarse sandy fine to coarse gravelly SILT/CLAY | Depth Top | 2.90 |
| | | Depth Base | |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 93 | | |
| 20 | 88 | | |
| 14 | 87 | | |
| 10 | 82 | | |
| 6.3 | 78 | | |
| 5 | 74 | | |
| 3.35 | 71 | | |
| 2 | 67 | | |
| 1.18 | 65 | | |
| 0.6 | 63 | | |
| 0.425 | 61 | | |
| 0.3 | 58 | | |
| 0.212 | 55 | | |
| 0.15 | 53 | | |
| 0.063 | 51 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 33 |
| Sand | 16 |
| Silt and Clay | 51 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

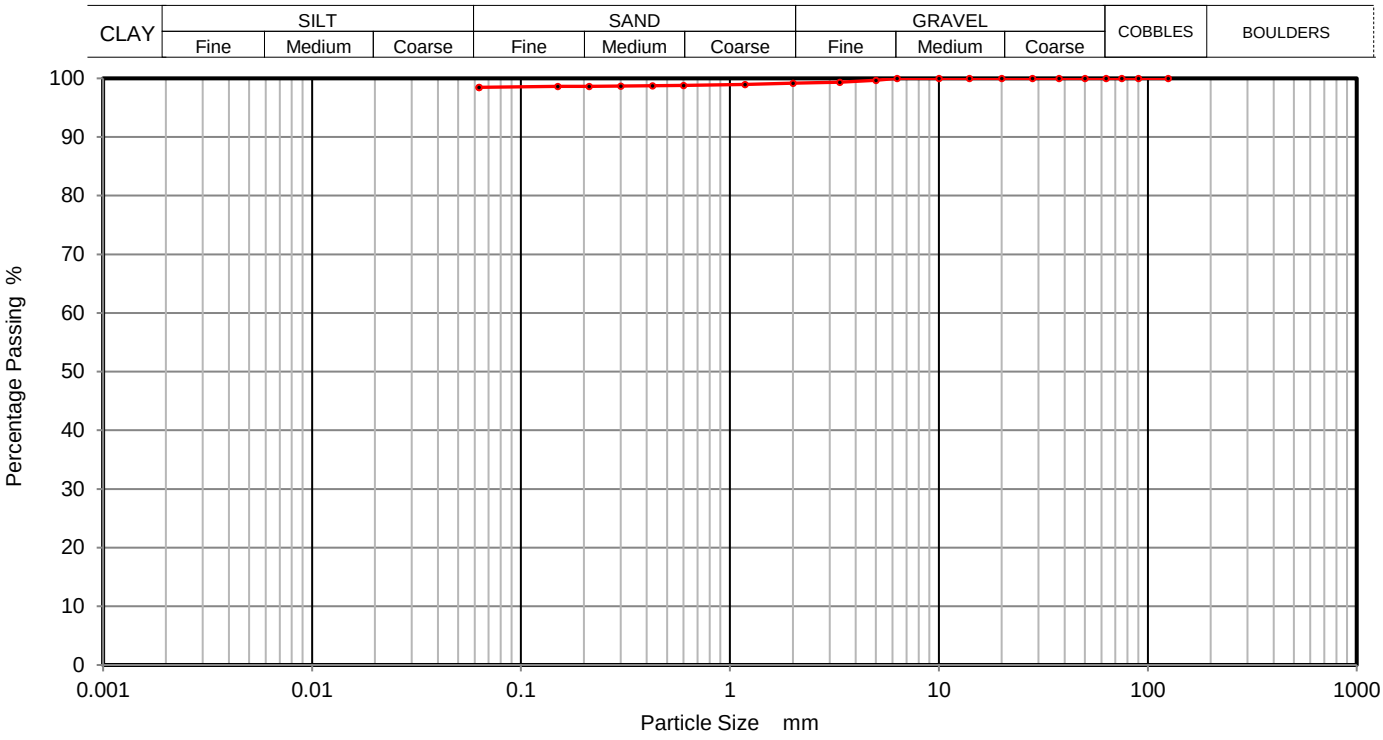
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 28/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 29/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T13 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey slightly fine to coarse sandy slightly fine gravelly SILT/CLAY | Depth Top | 1.50 |
| | | Depth Base | |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 99 | | |
| 2 | 99 | | |
| 1.18 | 99 | | |
| 0.6 | 99 | | |
| 0.425 | 99 | | |
| 0.3 | 99 | | |
| 0.212 | 99 | | |
| 0.15 | 99 | | |
| 0.063 | 98 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 1 |
| Sand | 1 |
| Silt and Clay | 98 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

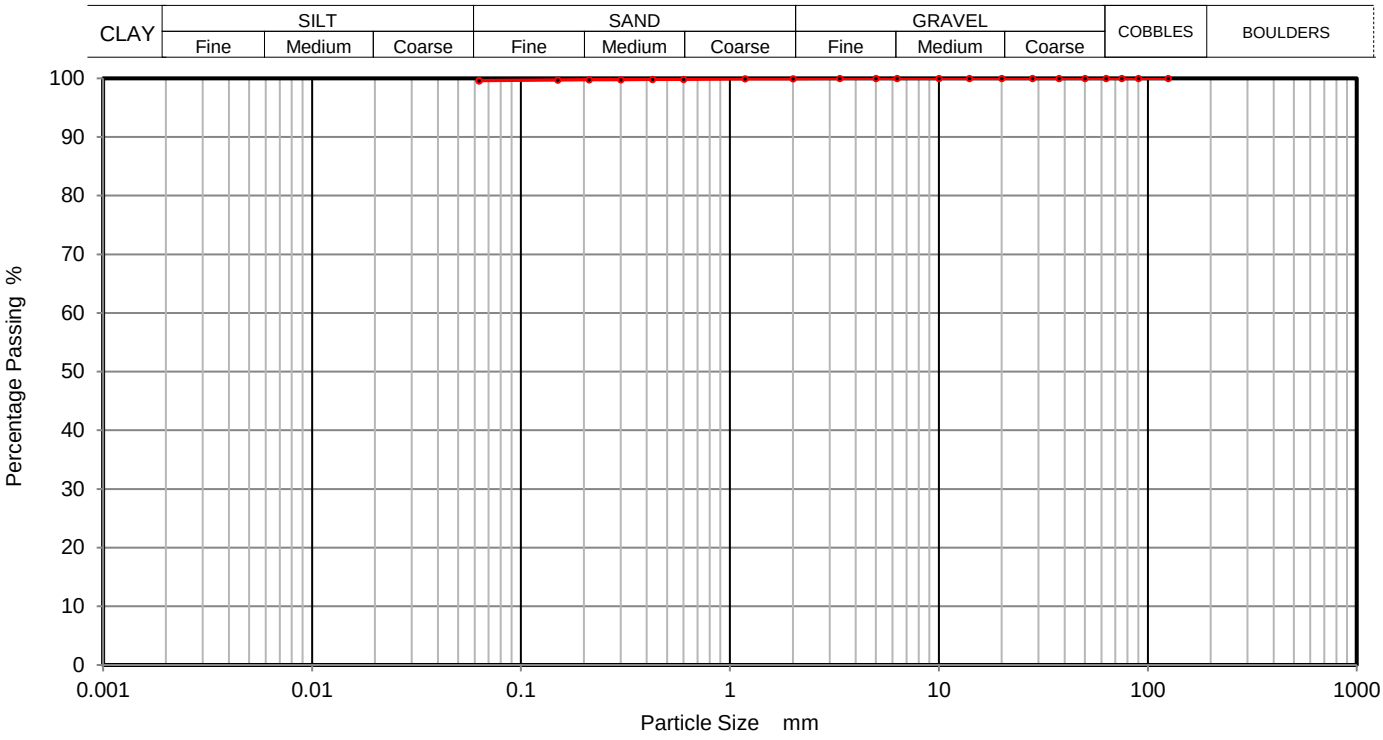
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 28/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 29/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T13 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey SILT/CLAY | Depth Top | 2.50 |
| | | Depth Base | |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | | |
| 0.425 | 100 | | |
| 0.3 | 100 | | |
| 0.212 | 100 | | |
| 0.15 | 100 | | |
| 0.063 | 100 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 0 |
| Sand | 0 |
| Silt and Clay | 100 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

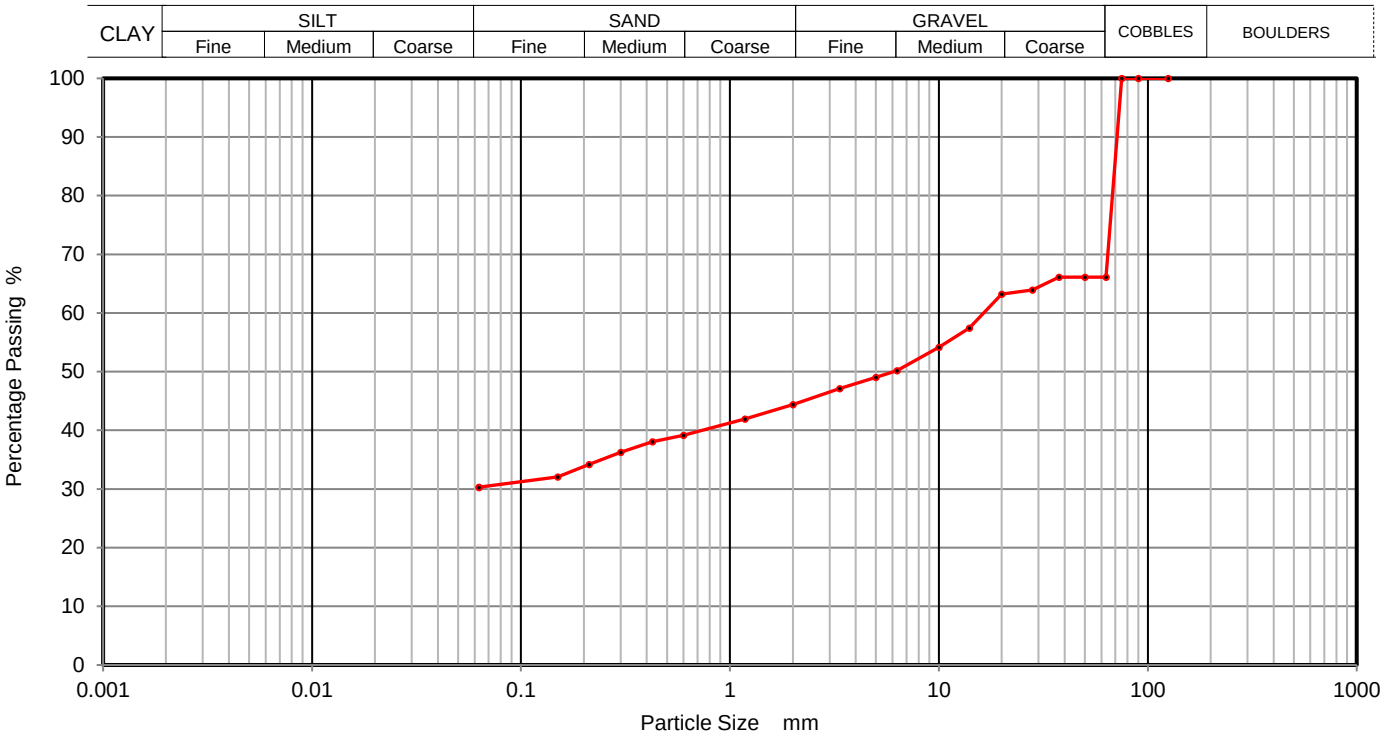
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 28/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 29/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T15 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey fine to coarse sandy fine to coarse gravelly SILT/CLAY with some cobbles | Depth Top | 2.50 |
| | | Depth Base | 3.00 |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 66 | | |
| 50 | 66 | | |
| 37.5 | 66 | | |
| 28 | 64 | | |
| 20 | 63 | | |
| 14 | 57 | | |
| 10 | 54 | | |
| 6.3 | 50 | | |
| 5 | 49 | | |
| 3.35 | 47 | | |
| 2 | 44 | | |
| 1.18 | 42 | | |
| 0.6 | 39 | | |
| 0.425 | 38 | | |
| 0.3 | 36 | | |
| 0.212 | 34 | | |
| 0.15 | 32 | | |
| 0.063 | 30 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 34 |
| Gravel | 22 |
| Sand | 14 |
| Silt and Clay | 30 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

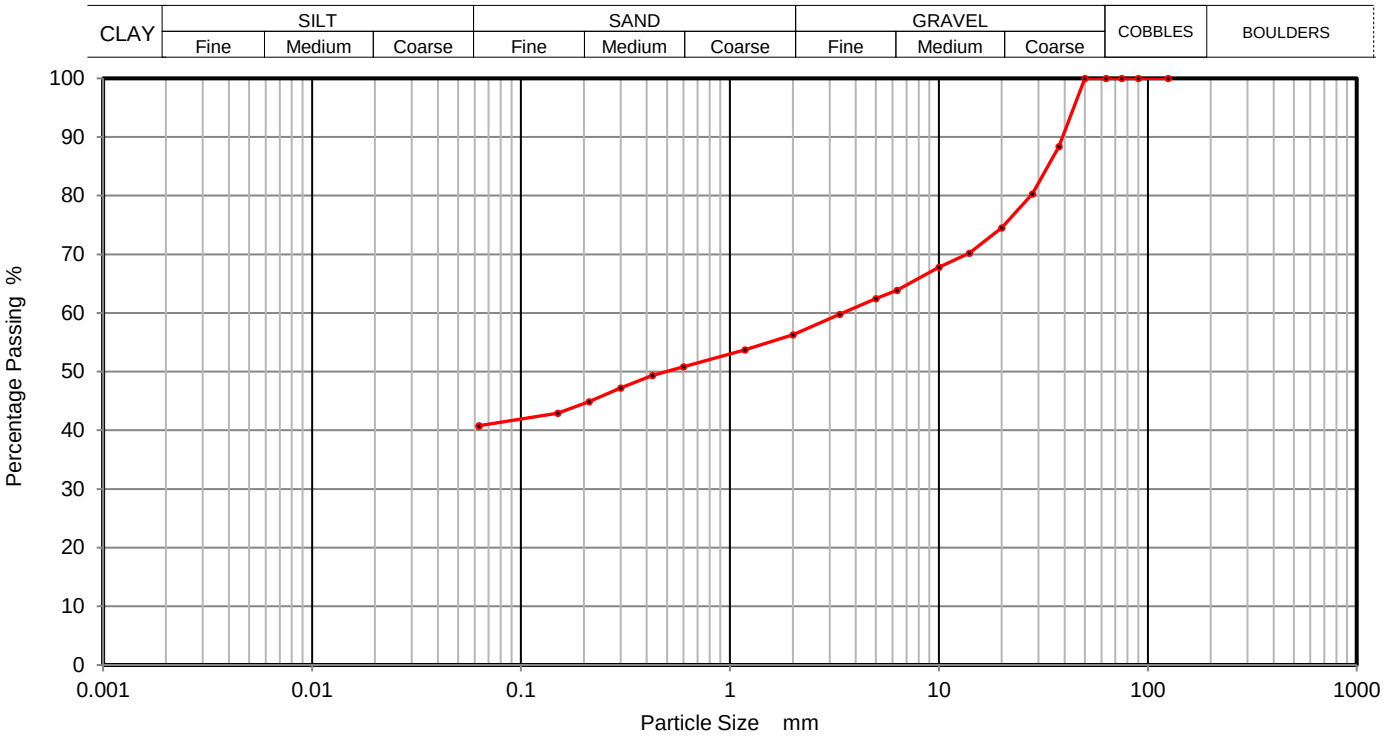
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 28/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 29/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T16 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey fine to coarse sandy silty/clayey fine to coarse GRAVEL | Depth Top | 3.00 |
| | | Depth Base | |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 88 | | |
| 28 | 80 | | |
| 20 | 75 | | |
| 14 | 70 | | |
| 10 | 68 | | |
| 6.3 | 64 | | |
| 5 | 62 | | |
| 3.35 | 60 | | |
| 2 | 56 | | |
| 1.18 | 54 | | |
| 0.6 | 51 | | |
| 0.425 | 49 | | |
| 0.3 | 47 | | |
| 0.212 | 45 | | |
| 0.15 | 43 | | |
| 0.063 | 41 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 44 |
| Sand | 15 |
| Silt and Clay | 41 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

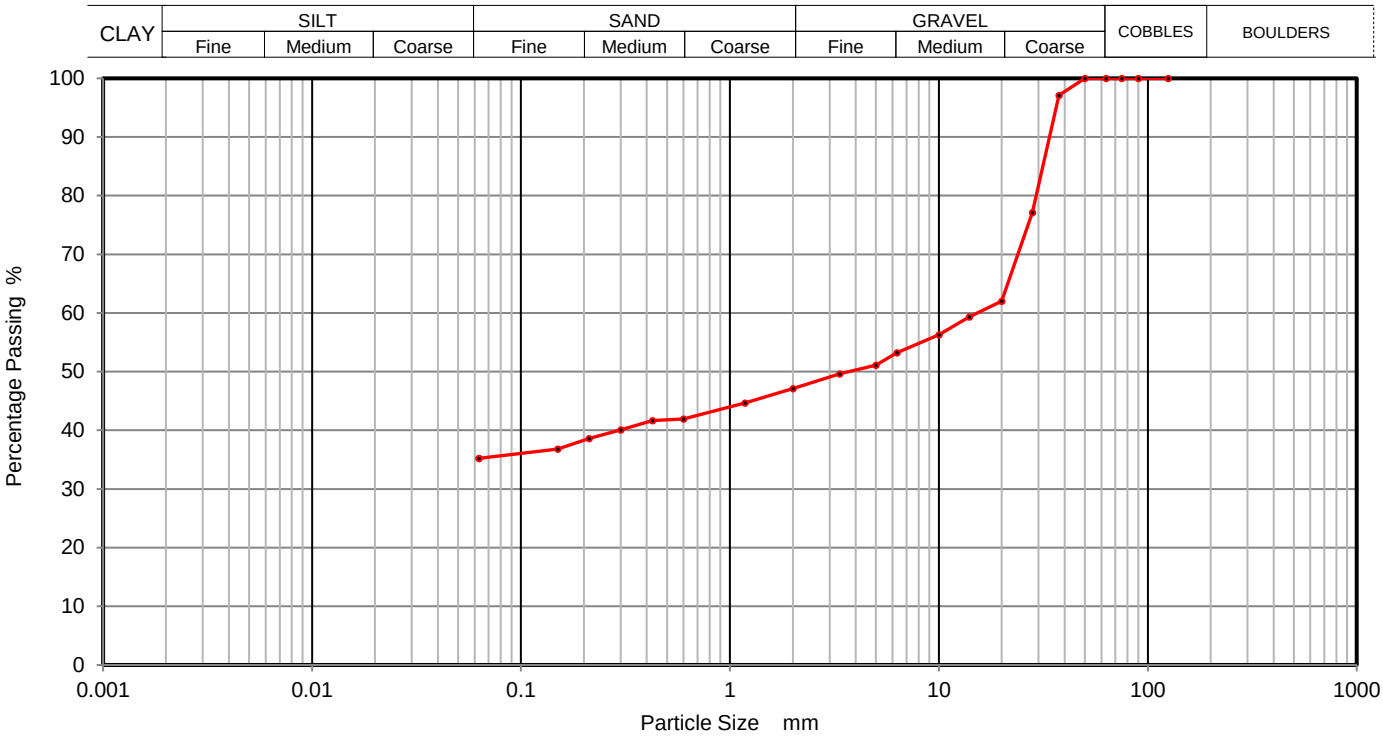
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 28/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 29/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T17 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey fine to coarse sandy silty/clayey fine to coarse GRAVEL | Depth Top | 2.00 |
| | | Depth Base | 2.70 |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 97 | | |
| 28 | 77 | | |
| 20 | 62 | | |
| 14 | 59 | | |
| 10 | 56 | | |
| 6.3 | 53 | | |
| 5 | 51 | | |
| 3.35 | 50 | | |
| 2 | 47 | | |
| 1.18 | 45 | | |
| 0.6 | 42 | | |
| 0.425 | 42 | | |
| 0.3 | 40 | | |
| 0.212 | 39 | | |
| 0.15 | 37 | | |
| 0.063 | 35 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 53 |
| Sand | 12 |
| Silt and Clay | 35 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

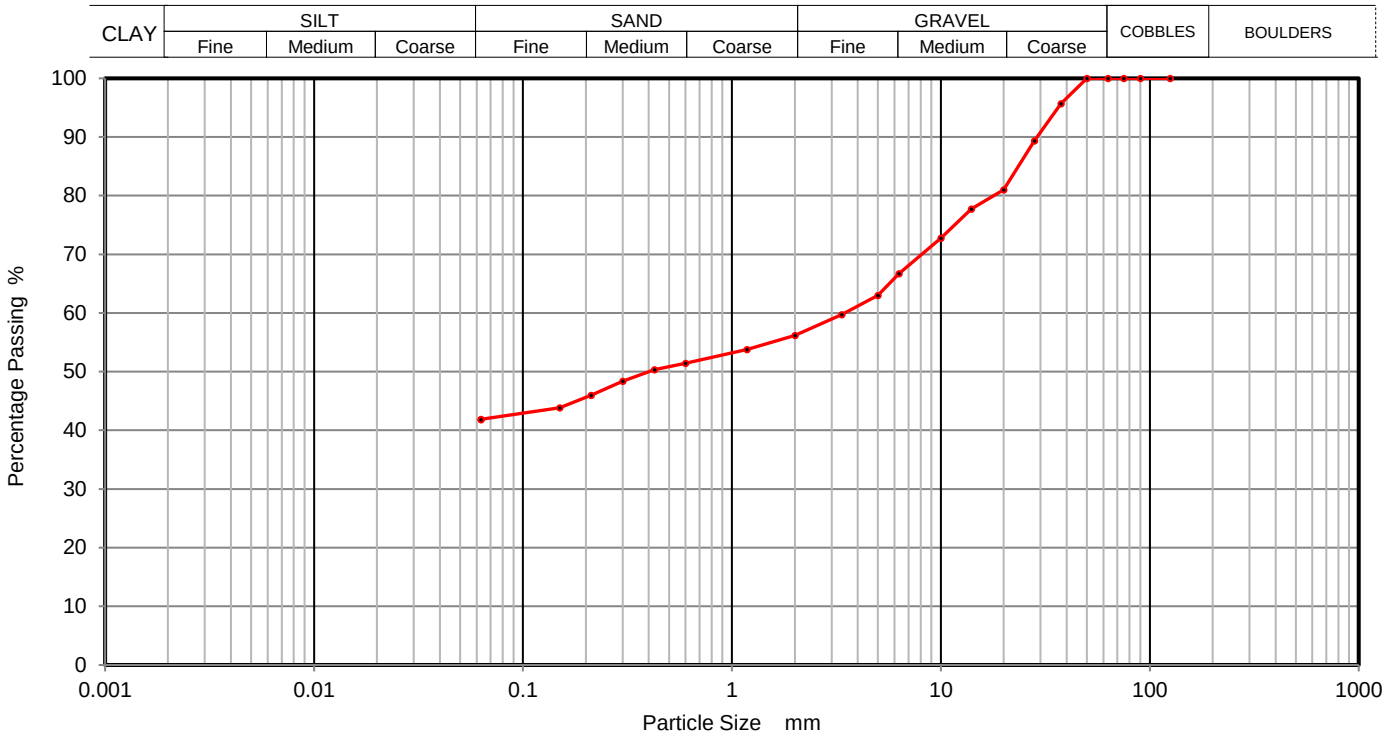
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 28/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 29/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T19 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey fine to coarse sandy silty/clayey fine to coarse GRAVEL | Depth Top | 2.00 |
| | | Depth Base | 3.00 |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 96 | | |
| 28 | 89 | | |
| 20 | 81 | | |
| 14 | 78 | | |
| 10 | 73 | | |
| 6.3 | 67 | | |
| 5 | 63 | | |
| 3.35 | 60 | | |
| 2 | 56 | | |
| 1.18 | 54 | | |
| 0.6 | 51 | | |
| 0.425 | 50 | | |
| 0.3 | 48 | | |
| 0.212 | 46 | | |
| 0.15 | 44 | | |
| 0.063 | 42 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 44 |
| Sand | 14 |
| Silt and Clay | 42 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

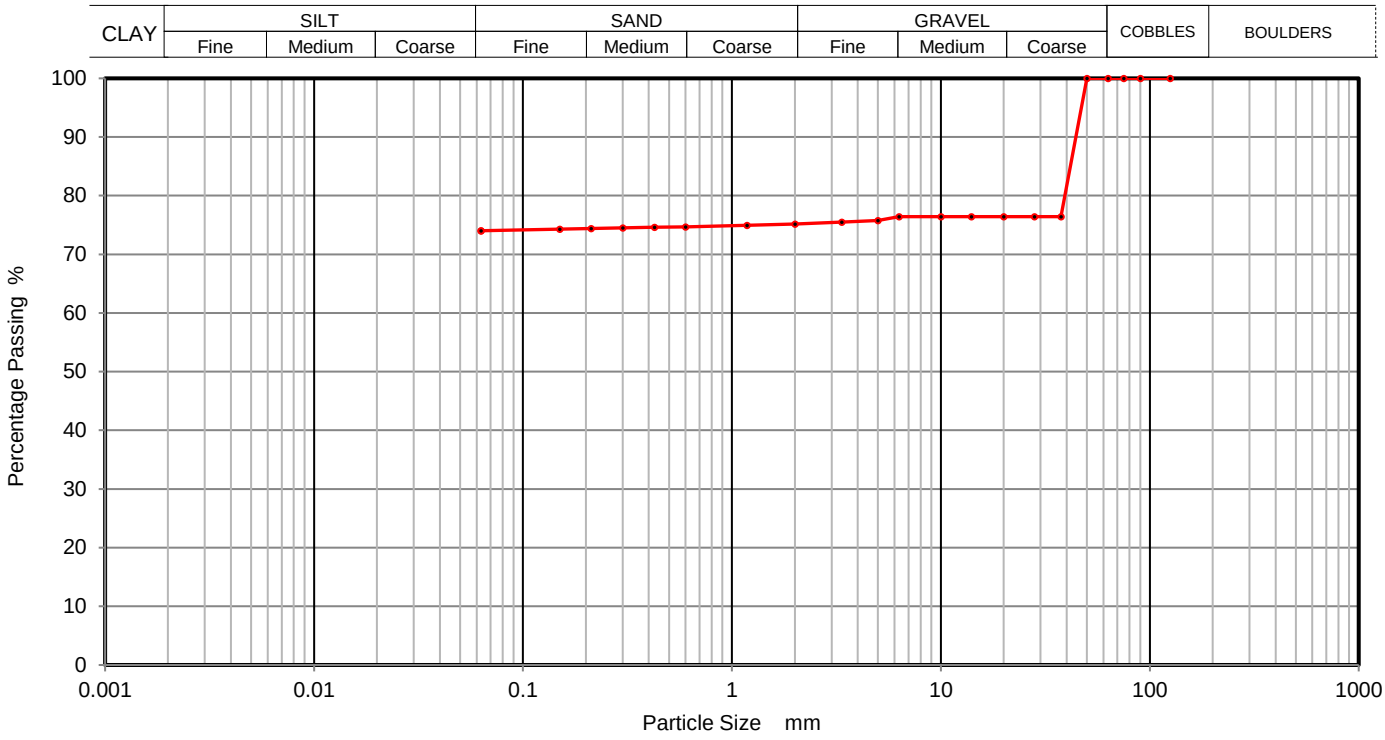
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 28/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 29/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T20 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey slightly fine to coarse sandy fine to coarse gravelly SILT/CLAY | Depth Top | 2.00 |
| | | Depth Base | |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 76 | | |
| 28 | 76 | | |
| 20 | 76 | | |
| 14 | 76 | | |
| 10 | 76 | | |
| 6.3 | 76 | | |
| 5 | 76 | | |
| 3.35 | 75 | | |
| 2 | 75 | | |
| 1.18 | 75 | | |
| 0.6 | 75 | | |
| 0.425 | 75 | | |
| 0.3 | 74 | | |
| 0.212 | 74 | | |
| 0.15 | 74 | | |
| 0.063 | 74 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 25 |
| Sand | 1 |
| Silt and Clay | 74 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

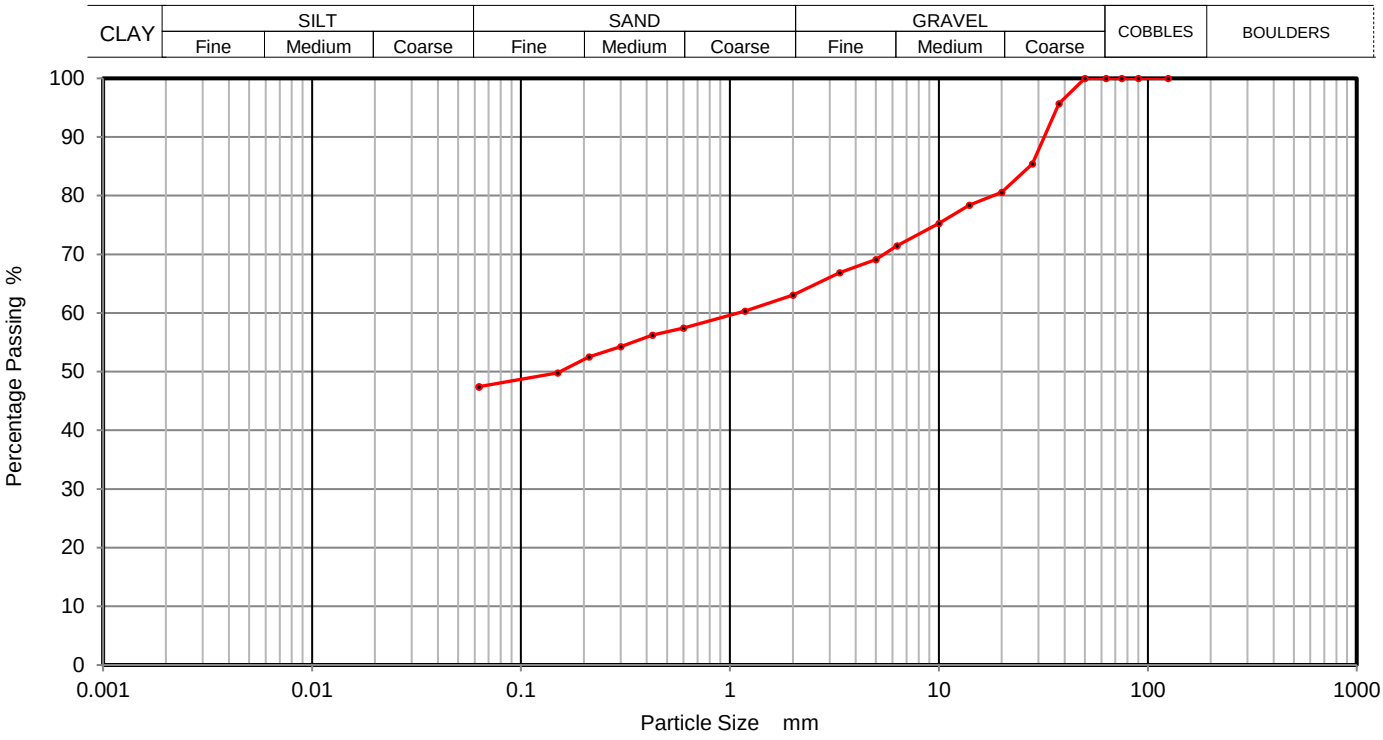
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 28/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 29/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T20 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey fine to coarse sandy fine to coarse gravelly SILT/CLAY | Depth Top | 2.60 |
| | | Depth Base | |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 96 | | |
| 28 | 85 | | |
| 20 | 81 | | |
| 14 | 78 | | |
| 10 | 75 | | |
| 6.3 | 71 | | |
| 5 | 69 | | |
| 3.35 | 67 | | |
| 2 | 63 | | |
| 1.18 | 60 | | |
| 0.6 | 57 | | |
| 0.425 | 56 | | |
| 0.3 | 54 | | |
| 0.212 | 53 | | |
| 0.15 | 50 | | |
| 0.063 | 47 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 37 |
| Sand | 16 |
| Silt and Clay | 47 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

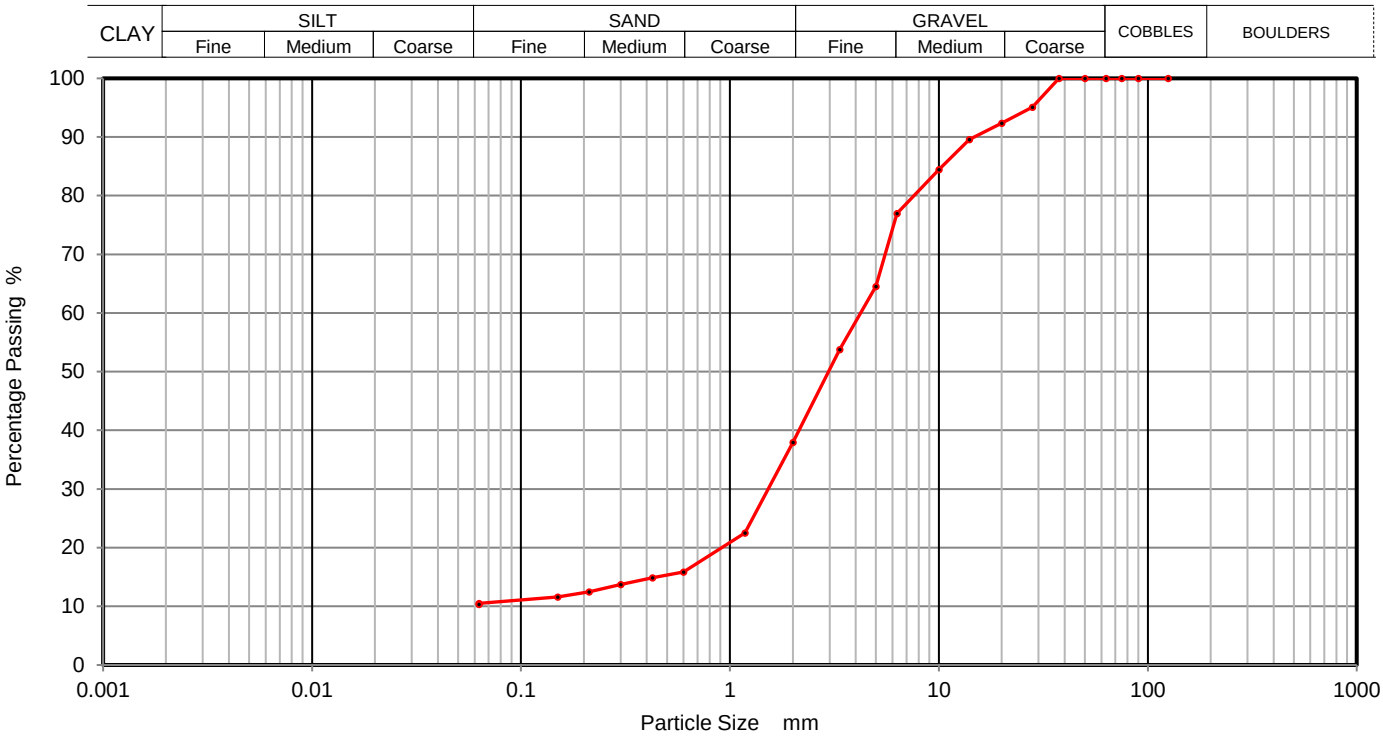
Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 28/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 29/04/2018 | Ben Sharp | |

UKAS TESTING 2788

| GSTL | PARTICLE SIZE DISTRIBUTION<br>BS 1377 Part 2:1990<br>Wet Sieve, Clause 9.2 | Contract Number | 38923 |
|---|---|---|---|
| | | Borehole/Pit No. | T75 |
| Site Name | Derryad, Longford | Sample No. | |
| Soil Description | Grey silty/clayey fine to coarse sandy fine to coarse GRAVEL | Depth Top | 1.20 |
| | | Depth Base | |
| | | Sample Type | 0 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| 125 | 100 | 0.0200 | |
| 90 | 100 | 0.0060 | |
| 75 | 100 | 0.0019 | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 95 | | |
| 20 | 92 | | |
| 14 | 90 | | |
| 10 | 84 | | |
| 6.3 | 77 | | |
| 5 | 65 | | |
| 3.35 | 54 | | |
| 2 | 38 | | |
| 1.18 | 22 | | |
| 0.6 | 16 | | |
| 0.425 | 15 | | |
| 0.3 | 14 | | |
| 0.212 | 12 | | |
| 0.15 | 12 | | |
| 0.063 | 10 | | |

| Sample Proportions | % dry mass |
|---|---|
| Cobbles | 0 |
| Gravel | 62 |
| Sand | 28 |
| Silt and Clay | 10 |
| | |
| | |

| Grading Analysis | |
|---|---|
| Uniformity Coefficient | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operators | Checked | 28/04/2018 | Wayne Honey | W. Honey |
|---|---|---|---|---|
| RO/MH | Approved | 29/04/2018 | Ben Sharp | |

UKAS TESTING 2788

# Appendix 9-1.9.1- IDL GI Reports

# IRISH DRILLING LIMITED

LOUGHREA, CO. GALWAY, IRELAND

**CONTRACT DRILLING**
**SITE INVESTIGATION**

Phone: (091) 841 274
Fax: (091) 847 687
email: info@irishdrilling.ie


# DERRYADD WIND FARM

# SITE INVESTIGATION CONTRACT FACTUAL REPORT

Bord na Mona Powergen Ltd.,
Main Street,
Newbridge,
Co. Kildare.

| | Prepared by | Approved by | Rev. Issue Date: | Revision No. |
|---|---|---|---|---|
| | Ronan Killeen | Declan Joyce | 8th September 2021 | 21 _LD _101/02 |
| Signature | RK | DJ | | |

FOREWORD

The borehole, probe, window sample and trial pit records have been compiled from an examination of the samples by a Geotechnical Engineer and from the Drillers' descriptions.

The report presents an opinion on the configuration of the strata within the site based on the borehole, probe, window sample and trial pit results. The assumptions, though reasonable, are given for guidance only and no liability can be accepted for changes in conditions not revealed by the boreholes, probes, window samples and trial pits.

The fieldwork was carried out in accordance with IS EN 1997-2 and BS5930, 2015 Code of Practice for Site Investigations with precedence given to IS EN 1997-2 where applicable.

# Contents:


| | |
|---|---|
| 1.0 | Introduction |
| 2.0 | The Site & Geology |
| 3.0 | Fieldwork |
| 4.0 | Laboratory Testing |

Book 1 of 1

| | |
|---|---|
| Appendix 1 | Borehole Records (Cable Percussive) |
| Appendix 2 | Borehole Records (Rotary Core) |
| Appendix 3 | Trial Pit Records |
| Appendix 4 | Dynamic Probe Records |
| Appendix 4A | Window Sample Records |
| Appendix 5 | Geophysical Survey |
| Appendix 5A | Electrical Resistivity Tests |
| Appendix 6 | Groundwater Readings |
| Appendix 7 | Plate Bearing Test Records |
| Appendix 8 | Dynamic Cone Penetration Test Records |
| Appendix 9 | Permeability Test Records |
| Appendix 10 | Laboratory Test Results (Soils / Rock) |
| Appendix 11 | Photographs (Rotary Core) |
| Appendix 12 | Photographs (Trial Pits) |
| Appendix 13 | ‘As-Built’ Drawings |
| Appendix 14 | Digital Data (AGS / Autocad) |

## 1.0 Introduction.

Irish Drilling Ltd. (IDL) was instructed by Bord na Mona Powergen Limited to carry out a site investigation at the site of the proposed Derryadd Wind Farm.

This site investigation was carried out to provide detailed factual geotechnical information of the underlying ground conditions for a proposed 24nr turbine wind farm with ancillary access roads and structures.

The fieldwork commenced on February 8th 2021 and was completed on May 25th 2021.

## 2.0 Site & Geology

The site is spread out over three bogs namely Derryaroge, Derryadd and Lough Bannow County Longford. The site is located approximately 8.0km east of Lanesborough, County Longford.

The fieldwork was carried out predominantly on peat bog and the site itself is adjoined by agricultural lands and bogland.

Weather conditions in general were quite variable with the majority of the fieldwork carried out over a typical spring period in Ireland. Boglands in particular were occasionally difficult to access, due to rutting, as land became soft caused by sustained wet periods. Tractors and excavators were occasionally used to assist moving of plant and machinery.

Site Plans, prepared by the client's representatives and amended by IDL to show 'As-Built' fieldwork locations, are included with this report.

The following were the main published information sources used:
Geological Map of Ireland: 1:750,000 scale map series.

Site investigation data is available as point source data along the proposed route, and the majority of the ground in between the points can only be assumed to follow the characteristics of the nearest available data.

<u>Overview of Subsoil Geology</u>

Glacial Till:

Glacial Till is what was often referred to as Boulder Clay. It is a diverse material that is largely deposited sub-glacially and has a wide range of characteristics due to the variety of parent materials and different processes of deposition. Tills are often tightly packed, unsorted, heterogeneous, unbedded, and can have a wide range of particle sizes and types, which are often but not exclusively angular or sub-angular.

The type of parent material plays a critical role in providing the particles that create different subsoil permeability with sandstones giving rise to a high proportion of sand sized grains in the till matrix, clean limestones providing a relatively high proportion of silt, while shales, shaly limestones and mudstones break down to the finer clay sized particles.

Glacial Outwash Deposits:

Deposition of sand and gravel takes place mainly when glaciers are melting, which gives rise to large volumes of meltwater with great erosive and transporting power. The subsoils deposited in this environment are predominantly, but not exclusively, rounded to subrounded gravel and sand, with the finer fractions of clay and silt washed out.

Peat:

The deposition of peat occurred in post-glacial periods and is generally associated with the start of warmer and wetter climatic conditions. Peat is an unconsolidated usually dark brown to black organic material comprising a mixture of decomposed and undecomposed plant matter that accumulated in an acidic waterlogged environment. Peat has an extremely high-water content generally averaging over 90% by volume.

Made Ground:
Made Ground is material which has been purposefully emplaced by humans.

Solid Geology
The Geological Map of Ireland: 1:750,000 scale map series indicate that the site is underlain by the Lower Carboniferous Limestone Rock Formations.

## 3.0 Fieldwork.

### 3.1 Fieldwork Plant:
The following plant was mobilised to site to carry out fieldwork operations:

Dando 2000 Cable Percussive Boring Rigs.
GT1100 GoTract Rotary Core Drilling Rigs.
Hyundai 140 LC-9 Excavator.
LMSR-V(k) Geotool Dynamic Probing Rig.

Fieldwork carried out to date has included the following:

### 3.2 Cable Percussive Boreholes:
Ninety-four cable percussion (Shell & Auger) boreholes were completed using Dando 2000 Cable Percussive Boring Rigs. The boreholes were bored to 'refusal' or to depths as instructed by the client's representatives.

The borehole depths ranged from 1.10m to 7.40m below ground level.

In–Situ testing consisting of Standard Penetration Tests were carried out at regular intervals (predominantly 1.0m intervals) or as instructed by the client's representatives.

Disturbed bulk and jar soil samples were taken at each change in strata and were returned to the laboratory and logged by a Geotechnical Engineer and presented for testing. Groundwater samples were taken where possible and returned to the laboratory for storage and analysis.

Undisturbed (U100, Piston) soil samples were also recovered where possible in cohesive soils and returned to the laboratory for logging and testing.

Detailed engineering logs for the cable percussive boreholes completed are included with this report in Appendix 1.

### 3.3 Rotary Core Boreholes:
Ninety rotary core boreholes were carried out to establish overburden conditions and rockhead and to establish the nature and integrity of the underlying rock.

The rotary core boreholes were predominantly carried out as 'extension follow-on' boreholes at locations where the cable percussive boreholes encountered 'refusals' at relatively shallow depths.

The boreholes were completed using wireline drilling techniques, and HQ size (64mm core diameter, 96mm hole diameter) drill strings to recover soil and rock core samples.

A water based flush system was used as the drilling medium while a biodegradable polymer gel was also used where necessary to aid the drilling and soil / rock recovery process.

The samples were stored in wooden boxes and returned to the laboratory where there were logged and photographed by a Geotechnical Engineer and presented for testing.

In-Situ testing consisting of Standard Penetration Tests were carried out in the overburden in a number of the boreholes.

The rotary core boreholes were carried out to depths ranging from 6.00m to 30.00m below ground level.

A 50mm diameter standpipe was installed in a number of boreholes and as instructed by the Client's Engineer, to allow for monitoring of groundwater levels over a prolonged period of time.

Variable Head Permeability Tests (Rising and Falling Head) were carried out at a number of borehole standpipe locations and the records of same are included as Appendix 9.

A summary of water levels recorded during the fieldwork period is included with this report as Appendix 6.

Detailed engineering logs for the rotary core boreholes completed are included with this report in Appendix 2.

### 3.4 Trial Pits:

Three hundred and thirty-six trial pits were excavated on site using a 14T wide-padded tracked excavator.

The pits were logged and photographed by an Engineer with observations made on ground conditions, pit stability, water ingress and services encountered. The pits were excavated to depths ranging from 0.20m to 4.50m below ground level.

Small and bulk disturbed soil samples were recovered at each change in strata and returned to the laboratory and presented for testing.

In-Situ Tests consisting of plate bearing tests were carried out at many of the trial pit locations, as instructed by the client's representatives. A 610mm diameter steel plate was used and was jacked against a tracked excavator.

The Plate Test graphs were used to measure the co-efficient of subgrade reaction ($k_s$) and to estimate the CBR values. The records of these test are included in Appendix 7 of this report.

Dynamic cone penetration tests were also carried out at a number of trial pit locations (predominantly at locations and depths where plate bearing tests could not be completed safely) and the records of same are included as Appendix 8.

In-Situ tests consisting of shear vane tests were also carried out where possible in cohesive soils and a summary of the shear vane test results are included on the trial pit logs.

Detailed engineering logs for the trial pits completed are included with this report in Appendix 3.

### 3.5 Dynamic Probes:

Three hundred and forty-three dynamic probes (Dynamic Probe Heavy, DPH) were carried out to 'refusal' using a LMSR-V(k) Geotool Dynamic Probing Rig.

The dynamic probes were carried out to depths ranging from 0.50m to 9.50m below ground level.

The Dynamic Probing Rig involves the dropping of a 50 kg hammer onto rods from a standard height (500mm) and recording the number of blows it takes to penetrate the rods (with a cone tip) to depth of 100mm increments into the soil.

The dynamic probe engineering logs then graph the number of blow counts required to penetrate each 100mm incremental depth. The probe is considered to have encountered 'refusal' when a blow count of 25 does not achieve the full 100mm incremental depth.

Detailed engineering logs for the trial pits completed are included with this report in Appendix 4.

**3.6 Windowless Samples:**

Four windowless sample probe holes were also carried out to 'refusal' using a LMSR-V(k) Geotool Dynamic Probing Rig.

The window samples were carried out at locations adjacent to a 'live' rail track and where a tracked excavator could not access safely.

The windowless samples were carried out in order to recover undisturbed (50mm diameter) and to depths ranging from 1.70m to 5.00m below ground level.

Detailed engineering logs for the window samples completed are included with this report in Appendix4A.

**3.7 Geophysical Survey:**

A Geophysical Survey was carried out by Minerex Geophysics Limited at each proposed turbine location.

The geophysical survey consisted of 2D-Resistivity and Seismic Refraction (p-wave) and the main objectives of the survey were to determine ground conditions, estimate the depth to rock, overburden thickness and reduce the risk of encountering unknown subsurface conditions (including soft ground, shallow bedrock or bedrock karstification) during construction.

The geophysical models and interpretations give guidance about the geological ground and in conjunction with the boreholes a detailed picture of the subsurface conditions.

The records of the geophysical survey and interpretations are included as a 'stand-alone' report in appendix 5.

Electrical Resistivity testing was also carried out by Minerex Geophysics Limited at the proposed turbine locations and at the proposed substation site.

The testing consisted of Vertical Electrical Sounding (VES) using the Wenner electrode configuration and the records of the testing are presented as a 'stand-alone' report in appendix 5A.

**3.8 General Summary:**

The borehole, probe, windowless sample and trial pit locations were set out on site using a Trimble CU Bluetooth GPS Surveying Unit and the co-ordinates are included on the logs presented in the appendices.

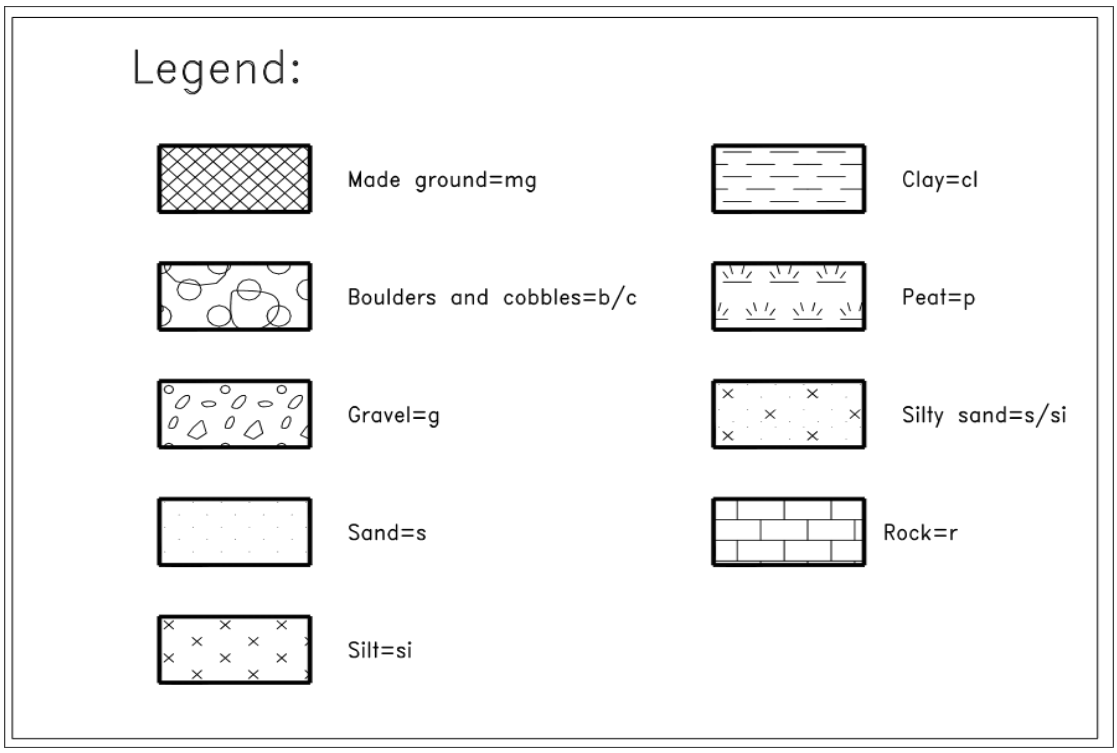
All fieldwork co-ordinates are reported to Irish National Grid (ING) with Reduced Levels recorded relative to Malin Head Datum and with an accuracy level of + or – 0.10m.

Ground conditions encountered during the completion of the fieldwork were typical and as expected for this region and predominantly consisted of Peat overlying Glacial Tills overlying Bedrock. The Glacial Tills in general consisted of slightly sandy slightly gravelly silt/clay with cobbles and boulders and/or silty sands and/or gravels with cobbles and boulders.

Intact bedrock was encountered in the rotary core boreholes at depths varying from 1.00m to 19.50m below ground level. Weathered bedrock was also encountered in many of the boreholes at shallower depths.

It is further noted that bedrock was not encountered in a number of the boreholes before borehole termination and for detailed descriptions of bedrock and ground conditions encountered please refer to the engineering logs included in the appendices of this report.

The following Key Legend Table details the symbology used on the engineering logs to describe ground conditions encountered:




The fieldwork was carried out in accordance with IS EN 1997-2 and BS5930, 1999 Code of Practice for Site Investigations with precedence given to IS EN 1997-2 where applicable.

## 4.0 Laboratory Testing

Representative samples recovered from the boreholes and trial pits were scheduled for testing in the laboratory.

The test schedules were prepared by the Client's Engineer and included some or all of the following tests on disturbed and undisturbed soil samples:

* Natural Moisture Content.
* Atterberg Limits.
* Particle Density.
* Particle Size Distribution.
* Sedimentation.
* Consolidation.
* Shearbox.
* Triaxial.
* Shearbox.
* Compaction (MCV, CBR).
* Chemical (Ph, Sulphate (Total/Water), Organic Content/LOI, Carbonate).

The test schedules included some or all of the following tests on rock core samples:

* Point Load.

* UCS.
* LA Abrasion.
* Water Absorption.
* Slake Durability.
* Magnessium Sulphate Soundess.
* Flakiness Index.

The test schedules were carried out predominantly at the IDL Laboratory located at Loughrea, County Galway.

A number of specialist tests not available at the IDL laboratory were carried out by designated laboratories on a subcontract basis as follows:

Laboratory chemical tests were carried out by Alcontrol Laboratories, UK.
Shear Strength, Triaxial and Shear Box Tests were carried out by NMTL, County Carlow.

Soil samples (disturbed and undisturbed) in general were recovered from the excavation of trial pits and completion of cable percussive boreholes. Rock core samples were recovered from the completion of rotary core boreholes and the records of soil and rock core laboratory test results carried out on same are reported in Appendix 10.

A number of laboratory test results not available at the time of issuance of this report will be presented as an Addendum to this report.

The soil and rock descriptions as noted on the borehole and trial pit logs are in general visual descriptions as observed and logged by our Engineers and are described in accordance with IS EN 1997-2 and BS5930, 1999 Code of Practice for Site Investigations.

Soils descriptions (cohesive or otherwise) are also initially assessed based on the texture and 'feel' of the soil materials as witnessed by our Geotechnical Engineers and in accordance with IS EN 1997-2 and BS5930.

Where laboratory classification tests have been carried out on soil or rock samples then these visual descriptions have been amended accordingly to take into account the results of these classification tests.

The records of all fieldwork, laboratory test results and photographs are included in the appendices of this Factual Report.

Ronan Killeen

Ronan Killeen
Chartered Engineer
Irish Drilling Limited
September 8th 2021

# Appendix 1
# Borehole Records
# (Cable Percussive)

Irish drilling LTD

# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC01A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-02-21<br>24-02-21 | 38.42 | E 204,039.3 N 269,706.1 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: dry<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 37.62 | | (0.80)<br>0.80 | Soft brown slightly sandy PEAT with cobbles. | | |
| 1.00<br>1.00<br>1.00-1.50<br>1.50<br>2.00<br>2.00-2.50<br>2.50<br>3.00<br>3.00-3.50<br>3.50 | SPT<br>D2<br>B4<br>D5<br>CPT<br>B7<br>D8<br>SPT<br>B10<br>D11 | N = 12<br>(2, 1, 2, 3, 4, 3)<br>N = 17<br>(4, 5, 3, 7, 3, 4)<br>N = 30<br>(4, 4, 7, 9, 6, 8) | | 34.82 | | (2.80)<br>3.60 | Firm grey sandy CLAY with cobbles. | | |
| 4.00<br>4.00-4.50<br>4.50 | CPT<br>B13<br>D14 | N = 37<br>(7, 8, 7, 7, 10, 13) | | 33.92<br>33.62 | | (0.90)<br>4.50<br>4.80 | Stiff greyish green slightly gravelly sandy silty CLAY with cobbles and boulders.<br>Very dense grey sandy silty BOULDERS. | | |
| 4.70 | CPT | 50 for 10 mm<br>(25, -, 50) | | | | | BH terminated at 4.80m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 24-02-21 | 13.00 | 4.80 | 4.50 | 203 | | 4.7 | 4.8 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC01B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-02-21<br>24-02-21 | 38.46 | E 204,052.5 N 269,691.7 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: dry<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown PEAT over sandy gravelly CLAY. | | |
| | | | | | | (0.70) | | | |
| | | | | 37.76 | | 0.70 | | | |
| | | | | | | | Firm grey sandy CLAY with cobbles. | | |
| 1.00 | CPT | N = 13 (2, 1, 3, 4, 3, 3) | | | | | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| | | | | | | (2.50) | | | |
| 2.00 | CPT | N = 15 (3, 5, 7, 2, 2, 4) | | | | | | | |
| 2.00-2.50 | B7 | | | | | | | | |
| 2.50 | D8 | | | | | | | | |
| 3.00 | CPT | N = 20 (4, 3, 4, 4, 5, 7) | | 35.26 | | 3.20 | | | |
| | | | | | | | Stiff grey slightly sandy gravelly silty CLAY with cobbles and boulders. | | |
| 3.00-3.50 | B10 | | | | | | | | |
| 3.50 | D11 | | | | | | | | |
| | | | | | | (1.20) | | | |
| 4.00 | CPT | N = 63 (5, 7, 9, 8, 10, 36) | | | | | 4.00m; becoming very stiff. | | |
| | | | | 34.06 | | 4.40 | | | |
| 4.00-4.50 | B13 | | | 33.96 | | 4.50 | Obstruction as possible rock. | | |
| 4.50 | D14 | | | | | | BH terminated at 4.50m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 24-02-21 | 17.00 | 4.50 | 4.50 | 203 | | 4.4 | 4.5 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC02A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-02-21<br>23-02-21 | 38.70 | E 203,758.1 N 270,157.9 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: 2.60m; 2nd:; 3rd:<br>Rose to (@ 20 min.): 2.20m<br>Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 38.60 | | 0.10 | PEAT. | | |
| | | | | | | | Stiff sandy slightly gravelly SILT with cobbles and boulders. | | |
| 1.00 | CPT | N = 38<br>(6, 8, 10, 8, 11, 9) | | | | (2.50) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | CPT | N = 63<br>(5, 7, 11, 8, 17, 27) | 1 | | | | 2.00m; very stiff. | | |
| 2.00-2.50 | B7 | | 1 | 36.10 | | 2.60 | | | |
| 2.50 | D8 | | | | | | | | |
| 2.60 | CPT | 50 for 0 mm<br>(25, -, 50) | | | | | BH terminated at 2.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 23-02-21 | 12.00 | 2.60 | 2.50 | 203 | | 0.6<br>2.6 | 0.9<br>2.6 | 1<br>1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC02B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-02-21<br>23-02-21 | 38.72 | E 203,769.5 N 270,141.6 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 38.12 | | (0.60)<br>0.60 | Very soft brown PEAT. | | |
| | | | | 37.72 | | 1.00 | Soft greyish green organic silty PEAT. | | |
| 1.00 | CPT | N = 32<br>(3, 8, 4, 9, 9, 10) | | | | | Dense grey very silty very sandy GRAVEL with cobbles and boulders. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | CPT | N = 20<br>(2, 3, 5, 4, 4, 7) | | | | | 2.00m: medium dense. | | |
| 2.00-2.50 | B7 | | | | | (2.70) | | | |
| 2.50 | D8 | | | | | | | | |
| 3.00 | CPT | N = 36<br>(6, 5, 8, 8, 9, 11) | | | | | 3.00m: dense. | | |
| 3.00-3.50 | B10 | | | | | | | | |
| 3.50 | D11 | | | 35.02 | | 3.70 | | | |
| 3.70 | CPT | 50 for 40 mm<br>(25, -, 50) | | 34.92 | | 3.80 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 3.80m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 23-02-21 | 16.00 | 3.80 | 3.50 | 203 | basal seepage | 3.7 | 3.8 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC03A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-02-21<br>25-02-21 | 41.60 | E 203,676.3 N 270,699.2 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: 0.40m; Rose to (@ 20 min.): 0.20m; Sealed at: 1.60m; 2nd: ; 3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | 1 | 41.10 | | (0.50)<br>0.50 | Grass and reeds over very soft wet PEAT. | | |
| 1.00<br>1.00<br>1.00-1.50<br>1.50 | SPT<br>D2<br>B4<br>D5 | N = 15<br>(3, 2, 2, 4, 5, 4) | | 40.00 | | (1.10)<br>1.60 | Firm slightly gravelly sandy SILT. | | |
| 2.00<br>2.00-2.50<br>2.50 | CPT<br>B7<br>D8 | N = 23<br>(3, 7, 8, 6, 3, 6) | | | | (1.80) | Stiff grey slightly gravelly sandy SILT with cobbles. | | |
| 3.00 | CPT | N = 65<br>(4, 5, 9, 10, 20, 26) | | 38.20 | | 3.40 | 3.00m; very stiff. | | |
| 3.00-3.50<br>3.50 | B10<br>D11 | | | 38.10 | | 3.50 | Obstruction as possible rock.<br>BH terminated at 3.50m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 25-02-21 | 17.00 | 3.50 | 3.50 | 203 | | 3.4 | 3.5 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC03B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-02-21<br>25-02-21 | 41.68 | E 203,661.7 N 270,696.0 |

| Engineer | GROUNDWATER STRIKES | Water strikes: | Rose to (@ 20 min.): | Sealed at: | Sheet |
|---|---|---|---|---|---|
| Bord na Mona | | 1st: 0.50m | 0.20m | 1.50m | 1 of 1 |
| | | 2nd: | | | Rev. DRAFT |
| | | 3rd: | | | |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 41.28 | | 0.40 | Grass and reeds over very soft breown PEAT. | | |
| 1.00 | SPT | N = 19 (2, 2, 3, 5, 7, 4) | | | | (1.80) | Soft grey slightly gravelly silty sandy CLAY.<br>1.00m: stiff. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | CPT | N = 24 (3, 4, 4, 5, 8, 7) | | 39.48 | | 2.20 | | | |
| 2.00-2.50 | B7 | | | | | (1.25) | Stiff grey slightly sandy gravelly SILT with cobbles and boulders. | | |
| 2.50 | D8 | | | | | | | | |
| 3.00 | CPT | N = 67 (5, 3, 4, 8, 19, 36) | | 38.23 | | 3.45 | 3.00m; very stiff. | | |
| 3.00-3.50 | B10 | | | 38.08 | | 3.60 | Obstruction. | | |
| 3.50 | D11 | | | | | | BH terminated at 3.60m bgl. Obstruction. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 25-02-21 | 17.00 | 3.60 | 3.50 | 203 | 3.40 | 3.45 | 3.6 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used | Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC04A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-03-21<br>09-03-21 | 36.91 | E 203,235.9 N 271,301.3 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.50) | Very soft brown PEAT with rootlets. | | |
| 1.00 | SPT | N = 1 (1, 0, 0, 0, 0, 1) | | | | | | | |
| 1.00 | D2 | | | 35.41 | | 1.50 | | | |
| 1.00-1.50 | B4 | | | | | (1.20) | Very soft brownish green organic SILT. | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | SPT | N = 0 (0, 0, 0, 0, 0, 0) | | | | | | | |
| 2.00-2.50 | B7 | | | | | | | | |
| 2.50 | D8 | | | 34.21 | | 2.70 | | | |
| 3.00 | CPT | N = 15 (3, 2, 3, 2, 2, 8) | | | | (0.80) | Medium dense grey sandy silty GRAVEL. | | |
| 3.00-3.50 | B10 | | | 33.41 | | 3.50 | | | |
| 3.50 | D11 | | | | | (0.50) | Very dense greyish brown BOULDERS. | | |
| 3.90 | CPT | 50 for 25 mm (25, -, 50) | | 32.91 | | 4.00 | | | |
| | | | | | | | BH terminated at 4.00m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 09-03-21 | 17.00 | 4.00 | 3.70 | 203 | 3.50 | 3.8 | 4.0 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC04B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-03-21<br>10-03-21 | 36.71 | E 203,225.4 N 271,315.6 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| | | | | | | (1.60) | | | |
| 1.00 | SPT | N = 0<br>(1, 0, 0, 0, 0, 0) | | | | | | | |
| 1.00 | D2 | | | 35.11 | | 1.60 | | | |
| 1.00-1.50 | B4 | | | | | | Very soft green organic peaty SILT. | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | CPT | N = 9<br>(1, 0, 1, 4, 2, 2) | | | | (0.90) | | | |
| 2.00-2.50 | B7 | | | 34.21 | | 2.50 | | | |
| 2.50 | D8 | | | | | | Grey silty COBBLES and BOULDERS. | | |
| 3.00 | CPT | N = 62<br>(2, 1, 3, 15, 16, 28) | | | | (1.10) | 3.00m: very dense. | | |
| 3.00-3.50 | B10 | | | 33.11 | | 3.60 | | | |
| 3.50 | D11 | | | 33.01 | | 3.70 | Obstruction. | | |
| | | | | | | | BH terminated at 3.70m bgl. Obstruction. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 10-03-21 | 12.00 | 3.70 | 3.50 | 203 | | 3.6 | 3.7 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC05A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-02-21<br>26-02-21 | 39.19 | E 203,925.0 N 271,715.6 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 38.79 | | 0.40 | Soft brown PEAT. | | |
| | | | | | | (1.60) | Soft grey slightly gravelly sandy CLAY with cobbles. | | |
| 1.00 | CPT | N = 30<br>(3, 2, 4, 8, 10, 8) | | | | | 1.00m; very stiff. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | 37.19 | | 2.00 | | | |
| 2.00 | CPT | 50 for 0 mm<br>(25, -, 50) | | 37.09 | | 2.10 | Obstruction.<br>BH terminated at 2.10m bgl. Obstruction. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 26-02-21 | 16.00 | 2.10 | 2.00 | 203 | | 2 | 2.1 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC05B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-02-21<br>26-02-21 | 38.80 | E 203,947.7 N 271,724.3 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.50) | Very soft blackish brown fibrous PEAT and grey SILT. | | |
| 1.00 | SPT | N = 1 (1, 0, 0, 0, 0, 1) | | | | | | | |
| 1.00 | D2 | | | 37.30 | | 1.50 | | | |
| 1.00-1.50 | B4 | | | | | (0.70) | Soft grey silty sandy CLAY with bands of fine sand. | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | CPT | N = 36 (2, 3, 8, 7, 10, 11) | | 36.60 | | 2.20 | | | |
| 2.00-2.50 | B7 | | | | | (1.50) | Stiff grey slightly sandy gravelly silty CLAY with cobbles and boulders. | | |
| 2.50 | D8 | | | | | | | | |
| 3.00 | CPT | N = 54 (7, 7, 10, 11, 13, 20) | | | | | 3.00m; very stiff. | | |
| 3.00-3.50 | B10 | | | | | | | | |
| 3.50 | D11 | | | 35.10 | | 3.70 | | | |
| 3.70 | CPT | 50 for 35 mm (25, -, 50) | | 35.00 | | 3.80 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 3.80m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 26-02-21 | 12.00 | 3.80 | 3.50 | 203 | | 3.7 | 3.7 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC06A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 05-03-21<br>05-03-21 | 36.85 | E 204,080.5 N 271,196.7 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | SPT | N = 0 (0, 0, 0, 0, 0, 0) | | | | (2.10) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00-2.45 | U1006 | 3 blows | | 34.75 | | 2.10 | | | |
| | | | | | | | Very soft brownish green organic peaty SILT. | | |
| 2.50 | D7 | | | | | (1.10) | | | |
| 3.00 | SPT | N = 2 (2, 1, 1, 0, 1, 0) | | 33.65 | | 3.20 | | | |
| | | | | | | | Very soft grey SILT. | | |
| 3.00-3.50 | B9 | | | | | | | | |
| 3.50 | D10 | | | | | (1.20) | | | |
| 4.00 | CPT | N = 14 (2, 2, 3, 2, 4, 5) | | 32.45 | | 4.40 | | | |
| 4.00-4.50 | B12 | | | | | | Stiff grey slightly gravelly slightly sandy silty CLAY with cobbles. | | |
| 4.50 | D13 | | | | | | | | |
| 5.00 | U10014 | 35 blows | | | | (1.40) | | | |
| 5.50 | D15 | | | 31.05 | | 5.80 | | | |
| 5.80 | CPT | 50 for 40 mm (25, -, 50) | | 30.95 | | 5.90 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 5.90m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 05-03-21 | 15.00 | 5.90 | 5.50 | 203 | dry | 5.8 | 5.9 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC06B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-03-21<br>08-03-21 | 38.58 | E 204,095.8 N 271,204.2 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | SPT | N = 0 (1, 0, 0, 0, 0, 0) | | | | | | | |
| 1.00 | D2 | | | | | (3.00) | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | SPT | N = 0 (0, 0, 0, 0, 0, 0) | | | | | | | |
| 2.00-2.50 | B7 | | | | | | | | |
| 2.50 | D8 | | | 35.58 | | 3.00 | | | |
| 3.00 | SPT | N = 6 (1, 0, 2, 1, 1, 2) | | | | | Very soft grey green organic SILT. | | |
| 3.00-3.50 | B10 | | | | | (0.90) | | | |
| 3.50 | D11 | | | 34.68 | | 3.90 | | | |
| 4.00-4.45 | U10012 | 4 | | | | | Soft grey SILT. | | |
| 4.50 | D13 | | | 33.78 | | (0.90) 4.80 | | | |
| 5.00 | CPT | N = 36 (4, 7, 9, 8, 8, 11) | | | | | Very stiff grey slightly gravelly sandy silty CLAY with cobbles and boulders. | | |
| 5.00-5.50 | B15 | | | | | (1.90) | | | |
| 6.50 | CPT | 50 for 25 mm (18, 7, 50) | | 31.88 | | 6.70 | | | |
| 6.50 | D16 | | | | | | BH terminated at 6.70m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 08-03-21 | 17.00 | 6.70 | 6.00 | 203 | basal seepage | 6.5 | 6.7 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC07A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-03-21<br>10-03-21 | 38.39 | E 204,456.3 N 270,810.7 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 5.00m 4.50m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | SPT | N = 0<br>(0, 0, 0, 0, 0, 0) | | | | (2.60) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00-2.45 | U1006 | 3 blows | | | | | | | |
| | | | | 35.79 | | 2.60 | | | |
| 2.50 | D7 | | | | | | Medium dense dry grey slightly silty fine SAND. | | |
| 3.00 | SPT | N = 11<br>(2, 2, 1, 3, 4, 3) | | | | | | | |
| 3.00-3.50 | B9 | | | | | | | | |
| 3.50 | D10 | | | | | | | | |
| 4.00 | CPT | N = 19<br>(4, 5, 4, 5, 5, 5) | | | | | | | |
| 4.00-4.50 | B12 | | | | | (3.50) | | | |
| 4.50 | D13 | | | | | | | | |
| 5.00 | CPT | N = 24<br>(2, 1, 3, 4, 8, 9) | | | | | 5.00m: wet. | | |
| 5.00-5.50 | B15 | | | | | | | | |
| 5.50 | D16 | | | | | | | | |
| | | | | 32.29 | | 6.10 | | | |
| 6.00 | CPT | 50 for 20 mm<br>(25, -, 50) | | | | | BH terminated at 6.10m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 10-03-21 | 17.00 | 6.10 | 6.00 | 203 | 3.00 | 6 | 6.1 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC07B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-03-21<br>11-03-21 | 37.44 | E 204,471.8 N 270,753.5 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 1.70m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

## SAMPLES & TESTS

| Depth | Type No | Test Result |
|---|---|---|
| 0.00-1.00 | B1 | |
| 1.00 | CPT | N = 18 (2, 4, 4, 3, 5, 6) |
| 1.00 | D2 | |
| 1.00-1.50 | B4 | |
| 1.50 | D5 | |
| 2.00 | CPT | N = 10 (4, 5, 3, 2, 2, 3) |
| 2.00-2.50 | B7 | |
| 2.50 | D8 | |
| 3.00 | CPT | N = 19 (4, 3, 3, 6, 5, 5) |
| 3.00-3.50 | B10 | |
| 3.50 | D11 | |
| 4.00 | CPT | N = 21 (3, 5, 4, 4, 7, 6) |
| 4.00-4.50 | B13 | |
| 4.50 | D14 | |
| 5.00 | CPT | N = 15 (2, 3, 4, 3, 3, 5) |
| 5.00-5.50 | B16 | |
| 5.50 | D17 | |
| 6.50 | CPT | N = 28 (3, 5, 7, 4, 8, 9) |
| 6.50-7.00 | B19 | |
| 7.00 | D20 | |
| 7.30 | CPT | 50 for 40 mm (25, -, 50) |

Water: 1.70m

## STRATA

| Reduced Level | Legend | Depth (Thickness) | DESCRIPTION |
|---|---|---|---|
| 37.34 | | 0.10 | Soft dry black PEAT. |
| | | (2.40) | Medium dense dry brown SAND.<br>1.70m: becoming wet. |
| 34.94 | | 2.50 | |
| | | (3.00) | Medium dense brown slightly silty very sandy medium GRAVEL. |
| 31.94 | | 5.50 | |
| | | (1.80) | Medium dense silty sandy GRAVEL. |
| 30.14 | | 7.30 | |
| 30.04 | | 7.40 | Obstruction as possible rock.<br>BH terminated at 7.40m bgl. Obstruction as possible rock. |

Geology

Instrument/ Backfill

## Boring Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m |
|---|---|---|---|---|---|
| 11-03-21 | 14.00 | 7.40 | 7.10 | 203 | 1.00 |

## Chiselling

| From | To | Hours |
|---|---|---|
| 7.3 | 7.4 | 1 |

## Water Added

| From | To |
|---|---|
| | |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC08A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-03-21<br>12-03-21 | 38.22 | E 204,622.7 N 270,309.5 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 3.80m 2.00m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | D2 | | | | | (2.10) | | | |
| 1.00-1.45 | U1003 | 2 blows | | | | | | | |
| 1.50 | D4 | | | | | | | | |
| | | | 1 | 36.12 | | 2.10 | | | |
| 2.00 | SPT | N = 7 (2, 1, 2, 2, 1, 2) | | | | | Soft greyish green organic SILT. | | |
| 2.00-2.50 | B6 | | | | | (0.60) | | | |
| 2.50 | D7 | | | 35.52 | | 2.70 | | | |
| | | | | | | | Loose grey silty fine SAND. | | |
| 3.00 | SPT | N = 6 (2, 3, 2, 1, 1, 2) | | | | (1.10) | | | |
| 3.00-3.50 | B9 | | | | | | | | |
| 3.50 | D10 | | 1 | 34.42 | | 3.80 | | | |
| | | | | | | | Loose greyish brown silty sandy medium GRAVEL. | | |
| 4.00 | CPT | N = 7 (1, 0, 1, 2, 2, 2) | | | | | | | |
| 4.00-4.50 | B12 | | | | | | | | |
| 4.50 | D13 | | | | | (2.30) | | | |
| 5.00 | CPT | N = 8 (2, 2, 1, 0, 3, 4) | | | | | | | |
| 5.00-5.50 | B15 | | | | | | | | |
| 5.50 | D16 | | | | | | | | |
| | | | | 32.12 | | 6.10 | | | |
| 6.00 | CPT | 50 for 70 mm (18, 7, 50) | | 31.92 | | 6.30 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 6.30m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 12-03-21 | 14.00 | 6.30 | 6.00 | 203 | 1.90 | 6.1 | 6.3 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC08B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-03-21<br>15-03-21 | 38.23 | E 204,629.8 N 270,291.5 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| | | | | | | (1.80) | | | |
| 1.00 | SPT | N = 0 (1, 0, 0, 0, 0, 0) | | | | | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | 36.43 | | 1.80 | | | |
| | | | | | | | Very soft green organic SILT. | | |
| 2.00-2.45 | U1006 | 2 blows NR | | | | (0.60) | | | |
| | | | | 35.83 | | 2.40 | | | |
| 2.00-2.50 | B7 | | | | | | Grey SILT. 2.50m; stiff. | | |
| 2.50 | SPT | N = 17 (2, 3, 3, 3, 5, 6) | | | | | | | |
| 2.50 | D8 | | | | | | | | |
| 2.50-3.00 | B10 | | | | | | | | |
| 3.00 | D11 | | | | | (1.80) | | | |
| 3.50 | CPT | N = 15 (2, 2, 2, 4, 4, 5) | | | | | | | |
| 3.50-4.00 | B13 | | | | | | | | |
| 4.00 | D14 | | | 34.03 | | 4.20 | | | |
| | | | | | | | Medium dense grey slightly silty very sandy GRAVEL. | | |
| 4.50 | CPT | N = 22 (4, 3, 5, 4, 5, 8) | | | | | | | |
| 4.50-5.00 | B16 | | | | | | | | |
| 5.00 | D17 | | | | | (2.30) | | | |
| 5.50 | CPT | N = 26 (3, 2, 6, 3, 9, 8) | | | | | | | |
| 5.50-6.00 | B19 | | | | | | | | |
| 6.00 | D20 | | | | | | | | |
| | | | | 31.73 | | 6.50 | | | |
| 6.50 | CPT | 50 for 70 mm (25, -, 50) | | 31.63 | | 6.60 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 6.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 15-03-21 | 13.00 | 6.60 | 6.00 | 203 | | 6.5 | 6.6 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC09A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-03-21<br>17-03-21 | 39.06 | E 204,637.2 N 269,747.8 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft blackish brown fibrous PEAT. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 4 blows | | | | | | | |
| 1.50 | D4 | | | | | (3.50) | | | |
| 2.00 | SPT | N = 0<br>(0, 0, 0, 0, 0, 0) | | | | | | | |
| 2.00-2.50 | B6 | | | | | | | | |
| 2.50 | D7 | | | | | | | | |
| 3.00-3.50 | U1008 | | | | | | | | |
| | | | | 35.56 | | 3.50 | | | |
| 3.50 | D9 | | | | | | Very soft grey slightly sandy silty CLAY. | | |
| 4.00 | CPT | N = 3<br>(1, 0, 1, 0, 1, 1) | | | | | | | |
| 4.00-4.50 | B11 | | | | | | | | |
| 4.50 | D12 | | | | | | | | |
| 5.00-5.45 | U10013 | 3 blows | | | | (2.90) | | | |
| 5.50 | D14 | | | | | | | | |
| 6.00 | CPT | N = 10<br>(2, 1, 2, 2, 3, 3) | | | | | 6.00m: wet. | | |
| | | | | 32.66 | | 6.40 | | | |
| 6.00-6.50 | B16 | | | | | | Medium dense grey brown silty sandy COBBLES and BOULDERS. | | |
| 6.50 | D17 | | | | | (0.60) | | | |
| | | | | 32.06 | | 7.00 | | | |
| 7.00 | CPT | 50 for 0 mm<br>(25, -, 50) | | 31.96 | | 7.10 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 7.10m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 17-03-21 | 12.00 | 7.10 | 6.80 | 203 | 4.50 | 7 | 7.1 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC09B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-03-21<br>17-03-21 | 39.25 | E 204,646.8 N 269,730.2 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 2 blows | | | | (2.60) | | | |
| 1.50 | D4 | | | | | | | | |
| 2.00 | SPT | N = 0<br>(1, 0, 0, 0, 0, 0) | | | | | | | |
| 2.00-2.50 | B6 | | | 36.65 | | 2.60 | | | |
| 2.50 | D7 | | | | | | Firm grey very sandy SILT. | | |
| 3.00 | CPT | N = 14<br>(2, 4, 3, 3, 3, 5) | | | | | | | |
| 3.00-3.50 | B9 | | | | | (1.90) | | | |
| 3.50 | D10 | | | | | | | | |
| 4.00 | CPT | N = 11<br>(2, 2, 3, 2, 3, 3) | | | | | | | |
| 4.00-4.50 | B12 | | | 34.75 | | 4.50 | | | |
| 4.50 | D13 | | | | | | Medium dense wet grey very gravelly fine SAND. | | |
| 5.00 | CPT | N = 14<br>(3, 2, 2, 4, 3, 5) | | | | | | | |
| 5.00-5.50 | B15 | | | | | | | | |
| 5.50 | D16 | | | | | (2.70) | | | |
| 6.50 | CPT | N = 24<br>(2, 2, 4, 5, 7, 8) | | | | | | | |
| 6.50-7.00 | B18 | | | | | | | | |
| 7.00 | D19 | | | 32.05 | | 7.20 | | | |
| 7.20 | CPT | 50 for 10 mm<br>(25, -, 50) | | | | | BH terminated at 7.20m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 17-03-21 | 15.00 | 7.20 | 7.00 | 203 | 4.20 | 7.2 | 7.2 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC10B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-05-21<br>04-05-21 | 45.80 | E 205,702.1 N 268,549.7 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Firm greyish brown slightly sandy CLAY with cobbles. | | |
| 1.00 | SPT | N = 21 (4, 3, 5, 4, 6, 6) | | | | (2.20) | 1.00m; stiff. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | SPT | N = 33 (5, 6, 7, 6, 10, 10) | | 43.60 | | 2.20 | | | |
| 2.00-2.50 | B7 | | | | | (0.50) | Very stiff greyish blue sandy gravelly silty CLAY with cobbles and boulders. | | |
| 2.50 | D8 | | | 43.10 | | 2.70 | | | |
| 2.70 | CPT | 50 for 60 mm (25, -, 50) | | 43.00 | | 2.80 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 2.80m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 04-05-21 | 12.00 | 2.80 | 2.50 | 203 | | 2.7 | 2.8 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC11A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 43.78 | E 206,073.2 N 268,276.3 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: dry<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 43.38 | | 0.40 | Soft black PEAT. | | |
| | | | | | | (0.70) | Dense grey brown clayey COBBLES and BOULDERS. | | |
| 1.00 | CPT | 50 for 20 mm (25, -, 50) | | 42.68 | | 1.10 | 1.00m; very dense. | | |
| 1.00 | D2 | | | | | | BH terminated at 1.10m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 29-03-21 | 11.00 | 1.10 | 0.80 | 203 | | 0.8<br>1.1 | 1.0<br>1.1 | 1<br>1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used | Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC11B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-03-21<br>26-03-21 | 43.18 | E 206,113.1 N 268,271.3 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 0.30m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | 1 | 42.78 | | 0.40 | Reeds over soft wet black PEAT with cobbles. | | |
| | | | | | | (1.30) | Grey silty sandy gravelly CLAY with cobbles.<br>1.00m; stiff. | | |
| 1.00 | CPT | N = 29<br>(3, 2, 8, 5, 7, 9) | | | | | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | 41.48 | | 1.70 | | | |
| 1.50 | D3 | | | 41.38 | | 1.80 | Obstruction as possible rock. | | |
| 1.70 | | 50 for 0 mm<br>(25, -, 50) | | | | | BH terminated at 1.80m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 26-03-21 | 12.00 | 1.80 | 1.50 | 203 | 0.50 | 1.7 | 1.8 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC12A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 40.66 | E 205,693.2 N 267,760.3 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: dry<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft blackish brown fibrous PEAT. | | |
| 1.00 | D2 | | | | | (2.30) | | | |
| 1.00-1.45 | U1003 | 3 blows | | | | | | | |
| 1.50 | D4 | | | | | | | | |
| 2.00 | SPT | N = 12 (2, 3, 3, 2, 4, 3) | | 38.36 | | 2.30 | | | |
| 2.00-2.50 | B6 | | | | | | Firm greyish green organic SILT. | | |
| 2.50 | D7 | | | 37.96 | | 2.70 | | | |
| | | | | | | | Firm grey CLAY. | | |
| 3.00-3.45 | U1008 | 6 blows | | | | (0.70) | | | |
| | | | | 37.26 | | 3.40 | | | |
| | | | | | | | Soft grey SILT with cobbles. | | |
| 3.50 | D9 | | | 36.86 | | 3.80 | | | |
| 3.80 | CPT | 50 for 20 mm (25, -, 50) | | 36.76 | | 3.90 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 3.90m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 29-03-21 | 17.00 | 3.90 | 3.80 | 203 | basal seepage | 3.8 | 3.9 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC12B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 40.95 | E 205,695.7 N 267,740.4 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: dry; 2nd: ; 3rd: ; Rose to (@ 20 min.): ; Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft blackish brown fibrous PEAT. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 2 blows | | | | (2.40) | | | |
| 1.50 | D4 | | | | | | | | |
| 2.00 | SPT | N = 19<br>(3, 2, 3, 4, 5, 7) | | 38.55 | | 2.40 | | | |
| 2.00-2.50 | B6 | | | | | | Firm grey silty CLAY. | | |
| 2.50 | D7 | | | | | (0.90) | | | |
| 3.00-3.30 | U1008 | 12 blows | | 37.65 | | 3.30 | | | |
| 3.30 | CPT | 50 for 0 mm<br>(25, -, 50) | | | | | BH terminated at 3.30m bgl. Obstruction as possible rock. | | |
| 3.30 | D9 | | | | | | | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 29-03-21 | 14.00 | 3.30 | 3.30 | 203 | | 3.3 | 3.3 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC12C** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-05-21<br>04-05-21 | 40.75 | E 205,689.2 N 267,729.7 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brownish black fibrous PEAT. | | |
| 1.00 | SPT | N = 0<br>(0, 0, 0, 0, 0, 0) | | | | (2.00) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | 38.75 | | 2.00 | | | |
| 2.00-3.00 | P6 | | | | | (1.10) | Firm grey silty CLAY. | | |
| 3.00 | D7 | | | 37.65 | | 3.10 | | | |
| 3.10 | CPT | 50 for 75 mm<br>(25, -, 50) | | 37.55 | | 3.20 | Obstruction as possible rock.<br>BH terminated at 3.20m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 04-05-21 | 16.00 | 3.20 | 2.80 | 203 | basal seepage | 3.1 | 3.2 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC13A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 40.00 | E 205,962.9 N 266,512.6 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 2 blows | | | | (2.70) | | | |
| 1.50 | D4 | | | | | | | | |
| 2.00 | SPT | N = 1<br>(1, 0, 0, 0, 1, 0) | | | | | | | |
| 2.00-2.50 | B6 | | | | | | | | |
| 2.50 | D7 | | | 37.30 | | 2.70 | | | |
| | | | | | | | Medium dense grey very silty GRAVEL and COBBLES. | | |
| 3.00 | CPT | 74 for 295 mm<br>(1, 0, 2, 4, 8, 60) | | | | (0.70) | | | |
| | | | | 36.60 | | 3.40 | | | |
| 3.00-3.50 | B9 | | | 36.40 | | 3.60 | Obstruction as possible rock. | | |
| 3.50 | D10 | | | | | | BH terminated at 3.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 30-03-21 | 14.00 | 3.60 | 3.50 | 203 | | 3.45 | 3.6 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC13B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 39.90 | E 205,966.4 N 266,495.3 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 3 blows | | | | (2.50) | | | |
| 1.50 | D4 | | | | | | | | |
| 2.00 | SPT | N = 5<br>(1, 1, 2, 3, 0, 0) | | | | | | | |
| 2.00-2.50 | B6 | | | 37.40 | | 2.50 | | | |
| 2.50 | D7 | | | | | | Soft grey SILT with cobbles and boulders. | | |
| 3.00-3.30 | U1008 | 6 blows<br>NR | | 36.60 | | (0.80)<br>3.30 | | | |
| 3.00-3.30 | B9 | | | 36.50 | | 3.40 | Obstruction as possible rock. | | |
| 3.30 | GPT | 50 for 40 mm<br>(25, -, 50) | | | | | BH terminated at 3.40m bgl. Obstruction as possible rock. | | |
| 3.30 | D10 | | | | | | | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 30-03-21 | 17.00 | 3.40 | 3.30 | 203 | | 3.3 | 3.4 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC14A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-04-21<br>09-04-21 | 43.89 | E 206,401.1 N 266,174.4 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 3.00m 1.70m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown PEAT. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 2 blows | | | | (2.60) | | | |
| 1.50 | D4 | | 1 | | | | | | |
| 2.00 | SPT | N = 0<br>(0, 0, 0, 0, 0, 0) | | | | | | | |
| 2.00-2.50 | B6 | | | 41.29 | | 2.60 | | | |
| 2.50 | D7 | | 1 | | | | Stiff grey silty sandy gravelly CLAY with cobbles. | | |
| 3.00 | CPT | N = 22<br>(2, 3, 4, 7, 8, 3) | | | | | | | |
| 3.00-3.50 | B9 | | | | | | | | |
| 3.50 | D10 | | | | | (2.50) | | | |
| 4.00 | CPT | N = 19<br>(5, 7, 6, 3, 2, 8) | | | | | | | |
| 4.00-4.50 | B12 | | | | | | | | |
| 4.50 | D13 | | | | | | | | |
| 5.00 | CPT | 50 for 70 mm<br>(25, -, 50) | | 38.79 | | 5.10 | | | |
| | | | | 38.69 | | 5.20 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 5.20m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 09-04-21 | 13.00 | 5.20 | 5.00 | 203 | 1.10 | 5.1 | 5.2 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC14B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-04-21<br>09-04-21 | 43.92 | E 206,378.5 N 266,169.8 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 3.60m 1.20m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Soft brown fibrous PEAT. | | |
| 1.00 | D2 | | 1 | | | | | | |
| 1.00-1.45 | U1003 | 3 blows | | | | (2.50) | | | |
| 1.50 | D4 | | | | | | | | |
| 2.00 | SPT | N = 9<br>(2, 2, 1, 2, 3, 3) | | | | | | | |
| 2.00-2.50 | B6 | | | 41.42 | | 2.50 | | | |
| 2.50 | D7 | | | | | | Firm grey silty sandy gravelly CLAY with cobbles and boulders. | | |
| 3.00 | SPT | N = 18<br>(3, 4, 2, 5, 7, 4) | | | | | 3.00m; stiff. | | |
| 3.00-3.50 | B9 | | 1 | | | | | | |
| 3.50 | D10 | | | | | (2.10) | | | |
| 4.00 | CPT | N = 37<br>(2, 3, 8, 8, 10, 11) | | | | | 4.00m; very stiff. | | |
| 4.00-4.50 | B12 | | | 39.32 | | 4.60 | | | |
| 4.50 | D13 | | | 39.22 | | 4.70 | Obstruction as possible rock. | | |
| 4.60 | CPT | 50 for 20 mm<br>(25, -, 50) | | | | | BH terminated at 4.70m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 09-04-21 | 17.00 | 4.70 | 4.50 | 203 | 1.50 | 4.6 | 4.7 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC15A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-04-21<br>15-04-21 | 43.77 | E 207,014.7 N 266,283.7 |

| Engineer | GROUNDWATER STRIKES | Water strikes: | Rose to (@ 20 min.): | Sealed at: | Sheet |
|---|---|---|---|---|---|
| Bord na Mona | | 1st: 2.80m<br>2nd:<br>3rd: | 2.50m | | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.50) | Soft blackish brown fibrous PEAT. | | |
| 1.00 | | N = 22<br>(2, 1, 1, 2, 5, 14) | | | | | | | |
| 1.00 | D2 | | | 42.27 | | 1.50 | | | |
| 1.00-1.45 | U1003 | 3 blows | | | | | Grey slightly gravelly silty sandy CLAY with cobbles. | | |
| 1.50 | D4 | | | | | | | | |
| 2.00-2.50 | SPT B6 | | | | | (1.10) | 2.00m; stiff. | | |
| | | | 1 | 41.17 | | 2.60 | | | |
| 2.50 | D7 | | 1 | 40.97 | | 2.80 | Obstruction as possible rock. | | |
| 2.80 | CPT | 50 for 10 mm<br>(25, -, 50) | | | | | BH terminated at 2.80m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 15-04-21 | 17.00 | 2.80 | 2.50 | 203 | 2.50 | 2.6 | 2.8 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used | Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC15B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 14-04-21<br>14-04-21 | 43.81 | E 207,019.6 N 266,264.3 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.40) | Very soft blackish brown fibrous PEAT. | | |
| 1.00 | SPT | N = 6 (1, 0, 0, 1, 3, 2) | | 42.41 | | 1.40 | | | |
| 1.00<br>1.00-1.50<br>1.50 | D2<br>B4<br>D5 | | | | | (0.90) | Soft grey silty sandy CLAY. | | |
| 2.00-2.45 | U1006 | 8 blows | | 41.51 | | 2.30 | | | |
| 2.50 | D7 | | | 40.81 | | (0.70)<br>3.00 | Soft grey silty sandy gravelly CLAY. | | |
| 3.00 | CPT | 50 for 61 mm (25, -, 50) | | 40.71 | | 3.10 | Obstruction as possible rock.<br>BH terminated at 3.10m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 14-04-21 | 11.00 | 3.10 | 3.00 | 203 | basal seepage | 3 | 3.1 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC15C** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-05-21<br>11-05-21 | 44.17 | E 207,017.3 N 266,301.5 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 2.20m 2.00m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.40) | Soft blackish brown fibrous PEAT. | | |
| 1.00 | SPT | N = 3<br>(1, 0, 0, 0, 2, 1) | | 42.77 | | 1.40 | | | |
| 1.00<br>1.00-1.50<br>1.50 | D2<br>B4<br>D5 | | 1 | 42.17 | | (0.60)<br>2.00 | Very soft grey SILT. | | |
| 2.00 | CPT | 69 for 150 mm<br>(2, 4, 18, 51) | 1 | 41.87 | | 2.30 | Very dense grey silty gravelly SAND with cobbles and boulders. | | |
| 2.00-2.40<br>2.40 | B7<br>D8 | | | 41.77 | | 2.40 | Obstruction as possible rock.<br>BH terminated at 3.40m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 11-05-21 | 11.00 | 2.40 | 2.40 | 203 | 2.00 | 2.3 | 2.4 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC15D** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-05-21<br>11-05-21 | 43.83 | E 206,992.8 N 266,300.8 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 43.43 | | 0.40 | Very soft blackish brown PEAT. | | |
| | | | | 42.83 | | (0.60)<br>1.00 | Soft grey silty CLAY with cobbles. | | |
| 1.00 | CPT | 50 for 20 mm (25, -, 50) | | 42.63 | | 1.20 | Obstruction as possible rock. | | |
| 1.00 | D2 | | | | | | BH terminated at 1.20m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 11-05-21 | 14.00 | 1.20 | 1.00 | 203 | | 1 | 1.2 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC16A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-04-21<br>15-04-21 | 43.99 | E 206,822.7 N 266,685.8 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 3.00m 0.30m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | 1 | | | | Very soft blackish brown fibrous PEAT. | | |
| | | | | | | (1.80) | | | |
| 1.00 | SPT | N = 4<br>(1, 0, 0, 0, 0, 4) | | | | | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | 42.19 | | 1.80 | | | |
| | | | | | | | Very soft greenish greyish brown silty PEAT. | | |
| 2.00 | SPT | N = 7<br>(1, 0, 1, 1, 2, 3) | | | | (0.60) | | | |
| | | | | 41.59 | | 2.40 | | | |
| 2.00-2.50 | B7 | | | | | | Firm grey sandy silty CLAY with cobbles. | | |
| 2.50 | D8 | | | | | (0.60) | | | |
| | | | 1 | 40.99 | | 3.00 | | | |
| 3.00 | CPT | 50 for 70 mm<br>(25, -, 50) | | 40.79 | | 3.20 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 3.20m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 15-04-21 | 11.00 | 3.20 | 3.00 | 203 | 0.30 | 3 | 3.2 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC16B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-04-21<br>15-04-21 | 44.26 | E 206,838.3 N 266,669.2 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: 3.50m Rose to (@ 20 min.): 0.90m Sealed at: 2nd: 3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft blackish brown fibrous PEAT. | | |
| 1.00 | SPT | N = 0<br>(0, 0, 0, 0, 0, 0) | | | | (2.60) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | SPT | N = 0<br>(1, 0, 0, 0, 0, 0) | | | | | | | |
| 2.00-2.50 | B7 | | | 41.66 | | 2.60 | | | |
| 2.50 | D8 | | | | | | Very soft grey silty very sandy CLAY with cobbles. | | |
| 3.00 | CPT | N = 16<br>(1, 2, 2, 3, 7, 4) | | | | (1.00) | 3.00m; stiff. | | |
| 3.00-3.50 | B10 | | | 40.66 | | 3.60 | | | |
| 3.50 | D11 | | | | | | Medium densse grey clayey GRAVEL with cobbles. | | |
| 3.60 | B12 | | | 40.26 | | 4.00 | | | |
| 3.60 | D13 | | | | | | | | |
| 4.00 | CPT | 50 for 0 mm<br>(25, -, 50) | | | | | BH terminated at 4.00m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 15-04-21 | 15.00 | 4.00 | 4.00 | 203 | 0.70 | 4 | 4 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC17A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-04-21<br>07-04-21 | 41.60 | E 206,106.2 N 265,601.4 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | **Water strikes:** **Rose to (@ 20 min.):** **Sealed at:**<br>**1st:** **3.40m** **3.00m**<br>**2nd:**<br>**3rd:** | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | SPT | N = 0<br>(0, 0, 0, 0, 0, 0) | | | | (2.60) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | SPT | N = 6<br>(1, 0, 1, 2, 1, 2) | | | | | 2.00m; soft. | | |
| 2.00-2.50 | B7 | | | 39.00 | | 2.60 | | | |
| 2.50 | D8 | | | | | | Firm grey silty sandy gravelly CLAY with boulders. | | |
| 3.00 | CPT | N = 25<br>(4, 3, 5, 2, 8, 10) | 1 | | | (1.00) | 3.00m: stiff. | | |
| 3.00-3.50 | B10 | | | 38.00 | | 3.60 | | | |
| 3.50 | D11 | | | 37.80 | | 3.80 | Obstruction as possible rock. | | |
| 3.60 | CPT | 50 for 115 mm<br>(25, -, 27, 23) | | | | | BH terminated at 3.80m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 07-04-21 | 11.00 | 3.80 | 3.60 | 203 | 3.30 | 3.6 | 3.8 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC17B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 31-03-21<br>31-03-21 | 41.89 | E 206,112.8 N 265,582.8 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 3.70m 3.50m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | SPT | N = 0<br>(1, 0, 0, 0, 0, 0) | | | | (2.40) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | CPT | N = 7<br>(1, 0, 0, 1, 2, 4) | | 39.49 | | 2.40 | | | |
| 2.00-2.50 | B7 | | | | | | Soft grey silty sandy gravelly CLAY with cobbles. | | |
| 2.50 | D8 | | | | | | | | |
| 3.00 | CPT | N = 19<br>(2, 3, 5, 7, 3, 4) | | | | (1.30) | 3.00m; stiff. | | |
| 3.00-3.50 | B10 | | 1 | | | | | | |
| 3.50 | D11 | | 1 | 38.19 | | 3.70 | | | |
| 3.70 | CPT | 50 for 60 mm<br>(25, -, 50) | | 37.89 | | 4.00 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 4.00m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 31-03-21 | 16.00 | 4.00 | 3.80 | 203 | 3.50 | 3.8 | 4.0 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC18A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 20-04-21<br>20-04-21 | 53.58 | E 207,971.6 N 264,548.6 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: dry; 2nd: ; 3rd: ; Rose to (@ 20 min.): ; Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 53.48 | | 0.10 | Very soft blackish brown PEAT. | | |
| | | | | | | | Firm greyish greenish brown sandy silty gravelly CLAY with cobbles. | | |
| 1.00 | CPT | N = 18<br>(3, 2, 2, 4, 7, 5) | | | | | 1.00m; stiff. | | |
| 1.00 | D2 | | | | | (2.60) | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | CPT | N = 29<br>(5, 4, 3, 7, 10, 9) | | | | | | | |
| 2.00-2.50 | B7 | | | | | | | | |
| 2.50 | D8 | | | 50.88 | | 2.70 | | | |
| 2.70 | CPT | 50 for 45 mm<br>(25, -, 50) | | 50.78 | | 2.80 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 2.80m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 20-04-21 | 16.00 | 2.80 | 2.70 | 203 | | 2.7 | 2.8 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC18B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 20-04-21<br>20-04-21 | 53.46 | E 207,983.6 N 264,539.0 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 2.80m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 53.16 | | 0.30 | Soft brown PEAT. | | |
| | | | | | | | Firm greyish greenish brown silty gravelly CLAY with cobbles. | | |
| 1.00 | CPT | N = 16<br>(1, 2, 2, 4, 3, 7) | | | | | 1.00m; stiff. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | (2.70) | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | CPT | N = 23<br>(2, 7, 6, 4, 4, 9) | | | | | | | |
| 2.00-2.50 | B7 | | | | | | | | |
| 2.50 | D8 | | ▼ | | | | | | |
| | | | | 50.46 | | 3.00 | | | |
| 3.00 | CPT | 50 for 40 mm<br>(25, -, 50) | | 50.36 | | 3.10 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 3.10m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 20-04-21 | 12.00 | 3.10 | 3.00 | 203 | | 3 | 3.1 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC19A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 21-04-21<br>21-04-21 | 49.99 | E 208,351.7 N 264,313.9 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: dry; 2nd: ; 3rd: ; Rose to (@ 20 min.): ; Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.20) | Soft blackish brown PEAT. | | |
| 1.00 | SPT | N = 13 (1, 2, 2, 3, 5, 3) | | 48.79 | | 1.20 | | | |
| 1.00<br>1.00-1.50<br>1.50 | D2<br>B4<br>D5 | | | | | (2.40) | Firm grey slightly gravelly silty sandy CLAY with cobbles and boulders. Cobbles are angular. | | |
| 2.00 | CPT | N = 22 (3, 2, 4, 3, 7, 8) | | | | | 2.00m; stiff. | | |
| 2.00-2.50<br>2.50 | B7<br>D8 | | | | | | | | |
| 3.00 | CPT | N = 29 (4, 4, 3, 6, 10, 10) | | | | | | | |
| 3.00-3.50<br>3.50 | B10<br>D11 | | | 46.39 | | 3.60 | | | |
| 3.60 | CPT | 50 for 10 mm (25, -, 50) | | 46.29 | | 3.70 | Obstruction as possible rock.<br>BH terminated at 3.70m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 21-04-21 | 12.00 | 3.70 | 3.50 | 203 | basal seepage | 3.6 | 3.7 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC19B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 21-04-21<br>21-04-21 | 50.57 | E 208,369.2 N 264,298.4 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brownish black fibrous PEAT. | | |
| | | | | | | (1.80) | | | |
| 1.00 | CPT | N = 5 (1, 0, 1, 0, 2, 2) | | | | | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | 48.77 | | 1.80 | | | |
| | | | | | | | Medium dense greyish green slightly gravelly silty SAND with cobbles. | | |
| 2.00 | CPT | N = 18 (1, 2, 4, 4, 3, 7) | | | | | | | |
| 2.00-2.50 | B7 | | | | | | | | |
| 2.50 | D8 | | | | | (1.50) | | | |
| 3.00 | CPT | 57 for 150 mm (10, 8, 20, 37) | | 47.27 | | 3.30 | | | |
| 3.00-3.30 | B10 | | | | | | BH terminated at 3.30m bgl. Obstruction as possible rock. | | |
| 3.30 | D11 | | | | | | | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 21-04-21 | 16.00 | 3.30 | 3.00 | 203 | | 3.3 | 3.4 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC20A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-04-21<br>26-04-21 | 48.86 | E 209,264.9 N 264,201.6 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.20) | Very soft dry blackish brown PEAT. | | |
| 1.00 | CPT | N = 10 (1, 0, 2, 1, 2, 5) | | 47.66 | | 1.20 | | | |
| 1.00<br>1.00-1.50<br>1.50 | D2<br>B4<br>D5 | | | 47.06 | | (0.60)<br>1.80 | Soft greenish yellow SILT/MARL with cobbles. | | |
| 2.00 | CPT | 50 for 35 mm (15, 10, 50) | | 46.66 | | 2.20 | Firm grey gravelly SILT with boulders. | | |
| | | | | | | | BH terminated at 2.20m bgl. Obstruction. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 26-04-21 | 14.00 | 2.20 | 2.20 | 203 | basal seepage | 2 | 2.2 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC20B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-04-21<br>26-04-21 | 48.76 | E 209,242.0 N 264,195.1 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 3.00m 2.60m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.60) | Very soft blackish brown PEAT. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 2 blows | | 47.16 | | 1.60 | | | |
| 1.50 | D4 | | | | | (1.10) | Very soft yellowish white MARL and green organic SILT. | | |
| 2.00 | SPT | N = 1<br>(1, 0, 0, 0, 1, 0) | | | | | | | |
| 2.00-2.50 | B6 | | 1 | | | | | | |
| 2.50 | D7 | | | 46.06 | | 2.70 | | | |
| 3.00 | CPT | N = 35<br>(2, 1, 1, 7, 8, 19) | 1 | | | (0.90) | Grey very silty GRAVEL with boulders.<br>3.00m: dense. | | |
| 3.00-3.50 | B9 | | | 45.16 | | 3.60 | | | |
| 3.50 | D10 | | | 45.06 | | 3.70 | Obstruction as possible rock. | | |
| 3.60 | CPT | 50 for 10 mm<br>(25, -, 50) | | | | | BH terminated at 3.70m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 26-04-21 | 16.00 | 3.70 | 3.60 | 203 | 1.70 | 3.6 | 3.7 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC21A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-04-21<br>22-04-21 | 51.33 | E 209,458.3 N 263,637.6 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 5.00m 2.50m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | SPT | N = 0<br>(0, 0, 0, 0, 0, 0) | | | | (2.50) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | | N = 15<br>(2, 1, 3, 6, 4, 2) | | | | | | | |
| 2.00-2.45 | U1006 | 3 blows | ▽ | 48.83 | | 2.50 | | | |
| 2.50 | D7 | | | | | | Firm grey slightly gravelly sandy silty CLAY with cobbles. | | |
| 3.00 | SPT | N = 24<br>(2, 3, 5, 5, 6, 8) | | | | | | | |
| 3.00-3.50 | B9 | | | | | | | | |
| 3.50 | D10 | | | | | (2.50) | | | |
| 4.00-4.50 | B12 | | | | | | 4.00m; stiff. | | |
| 4.50 | D13 | | | | | | | | |
| | | | ▼ | 46.33 | | 5.00 | | | |
| 5.00 | CPT | 50 for 22 mm<br>(25, -, 50) | | 46.23 | | 5.10 | Obstruction as possible rock.<br>BH terminated at 5.10m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 22-04-21 | 17.30 | 5.10 | 5.00 | 203 | 2.20 | 5 | 5.1 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC21B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-04-21<br>22-04-21 | 51.31 | E 209,441.6 N 263,620.9 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: dry<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft blackish brown fibrous PEAT. | | |
| 1.00 | D2 | | | | | (2.20) | | | |
| 1.00-1.45 | U1003 | 2 blows | | | | | | | |
| 1.50 | D4 | | | | | | | | |
| 2.00 | SPT | N = 3<br>(1, 0, 0, 0, 1, 2) | | 49.11 | | 2.20 | | | |
| 2.00-2.50 | B6 | | | | | | Soft grey slightly gravelly sandy silty CLAY with cobbles. | | |
| 2.50 | D7 | | | | | | | | |
| 3.00 | SPT | N = 24<br>(2, 1, 4, 3, 8, 9) | | | | (2.00) | 3.00m; stiff. | | |
| 3.00-3.50 | B9 | | | | | | | | |
| 3.50 | D10 | | | | | | | | |
| 4.00 | CPT | 50 for 75 mm<br>(18, 7, 50) | | 47.11 | | 4.20 | | | |
| | | | | 47.01 | | 4.30 | Obstruction as possible rock. | | |
| 4.00-4.30 | B12 | | | | | | BH terminated at 4.30m bgl. Obstruction as possible rock. | | |
| 4.30 | D13 | | | | | | | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 22-04-21 | 14.00 | 4.30 | 4.00 | 203 | basal seepage | 4.2 | 4.3 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC22A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-04-21<br>26-04-21 | 58.69 | E 209,907.6 N 264,079.4 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: dry<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | SPT | N = 0<br>(0, 0, 0, 0, 0, 0) | | | | | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | (3.50) | | | |
| 2.00-2.45 | U1006 | 2 blows | | | | | | | |
| 2.50 | D7 | | | | | | | | |
| 3.00 | CPT | N = 3<br>(1, 0, 1, 0, 0, 2) | | | | | | | |
| 3.00-3.50 | B9 | | | 55.19 | | 3.50 | | | |
| 3.50 | D10 | | | | | | Medium dense greyish green gravelly silty SAND with cobbles. | | |
| 4.00 | CPT | 70 for 285 mm<br>(2, 3, 2, 5, 8, 55) | | | | (0.90) | 4.00m; very dense. | | |
| 4.00-4.50 | B12 | | | 54.29 | | 4.40 | | | |
| 4.50 | D13 | | | 54.09 | | 4.60 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 4.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 26-04-21 | 12.00 | 4.60 | 4.50 | 203 | | 4.45 | 4.6 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC22B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-04-21<br>23-04-21 | 58.71 | E 209,897.1 N 264,065.1 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: dry; 2nd: ; 3rd: ; Rose to (@ 20 min.): ; Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 2 blows | | | | (2.60) | | | |
| 1.50 | D4 | | | | | | | | |
| 2.00 | SPT | N = 3 (1, 0, 0, 0, 1, 2) | | | | | | | |
| 2.00-2.50 | B6 | | | 56.11 | | 2.60 | | | |
| 2.50 | D7 | | | | | | Greyish green silty gravelly coarse SAND. | | |
| 3.00 | CPT | N = 9 (1, 2, 3, 2, 2, 2) | | | | | 3.00m: loose. | | |
| 3.00-3.50 | B9 | | | | | (1.60) | | | |
| 3.50 | D10 | | | | | | | | |
| 4.00 | CPT | N = 31 (4, 3, 8, 7, 6, 10) | | 54.51 | | 4.20 | 4.00m: dense. | | |
| 4.00-4.50 | B12 | | | | | (0.50) | Stiff greyish green silty slightly sandy gravelly CLAY with cobbles and boulders. | | |
| 4.50 | D13 | | | 54.01 | | 4.70 | | | |
| 4.70 | CPT | 50 for 70 mm (25, -, 50) | | 53.81 | | 4.90 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 4.90m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 23-04-21 | 14.00 | 4.90 | 4.50 | 203 | basal seepage | 4.7 | 4.9 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC23A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 27-04-21<br>27-04-21 | 53.18 | E 209,711.8 N 264,648.7 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 52.88 | | 0.30 | Soft blackish brown PEAT. | | |
| 1.00<br>1.00-1.45<br>1.50 | D2<br>U1003<br>D4 | 10 blows | | 51.18 | | (1.70)<br>2.00 | Greyish brown silty SAND with cobbles.<br>1.00m: dense. | | |
| 2.00<br>2.00-2.50<br>2.50 | CPT<br>B6<br>D7 | N = 47<br>(4, 5, 7, 6, 16, 18) | | 50.28 | | (0.90)<br>2.90 | Stiff greyish green silty slightly sandy gravelly CLAY with cobbles and boulders. | | |
| 2.90 | CPT | 50 for 50 mm<br>(25, -, 50) | | 50.08 | | 3.10 | Obstruction as possible rock.<br>BH terminated at 3.10m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 27-04-21 | 16.00 | 3.10 | 2.80 | 203 | dry | 1.6<br>2.9 | 1.7<br>3.1 | 1<br>1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC23B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 27-04-21<br>27-04-21 | 53.44 | E 209,705.4 N 264,632.0 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: dry 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | Sheet 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Firm brownish grey sandy CLAY with cobbles. | | |
| | | | | | | (1.80) | | | |
| 1.00 | CPT | N = 33 (2, 3, 5, 5, 6, 17) | | | | | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | 51.64 | | 1.80 | | | |
| 2.00 | CPT | 63 for 265 mm (4, 8, 9, 7, 7, 40) | | | | (0.70) | Stiff grey silty slightly sandy gravelly CLAY with cobbles and boulders. | | |
| 2.00-2.50 | B7 | | | 50.94 | | 2.50 | | | |
| 2.50 | D8 | | | 50.84 | | 2.60 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 2.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 27-04-21 | 12.00 | 2.60 | 2.50 | 203 | | 1.5<br>2.5 | 1.7<br>2.6 | 1<br>1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC24A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 28-04-21<br>28-04-21 | 52.70 | E 209,900.5 N 265,229.2 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT with wood. | | |
| | | | | | | (1.60) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 3 blows | | | | | | | |
| | | | | 51.10 | | 1.60 | | | |
| 1.50 | D4 | | | | | | Stiff greyish green slightly gravelly sandy CLAY with cobbles and boulders. | | |
| 2.00 | CPT | N = 22 (8, 3, 5, 6, 6, 5) | | | | | | | |
| 2.00-2.50 | B6 | | | | | (1.80) | | | |
| 2.50 | D7 | | | | | | | | |
| 3.00 | CPT | N = 64 (3, 8, 7, 10, 11, 36) | | | | | | | |
| | | | | 49.30 | | 3.40 | | | |
| 3.00-3.50 | B9 | | | 49.10 | | 3.60 | Obstruction as possible rock. | | |
| 3.50 | D10 | | | | | | BH terminated at 3.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 28-04-21 | 16.00 | 3.60 | 3.50 | 203 | basal seepage | 1.8<br>3.45 | 2.0<br>3.6 | 1/2<br>1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC24B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 28-04-21<br>28-04-21 | 52.71 | E 209,889.6 N 265,209.6 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: dry<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT with wood. | | |
| 1.00 | SPT | N = 0<br>(1, 0, 0, 0, 0, 0) | | | | (2.50) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | SPT | N = 32<br>(1, 0, 7, 9, 10, 6) | | | | | | | |
| 2.00-2.50 | B7 | | | 50.21 | | 2.50 | | | |
| 2.50 | D8 | | | | | | Firm greyish green slightly gravelly sandy CLAY with cobbles. | | |
| 3.00 | CPT | N = 30<br>(3, 8, 6, 6, 8, 10) | | | | (1.60) | 3.00m: stiff. | | |
| 3.00-3.50 | B10 | | | | | | | | |
| 3.50 | D11 | | | | | | | | |
| | | | | 48.61 | | 4.10 | | | |
| 4.00 | CPT | 87 for 150 mm<br>(20, 5, 50, 37) | | 48.41 | | 4.30 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 4.30m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| | | | | | | 2.4<br>4.1 | 2.5<br>4.3 | 1/2<br>1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPA1** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 42.08 | E 205,750.3 N 268,799.7 |

| Engineer | GROUNDWATER STRIKES | | | | Sheet |
|---|---|---|---|---|---|
| Bord na Mona | | Water strikes: 1st: dry<br>2nd:<br>3rd: | Rose to (@ 20 min.): | Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.40) | Very soft blackish brown PEAT. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 3 blows | | 40.68 | | 1.40 | | | |
| 1.50 | D4 | | | | | | Soft grey silty sandy gravelly CLAY. | | |
| 2.00 | CPT | N = 18<br>(2, 3, 3, 5, 4, 6) | | | | (1.40) | 2.00m; stiff. | | |
| 2.00-2.50 | B6 | | | | | | | | |
| 2.50 | D7 | | | 39.28 | | 2.80 | | | |
| 2.80 | CPT | 50 for 0 mm<br>(25, -, 50) | | | | | BH terminated at 2.80m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 25-03-21 | 13.00 | 2.80 | 2.80 | 203 | basal seepage | 2.8 | 2.8 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPA2** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 42.00 | E 205,809.4 N 268,647.6 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: dry; 2nd: ; 3rd: ; Rose to (@ 20 min.): ; Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.20) | Reeds over soft blackish brown PEAT. | | |
| 1.00 | SPT | N = 7<br>(1, 0, 1, 1, 2, 3) | | 40.80 | | 1.20 | | | |
| 1.00 | D2 | | | | | | Soft grey slightly gravelly silty sandy CLAY with cobbles. | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | (1.30) | | | |
| 2.00 | CPT | N = 22<br>(2, 2, 2, 3, 7, 10) | | | | | 2.00m: stiff. | | |
| 2.00-2.50 | B7 | | | 39.50 | | 2.50 | | | |
| 2.50 | D8 | | | 39.40 | | 2.60 | Obstruction as possible rock. | | |
| 2.60 | CPT | 50 for 0 mm<br>(25, -, 50) | | | | | BH terminated at 2.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 25-03-21 | 11.00 | 2.60 | 2.50 | 203 | basal seepage | 2.6 | 2.6 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPA3** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-03-21<br>26-03-21 | 42.66 | E 205,899.2 N 268,539.6 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: dry 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 42.06 | | (0.60)<br>0.60 | Reeds over soft wet PEAT. | | |
| 1.00 | SPT | N = 20<br>(3, 2, 4, 6, 3, 7) | | 41.06 | | (1.00)<br>1.60 | Firm grey silty gravelly CLAY with cobbles and boulders.<br>1.00m; stiff. | | |
| 1.00<br>1.00-1.50<br>1.50 | D2<br>B4<br>CP1<br>D5 | | | 40.86 | | 1.80 | Obstruction as possible rock. | | |
| 1.60 | | 50 for 61 mm<br>(25, -, 50) | | | | | BH terminated at 1.80m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 26-03-21 | 15.00 | 1.80 | 1.80 | 203 | 0.70 | 1.6 | 1.8 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPB1** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-04-21<br>12-04-21 | 41.09 | E 206,149.8 N 266,427.8 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 40.69 | | 0.40 | Soft dry black PEAT with boulders. | | |
| | | | | | | (1.20) | Firm grey silty sandy CLAY with cobbles and boulders. | | |
| 1.00 | CPT | N = 31<br>(2, 7, 3, 8, 10, 10) | | | | | 1.00m; very stiff. | | |
| 1.00 | D2 | | | 39.49 | | 1.60 | | | |
| 1.00-1.50 | B4 | | | 39.39 | | 1.70 | Obstruction as possible rock. | | |
| 1.50 | CP1 D5 | | | | | | BH terminated at 1.70m bgl. Obstruction as possible rock. | | |
| 2.00 | | 50 for 0 mm<br>(25, -, 50) | | | | | | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 12-04-21 | 11.00 | 1.70 | 1.50 | 203 | basal seepage | 1.6 | 1.7 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPB2** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-04-21<br>12-04-21 | 44.83 | E 206,338.1 N 266,402.0 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 43.93 | | (0.90)<br>0.90 | Soft blackish brown PEAT. | | |
| 1.00<br>1.00<br>1.00-1.50<br>1.50<br>1.80 | CPT<br>D2<br>B4<br>D5<br>CPT | N = 23<br>(1, 0, 2, 8, 7, 6)<br><br><br>50 for 85 mm<br>(25, -, 29, 21) | | 43.03<br>42.73 | | (0.90)<br>1.80<br>2.10 | Stiff grey slightyl gravelly silty sandy CLAY with boulders.<br>Obstruction as possible rock.<br>BH terminated at 2.10m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 12-04-21 | 17.30 | 2.10 | 1.90 | 203 | | 1.9 | 2.1 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPB3** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-04-21<br>13-04-21 | 43.57 | E 206,292.4 N 266,287.8 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 43.27 | | 0.30 | Dry black PEAT with moss. | | |
| | | | | | | | Soft grey slightly gravelly silty sandy CLAY with cobbles. | | |
| 1.00 | CPT | N = 20<br>(2, 1, 5, 4, 7, 4) | | | | (1.60) | 1.00m; stiff. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | 41.67 | | 1.90 | | | |
| 1.90 | CPT | 50 for 10 mm<br>(25, -, 50) | | 41.57 | | 2.00 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 2.00m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 13-04-21 | 17.00 | 2.00 | 1.80 | 203 | basal seepage | 1.9 | 2.0 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPB4** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-04-21<br>12-04-21 | 48.16 | E 206,577.7 N 266,241.9 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Soft blackish brown fibrous PEAT. | | |
| | | | | | | (1.70) | | | |
| 1.00 | SPT | N = 5 (1, 0, 1, 1, 2, 1) | | | | | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | 46.46 | | 1.70 | | | |
| 1.50 | D5 | | | | | | Soft grey sandy silty gravelly CLAY with cobbles. | | |
| 2.00 | CPT | N = 8 (1, 4, 3, 2, 1, 2) | | | | | | | |
| 2.00-2.50 | B7 | | | | | | | | |
| 2.50 | D8 | | | | | (1.70) | | | |
| 3.00 | CPT | N = 72 (2, 1, 5, 6, 22, 39) | | | | | | | |
| | | | | 44.76 | | 3.40 | | | |
| 3.00-3.50 | B10 | | | 44.56 | | 3.60 | Obstruction as possible rock. | | |
| 3.50 | D11 | | | | | | BH terminated at 3.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 12-04-21 | 15.00 | 3.60 | 3.50 | 203 | basal seepage | 3.45 | 3.6 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPC1** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 41.88 | E 206,277.4 N 266,008.9 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 41.48 | | 0.40 | Dry black PEAT. | | |
| | | | | | | | Soft grey slightly gravelly silty sandy CLAY with cobbles. | | |
| 1.00 | CPT | N = 11 (12, 3, 2, 2, 4, 3) | | | | | 1.00m: firm. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | (2.60) | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | CPT | 9 for 295 mm (1, 0, 1, 4, 2, 2) | | | | | | | |
| 2.00-2.50 | B7 | | | | | | | | |
| 2.50 | D8 | | | | | | | | |
| | | | | 38.88 | | 3.00 | | | |
| 3.00 | CPT | 50 for 30 mm (25, -, 50) | | 38.78 | | 3.10 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 3.10m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 08-04-21 | 17.00 | 3.10 | 3.00 | 203 | basal seepage | 3 | 3.1 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPC2** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 43.33 | E 206,331.8 N 265,917.4 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | **Water strikes:** **Rose to (@ 20 min.):** **Sealed at:**<br>**1st:** **2.00m** **1.80m**<br>**2nd:**<br>**3rd:** | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Dry black PEAT. | | |
| | | | | | | (1.00) | | | |
| | | | | 42.33 | | 1.00 | | | |
| 1.00 | CPT | N = 4<br>(1, 1, 1, 2, 0, 1) | | | | | Soft grey silty sandy CLAY with cobbles. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | 1 | | | | | | |
| 1.50 | D5 | | 1 | | | (1.70) | | | |
| 2.00 | CPT | N = 3<br>(4, 3, 0, 0, 2, 1) | | | | | 2.00m; very soft. | | |
| 2.00-2.50 | B7 | | | | | | | | |
| 2.50 | D8 | | | 40.63 | | 2.70 | | | |
| 2.70 | CPT | 50 for 0 mm<br>(25, -, 50) | | 40.43 | | 2.90 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 2.90m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 08-04-21 | 14.00 | 2.90 | 2.90 | 203 | 1.80 | 2.7 | 2.9 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPD1** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-04-21<br>13-04-21 | 46.35 | E 206,815.2 N 266,394.8 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: dry 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 46.15 | | 0.20 | Dry black PEAT. | | |
| | | | | | | (1.60) | Soft to firm greyish brown silty sandy CLAY with cobbles. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 7 blows | | | | | | | |
| 1.50 | D4 | | | | | | | | |
| | | | | 44.55 | | 1.80 | | | |
| 1.80 | CPT | 50 for 0 mm (25, -, 50) | | 44.45 | | 1.90 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 1.90m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 13-04-21 | 14.00 | 1.90 | 1.80 | 203 | basal seepage | 1.8 | 1.9 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPD2** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-04-21<br>13-04-21 | 46.54 | E 206,847.5 N 266,277.1 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 45.94 | | (0.60)<br>0.60 | Dry black PEAT. | | |
| 1.00<br>1.00<br>1.00-1.50<br>1.50 | CPT<br>D2<br>B4<br>D5 | N = 9<br>(1, 2, 2, 1, 3, 3) | | 44.54 | | (1.40)<br>2.00 | Soft grey silty slightly sandy gravelly CLAY with cobbles.<br>1.00m; firm. | | |
| 2.00 | CPT | 50 for 31 mm<br>(25, -, 50) | | 44.34 | | 2.20 | Obstruction as possible rock.<br>BH terminated at 2.20m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 13-04-21 | 11.30 | 2.20 | 2.00 | 203 | basal seepage | 2.1 | 2.2 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPE1** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 14-04-21<br>14-04-21 | 47.46 | E 206,900.0 N 266,121.4 |

| Engineer | GROUNDWATER STRIKES | | | | Sheet |
|---|---|---|---|---|---|
| Bord na Mona | | Water strikes: | Rose to (@ 20 min.): | Sealed at: | 1 of 1 |
| | | 1st: dry | | | Rev. DRAFT |
| | | 2nd: | | | |
| | | 3rd: | | | |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 46.66 | | (0.80)<br>0.80 | Moss and PEAT. | | |
| 1.00<br>1.00<br>1.00-1.50<br>1.50 | SPT<br>D2<br>B4<br>D5 | N = 9<br>(2, 1, 2, 3, 2, 2) | | 45.46 | | (1.20)<br>2.00 | Firm greyish brown silty sandy CLAY with cobbles. | | |
| 2.00 | CPT | 70 for 150 mm<br>(2, 3, 27, 43) | | 45.16 | | 2.30 | Very dense greyish brown wet COBBLES and BOULDERS. | | |
| 2.00-2.30<br>2.30 | B7<br>D8 | | | | | | BH terminated at 2.30m bgl. Obstruction as boulders. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 14-04-21 | 17.00 | 2.30 | 2.00 | 203 | basal seepage | 2.3 | 2.3 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPE2** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 14-04-21<br>14-04-21 | 48.43 | E 206,966.5 N 265,968.6 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 48.33 | | 0.10 | Moss and PEAT. | | |
| | | | | | | | Soft grey silty sandy gravelly CLAY with cobbles. | | |
| 1.00 | SPT | N = 11 (1, 2, 1, 4, 3, 3) | | | | (2.50) | 1.00m; firm. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | CPT | N = 12 (2, 3, 2, 2, 3, 5) | | | | | | | |
| 2.00-2.30 | B7 | | | 45.83 | | 2.60 | | | |
| 2.50 | D8 | | | | | (0.50) | Firm grey CLAY with cobbles and boulders. | | |
| | | | | 45.33 | | 3.10 | | | |
| 3.00 | CPT | 50 for 45 mm (25, -, 50) | | 45.23 | | 3.20 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 3.20m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 14-04-21 | 14.00 | 3.20 | 3.00 | 203 | dry | 3.1 | 3.2 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCMMA** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-02-21<br>22-02-21 | 39.92 | E 203,771.4 N 269,437.6 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: dry<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | SPT | N = 0<br>(1, 0, 0, 0, 0, 0) | | | | | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00-2.45 | U1006 | 2 blows | | | | (4.40) | | | |
| 2.50 | D7 | | | | | | | | |
| 3.00 | SPT | N = 2<br>(2, 1, 1, 0, 1, 0) | | | | | | | |
| 3.00-3.50 | B9 | | | | | | | | |
| 3.50 | D10 | | | | | | | | |
| 4.00-4.45 | U10011 | 1 blows<br>NR | | 35.52 | | 4.40 | | | |
| 4.00-4.50 | B12 | | | | | | Very stiff grey slightly sandy gravelly SILT with cobbles. | | |
| 4.50 | CPT | N = 35<br>(3, 2, 7, 10, 11, 7) | | | | | | | |
| 4.50 | D13 | | | | | | | | |
| 4.50-5.00 | B15 | | | | | | | | |
| 5.00 | D16 | | | | | | | | |
| 5.50 | CPT | N = 34<br>(5, 6, 8, 8, 10, 8) | | | | (2.10) | | | |
| 5.50-6.00 | B18 | | | | | | | | |
| 6.00 | D19 | | | | | | | | |
| | | | | 33.42 | | 6.50 | | | |
| 6.50 | CPT | 50 for 45 mm<br>(25, -, 50) | | 33.32 | | 6.60 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 6.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 22-02-21 | 14.00 | 6.60 | 6.50 | 203 | basal seepage | 6.5 | 6.6 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCMMB** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 31-03-21<br>31-03-21 | 42.67 | E 205,759.5 N 266,148.2 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Soft blackish brown PEAT. | | |
| | | | | | | (0.70) | | | |
| | | | | 41.97 | | 0.70 | | | |
| | | | | | | | Soft grey silty sandy CLAY with cobbles. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 10 blows | | | | | | | |
| 1.50 | D4 | | | | | (2.00) | | | |
| 2.00 | SPT | N = 22<br>(2, 2, 3, 5, 4, 10) | | | | | 2.00m: stiff. | | |
| 2.00-2.50 | B6 | | | | | | | | |
| 2.50 | D7 | | | 39.97 | | 2.70 | | | |
| 2.70 | CPT | 50 for 70 mm<br>(25, -, 50) | | 39.77 | | 2.90 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 2.90m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 31-03-21 | 11.00 | 2.90 | 2.90 | 203 | dry | 2.7 | 2.9 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCMMC** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-04-21<br>23-04-21 | 51.23 | E 209,673.8 N 263,342.3 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.00) | Soft blackish brown fibrous PEAT. | | |
| | | | | 50.23 | | 1.00 | | | |
| 1.00 | CPT | N = 28 (2, 2, 7, 8, 6, 7) | | | | | Stiff wet grey silty sandy CLAY with cobbles and boulders. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | (1.50) | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | CPT | N = 67 (5, 3, 10, 8, 11, 38) | | | | | 2.00m: very stiff. | | |
| 2.00-2.50 | B7 | | | 48.73 | | 2.50 | | | |
| 2.50 | D8 | | | 48.63 | | 2.60 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 2.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 23-04-21 | 11.00 | 2.60 | 2.50 | 203 | 1.60 | 2.5 | 2.6 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSA** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-02-21<br>22-02-21 | 36.77 | E 203,014.4 N 271,312.4 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Soft dry black PEAT. | | |
| | | | | | | (1.80) | | | |
| 1.00 | SPT | N = 12 (2, 3, 2, 4, 3, 3) | | | | | 1.00m; firm. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | 34.97 | | 1.80 | | | |
| | | | | | | | Greyish green organic peaty SILT. | | |
| 2.00 | CPT | N = 16 (3, 2, 3, 1, 5, 7) | | 34.57 | | 2.20 | | | |
| 2.00-2.50 | B7 | | | | | | Stiff grey slightly gravelly slightly sandy SILT with cobbles and boulders. | | |
| 2.50 | D8 | | | | | | | | |
| | | | | | | (1.40) | | | |
| 3.00 | CPT | N = 38 (6, 8, 7, 7, 8, 16) | | | | | | | |
| 3.00-3.50 | B10 | | | 33.17 | | 3.60 | | | |
| 3.50 | D11 | | | 33.07 | | 3.70 | Obstruction as possible rock. | | |
| 3.60 | CPT | 50 for 0 mm (25, -, 50) | | | | | BH terminated at 3.70m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 22-02-21 | 17.00 | 3.70 | 3.50 | 203 | | 3.6 | 3.7 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSB** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 02-03-21<br>02-03-21 | 37.33 | E 204,126.7 N 271,674.7 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 3.50m 1.40m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | SPT | N = 0 (0, 0, 0, 0, 0, 0) | 1 | | | (2.60) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | SPT | N = 0 (1, 0, 0, 0, 0, 0) | | | | | | | |
| 2.00-2.50 | B7 | | | 34.73 | | 2.60 | | | |
| 2.50 | D8 | | | | | | Very soft brownish green organic SILT. | | |
| 3.00 | SPT | N = 3 (1, 0, 1, 1, 0, 1) | | | | (0.90) | | | |
| 3.00-3.50 | B10 | | 1 | 33.83 | | 3.50 | | | |
| 3.50 | D11 | | | | | | Soft grey slightly gravelly silty CLAY with boulders. | | |
| 4.00 | CPT | N = 26 (4, 3, 5, 4, 8, 9) | | | | | 4.00m: stiff. | | |
| 4.00-4.50 | B13 | | | | | (1.95) | | | |
| 4.50 | D14 | | | | | | | | |
| 5.00 | CPT | N = 59 (7, 9, 11, 12, 16, 20) | | | | | 5.00m; very stiff. | | |
| 5.00-5.50 | B16 | | | 31.88 | | 5.45 | | | |
| 5.50 | D17 | | | 31.73 | | 5.60 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 5.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 02-03-21 | 17.00 | 5.60 | 5.00 | 203 | 1.50 | 5.45 | 5.6 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSC** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-03-21<br>04-03-21 | 37.56 | E 204,158.2 N 271,142.1 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | SPT | N = 0 (0, 0, 0, 0, 0, 0) | | | | (2.60) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | SPT | N = 0 (1, 0, 0, 0, 0, 0) | | | | | | | |
| 2.00-2.50 | B7 | | | 34.96 | | 2.60 | | | |
| 2.50 | D8 | | | | | | Soft green organic SILT. | | |
| 3.00 | SPT | N = 5 (2, 1, 2, 1, 1, 1) | | | | (0.90) | | | |
| 3.00-3.50 | B10 | | | 34.06 | | 3.50 | | | |
| 3.50 | D11 | | | | | | Soft grey SILT. | | |
| 4.00-4.45 | U10012 | 5 blows | | 33.36 | | (0.70) 4.20 | | | |
| | | | | | | | Soft greyish green sandy silty CLAY with cobbles. | | |
| 4.50 | D13 | | | | | (0.80) | | | |
| | | | | 32.56 | | 5.00 | | | |
| 5.00 | CPT | N = 42 (3, 8, 4, 4, 15, 19) | | | | | Stiff greyish green slightly sandy gravelly SILT. | | |
| 5.00-5.50 | B15 | | | | | (0.60) | | | |
| 5.50 | D16 | | | 31.96 | | 5.60 | | | |
| 5.60 | CPT | 50 for 0 mm (25, -, 50) | | | | | BH terminated at 5.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 04-03-21 | 17.00 | 5.60 | 5.50 | 203 | | 5.6 | 5.6 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSD** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-03-21<br>11-03-21 | 38.04 | E 204,659.6 N 270,685.8 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 3.80m 1.00m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| | | | | | | (1.20) | | | |
| 1.00 | SPT | N = 0<br>(1, 0, 0, 0, 0, 0) | | 36.84 | | 1.20 | | | |
| 1.00 | D2 | | | | | | Very soft greenish brown organic peaty SILT. | | |
| 1.00-1.50 | B4 | | | | | (0.90) | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00-2.45 | U1006 | 2 blows | | 35.94 | | 2.10 | | | |
| | | | | | | | Stiff grey peaty SILT. | | |
| 2.50 | D7 | | | | | (0.90) | | | |
| | | | | 35.04 | | 3.00 | | | |
| 3.00 | CPT | N = 29<br>(4, 5, 7, 10, 6, 6) | | | | | Stiff grey sandy gravelly silty CLAY with cobbles. | | |
| 3.00-3.50 | B9 | | | | | (0.80) | | | |
| 3.50 | D10 | | | 34.24 | | 3.80 | | | |
| | | | | | | | Obstruction as possible rock. | | |
| 4.00 | CPT | 50 for 30 mm<br>(25, -, 50) | | 33.84 | | 4.20 | | | |
| | | | | | | | BH terminated at 4.20m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 11-03-21 | 17.00 | 4.20 | 4.00 | 203 | 1.70 | 4 | 4.2 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSE** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-03-21<br>16-03-21 | 37.54 | E 204,383.5 N 270,253.4 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: dry; 2nd: ; 3rd: ; Rose to (@ 20 min.): ; Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft dry black PEAT. | | |
| 1.00 | SPT | N = 2 (1, 2, 1, 1, 0, 0) | | | | (2.00) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | 35.54 | | 2.00 | | | |
| 2.00 | SPT | N = 0 (0, 0, 0, 0, 0, 0) | | | | | Very soft brown fibrous PEAT. | | |
| 2.00-2.50 | B7 | | | | | | | | |
| 2.50 | D8 | | | | | | | | |
| 3.00-3.45 | U1009 | 1 blows NR | | | | | | | |
| 3.00-3.50 | B10 | | | | | (3.00) | | | |
| 3.50 | SPT | N = 0 (1, 0, 0, 0, 0, 0) | | | | | | | |
| 3.50 | D11 | | | | | | | | |
| 3.50-4.00 | B13 | | | | | | | | |
| 4.00 | D14 | | | | | | | | |
| 4.50 | SPT | N = 8 (1, 1, 1, 2, 1, 4) | | | | | | | |
| 4.50-5.00 | B16 | | | 32.54 | | 5.00 | | | |
| 5.00 | D17 | | | | | | Soft grey slightly sandy SILT. | | |
| 5.50 | CPT | N = 7 (1, 0, 2, 2, 1, 2) | | | | | | | |
| 5.50-6.00 | B19 | | | | | | | | |
| 6.00 | D20 | | | | | (2.20) | | | |
| | | | | 30.34 | | 7.20 | | | |
| 7.20 | CPT | 50 for 90 mm (25, -, 39, 11) | | 30.14 | | 7.40 | Obstruction as possible rock. | | |
| 7.20-7.40 | B22 | | | | | | BH terminated at 7.40m bgl. Obstruction as possible rock. | | |
| 7.40 | D23 | | | | | | | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 16-03-21 | 14.00 | 7.40 | 7.40 | 203 | 6.50 | 7.2 | 7.4 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSF** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-03-21<br>23-03-21 | 40.57 | E 205,217.1 N 268,854.1 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 4.20m 3.50m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | SPT | N = 0<br>(1, 0, 0, 0, 0, 0) | | | | (2.50) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | SPT | N = 0<br>(0, 0, 0, 0, 0, 0) | | | | | | | |
| 2.00-2.50 | B7 | | | 38.07 | | 2.50 | | | |
| 2.50 | D8 | | | | | (0.50) | Very soft green organic peaty SILT. | | |
| | | | | 37.57 | | 3.00 | | | |
| 3.00-4.00 | P9 | | 1 | | | | Soft grey silty CLAY with cobbles. | | |
| 4.00 | SPT | N = 8<br>(1, 0, 0, 0, 4, 4) | 1 | | | (2.00) | 4.00m; firm. | | |
| 4.00 | D10 | | | | | | | | |
| 4.00-4.50 | B12 | | | | | | | | |
| 4.50 | D13 | | | 35.57 | | 5.00 | | | |
| 5.00 | CPT | 50 for 20 mm<br>(15, 10, 50) | | 35.37 | | 5.20 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 5.20m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 23-03-21 | 12.00 | 5.20 | 5.00 | 203 | 2.90 | 5 | 5.2 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSG** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 43.03 | E 204,966.4 N 268,335.5 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 4.50m 3.60m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Firm brown clayey PEAT with cobbles and boulders. | | |
| 1.00 | SPT | N = 15 (2, 3, 4, 8, 1, 2) | | | | (2.50) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | CPT | N = 11 (2, 2, 3, 2, 3, 3) | | | | | | | |
| 2.00-2.50 | B7 | | | 40.53 | | 2.50 | | | |
| 2.50 | D8 | | | | | | Firm blackish brown PEAT with cobbles. | | |
| 3.00 | CPT | N = 12 (3, 4, 3, 2, 3, 4) | | | | (1.10) | | | |
| 3.00-3.50 | B10 | | 1 | 39.43 | | 3.60 | | | |
| 3.50 | D11 | | | | | | Stiff grey silty gravelly CLAY with cobbles. | | |
| 4.00 | CPT | N = 19 (2, 2, 4, 6, 5, 4) | | | | (1.10) | | | |
| 4.00-4.50 | B13 | | | | | | | | |
| 4.50 | D14 | | | 38.33 | | 4.70 | | | |
| 4.70 | CPT | 50 for 65 mm (25, -, 50) | | 38.13 | | 4.90 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 4.90m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 25-03-21 | 17.00 | 4.90 | 4.50 | 203 | 2.60 | 4.7 | 4.9 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSH** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 42.86 | E 205,449.3 N 266,923.4 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 3.70m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft blackish brown fibrous PEAT. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 4 blows | | | | | | | |
| 1.50 | D4 | | | | | (3.50) | | | |
| 2.00 | SPT | N = 0<br>(1, 0, 0, 0, 0, 0) | | | | | | | |
| 2.00-2.50 | B6 | | | | | | | | |
| 2.50 | D7 | | | | | | | | |
| 3.00-3.45 | U1008 | 3 blows | | | | | | | |
| | | | | 39.36 | | 3.50 | | | |
| 3.50 | D9 | | | 39.16 | | 3.70 | Soft grey silty CLAY. | | |
| 3.70 | CPT | 50 for 15 mm<br>(25, -, 50) | | 39.06 | | 3.80 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 3.80m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 30-03-21 | 11.00 | 3.80 | 3.80 | 203 | 3.50 | 3.7 | 3.8 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSI** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-04-21<br>16-04-21 | 43.96 | E 207,112.4 N 267,230.1 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Grass and reeds over soft to firm grey CLAY with cobbles. | | |
| 1.00 | SPT | N = 22 (2, 4, 3, 5, 4, 10) | | | | | 1.00m; stiff. | | |
| 1.00 | D2 | | | | | (2.70) | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | CPT | N = 29 (3, 3, 8, 9, 6, 6) | | | | | | | |
| 2.00-2.30 | B7 | | | | | | | | |
| 2.50 | D8 | | | 41.26 | | 2.70 | | | |
| 2.70 | CPT | 50 for 0 mm (25, -, 50) | | 41.16 | | 2.80 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 2.80m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 16-04-21 | 12.00 | 2.80 | 2.50 | 203 | basal seepage | 1.45<br>2.7 | 1.6<br>2.8 | 1<br>1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSJ** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 42.84 | E 206,394.4 N 265,434.1 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | Sheet 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft blackish brown PEAT with concrete pipe. | | |
| 1.00 | SPT | N = 1 (1, 0, 0, 1, 0, 0) | | | | (2.20) | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | SPT | N = 13 (2, 3, 2, 2, 4, 5) | | 40.64 | | 2.20 | | | |
| 2.00-2.30 | B7 | | | | | | Firm grey silty sandy CLAY with cobbles. | | |
| 2.50 | D8 | | | | | (1.10) | | | |
| 3.00 | CPT | 67 for 150 mm (4, 4, 17, 50) | | 39.54 | | 3.30 | | | |
| 3.00-3.40 | B10 | | | 39.44 | | 3.40 | Obstruction as possible rock. | | |
| 3.40 | D11 | | | | | | BH terminated at 3.40m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 08-04-21 | 11.00 | 3.40 | 3.30 | 203 | basal seepage | 3.3 | 3.4 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSK** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 19-04-21<br>19-04-21 | 42.89 | E 205,723.4 N 265,046.7 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 5.60m 4.70m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Very soft blackish brown fibrous PEAT. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 3 blows | | | | | | | |
| 1.50 | D4 | | | | | | | | |
| 2.00 | SPT | N = 0<br>(0, 0, 0, 0, 0, 0) | | | | (3.90) | | | |
| 2.00-2.50 | B6 | | | | | | | | |
| 2.50 | D7 | | | | | | | | |
| 3.00-3.45 | U1008 | 2 blows | | | | | | | |
| 3.50 | D9 | | | 38.99 | | 3.90 | | | |
| 4.00 | SPT | N = 4<br>(1, 0, 0, 0, 2, 2) | | | | | Soft grey silty CLAY. | | |
| 4.00-4.50 | B11 | | | | | | | | |
| 4.50 | D12 | | 1 | | | | | | |
| 5.00-5.45 | U10013 | 8 blows | | | | | | | |
| 5.50 | D14 | | 1 | | | (3.10) | | | |
| 6.00 | SPT | N = 13<br>(1, 2, 2, 2, 4, 5) | | | | | 6.00m: firm. | | |
| 6.00-6.50 | B16 | | | | | | | | |
| 6.50 | D17 | | | 35.89 | | 7.00 | | | |
| 7.00 | | 50 for 60 mm<br>(25, -, 50) | | 35.79 | | 7.10 | Obstruction as possible rock.<br>BH terminated at 7.10m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 19-04-21 | 15.00 | 7.10 | 7.00 | 203 | 2.50 | 7 | 7.1 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSL** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-04-21<br>29-04-21 | 47.40 | E 207,822.7 N 263,405.6 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 3.00m 1.70m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.60) | Very soft blackish brown fibrous PEAT. | | |
| 1.00 | SPT | N = 0<br>(1, 0, 0, 0, 0, 0) | | | | | | | |
| 1.00 | D2 | | 1 | 45.80 | | 1.60 | | | |
| 1.00-1.50 | B4 | | | | | | Very soft yellowish greenish grey organic SILT/MARL. | | |
| 1.50 | D5 | | | | | (0.50) | | | |
| 1.70-2.50 | B6 | | | 45.30 | | 2.10 | | | |
| 1.70 | SPT D7 | | | | | | Firm grey silty sandy CLAY. | | |
| 2.00 | | N = 10<br>(1, 0, 2, 2, 2, 4) | | | | | | | |
| 2.00-2.50 | B9 | | | | | (0.90) | | | |
| 2.50 | D10 | | 1 | 44.40 | | 3.00 | | | |
| 3.00 | CPT | 59 for 85 mm<br>(6, 10, 31, 28) | | 44.10 | | 3.30 | Stiff grey slightly gravelly sandy silty CLAY with cobbles. | | |
| 3.00 | B12 | | | | | | BH terminated at 3.30m bgl. Obstruction as possible rock. | | |
| 3.20 | D13 | | | | | | | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 29-04-21 | 16.00 | 3.30 | 3.00 | 203 | 1.60 | 3.2 | 3.3 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSM** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-04-21<br>29-04-21 | 50.15 | E 209,528.2 N 266,768.8 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 49.45 | | (0.70) 0.70 | Soft brown sandy PEAT. | | |
| 1.00<br>1.00 | CPT<br>D2 | N = 13<br>(2, 1, 2, 3, 4, 4) | | 48.65 | | (0.80) 1.50 | Medium dense brownish grey SAND. | | |
| 1.00-1.50<br>1.50<br>2.00<br>2.00-2.50<br>2.50 | B4<br>D5<br>CPT<br>B7<br>D8 | N = 15<br>(2, 2, 3, 4, 3, 5) | | | | (1.70) | Medium dense grey silty SAND with cobbles. | | |
| 3.00<br>3.00-3.50<br>3.50 | CPT<br>B10<br>D11 | N = 23<br>(3, 4, 5, 5, 5, 8) | | 46.95<br>46.15 | | (0.80) 3.20<br>4.00 | Stiff grey silty slightly sandy gravelly CLAY with cobbles and boulders. | | |
| 4.00 | CPT | 50 for 19 mm<br>(25, -, 50) | | 45.95 | | 4.20 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 4.20m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 29-04-21 | 12.00 | 4.20 | 4.00 | 203 | | 4 | 4.2 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSN** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-04-21<br>22-04-21 | 47.67 | E 208,351.2 N 265,947.5 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | Sheet 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.60) | Firm brown sandy PEAT with rounded cobbles and boulders. | | |
| 1.00 | CPT | N = 34 (4, 7, 2, 8, 10, 14) | | | | | | | |
| 1.00 | D2 | | | 46.07 | | 1.60 | | | |
| 1.00-1.50 | B4 | | | | | | Grey silty SAND with cobbles. | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | CPT | N = 21 (4, 3, 4, 5, 5, 7) | | | | (1.30) | 2.00m: medium dense. | | |
| 2.00-2.50 | B7 | | | | | | | | |
| 2.50 | D8 | | | 44.77 | | 2.90 | | | |
| 2.90 | CPT | 50 for 115 mm (25, -, 30, 20) | | 44.47 | | 3.20 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 3.20m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 22-04-21 | 11.00 | 3.20 | 3.00 | 203 | | 1.5<br>2.9 | 1.7<br>3.2 | 1<br>1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-03-21<br>24-03-21 | 39.94 | E 205,107.1 N 268,530.5 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 39.34 | | (0.60)<br>0.60 | Soft blackish brown PEAT. | | |
| 1.00<br>1.00<br>1.00-1.50<br>1.50 | SPT<br>D2<br>B4<br>D5 | N = 13<br>(2, 2, 3, 4, 3, 3) | | 37.84 | | (1.50)<br>2.10 | Soft to firm grey sandy CLAY.<br>1.00m: firm. | | |
| 2.00<br>2.00-2.50<br>2.50 | SPT<br>B7<br>D8 | N = 22<br>(2, 4, 7, 3, 3, 9) | | 37.14 | | (0.70)<br>2.80 | Stiff grey silty slightly sandy gravelly CLAY with cobbles. | | |
| 3.00<br>3.00-3.50<br>3.50 | CPT<br>B10<br>D11 | N = 60<br>(8, 7, 10, 9, 9, 32) | | 36.44<br>36.34 | | (0.70)<br>3.50<br>3.60 | Stiff greyish green silty sandy gravelly CLAY with cobbles and boulders.<br>Obstruction as possible rock.<br>BH terminated at 3.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 24-03-21 | 17.00 | 3.60 | 3.50 | 203 | dry | 3.5 | 3.6 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 39.33 | E 205,160.9 N 268,572.2 |

| Engineer | GROUNDWATER STRIKES | | | | Sheet |
|---|---|---|---|---|---|
| Bord na Mona | | Water strikes: | Rose to (@ 20 min.): | Sealed at: | 1 of 1 |
| | | 1st: dry | | | Rev. DRAFT |
| | | 2nd: | | | |
| | | 3rd: | | | |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Firm grey silty CLAY. | | |
| | | | | | | (1.70) | | | |
| 1.00 | SPT | N = 19<br>(4, 3, 3, 4, 5, 7) | | | | | | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | 37.63 | | 1.70 | | | |
| 1.50 | D5 | | | | | | Soft to firm grey sandy gravelly CLAY. | | |
| 2.00 | SPT | N = 70<br>(2, 3, 5, 5, 19, 41) | | | | (0.75) | 2.00m; hard. | | |
| 2.00-2.50 | B7 | | | 36.88 | | 2.45 | | | |
| 2.50 | D8 | | | 36.73 | | 2.60 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 2.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 22-03-21 | 17.00 | 2.60 | 2.50 | 203 | basal seepage | 2.45 | 2.6 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-03-21<br>23-03-21 | 39.50 | E 205,120.1 N 268,562.7 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 3.50m 3.00m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 39.10 | | 0.40 | Firm dry black PEAT. | | |
| 1.00<br>1.00-1.45 | D2<br>U1003 | 8 blows | | | | (1.30) | Firm grey slightly gravelly silty CLAY. | | |
| 1.50 | D4 | | | 37.80 | | 1.70 | | | |
| 2.00<br>2.00-2.50<br>2.50 | SPT<br>B6<br>D7 | N = 25<br>(4, 3, 5, 6, 6, 8) | | | | (1.80) | Stiff grey slightly gravelly slightly sandy silty CLAY with cobbles. | | |
| 3.00 | CPT | N = 66<br>(3, 6, 6, 7, 14, 39) | 1 | | | | | | |
| 3.00-3.50 | B9 | | 1 | 36.00 | | 3.50 | | | |
| 3.50 | D10 | | | 35.90 | | 3.60 | Obstruction as possible rock. | | |

BH terminated at 3.60m bgl. Obstruction as possible rock.

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 23-03-21 | 17.00 | 3.60 | 3.50 | 203 | 2.90 | 3.5 | 3.6 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA04** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-03-21<br>23-03-21 | 39.31 | E 205,132.8 N 268,607.3 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.50) | Firm grey silty CLAY with cobbles. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.45 | U1003 | 10 blows | | 37.81 | | 1.50 | | | |
| 1.50 | D4 | | | 37.41 | | 1.90 | Firm grey slightly sandy gravelly CLAY with cobbles and boulders. | | |
| 1.90 | CPT | 50 for 20 mm (25, -, 50) | | 37.21 | | 2.10 | Obstruction as possible rock. | | |
| | | | | | | | BH terminated at 2.10m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 23-03-21 | 14.30 | 2.10 | 1.80 | 203 | | 1.9 | 2.1 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA05** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-03-21<br>24-03-21 | 39.80 | E 205,071.8 N 268,671.4 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 2.50m 2.00m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Soft brownish black fibrous PEAT. | | |
| | | | | | | (0.80) | | | |
| | | | | 39.00 | | 0.80 | | | |
| 1.00 | D2 | | | | | | Soft grey slightly sandy slightly gravelly silty CLAY with cobbles and boulders. | | |
| 1.00-1.45 | U1003 | 8 blows | | | | | | | |
| 1.50 | D4 | | | | | (1.60) | | | |
| | | | 1 | | | | | | |
| 2.00 | CPT | 59 for 225 mm (8, 8, 9, 17, 33) | | | | | 2.00m; hard. | | |
| | | | 1 | 37.40 | | 2.40 | | | |
| 2.00-2.50 | B6 | | | 37.20 | | 2.60 | Obstruction as possible rock. | | |
| 2.50 | D7 | | | | | | BH terminated at 2.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 24-03-21 | 11.00 | 2.60 | 2.50 | 203 | 2.00 | 2.4 | 2.6 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA06** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-03-21<br>24-03-21 | 39.80 | E 205,056.4 N 268,660.9 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 38.90 | | (0.90) 0.90 | Dry black PEAT. | | |
| 1.00<br>1.00-1.45<br>1.50 | D2<br>U1003<br>D4 | 6 blows | | 38.00 | | (0.90) 1.80 | Firm grey sandy CLAY. | | |
| 2.00<br>2.00-2.50<br>2.50 | SPT<br>B6<br>D7 | N = 33<br>(3, 2, 4, 8, 10, 11) | | 36.70 | | (1.30) 3.10 | Firm grey silty sandy gravelly CLAY with cobbles.<br>2.00m: very stiff. | | |
| 3.00 | CPT | 50 for 10 mm<br>(10, 15, 50) | | 36.60 | | 3.20 | Obstruction as possible rock.<br>BH terminated at 3.20m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 24-03-21 | 14.00 | 3.20 | 3.00 | 203 | dry | 3.1 | 3.2 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA07** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 43.06 | E 205,030.7 N 268,716.6 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 5.20m 4.50m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | (1.20) | MADE GROUND: Grass over firm black PEAT and gravel fill. | | |
| 1.00 | SPT | N = 11 (3, 4, 4, 2, 3, 2) | | 41.86 | | 1.20 | | | |
| 1.00 | D2 | | | | | | Soft blackish brown fibrous PEAT. | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00 | SPT | N = 7 (3, 3, 2, 2, 2, 1) | | | | | | | |
| 2.00-2.50 | B7 | | | | | (2.50) | | | |
| 2.50 | D8 | | | | | | | | |
| 3.00-3.70 | P9 | | | | | | | | |
| 3.00 | D10 | | | 39.36 | | 3.70 | | | |
| 4.00 | SPT | N = 13 (3, 7, 4, 1, 3, 5) | | | | | Firm grey sandy SILT. | | |
| 4.00-4.50 | B12 | | 1 | | | (1.50) | | | |
| 4.50 | D13 | | | | | | | | |
| 5.00 | CPT | N = 7 (2, 1, 1, 2, 1, 3) | | 37.86 | | 5.20 | | | |
| 5.00-5.50 | B15 | | | | | | Loose greyish brown silty sandy GRAVEL with COBBLES. | | |
| 5.50 | D16 | | | | | (1.10) | | | |
| 6.00 | CPT | 62 for 95 mm (5, 8, 29, 33) | | 36.76 | | 6.30 | 6.00m; very dense. | | |
| 6.00-6.30 | B18 | | | | | | BH terminated at 6.30m bgl. Obstruction as possible rock. | | |
| 6.30 | D19 | | | | | | | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 22-03-21 | 12.00 | 6.30 | 6.30 | 203 | 4.60 | 6.3 | 6.3 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA08** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 42.68 | E 205,046.5 N 268,719.0 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 5.50m 4.50m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | | | | Dry black PEAT over very soft brown fibrous PEAT. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-2.00 | P3 | | | | | | | | |
| 2.00 | SPT | N = 1<br>(1, 0, 0, 1, 0, 0) | | | | (3.80) | | | |
| 2.00 | D4 | | | | | | | | |
| 2.00-2.50 | B6 | | | | | | | | |
| 2.50 | D7 | | | | | | | | |
| 3.00-3.45 | U1008 | | | | | | | | |
| 3.50 | D9 | | | 38.88 | | 3.80 | | | |
| 4.00 | SPT | N = 14<br>(2, 3, 2, 4, 4, 4) | | | | | Firm grey SILT. | | |
| 4.00-4.50 | B11 | | 1 | | | (1.10) | | | |
| 4.50 | D12 | | | 37.78 | | 4.90 | | | |
| 5.00 | CPT | N = 26<br>(3, 5, 5, 4, 8, 9) | | | | | Stiff grey silty gravelly CLAY. | | |
| 5.00-5.50 | B14 | | 1 | | | (0.90) | | | |
| 5.50 | D15 | | | 36.88 | | 5.80 | | | |
| 5.80 | CPT | 50 for 0 mm<br>(25, -, 50) | | 36.78 | | 5.90 | Obstruction as possible rock.<br>BH terminated at 2.60m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 22-03-21 | 15.00 | 5.90 | 5.50 | 203 | 4.50 | 5.8 | 5.9 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA09** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-03-21<br>18-03-21 | 45.35 | E 204,940.2 N 268,872.5 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 6.50m 5.50m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 44.65 | | (0.70)<br>0.70 | MADE GROUND: Gravel fill with plastic and black peat. | | |
| 1.00<br>1.00-1.45 | D2<br>U1003 | 3 blows | | | | | Very soft brown fibrous PEAT. | | |
| 1.50 | D4 | | | | | | | | |
| 2.00<br>2.00-2.50<br>2.50 | SPT<br>B6<br>D7 | N = 0<br>(1, 0, 0, 0, 0, 0) | | | | (3.10) | | | |
| 3.00<br>3.00-3.50<br>3.50 | SPT<br>B9<br>D10 | N = 11<br>(2, 1, 2, 2, 3, 4) | | 41.55 | | 3.80 | | | |
| 4.00<br>4.00-4.50<br>4.50 | CPT<br>B12<br>D13 | N = 16<br>(3, 5, 6, 2, 4, 4) | | 40.45 | | (1.10)<br>4.90 | Firm grey slightly gravelly slightly sandy SILT. | | |
| 5.00<br>5.00-5.50<br>5.50 | CPT<br>B15<br>D16 | N = 16<br>(3, 5, 6, 2, 4, 4) | 1 | | | (2.30) | Stiff greyish brown slightly sandy slightly gravelly SILT. | | |
| 6.50<br>6.50-7.00<br>7.00 | CPT<br>B18<br>D19 | N = 30<br>(3, 5, 4, 8, 9, 9) | 1 | 38.15 | | 7.20 | | | |
| 7.20 | CPT | 50 for 15 mm<br>(25, -, 50) | | 38.05 | | 7.30 | Obstruction as possible rock.<br>BH terminated at 7.30m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 18-03-21 | 17.00 | 7.30 | 6.50 | 203 | 5.70 | 7.2 | 7.3 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA10** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-03-21<br>18-03-21 | 45.39 | E 204,955.9 N 268,883.5 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: Rose to (@ 20 min.): Sealed at:<br>1st: 4.60m 4.00m<br>2nd:<br>3rd: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-1.00 | B1 | | | 44.89 | | (0.50)<br>0.50 | MADE GROUND: Gravel fill with cobbles. | | |
| | | | | 44.49 | | 0.90 | Dry black PEAT. | | |
| 1.00 | SPT | N = 4<br>(3, 2, 3, 1, 0, 0) | | | | | Very soft brown fibrous PEAT. | | |
| 1.00 | D2 | | | | | | | | |
| 1.00-1.50 | B4 | | | | | | | | |
| 1.50 | D5 | | | | | | | | |
| 2.00-2.45 | U1006 | 2 blows | | | | (2.70) | | | |
| 2.50 | D7 | | | | | | | | |
| 3.00 | SPT | N = 12<br>(1, 0, 2, 3, 3, 4) | | | | | 3.00m; firm. | | |
| 3.00-3.50 | B9 | | | 41.79 | | 3.60 | | | |
| 3.50 | D10 | | 1 | | | | Firm grey slightly gravelly sandy SILT with cobbles. | | |
| 4.00 | CPT | N = 13<br>(2, 3, 2, 2, 4, 5) | | | | | | | |
| 4.00-4.50 | B12 | | 1 | | | | | | |
| 4.50 | D13 | | | | | (2.00) | | | |
| 5.00 | CPT | N = 35<br>(3, 5, 7, 7, 10, 11) | | | | | 5.00m; very stiff. | | |
| 5.00-5.50 | B15 | | | 39.79 | | 5.60 | | | |
| 5.50 | D16<br>CPT | | | 39.69 | | 5.70 | Obstruction as possible rock. | | |
| 5.80 | | 50 for 60 mm<br>(25, -, 50) | | | | | BH terminated at 5.70m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 17-03-21 | 17.00 | 3.00 | 3.00 | 203 | | 5.6 | 5.7 | 1 | | | BH backfilled. |
| 18-03-21 | 08.00 | 3.00 | 3.00 | 203 | | | | | | | |
| 18-03-21 | 17.00 | 5.70 | 5.70 | 203 | 5.20 | | | | | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA11** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 05-05-21<br>05-05-21 | 39.28 | E 205,138.6 N 268,608.0 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-0.50 | B1 | | | | | (0.80) | Firm greyish brown silty CLAY. | | |
| 0.50 | D2 | | | 38.48 | | 0.80 | | | |
| 0.50-1.00 | B3 | 3 blows | | | | (0.90) | Firm grey sandy SILT. | | |
| 1.00 | D4 | | | 37.58 | | 1.70 | | | |
| 1.00-1.80 | P5 | | | | | (1.00) | Stiff grey slightly sandy silty gravelly CLAY with cobbles. | | |
| 2.00 | CPT | N = 30 (4, 5, 7, 7, 6, 10) | | | | | | | |
| 2.00 | D6 | | | 36.58 | | 2.70 | | | |
| 2.00-2.50 | B8 | | | | | | | | |
| 2.50 | D9 | | | 36.38 | | 2.90 | Obstruction as possible rock. | | |
| 2.70 | | 50 for 65 mm (25, -, 50) | | | | | BH terminated at 2.90m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 05-05-21 | 12.00 | 2.90 | 2.70 | 203 | basal seepage | 2.7 | 2.9 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA12** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 05-05-21<br>05-05-21 | 39.36 | E 205,144.3 N 268,581.3 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-0.50 | B1 | | | | | | Firm greyish green organic silty CLAY. | | |
| | | | | | | (0.70) | | | |
| 0.50 | D2 | | | 38.66 | | 0.70 | | | |
| 0.50-1.00 | B3 | | | | | | Firm grey silty CLAY. | | |
| 1.00 | D4 | | | | | (0.90) | | | |
| 1.00-1.70 | P5 | | | 37.76 | | 1.60 | | | |
| | | | | | | | Stiff grey silty sandy CLAY with cobbles. | | |
| 2.00 | CPT | N = 18 (4, 3, 2, 4, 5, 7) | | | | (1.20) | | | |
| 2.00 | D6 | | | | | | | | |
| 2.00-2.50 | B8 | | | | | | | | |
| 2.50 | D9 | | | 36.56 | | 2.80 | | | |
| | | | | 36.26 | | 3.10 | Stiff greyish green slightly sandy gravelly silty CLAY with cobbles and boulders. | | |
| 3.00 | CPT | 50 for 75 mm (25, -, 50) | | 36.06 | | 3.30 | | | |
| | | | | | | | Obstruction as possible rock. | | |
| 3.00-3.30 | B11 | | | | | | | | |
| 3.30 | D12 | | | | | | BH terminated at 3.30m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 05-05-21 | 15.00 | 3.30 | 2.80 | 203 | dry | 3.2 | 3.3 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller: BT | Logged By: BT |
|---|---|---|---|---|---|

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# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA13** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-05-21<br>10-05-21 | 39.95 | E 205,111.5 N 268,539.7 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: dry 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-0.50 | B1 | | | | | (0.80) | Soft blackish brown fibrous PEAT. | | |
| 0.50 | D2 | | | 39.15 | | 0.80 | | | |
| 0.50-1.00 | B3 | | | | | | | | |
| 0.50 | VANE | Peak 12 kPa<br>Residual 4 kPa | | 38.75 | | 1.20 | Soft green organic SILT. | | |
| 1.00 | D4 | | | | | (1.90) | Dense grey sandy very silty GRAVEL with cobbles. | | |
| 1.00-1.40 | P5 | NR | | | | | | | |
| 1.00-1.50 | B6 | | | | | | | | |
| 1.50 | CPT | N = 31<br>(4, 5, 5, 7, 9, 10) | | | | | | | |
| 1.50 | D7 | | | | | | | | |
| 1.50-2.00 | B9 | | | | | | | | |
| 2.00 | D10 | | | | | | | | |
| 2.50 | CPT | N = 34<br>(4, 3, 6, 8, 8, 12) | | | | | | | |
| 2.50-3.00 | B12 | | | 36.85 | | 3.10 | | | |
| 3.00 | D13 | | | 36.75 | | 3.20 | Obstruction as possible rock. | | |
| 3.10 | CPT | 50 for 0 mm<br>(25, -, 50) | | | | | BH terminated at 3.2m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 10-05-21 | 11.00 | 3.20 | 3.00 | 203 | | 3.1 | 3.2 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# BOREHOLE LOG

| Project | Location | BOREHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA14** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-05-21<br>10-05-21 | 39.97 | E 205,048.2 N 268,596.8 |

| Engineer | GROUNDWATER STRIKES | Sheet |
|---|---|---|
| Bord na Mona | Water strikes: 1st: **dry** 2nd: 3rd: Rose to (@ 20 min.): Sealed at: | 1 of 1<br>Rev. DRAFT |

| SAMPLES & TESTS | | | Water | STRATA | | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| Depth | Type No | Test Result | | Reduced Level | Legend | Depth (Thick-ness) | DESCRIPTION | | |
| 0.00-0.50 | B1 | | | | | | Soft blackish brown PEAT. | | |
| | | | | | | (0.80) | | | |
| 0.50 | D2 | | | | | | | | |
| 0.50-1.50 | P3 | | | 39.17 | | 0.80 | | | |
| | | | | | | | Firm grey sandy SILTY. Sand is fine. | | |
| 1.50 | D4 | | | | | (1.60) | | | |
| 2.00 | SPT | N = 25 (2, 3, 4, 4, 8, 9) | | 37.57 | | 2.40 | | | |
| 2.00-2.50 | B6 | | | | | | Stiff greyish green slightly sandy gravelly silty CLAY with cobbles and boulders. | | |
| 2.50 | D7 | | | | | (0.50) | | | |
| 2.60 | B8 | | | 37.07 | | 2.90 | | | |
| 2.60 | D9 | | | 36.87 | | 3.10 | Obstruction as possible rock. | | |
| 2.90 | CP1 | 50 for 70 mm (25, -, 50) | | | | | BH terminated at 3.10m bgl. Obstruction as possible rock. | | |

| Boring Progress and Water Observations | | | | | | Chiselling | | | Water Added | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia. mm | Water (bgl) Depth, m | From | To | Hours | From | To | |
| 10-05-21 | 15.00 | 3.10 | 2.90 | 203 | | 2.9 | 3.1 | 1 | | | BH backfilled. |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: Dando 2000 | Bit Design | Driller BT | Logged By BT |
|---|---|---|---|---|---|

IDL AGS3 UK BH DERRYADD WF S&A ALL FILE MAY 18 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

# Appendix 2
# Borehole Records
# (Rotary Core)

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC01A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-03-21<br>16-03-21 | 38.42 | E 204,039.3 N 269,706.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (2.50) | 0.00 - 5.60 : overburden. | | Open hole drilling - no recovery. | | |
| 2.50 | | | 35.92 | | 2.50 | | | | | |
| 3.00 | 40 (-) - | NA<br>4.40(50/75mm) | | | | | | Dark greyish brown silty fine to coarse SAND. | | |
| 4.00 | 35 (-) - | | | | (1.90) | | | | | |
| | 44 (25) 24 | | 34.02 | | 4.40 | | | Subrounded to subangular fine to coarse brown dolomitised limestone and assorted grey limestone GRAVEL. | | |
| | | | 32.82 | | (1.20) 5.60 | | | | | |
| 6.00 | 100 (96) 94 | 1<br>3 | | | | 5.60 - 10.40 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 2mm thick dark grey silt smear.<br>6.00 - 6.15 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick greyish brown silt smear, open. | | Strong locally very strong thinly bedded grey sparry bioclastic fine to coarse grained LIMESTONE. | | |
| 7.30 | 100 (98) 87 | 4<br>4 | | | (4.80) | 8.60 - 8.70 Joint, dipping 60°, stepped, smooth, with 0.5 to 1mm thick greyish brown silt smear, open. | | | | |
| 8.80 | 100 (97) 95 | 3<br>1 | 28.02 | | 10.40 | | | | | |
| 16.03 10.40 | | | | | | | | BH terminated at 10.40m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 16-03-21 | 17.00 | 10.40 | 2.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 10.40 | water | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 7.00m to 10.40m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: BD | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC01B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-03-21<br>17-03-21 | 38.71 | E 204,046.2 N 269,687.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.00) | 0.00 - 4.10 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | | | 35.71 | | 3.00 | | | | | |
| 3.80 | 50 (-) - | NA | 34.61 | | (1.10) 4.10 | | | Subangular to subrounded fine to coarse brown dolomitised limestone and assorted grey limestone GRAVEL. | | |
| 5.00 | 100 (75) 47 | 4 | | | | 4.10 - 11.50 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 3mm thick dark grey silt smear. | | Strong locally very strong thinly bedded grey sparry bioclastic fine to coarse grained LIMESTONE. | | |
| 6.00 | 50 (39) 30 | NR/NI | | | | 5.00 - 6.00 No recovery as washout of fines during drilling. No record of cavity. | | | | |
| 6.70 | 100 (94) 78 | 6 | | | | 6.40 - 6.70 Joint, subvertical dip, stepped, smooth, clean, open as drilling induced? | | | | |
| 8.30 | 100 (97) 96 | 4 | | | (7.40) | | | | | |
| 9.90 | 100 (92) 85 | 3 | | | | | | | | |
| | | 5 | | | | | | | | |
| | 100 (96) 81 | 4 | | | | | | | | |

| Drilling Progress and Water Observations | | | | | | | |
|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
| | | | | | | | |

| Rotary Flush | | | |
|---|---|---|---|
| From (m) | To (m) | Type | Return (%) |
| 0 | 11.50 | water 100 | 100 |

| GENERAL REMARKS |
|---|
| BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used Hydreq | Bit Design HQ | Driller BD | Logged By EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC01B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-03-21<br>17-03-21 | 38.71 | E 204,046.2 N 269,687.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2<br>Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
| 17.03 11.50 | | 3 | 27.21 | | 11.50 | 10.90 - 11.05 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick grey silt smear, open. | BH terminated at 11.50m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 17-03-21 | 17.00 | 11.50 | 3.00 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: BD | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC02A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-03-21<br>12-03-21 | 38.70 | E 203,758.1 N 270,157.9 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 1 | DRAFT |

| RUN DETAILS: Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | STRATA DESCRIPTION: Discontinuities / Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (2.50) | 0.00 - 3.20 : overburden. | Open hole drilling - no recovery. | | |
| 2.50 | | | 36.20 | | 2.50 | | | | |
| 3.00 | 100 (-) - | NA | 35.50 | | (0.70) 3.20 | | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL with cobbles and a little brown silt. Cobbles are of grey limestone. | | |
| 4.60 | 100 (85) 50 | 5<br>3 | | | (5.90) | 3.20 - 9.10 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 6mm thick dark grey silt smear.<br>3.21 - 3.65 Joint, vertical dip, stepped, rough, with 0.5 to 2mm thick greyish brown silt smear, open.<br>4.60 - 6.00 No recovery as washout of fines during drilling. No record of cavity.<br>5.10 - 5.30 Joint, subvertical dip, stepped, rough, clean, open as drilling induced?<br>6.00 - 6.15 Joint, subvertical dip, stepped, rough, with 0.5 to 6mm thick grey silt smear and minor orangish brown iron stain, open to moderately wide.<br>6.25 - 6.35 Joint, dipping 60°, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | Strong locally very strong thinly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| 6.00 | 85 (79) 52 | NR/NI | | | | | | | |
| 7.00 | 100 (95) 65 | 7 | | | | | | | |
| 8.60 | 100 (95) 88 | 2<br>2 | | | | | | | |
| 9.10 | 100 (100) 100 | | 29.60 | | 9.10 | 8.60 - 8.90 Joint, subvertical dip, undulating, smooth, clean, open as drilling induced? | BH terminated at 9.10m bgl on REs instruction. | | |

T2.03

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 12-03-21 | 15.00 | 9.10 | 2.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 9.10 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 2.00m to 9.10m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: BD | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC02B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-03-21<br>15-03-21 | 38.72 | E 203,769.5 N 270,141.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (2.10) | 0.00 - 3.40 : overburden. | | Open hole drilling - no recovery. | | |
| 2.10 | | | 36.62 | | 2.10 | | | | | |
| 3.00 | 89 (-) - | NA | 35.32 | | (1.30) | | | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL with cobbles and a little dark grey silt. Cobbles are of assorted grey limestone. | | |
| | | | | | 3.40 | | | | | |
| 4.40 | 100 (52) 27 | 3 | | | | 3.40 - 9.10 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 5mm thick dark grey silt smear.<br>3.90 - 4.10 Joint, subvertical dip, stepped, smooth, with 0.5 to 5mm thick dark grey silt smear, open to moderately wide. | | Strong locally very strong thinly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| | | 8 | | | | | | | | |
| 6.00 | 100 (97) 85 | 3 | | | | | | | | |
| | | | | | (5.70) | | | | | |
| 7.60 | 100 (96) 94 | 4 | | | | | | | | |
| | | 3 | | | | | | | | |
| 9.10 | 100 (97) 88 | 3 | 29.62 | | 9.10 | 8.80 - 9.00 Joint, subvertical dip, undulating, rough, with 0.5 to 2mm thick grey silt smear, open. | | BH terminated at 9.10m bgl on REs instruction. | | |

15.03

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 15-03-21 | 15.00 | 9.10 | 2.10 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 9.10 | water 100 | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: BD | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC03A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 41.60 | E 203,676.3 N 270,699.2 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (4.50) | 0.00 - 7.10 : overburden. | | Open hole drilling - no recovery. | | |
| 4.50 | | | 37.10 | | 4.50 | | | | | |
| 5.80 | 46 (-) - | NA | | | (2.60) | | | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL with a little dark greyish green silt. | | |
| | 44 (29) 21 | | 34.50 | | 7.10 | | | | | |
| 7.60 | | 3 | | | | 7.10 - 13.50 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 1mm thick dark grey silt smear. | | Strong locally very strong thinly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| 8.90 | 92 (90) 87 | NR/NI | | | | 7.60 - 8.90 No recovery as washout of fines during drilling. No record of cavity. | | | | |
| | 100 (97) 84 | 5 | | | | 9.40 - 9.50 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | | |
| 10.50 | | 3 | | | (6.40) | 10.50 - 11.90 No recovery as washout of fines during drilling. No | | | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| | | | | | | | | 0 | 13.50 | water 100 | 100 | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: BD | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC03A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 41.60 | E 203,676.3 N 270,699.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 11.90 | 92<br>(89)<br>85 | NR/NI | | | | record of cavity. | | Strong locally very strong thinly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. *(continued)* | | |
| | 100<br>(95)<br>85 | 3 | | | | | | | | |
| 22.03 13.50 | | 2 | 28.10 | | 13.50 | | | | | |
| | | | | | | | | BH terminated at 13.50m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 22-03-21 | 17.00 | 13.50 | 4.50 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: BD | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC03B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-03-21<br>18-03-21 | 41.68 | E 203,661.7 N 270,696.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (4.50) | 0.00 - 7.10 : overburden. | | Open hole drilling - no recovery. | | |
| 4.50 | | | 37.18 | | 4.50 | | | | | |
| 6.00 | 33 (-) - | 4.50(48/75mm) NA 6.00(60/225mm) | | | (2.60) | | | Subrounded to subangular fine to coarse rare brown dolomitised limestone and assorted dark grey and grey limestone GRAVEL with cobbles and a little brown silt. Cobbles are of assorted grey limestone. | | |
| 7.10 | 27 (-) - | | 34.58 | | 7.10 | | | | | |
| 7.80 | 100 (82) 52 | 6 | | | | 7.10 - 13.60 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 3mm thick dark grey silt smear. | | Very strong thinly bedded dark grey sparry bioclastic fine to medium grained LIMESTONE. | | |
| 8.60 | 100 (94) 78 | 4 | | | | | | | | |
| 9.60 | 100 (88) 84 | 3 | | | | | | | | |
| | 100 (96) 93 | 3 | | | (6.50) | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 13.60 | water | 100 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 2.60m to 13.60m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: BD | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC03B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-03-21<br>18-03-21 | 41.68 | E 203,661.7 N 270,696.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 11.20 | | | | | | | | Very strong thinly bedded dark grey sparry bioclastic fine to medium grained LIMESTONE. *(continued)* | | |
| | 100 (97) 70 | 5 | | | | | | | | |
| | | 5 | | | | 12.20 - 12.45 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | | |
| 12.80 | | | | | | | | | | |
| | 100 (96) 71 | | | | | | | | | |
| 18.03 13.60 | | 2 | 28.08 | | 13.60 | 13.30 - 13.60 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick grey silt smear and minor orangish brown iron stain and powder over 1 to 5mm thick white calcitic veinlet. | | BH terminated at 13.60m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 18-03-21 | 17.00 | 13.60 | 4.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

50mm standpipe installed. Response zone 2.60m to 13.60m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: BD | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC04A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-03-21<br>11-03-21 | 36.91 | E 203,235.9 N 271,301.3 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.70) | 0.00 - 6.20 : overburden. | | Open hole drilling - no recovery. | | |
| 3.70 | | | 33.21 | | 3.70 | | | | | |
| 5.60 | 15 (-) - | NA | | | (2.50) | | | Subangular to subrounded fine to coarse assorted purple and grey sandstone brown dolomitised limestone and assorted grey limestone GRAVEL. | | |
| 6.90 | 53 (33) 16 | NI | 30.71 | | 6.20 | 6.20 - 13.30 Discontinuities, closely spaced, locally medium spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 1mm thick grey silt smear.<br>7.00 - 7.50 Non-intact as fractured rock. No recovery as washout of fines during drilling. No record of cavity.<br>7.01 - 7.50 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | Very strong,locally strong thinly bedded grey slightly bioclastic sparry fine to medium grained LIMESTONE. | | |
| 8.50 | 100 (71) 28 | 15 | | | | | | | | |
| 9.00 | 80 (24) 0 | 4 | | | | | | | | |
| 10.20 | 75 (69) 63 | NR/NI | | | (7.10) | | | | | |
| | 100 | 3 | | | | | | | | |

| Drilling Progress and Water Observations | | | | | | | |
|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
| | | | | | | | |

| Rotary Flush | | | |
|---|---|---|---|
| From (m) | To (m) | Type | Return (%) |
| 0 | 13.30 | water 100 | 100 |

| GENERAL REMARKS |
|---|
| BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: BD | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC04A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-03-21<br>11-03-21 | 36.91 | E 203,235.9 N 271,301.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2<br>Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 11.70 | (96)<br>94 | 2 | | | | | | Very strong,locally strong thinly bedded grey slightly bioclastic sparry fine to medium grained LIMESTONE. *(continued)* | | |
| | 100<br>(96)<br>88 | 4 | | | | | | | | |
| 11.03 13.30 | | 1 | 23.61 | | 13.30 | | | BH terminated at 13.30m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 11-03-21 | 17.00 | 13.30 | 7.00 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: BD | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC04B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-03-21<br>10-03-21 | 36.71 | E 203,225.4 N 271,315.6 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | 33.01 | | (3.70) | 0.00 - 8.40 : overburden. | | Open hole drilling - no recovery. | | |
| 3.70 | | | | | 3.70 | | | | | |
| 4.60 | 33 (-) - | 4.60 (50/0mm) | | | | | | Brown silty fine to medium SAND with cobbles. Cobble is of dolomitised limestone. | | |
| 5.80 | 25 (-) - | | | | (4.20) | | | | | |
| 7.00 | 17 (-) - | NA | | | | | | | | |
| 8.10 | 46 (-) - | 7.00(50/75mm) | 28.81 | | 7.90 | | | | | |
| | | | 28.31 | | 8.40 | | | Subrounded to subangular fine to coarse brown dolomitised limestone and assorted grey limestone GRAVEL. | | |
| 9.00 | 89 (67) 48 | 2 | | | | 8.40 - 13.60 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12 and 16 to 18°, stepped, smooth, with 0.5 to 4mm thick dark grey silt smear.<br>8.90 - 9.15 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear over 1mm thick white calcitic smear, open. | | Strong and very strong thinly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| 10.60 | 100 (95) 75 | 5 | | | | | | | | |
| | | 4 | | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 13.60 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 2.60m to 13.60m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: BD | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC04B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-03-21<br>10-03-21 | 36.71 | E 203,225.4 N 271,315.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | STRATA | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 12.00 | 100 (96) 94 | 4 | | | (5.20) | | | Strong and very strong thinly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. *(continued)* | | |
| | 100 (95) 94 | 3 | | | | | | | | |
| t0.03 13.60 | | 1 | 23.11 | | 13.60 | | | BH terminated at 13.60m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 10-03-21 | 17.00 | 13.60 | 3.70 | 99 | 63 | | | | | | | 50mm standpipe installed. Response zone 2.60m to 13.60m bgl. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: BD | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC05A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-03-21<br>23-03-21 | 39.19 | E 203,925.0 N 271,715.6 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS: Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | STRATA DESCRIPTION: Discontinuities / Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 – 1.50 | 0 (-) - | NA | 37.69 | | (1.50) | 0.00 - 11.10 : overburden. | Open hole drilling - no recovery. | | |
| 1.50 – 3.00 | 40 (-) - | | 36.19 | | (1.50) | | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL. | | |
| 3.00 – 4.50 | 13 (-) - | 3.00(69/225mm) | | | (2.90) | | Light brown silty fine and medium SAND. | | |
| 4.50 – 6.00 | 20 (-) - | 4.50 (50) | 33.29 | | 5.90 | | | | |
| 6.00 – 7.50 | 33 (-) - | 6.00 (50/0mm)<br>NA | 31.69 | | (1.60) | | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL. | | |
| 7.50 – 9.00 | 27 (-) - | 7.50 (47) | | | (2.90) | | Light brown silty fine and medium SAND. | | |
| 9.00 – 10.50 | 27 (-) - | 9.00 (45) | 28.79 | | 10.40 | | | | |
| 10.50 – | | 10.50 (50/0mm) | | | (0.70) | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 17.00 | water | 100 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.00m to 17.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC05A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-03-21<br>23-03-21 | 39.19 | E 203,925.0 N 271,715.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
| 12.00 | 100 (51) 18 | 5 | 28.09 | | 11.10 | 11.10 - 17.00 Discontinuities, closely spaced, locally medium spaced to 14.70m then medium locally closely spaced, dipping 10 to 12 °, stepped, rough, with 0.5 to 3mm thick grey silt smear.<br>11.80 - 12.05 Joint, subvertical dip, stepped, smooth, with 0.5 to 4mm thick grey silt smear, open to moderately wide. | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL. *(continued)*<br>Very strong locally strong thinly bedded dark grey sparry bioclastic fine to coarse grained LIMESTONE. | | |
| 13.60 | 100 (95) 78 | 4 | | | | | | | |
| 15.00 | 100 (94) 84 | 5 | | | (5.90) | | | | |
| 16.60 | 100 (96) 95 | 4 | | | | | | | |
| 23.03 17.00 | 100 (100) 100 | 4<br>2 | 22.19 | | 17.00 | | BH terminated at 17.00m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 23-03-21 | 17.30 | 17.00 | 1.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.00m to 17.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC05B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-03-21<br>24-03-21 | 38.80 | E 203,947.7 N 271,724.3 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.00) | 0.00 - 15.80 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | | | 35.80 | | 3.00 | | | | | |
| 4.50 | 20 (-) - | 4.50 (47) | | | (4.50) | | | Light brown slightly silty fine to medium SAND. | | |
| 6.00 | 27 (-) - | 6.00 (45) | | | | | | | | |
| 7.50 | 20 (-) - | 7.50 (41) | 31.30 | | 7.50 | | | | | |
| 9.00 | 27 (-) - | 9.00(45/225mm) | 29.80 | | (1.50) 9.00 | | | Brown sandy subrounded fine to medium assorted grey limestone GRAVEL. Sand is fine to coarse. | | |
| | 7 (-) - | NA | | | | | | Subrounded to subangular fine to coarse brown dolomitised limestone and assorted grey limestone GRAVEL. | | |

| Drilling Progress and Water Observations | | | | | | | |
|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
| | | | | | | | |

| Rotary Flush | | | |
|---|---|---|---|
| From (m) | To (m) | Type | Return (%) |
| 0 | 20.80 | water 100 | 100 |

| GENERAL REMARKS |
|---|
| BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit: HQ Design | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC05B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-03-21<br>24-03-21 | 38.80 | E 203,947.7 N 271,724.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 12.00 | | | | | | | | Subrounded to subangular fine to coarse brown dolomitised limestone and assorted grey limestone GRAVEL. *(continued)* | | |
| 13.50 | 13 (-) - | 12.00 (60) | | | (6.80) | | | | | |
| 15.00 | 20 (-) - | | | | | | | | | |
| 16.50 | 67 (45) 39 | 15.00(47/75mm) 3 | 23.00 | | 15.80 | 15.80 - 20.80 Discontinuities, medium spaced, locally very closely and closely spaced, dipping 10 to 12 °, stepped, rough, with 0.5 to 4mm thick orangish brown silt smear. | | Strong locally medium strong and very strong apparently massive light brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE. | | |
| 18.00 | 100 (95) 52 | 4<br>6 | | | | | | | | |
| 19.20 | 100 (65) 43 | 10 | | | (5.00) | | | | | |
| 24.03 20.80 | 100 (90) 69 | 6<br>4 | 18.00 | | 20.80 | | | 19.50m to 20.80m: strong grey crystalline weakly dolomitised limestone. | | |
| | | | | | | | | BH terminated at 20.80m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 24-03-21 | 17.30 | 20.80 | 3.00 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC06A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 36.85 | E 204,080.5 N 271,196.7 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (4.50) | 0.00 - 12.30 : overburden. | | Open hole drilling - no recovery. | | |
| 4.50 | | | 32.35 | | 4.50 | | | | | |
| 6.00 | 13 (-) - | | | | | | | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL with cobbles. Cobbles are of grey limestone. | | |
| 7.80 | 11 (-) - | | 29.05 | | (3.30) 7.80 | | | | | |
| 9.00 | 33 (-) - | 7.80 (41) NA | | | (1.60) | | | Dense brown slightly sandy fine to medium SAND. | | |
| | | 9.00 (43) | 27.45 | | 9.40 | | | | | |
| | 30 (-) - | | | | (2.90) | | | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL with cobbles. Cobbles are of grey limestone. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| | | | | | | | | 0 | 18.90 | water 100 | 100 | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC06A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 36.85 | E 204,080.5 N 271,196.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 12.00 | | | | | | | | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL with cobbles. Cobbles are of grey limestone. *(continued)* | | |
| | | 12.00 (50/0mm) | 24.55 | | 12.30 | | | | | |
| 13.00 | 90 (70) 49 | 3 | | | | 12.30 - 18.90 Discontinuities, medium spaced, locally very closely and closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 3mm thick grey silt smear. | | Very strong locally strong thickly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| 13.90 | 100 (83) 62 | 5 | | | | | | | | |
| 15.10 | 100 (97) 68 | 5 | | | | 14.00 - 14.35 Joint, subvertical to vertical dip, stepped, rough, with 0.5 to 1mm thick brown clay smear, open. | | | | |
| 16.70 | 100 (94) 80 | 6<br>3 | | | (6.60) | | | | | |
| 17.40 | 100 (94) 91 | 2 | | | | | | | | |
| 29.03 18.90 | 100 (95) 91 | 2 | 17.95 | | 18.90 | | | | | |
| | | | | | | | | BH terminated at 18.90m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 29-03-21 | 17.30 | 18.90 | 4.50 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC06B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-03-21<br>29-03-21 | 38.58 | E 204,095.8 N 271,204.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0<br>(-)<br>- | NA | | | (5.50) | 0.00 - 15.30 : overburden. | | Open hole drilling - no recovery. | | |
| 5.50 | | | 33.08 | | 5.50 | | | | | |
| 6.00 | 13<br>(-)<br>- | | | | | | | Subrounded to subangular fine to coarse brown dolomitised limestone and assorted grey limestone GRAVEL. | | |
| | 10<br>(-)<br>- | | | | | | | | | |
| 9.00 | | 9.00 (50/0mm) | | | | | | | | |
| | 17<br>(-)<br>- | NA | | | (9.80) | | | | | |

| Drilling Progress and Water Observations | | | | | | | |
|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
| | | | | | | | |

| Rotary Flush | | | |
|---|---|---|---|
| From (m) | To (m) | Type | Return (%) |
| 0 | 20.80 | water | 100 100 |

**GENERAL REMARKS**

50mm standpipe installed. Response zone 2.80m to 20.80m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC06B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-03-21<br>29-03-21 | 38.58 | E 204,095.8 N 271,204.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 26.03 12.00 | | | | | | | | Subrounded to subangular fine to coarse brown dolomitised limestone and assorted grey limestone GRAVEL. *(continued)* | | |
| 29.03 | 17 (-) - | 12.00 (69/225mm) | | | | | | | | |
| 15.00 | | 15.00 (50/0mm) | 23.28 | | 15.30 | | | | | |
| | 81 (44) 20 | 8 | | | | 15.30 - 20.80 Discontinuities, medium spaced, locally very closely and closely spaced, dipping 10 to 12°, stepped, rough, with some brown silt and brown carbonate crystal assemblages. 16.20 - 17.40 Non-intact as angular fine to coarse gravel sized clasts. | | Strong locally medium and very strong apparently massive light brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE. | | |
| 16.60 | | NI | | | | | | | | |
| | 100 (65) 43 | 4 | | | | | | | | |
| 18.00 | | | | | (5.50) | | | | | |
| | 100 (58) 26 | 13 | | | | | | | | |
| | | NI | | | | 19.00 - 19.40 Non-intact as angular fine to coarse gravel sized clasts. | | | | |
| 19.60 | | 2 | | | | | | | | |
| | 100 (92) 85 | 6 | | | | | | | | |
| 29.03 20.80 | | | 17.78 | | 20.80 | | | | | |
| | | | | | | | | BH terminated at 20.80m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 26-03-21 | 17.00 | 12.00 | 5.50 | 99 | 63 | | |
| 29-03-21 | 08.00 | 12.00 | 5.50 | 99 | 63 | | |
| 29-03-21 | 12.00 | 20.80 | 5.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

50mm standpipe installed. Response zone 2.80m to 20.80m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC07A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 38.39 | E 204,456.3 N 270,810.7 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.00) | 0.00 - 11.00 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | | | 35.39 | | 3.00 | | | | | |
| 4.50 | 27 (-) - | | | | | | | Light brown slightly silty fine SAND. | | |
| 6.00 | 20 (-) - | | | | (5.80) | | | | | |
| | 10 (-) - | 6.00 (42)<br>NA | | | | | | | | |
| 9.00 | | | 29.59 | | 8.80 | | | | | |
| | 53 (26) 24 | 9.00 (49) | | | (2.20) | | | Brown slightly sandy gravelly SILT. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse assorted grey limestone. | | |
| | | | 27.39 | | 11.00 | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 18.20 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.20m to 18.20m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC07A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 38.39 | E 204,456.3 N 270,810.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
| 12.00 | | | | | | 11.00 - 13.60 Non-intact as possible weathered rock. No recovery as washout of fines during drilling. No record of cavity. | Possible weathered LIMESTONE rock.<br>Recovered as angular fine to coarse gravel cobble and boulder sized clasts of strong grey fine to coarse limestone with a little dark grey silt. | | |
| 13.60 | 50<br>(15)<br>0 | 12.00 (50/0mm)<br>NR/NI? | 24.79 | | (2.60)<br>13.60 | | | | |
| 15.20 | 100<br>(94)<br>88 | 3<br>4 | | | | 13.60 - 18.20 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 2mm thick grey silt smear. | Very strong locally strong thickly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| 16.60 | 100<br>(84)<br>57 | 6 | | | (4.60) | 15.60 - 15.70 Joint, dipping 60°, planar, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | |
| 30.03 18.20 | 100<br>(71)<br>33 | 6<br>NI<br>2 | 20.19 | | 18.20 | 17.20 - 18.00 Possible joint, Non-intact as angular fine to coarse gravel sized clasts. | | | |
| | | | | | | | BH terminated at 18.20m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 30-03-21 | 17.00 | 18.20 | 3.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.20m to 18.20m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC07B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 31-03-21<br>31-03-21 | 37.44 | E 204,471.8 N 270,753.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 2 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (3.00) | 0.00 - 8.10 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | | | 34.44 | | 3.00 | | | | | |
| 4.50 | 33 (-) - | NA | | | (5.10) | | | Subrounded to subangular fine to coarse brown dolomitised limestone and assorted grey limestone GRAVEL. | | |
| 6.00 | 27 (-) - | | | | | | | | | |
| 7.50 | 43 (-) - | | | | | | | | | |
| 9.00 | 80 (61) 53 | 3 | 29.34 | | 8.10 | 8.10 - 14.50 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 5mm thick light grey silt smear.<br>9.00 - 9.10 Non-intact as brown clay.<br>9.30 - 9.60 Non-intact as angular fine to coarse gravel sized clasts. | | Very strong thickly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE.<br><br>9.00m to 9.10m: brown clay. | | |
| 10.60 | 100 (69) 56 | 9.00 (50/0mm) NI<br>1<br>NI<br>1 | | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 14.50 | water 100 | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC07B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 31-03-21<br>31-03-21 | 37.44 | E 204,471.8 N 270,753.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
| 12.00 | 100 (96) 94 | 3<br>3 | | | (6.40) | | Very strong thickly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. *(continued)* | | |
| 13.50 | 100 (80) 74 | 1<br>NI<br>1 | | | | 12.20 - 12.40 Non-intact as orangish brown clay. | 12.20m to 12.40m: orangish brown clay. | | |
| 31.03 14.50 | 100 (55) 47 | 7<br>NI<br>1 | 22.94 | | 14.50 | 14.00 - 14.30 Non-intact as angular fine to coarse gravel sized clasts. | BH terminated at 14.50m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 31-03-21 | 17.00 | 14.50 | 4.50 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC08A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-04-21<br>07-04-21 | 38.22 | E 204,622.7 N 270,309.5 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0<br>(-)<br>- | NA | | | (5.50) | 0.00 - 9.30 : overburden. | | Open hole drilling - no recovery. | | |
| 5.50 | | | 32.72 | | 5.50 | | | | | |
| 6.00 | 40<br>(-)<br>- | NA | | | (3.80) | | | Subrounded to subangular fine to coarse assorted dark grey and grey limestone GRAVEL with cobbles. Cobbles are of assorted grey limestone. | | |
| 9.00 | 10<br>(-)<br>- | 9.00 (50/0mm) | 28.92 | | 9.30 | | | | | |
| 10.50 | 100<br>(73)<br>58 | 6<br>4 | | | | 9.30 - 9.45 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick grey silt smear, open.<br>9.30 - 14.80 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 1mm thick grey silt smear. | | Very strong thickly bedded dark grey sparry bioclastic fine to medium grained LIMESTONE. | | |
| | 100 | | | | | | | | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| | | | | | | | | 0 | 14.80 | water | 100 | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC08A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-04-21<br>07-04-21 | 38.22 | E 204,622.7 N 270,309.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2<br>Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 11.70 | (93)<br>88 | 2 | | | | 9.50 - 9.80 Joint, subvertical dip, stepped, rough, with 0.5 to 3mm thick grey silt smear, open to moderately wide. | | Very strong thickly bedded dark grey sparry bioclastic fine to medium grained LIMESTONE. *(continued)* | | |
| | 100<br>(97)<br>96 | 1 | | | (5.50) | | | 12.10m to 12.20m: light greyish white coarse grained. | | |
| 13.30 | | 4 | | | | | | 13.30m to 13.40m: light greyish white coarse grained. | | |
| | 100<br>(90)<br>85 | 3 | | | | | | 14.05m to 14.10m: light greyish white coarse grained. | | |
| 07.04 14.80 | | | 23.42 | | 14.80 | | | | | |
| | | | | | | | | BH terminated at 14.80m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 07-04-21 | 13.00 | 14.80 | 5.50 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC08B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 06-04-21<br>06-04-21 | 38.23 | E 204,629.8 N 270,291.5 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (5.50) | 0.00 - 8.90 : overburden. | | Open hole drilling - no recovery. | | |
| 5.50 | | | 32.73 | | 5.50 | | | | | |
| 6.00 | 40 (-) - | | | | | | | Subrounded fine to medium assorted dark grey limestone GRAVEL with a little fine and medium grained sand. | | |
| | 10 (3) 3 | NA<br>7.50 (43) | | | (3.40) | | | | | |
| 9.00 | | | 29.33 | | 8.90 | | | | | |
| | 100 (98) 97 | 9.00 (50/0mm)<br>3 | | | | 8.90 - 15.00 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 1mm thick grey silt smear. | | Very strong locally strong thinly bedded dark grey sparry bioclastic fine to medium grained LIMESTONE. | | |
| 10.60 | | 4 | | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 15.00 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.00m to 12.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC08B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 06-04-21<br>06-04-21 | 38.23 | E 204,629.8 N 270,291.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2<br>Rev. DRAFT |

| RUN DETAILS | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | DESCRIPTION: Detail | DESCRIPTION: Main | Geology / Instrument/ Backfill |
| | 100 (89) 82 | 4 | | | | | | Very strong locally strong thinly bedded dark grey sparry bioclastic fine to medium grained LIMESTONE. *(continued)* | |
| 12.00 | | NI | | | (6.10) | 11.80 - 12.00 Non-intact as angular fine to medium gravel sized clasts. | | | |
| | 100 (97) 79 | 3 | | | | | | | |
| 13.60 | | 6 | | | | 13.50 - 13.85 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | |
| | 100 (90) 75 | 6 | | | | 14.10 - 14.25 Joint, subvertical dip, stepped, rough, clean, open as drilling induced? | | | |
| 06.04 15.00 | | | 23.23 | | 15.00 | | | | |
| | | | | | | | | BH terminated at 15.00m bgl on REs instruction. | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 06-04-21 | 14.00 | 15.00 | 5.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.00m to 12.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC09A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>09-04-21 | 39.06 | E 204,637.2 N 269,747.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (6.00) | 0.00 - 7.70 : overburden. | | Open hole drilling - no recovery. | | |
| 6.00 | 38 (-) - | NA | 33.06 | | (1.70) | | | Grey slightly sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse of assorted dark grey and grey limestone. Cobbles are of assorted grey limestone. | | |
| 7.60 | 100 (82) 53 | ~~7.60 (25/0mm)~~ 2 7 | 31.36 | | 7.70 | 7.70 - 13.40 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 1mm thick dark grey silt smear.<br>8.50 - 8.65 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open.<br>9.40 - 8.65 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear over 1mm thick white calcitic veinlet, open.<br>10.00 - 8.65 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | Very strong locally strong thinly bedded dark grey slightly bioclastic fine to medium grained LIMESTONE. | | |
| 8.80 | 100 (95) 70 | 5 | | | | | | | | |
| 10.40 | 100 | 3 | | | (5.70) | | | | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| | | | | | | | | 0 | 13.40 | water 100 | 100 | 50mm standpipe installed. Response zone 3.00m to 10.40m bgl. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used Hydreq | Bit HQ Design | Driller PMcG | Logged By EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC09A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>09-04-21 | 39.06 | E 204,637.2 N 269,747.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| | (93)<br>62 | | | | | | | Very strong locally strong thinly bedded dark grey slightly bioclastic fine to medium grained LIMESTONE. *(continued)* | | |
| 08.04 11.80 | | 6 | | | | | | | | |
| 09.04 | 100<br>(97)<br>96 | 0 | | | | | | | | |
| 09.04 13.40 | | 0 | 25.66 | | 13.40 | | | | | |
| | | | | | | | | BH terminated at 13.40m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 08-04-21 | 17.00 | 11.80 | 6.00 | 99 | 63 | | | | | | | 50mm standpipe installed. Response zone 3.00m to 10.40m bgl. |
| 09-04-21 | 08.00 | 11.80 | 6.00 | 99 | 63 | | | | | | | |
| 09-04-21 | 11.00 | 13.40 | 6.00 | 99 | 63 | | | | | | | |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC09B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-04-21<br>09-04-21 | 39.25 | E 204,646.8 N 269,730.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology / Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (6.00) | 0.00 - 7.20 : overburden. | | Open hole drilling - no recovery. | |
| 6.00 | | | 33.25 | | 6.00 | | | | |
| 7.20 | 8 (-) - | NA | 32.05 | | (1.20) 7.20 | | | Light whitish grey limestone COBBLE. | |
| 8.60 | 100 (96) 75 | 7.20 (50/0mm) 6 | | | (2.50) | 7.20 - 9.70 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 1mm thick brown clay smear. 7.30 - 7.75 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick grey silt smear, open. | | Strong thinly bedded grey bioclastic fine to medium grained LIMESTONE. | |
| | | 1 | | | | | | | |
| | 100 (91) 52 | 8 | 29.55 | | 9.70 | 8.95 - 9.70 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick grey silt smear, open. | | 9.60m to 9.70m: strong light grey weakly dolomitised limestone. | |
| 10.20 | | 3 | | | | 9.70 - 13.30 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 1mm thick grey silt smear. 10.15 - 10.35 Joint, subvertical dip, | | Very strong locally strong thinly bedded dark grey bioclastic cherty fine grained LIMESTONE. | |
| | 100 | | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 13.30 | water 100 | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC09B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-04-21<br>09-04-21 | 39.25 | E 204,646.8 N 269,730.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
| 11.80 | (95)<br>84 | 3 | | | (3.60) | stepped, rough, with 0.5 to 1mm thick brown clay smear, open. | Very strong locally strong thinly bedded dark grey bioclastic cherty fine grained LIMESTONE. *(continued)* | | |
| 09.04 13.30 | 100<br>(97)<br>95 | 3<br>2 | 25.95 | | 13.30 | | 12.90m to 12.95m: light grey. | | |
| | | | | | | | BH terminated at 13.30m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 09-04-21 | 17.00 | 13.30 | 6.00 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC10B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-04-21<br>12-04-21 | 45.80 | E 205,702.1 N 268,549.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (1.50) | 0.00 - 3.80 : overburden. | | Open hole drilling - no recovery. | | |
| 1.50 | | 1.50 (23) | 44.30 | | 1.50 | | | | | |
| 2.60 | 50 (-) - | NA | | | (2.30) | | | Grey sandy gravelly SILT with cobbles. Sand is coarse. Gravel is subangular to subrounded fine to coarse of assorted dark grey and grey limestone. Cobbles are of assorted grey limestone. | | |
| 4.10 | 83 (19) 0 | 4 | 42.00 | | 3.80 | | | | | |
| 5.70 | 100 (84) 69 | 9<br>4 | | | | 3.80 - 8.90 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, rough, with 0.5 to 3mm thick dark grey silt smear. | | Very strong locally strong thickly bedded grey sparry fine to coarse grained LIMESTONE. | | |
| 7.30 | 100 (94) 75 | 3 | | | (5.10) | 6.90 - 7.30 Joint, subvertical dip, planar, smooth, with 0.5 to 2mm thick black silt smear, open. | | | | |
| 12.04 8.90 | 100 (89) 73 | 4<br>5 | 36.90 | | 8.90 | | | 8.00m to 8.03m: silty fissile.<br>8.10m to 8.15m: silty fissile. | | |
| | | | | | | | | BH terminated at 8.90m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 12-04-21 | 15.00 | 8.90 | 1.50 | 99 | 63 | | 3.10 |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.90 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.80m to 8.80m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: DC | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC11A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 43.66 | E 206,090.0 N 268,271.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00<br>1.00 | 0<br>(-)<br>- | NA | 42.66 | | (1.00)<br>1.00 | 0.00 - 1.00 : overburden. | | Open hole drilling - no recovery. | | |
| 2.40 | 100<br>(96)<br>62 | 7 | | | | 1.00 - 6.00 Discontinuities, closely spaced, locally medium spaced, dipping 14 to 16°, stepped, rough, with 0.5 to 6mm thick grey silt smear. | | Very strong locally strong thickly bedded grey sparry fine to coarse grained LIMESTONE. | | |
| 3.50 | 100<br>(85)<br>39 | 16 | | | | 2.60 - 2.80 Joint, subvertical dip, planar, smooth, with 0.5 to 3mm thick grey silt smear, open to moderately wide. | | | | |
| 5.00 | 100<br>(95)<br>53 | 8<br>10 | | | (5.00) | 2.85 - 2.95 Joint, dipping 60°, planar, smooth, with 0.5 to 1mm thick grey silt smear, open.<br>4.15 - 4.35 Joint, subvertical dip, planar, smooth, with 0.5 to 6mm thick grey silt smear, open to moderately wide. | | | | |
| 08.04 6.00 | 100<br>(92)<br>71 | 5 | 37.66 | | 6.00 | 4.60 - 4.75 Joint, vertical dip, stepped, rough, with 0.5 to 1mm thick grey silt smear, open. | | | | |
| | | | | | | | | BH terminated at 6.00m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 08-04-21 | 17.00 | 6.00 | 1.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 6.00 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 1.00m to 6.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC11B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-04-21<br>09-04-21 | 43.18 | E 206,113.1 N 268,271.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth<br>Date | TCR<br>(SCR)<br>RQD | (SPT)<br>Fracture<br>Spacing | Red'cd<br>Level | Legend | Depth<br>(Thick-<br>ness) | DESCRIPTION<br>Discontinuities | Detail | Main | Geology | Instrument/<br>Backfill |
| 0.00<br>1.50 | 0<br>(-)<br>- | NA | 41.68 | | (1.50)<br>1.50 | 0.00 - 1.50 : overburden. | | Open hole drilling - no recovery. | | |
| 2.90 | 100<br>(66)<br>0 | 5<br>10 | | | | 1.50 - 7.00 Discontinuities, medium spaced, locally closely spaced, dipping 8 to 10 °, stepped, rough, with 0.5 to 3mm thick grey silt smear.<br>1.51 - 3.10 Joint, subvertical dip, stepped, smooth, with 0.5 to 4mm thick grey silt smear over 1mm thick white calcitic veinlet, open to moderately wide. | | Very strong locally strong thinly bedded light grey sparry fine to coarse grained LIMESTONE. | | |
| 4.40 | 100<br>(97)<br>77 | 5 | | | | | | | | |
| 5.90 | 100<br>(96)<br>92 | 5<br>3 | | | (5.50) | | | | | |
| 09.04 7.00 | 100<br>(95)<br>66 | 5 | 36.18 | | 7.00 | | | | | |
| | | | | | | | | BH terminated at 7.00m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 09-04-21 | 14.00 | 7.00 | 1.50 | 99 | 63 | | 1.10 | 0 | 7.00 | water 100 | 100 | BH backfilled. |

| All dimensions in metres<br>Scale 1:68.75 | Client: Bord na Mona | Method/<br>Plant Used Hydreq | Bit HQ<br>Design | Driller<br>DC | Logged By<br>EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC12A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-04-21<br>14-04-21 | 40.66 | E 205,693.2 N 267,760.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 3 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0<br>(-)<br>- | NA | | | (4.50) | 0.00 - 9.50 : overburden. | | Open hole drilling - no recovery. | | |
| 4.50 | | | 36.16 | | 4.50 | | | | | |
| 6.00 | 47<br>(-)<br>- | | 34.66 | | (1.50) 6.00 | | | Grey sandy gravelly SILT with cobbles. Sand is medium to coarse. Gravel is subangular fine to coarse of assorted grey limestone and assorted grey sandstone. Cobbles are of assorted grey limestone. | | |
| 12.04 8.60<br>13.04 | 23<br>(-)<br>- | 6.00(68/225mm)<br>NA<br>8.60 (50/0mm) | 31.16 | | (3.50) 9.50 | | | Light grey slightly silty sandy subrounded to subangular fine and coarse brown dolomitised limestone and assorted grey limestone GRAVEL. | | |
| | 68<br>(42)<br>16 | NR/NI | | | | 9.50 - 30.10 Non-intact as angular fine to coarse gravel sized clasts. No recovery as washout of fines during drilling. | | Strong locally medium and very strong apparently massive light brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 12-04-21 | 17.00 | 8.60 | 4.50 | 99 | 63 | | |
| 13-04-21 | 08.00 | 8.60 | 4.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 30.10 | polymer | 100 |

## GENERAL REMARKS

4 gallons polydrill used. BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC12A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-04-21<br>14-04-21 | 40.66 | E 205,693.2 N 267,760.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 3<br>Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 11.10 | 60 (26) 18 | NR/NI | | | (4.60) | | | Strong locally medium and very strong apparently massive light brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE. *(continued)* | | |
| 12.10 | 80 (68) 63 | | 26.56 | | 14.10 | | | | | |
| 14.40 | | NI | 26.26 | | 14.40 | | | Light brown fine and medium SAND. | | |
| 15.10 | 100 (61) 41 | 0 | | | | | | Strong apparently massive light brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE.<br>15.10m to 16.70m: grey. | | |
| 16.70 | 100 (91) 82 | 2<br>3 | 23.86 | | (2.40)<br>16.80 | | | | | |
| 18.10 | 42 (5) 0 | NR/NI | | | | | | Light brown fine and medium SAND. | | |
| 19.60 | 13 (5) 0 | | | | (3.50) | | | | | |
| | 73 (49) 39 | | 20.36 | | 20.30 | | | | | |
| 21.10 | | | 19.56 | | (0.80)<br>21.10 | | | Strong apparently massive light brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE. | | |
| | 71 (15) | | 19.26 | | 21.40<br>(1.00) | | | Light brown fine and medium SAND. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) |
| | | | | | | | | | | | |

**GENERAL REMARKS**

4 gallons polydrill used. BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC12A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-04-21<br>14-04-21 | 40.66 | E 205,693.2 N 267,760.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 3 of 3 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 22.50 | 0 | | 18.26 | | 22.40 | | | Rounded to subrounded fine and medium GRAVEL of various lithologies. *(continued)* | | |
| 24.00 | 100 (95) 61 | NI | 16.66 | | (1.60) 24.00 | | | Strong apparently massive light brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE. | | |
| 13.04 24.60 | 100 (0) 0 | | 16.06 | | (0.60) 24.60 | | | Light brown slightly silty fine and medium SAND. | | |
| 14.04 26.10 | 100 (85) 61 | | 14.66 | | (1.40) 26.00 | | | Strong apparently massive light brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE. | | |
| 27.90 | 44 (12) 0 | NR/NI | | | | | | Subangular and rounded fine and medium brown dolomitised limestone GRAVEL with cobbles. Cobbles are of brown dolomitised limestone. | | |
| 14.04 30.10 | 59 (41) 32 | | 10.56 | | (4.10) 30.10 | | | | | |
| | | | | | | | | BH terminated at 30.10m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 13-04-21 | 17.00 | 24.60 | 8.00 | 99 | 63 | | |
| 14-04-21 | 08.00 | 24.60 | 8.00 | 99 | 63 | | |
| 14-04-21 | 12.00 | 30.10 | 8.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

4 gallons polydrill used. BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC12B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 14-04-21<br>15-04-21 | 40.95 | E 205,695.7 N 267,740.4 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 1 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.80) | 0.00 - 3.80 : overburden. | | Open hole drilling - no recovery. | | |
| 3.80 | | | 37.15 | | 3.80 | | | | | |
| | 100 (96) 42 | 5, 7 | | | | 3.80 - 10.00 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, rough, with 0.5 to 8mm thick grey silt smear and brown crystal assemblages. | | Strong,locally very strong, apparently massive light brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE. | | |
| 5.30 | | | | | | | | | | |
| | 100 (95) 79 | 4, 6 | | | | 5.85 - 6.00 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick grey silt smear, open.<br>6.05 - 6.15 Joint, dipping 60°, stepped, rough, with 0.5 to 2mm thick orangish brown clay smear, open.<br>6.90 - 7.10 Joint, vertical dip, stepped, rough, 0.5 to 10mm wide. | | | | |
| 14.04 6.90 | | | | | (6.20) | | | | | |
| 15.04 | 100 (88) 53 | 5 | | | | | | 7.00m to 8.10m: dark brown. | | |
| 8.50 | | 5 | | | | | | | | |
| | 100 (96) 77 | 7 | | | | | | 9.30m to 10.00m: brownish grey crystalline weakly dolomitised limestone. | | |
| 15.04 10.00 | | | 30.95 | | 10.00 | | | | | |
| | | | | | | | | BH terminated at 10.00m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 14-04-21 | 17.00 | 6.90 | 3.80 | 99 | 63 | | |
| 15-04-21 | 08.00 | 6.90 | 3.80 | 99 | 63 | | |
| 15-04-21 | 12.00 | 10.00 | 3.80 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 10.00 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.00m to 10.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC12C** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-05-21<br>25-05-21 | 40.75 | E 205,689.2 N 267,729.7 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | | | | | | 0.00 - 4.80 : overburden. | | Open hole drilling - no recovery. | | |
| | 0 (-) - | | | | | | | | | |
| 1.50 | | | | | | | | | | |
| | | NA | | | (3.80) | | | | | |
| 2.50 | | | | | | | | | | |
| | 42 (17) 0 | | | | | | | | | |
| 3.80 | | | 36.95 | | 3.80 | | | | | |
| 4.00 | | | | | | | | Dark grey gravelly SILT. Gravel is subrounded to subangular fine to coarse of brown dolomitised sandstone and assorted grey limestone. | | |
| | 100 (96) 83 | NA | | | (1.00) | | | | | |
| 5.00 | | | 35.95 | | 4.80 | | | | | |
| | | 5.00 (40/0mm) | | | | 4.80 - 12.20 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, rough, with 0.5 to 4mm thick light orangish brown clay smear. | | Very strong locally strong and medium strongapparently massive light orangish brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE. | | |
| | 100 (90) 76 | 3 | | | | | | | | |
| 6.20 | | | | | | | | | | |
| | | 4 | | | | | | | | |
| | 100 (96) 93 | | | | | | | | | |
| | | 5 | | | | 7.20 - 7.30 Joint, dipping 60°, stepped, rough, with 0.5 to 1mm thick orangish brown silt smear over 0.5 to 2mm thick calcitic crystal smear, open to moderately wide. | | | | |
| 7.80 | | | | | | | | | | |
| | | 1 | | | (7.40) | | | | | |
| 9.20 | 100 (92) 88 | | | | | | | | | |
| | | 3 | | | | | | | | |
| | | 6 | | | | | | | | |
| 10.80 | | | | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 12.20 | water 100 | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC12C** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-05-21<br>25-05-21 | 40.75 | E 205,689.2 N 267,729.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 25.05 12.20 | 100 (92) 84 | 2 | 28.55 | | 12.20 | | | Very strong locally strong and medium strongapparently massive light orangish brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE. *(continued)* | | |
| | | | | | | | | BH terminated at 12.20m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 25-05-21 | 15.00 | 12.20 | 4.00 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC13A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-04-21<br>16-04-21 | 39.93 | E 205,964.4 N 266,497.8 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0<br>(-)<br>- | NA | | | (4.50) | 0.00 - 6.80 : overburden. | | Open hole drilling - no recovery. | | |
| 4.50 | | | 35.43 | | 4.50 | | | | | |
| 6.00 | 53<br>(-)<br>- | NA<br>6.00(50/75mm) | | | (2.30) | | | Subrounded to subangular fine to coarse assorted dark grey and grey limestone GRAVEL with a little light brownish grey silt. | | |
| | | | 33.13 | | 6.80 | | | | | |
| 8.10 | 85<br>(57)<br>40 | 8 | | | | | | Very strong locally strong thickly bedded grey coarse grained LIMESTONE.<br>8.10m: underground water spring. | | |
| 9.00 | 67<br>(34)<br>23 | 6 | | | | | | | | |
| | 100<br>(52)<br>29 | NI | | | | 8.90 - 9.10 Non-intact as orangish brown silt.<br>9.10 - 11.60 Non-intact as angular fine to coarse gravel sized clasts. | | 8.90m to 9.10m: light orangish brown silt. | | |
| 15.04 10.60<br>16.04 | 100<br>(0) | NI | | | | | | | | |
| 11.00 | | | | | (8.20) | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 15-04-21 | 17.30 | 10.60 | 4.50 | 99 | 63 | | |
| 16-04-21 | 08.00 | 10.60 | 4.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 15.00 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.00m to 15.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC13A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-04-21<br>16-04-21 | 39.93 | E 205,964.4 N 266,497.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0<br>12.00 | 100<br>(49)<br>33 | | | | | | | Very strong locally strong thickly bedded grey coarse grained LIMESTONE. *(continued)* | | |
| 13.50 | 100<br>(56)<br>14 | 8 | | | | 12.40 - 12.80 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick light orangish brown silt, open.<br>12.80 - 15.00 Non-intact as angular fine to coarse gravel sized clasts. | | 12.20m to 12.80m: light brownish grey weakly dolomitised limestone. | | |
| 16.04 15.00 | 100<br>(41)<br>24 | NI | 24.93 | | 15.00 | | | 14.10m to 14.40m: boulder sized clast. | | |
| | | | | | | | | BH terminated at 14.50m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 16-04-21 | 14.00 | 15.00 | 4.50 | 99 | 63 | | | | | | | 50mm standpipe installed. Response zone 3.00m to 15.00m bgl. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC13B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-04-21<br>19-04-21 | 39.99 | E 205,977.7 N 266,434.4 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 3 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0<br>(-)<br>- | NA | | | (4.50) | 0.00 - 6.60 : overburden. | | Open hole drilling - no recovery. | | |
| 4.50 | | | 35.49 | | 4.50 | | | | | |
| 6.00 | 33<br>(-)<br>- | NA<br>6.00(55/150mm) | 33.99 | | (1.50)<br>6.00 | | | Subrounded to subangular fine and coarse brown dolomitised limestone and assorted grey limestone GRAVEL. | | |
| 6.80 | 75<br>(25)<br>0 | | 33.39 | | (0.60)<br>6.60 | | | Very stiff brown sandy gravelly SILT with cobbles. Sand is medium to coarse. Gravel is subangular fine to coarse of assorted brown sandstone and assorted grey sandstone. Cobbles are of assorted grey limestone. | | |
| 7.60 | 100<br>(15)<br>0 | NR/NI | | | | 6.60 - 19.50 Non-intact as probable weathered rock. No recovery as washout of fines during drilling. No record of cavity. | | Probable weathered DOLOMITISED LIMESTONE rock.<br>Recovered as angular fine to coarse gravel and boulder sized clasts of strong locally medium apparently massive light brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE with much silty fine sand.<br>Core run - 7.60m to 9.00m: 1 No whitish grey limestone boulder 700mm in length, medium strong.<br>9.00m: underground water spring. | | |
| 16.04 9.00<br>19.04 | 85<br>(50)<br>48 | | | | | | | | | |
| 10.50 | 27<br>(0)<br>0 | | | | (7.00) | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 16-04-21 | 17.00 | 9.00 | 4.50 | 99 | 63 | | |
| 19-04-21 | 08.00 | 9.00 | 4.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 25.50 | polymer | 100 |

## GENERAL REMARKS

2 gallons polydrill used. BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC13B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-04-21<br>19-04-21 | 39.99 | E 205,977.7 N 266,434.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 3 |
| | Rev. DRAFT |

## RUN DETAILS

| Depth Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) |
|---|---|---|---|---|---|
| 12.00 | 47 (0) 0 | | | | |
| 13.00 | 60 (12) 0 | | | | |
| 14.10 | 100 (52) 42 | NR/NI | 26.39 | | 13.60 |
| 15.00 | 56 (28) 23 | | | | |
| 17.70 | 100 (47) 43 | | | | (5.90) |
| 19.50 | 100 (51) 44 | NI | 20.49 | | 19.50 |
| | 100 (85) 45 | 8 | 19.69 | | (0.80) 20.30 |
| 21.00 | | 3 | | | |
| | 100 (96) | 9 | | | |

## STRATA DESCRIPTION

| Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|
| | | Probable weathered DOLOMITISED LIMESTONE rock. Recovered as angular fine to coarse gravel and boulder sized clasts of strong locally medium apparently massive light brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE with much silty fine sand. *(continued)* | | |
| | | Weathered DOLOMITISED LIMESTONE rock. Recovered as angular fine to coarse gravel and cobble sized clasts of strong locally medium apparently massive light orangish brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE with some orangish brown silty fine and medium sand. | | |
| 19.50 - 20.30 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 6mm thick orangish brown clay smear.<br>19.80 - 20.05 Joint, subvertical dip, stepped, rough, with 0.5 to 2mm thick orangish brown clay smear, open.<br>20.30 - 25.50 Discontinuities, medium spaced, locally closely spaced, dipping 8 to 10°, stepped, | | Strong locally medium strong apparently massive greyish brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE. | | |
| | | Strong locally very strong thickly bedded grey cherty fine grained LIMESTONE. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

2 gallons polydrill used. BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC13B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-04-21<br>19-04-21 | 39.99 | E 205,977.7 N 266,434.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 3 of 3 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
| | 42 | | | | | smooth, with 0.5 to 1mm thick grey silt smear.<br>20.40 - 21.15 Joint, subvertical dip, planar, smooth, with 0.5 to 1mm thick grey silt smear, open.<br>21.50 - 21.65 Joint, subvertical to vertical dip, planar, smooth, clean, open as drilling induced? | Strong locally very strong thickly bedded grey cherty fine grained LIMESTONE. *(continued)*<br><br>23.25m to 23.30m: pinkish brown silt. | | |
| 22.60 | | 5 | | | | | | | |
| | 100<br>(87)<br>52 | 9 | | | (5.20) | | | | |
| 24.00 | | | | | | | | | |
| | 100<br>(94)<br>87 | 1 | | | | | | | |
| 19.04 25.50 | | 3 | 14.49 | | 25.50 | | | | |
| | | | | | | | BH terminated at 25.50m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 19-04-21 | 17.00 | 25.50 | 4.50 | 99 | 63 | | | | | | | 2 gallons polydrill used. BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC14A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 27-04-21<br>27-04-21 | 43.89 | E 206,401.1 N 266,174.4 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 1 | DRAFT |

| RUN DETAILS: Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | STRATA DESCRIPTION: Discontinuities / Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (4.20) | 0.00 - 4.20 : overburden. | Open hole drilling - no recovery. | | |
| 4.20 | 100 (75) 35 | 12 | 39.69 | | 4.20 | 4.20 - 9.80 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 1mm thick dark grey silt smear. | Very strong locally strong thickly bedded grey slightly bioclastic fine and medium grained LIMESTONE. | | |
| 5.20 | 100 (96) 57 | 12 | | | | | | | |
| 6.70 | 100 (96) 66 | 6 | | | (5.60) | 7.50 - 7.95 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt, open. | | | |
| 8.30 | 100 (96) 94 | 6 | | | | | | | |
| | | 3 | | | | | | | |
| 27.04 9.80 | | 3 | 34.09 | | 9.80 | | | | |
| | | | | | | | BH terminated at 9.80m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 27-04-21 | 13.00 | 9.80 | 4.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 9.80 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.80m to 9.80m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC14B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 27-04-21<br>28-04-21 | 43.92 | E 206,378.5 N 266,169.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0<br>(-)<br>- | NA | | | (4.10) | 0.00 - 5.00 : overburden. | | Open hole drilling - no recovery. | | |
| 4.10 | | | 39.82 | | 4.10 | | | | | |
| 27.04<br>28.04 | 92<br>(21)<br>0 | NA<br>4.70 (25/0mm) | 38.92 | | (0.90)<br>5.00 | | | Subrounded to subangular fine to coarse brown dolomitised limestone and assorted grey limestone GRAVEL with a little grey silt. | | |
| 5.40 | 100<br>(86)<br>64 | 9<br>5 | | | (6.30) | 5.00 - 5.70 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick grey silt smear, open.<br>5.00 - 11.30 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 2mm thick grey silt smear. | | Very strong locally strong thickly bedded grey slightly bioclastic sparry fine and medium grained LIMESTONE. | | |
| 7.00 | 100<br>(95)<br>77 | 7<br>3 | | | | 7.00 - 7.15 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open.<br>7.70 - 7.85 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open.<br>8.00 - 8.20 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | | |
| 8.60 | 100<br>(95)<br>93 | 3 | | | | | | | | |
| 10.10 | 100<br>(96)<br>92 | 2 | | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 27-04-21 | 17.00 | 4.50 | 4.50 | 99 | 63 | | |
| 28-04-21 | 08.00 | 4.50 | 4.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 4.70 | water 100 | 100 |
| 4.7 | 11.30 | water 100 | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC14B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 27-04-21<br>28-04-21 | 43.92 | E 206,378.5 N 266,169.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 28.04 11.30 | | 2 | 32.62 | | 11.30 | | | BH terminated at 11.30m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 28-04-21 | 15.00 | 11.30 | 4.50 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC15A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-05-21<br>10-05-21 | 43.77 | E 207,014.7 N 266,283.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 3 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (2.70) | 0.00 - 15.80 : overburden. | | Open hole drilling - no recovery. | | |
| 2.70 | | | 41.07 | | 2.70 | | | | | |
| 3.80 | 46 (-) - | | | | | | | Subangular fine and coarse assorted grey limestone GRAVEL with cobbles. Cobbles are of assorted grey limestone. | | |
| 4.60 | 63 (-) - | 4.60(50/75mm) | | | (3.30) | | | | | |
| 6.00 | 64 (-) - | | 37.77 | | 6.00 | | | | | |
| | | 6.00 (42) NA | | | | | | No recovery. Drillers comment: washout of fines. | | |
| 9.00 | 0 (-) - | 9.00 (35) | | | (6.00) | | | | | |
| | 0 (-) - | | | | | | | | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| | | | | | | | | 0 | 22.50 | water | 100 | 50mm standpipe installed. Response zone 16.50m to 22.50m bgl. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC15A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-05-21<br>10-05-21 | 43.77 | E 207,014.7 N 266,283.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 3 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main (DESCRIPTION) | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 12.00 | | | 31.77 | | 12.00 | | | No recovery. Drillers comment: washout of fines. *(continued)* | | |
| | | 12.00 (43) | 31.62 | | 12.15 | | | Very stiff dark grey sandy gravelly SILT. Sand is fine to coarse. Gravel is subrounded to rounded fine to coarse of quartz. | | |
| | 13 (-) - | NA | | | (3.65) | | | Subrounded to rounded fine to coarse quartz GRAVEL. | | |
| 15.00 | | | | | | | | | | |
| 15.30 | 100 (-) - | 15.00 (56/150mm) | | | | | | | | |
| | | | 27.97 | | 15.80 | | | | | |
| | 82 (64) 50 | 7 | | | | 15.80 - 22.50 Discontinuities, medium spaced, locally very closely and closely spaced, dipping 12 to 14°, stepped, rough, with 0.5 to 4mm thick orangish brown clay smear. | | Very strong locally strong apparently massive grey 'marbled' whitish grey 'bleached' fine grained LIMESTONE. | | |
| 17.00 | | | | | | | | | | |
| 17.60 | 100 (53) 27 | 17.00 (50/0mm) 1 | | | | 16.95 - 17.10 Joint, subvertical dip, undulating, smooth, with 0.5 to 1mm thick orangish brown clay smear and minor orangish brown iron stain and powder, non-intact. | | | | |
| | | NI | | | | | | | | |
| | 100 (67) 44 | 11 | | | | 17.30 - 17.80 Probable joint, vertical dip, stepped, smooth, with 0.5 to 3mm thick light brownish grey silt smear, non-intact as angular fine to coarse gravel sized clasts. | | | | |
| 07.05 19.20 | | | | | (6.70) | | | | | |
| 10.05 19.90 | 100 (17) 0 | NI | | | | 19.10 - 19.80 Probable joint, vertical dip, stepped, locally undulating, smooth, with 0.5 to 8mm thick light grey silt smear, non-intact as angular fine to coarse gravel sized clasts. | | 19.90m: underground water spring. | | |
| | 100 (82) 66 | 7 | | | | | | | | |
| 21.00 | | | | | | | | | | |
| | 100 (41) 14 | NI | | | | 20.80 - 21.05 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick light grey silt smear, open, non intact. 21.00 - 22.50 Non-intact as angular | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 07-05-21 | 17.00 | 19.20 | 7.50 | 99 | 63 | | |
| 10-05-21 | 08.00 | 19.20 | 7.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

50mm standpipe installed. Response zone 16.50m to 22.50m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC15A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-05-21<br>10-05-21 | 43.77 | E 207,014.7 N 266,283.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 3 of 3<br>Rev. DRAFT |

| RUN DETAILS | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
| 10.05 22.50 | | | 21.27 | | 22.50 | fine to coarse gravel sized clasts. | | | |
| | | | | | | | BH terminated at 22.50m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 10-05-21 | 12.00 | 22.50 | 7.50 | 99 | 63 | | | | | | | 50mm standpipe installed. Response zone 16.50m to 22.50m bgl. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC15B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-05-21<br>06-05-21 | 43.81 | E 207,019.6 N 266,264.3 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 3 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (2.70) | 0.00 - 10.30 : overburden. | | Open hole drilling - no recovery. | | |
| 2.70 | | | 41.11 | | 2.70 | | | | | |
| 3.70 | 90 (-) - | | | | | | | Very stiff grey slightly sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is subangular fine to coarse of assorted grey limestone. Cobbles are of assorted grey limestone. | | |
| 4.30 | 100 (-) - | 4.30 (50/0mm) | | | | | | | | |
| 6.00 | 35 (-) - | | | | | | | | | |
| 7.50 (04.05 05.05) | 13 (-) - | 6.00 (45)<br>NR/NI | | | (7.60) | | | | | |
| 9.00 | 13 (-) - | 9.00 (43) | | | | | | | | |
| 10.50 | 20 (14) 13 | | 33.51 | | 10.30 | 10.30 - 18.70 Non-intact as possible weathered rock. No recovery as washout of fines during drilling. No | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 04-05-21 | 17.00 | 7.50 | 3.00 | 99 | 63 | | |
| 05-05-21 | 08.00 | 7.50 | 3.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 24.00 | water 100 | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC15B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-05-21<br>06-05-21 | 43.81 | E 207,019.6 N 266,264.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 3 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 12.00 | 20 (5) 0 | | | | | record of cavity. | | Possible weathered DOLOMITISED LIMESTONE rock. Recovered as angular fine to coarse gravel and cobble sized clasts of strong locally medium apparently massive light grey and light orangish brown crystalline vuggy coarse grained DOLOMITISED LIMESTONE with some orangish brown silt and some light grey fine sand. *(continued)* | | |
| 13.50 | 43 (14) 0 | 12.00(45/75mm) | | | | | | | | |
| 15.00 | 52 (25) 0 | NR/NI | | | (8.40) | | | | | |
| 16.50 | 2 (0) 0 | 15.00 (50/0mm) | | | | | | | | |
| 18.00 | 27 (0) 0 | | | | | | | | | |
| 19.50 | 93 (51) 41 | 18.00 (50/0mm) | 25.11 | | 18.70 | 18.70 - 21.30 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 2mm thick light grey silt smear. | | Strong locally very strong thickly bedded light grey fine and medium grained LIMESTONE. | | |
| 05.05 21.00 | 100 (85) 63 | 5<br>2<br>3 | | | (2.60) | 19.80 - 19.90 Joint, dipping 60°, planar, rough, with 0.5 to 1mm thick grey silt smear, open.<br>20.40 - 20.55 Joint, subvertical dip, planar, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | | |
| 06.05 | 80 (41) 17 | 3 | 22.51 | | 21.30 | 21.30 - 24.00 Non-intact as weathered rock. No recovery as washout of fines during drilling. No | | | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 05-05-21 | 17.00 | 21.00 | 3.00 | 99 | 63 | | | | | | | BH backfilled. |
| 06-05-21 | 08.00 | 21.00 | 3.00 | 99 | 63 | | | | | | | |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC15B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-05-21<br>06-05-21 | 43.81 | E 207,019.6 N 266,264.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 3 of 3 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 22.50 | | | | | | record of cavity. | | Weathered LIMESTONE rock. Recovered as subrounded to angular fine to coarse gravel cobble and boulder sized clasts of strong locally very strong and medium strong thickly bedded light grey fine and medium grained LIMESTONE with a little light grey silt and brownish white calcite crystal assemblages. *(continued)* | | |
| 06.05 24.00 | 67<br>(23)<br>14 | NR/NI | 19.81 | | (2.70)<br>24.00 | | | Core run - 22.50m to 24.00m: 1 No grey limestone boulder 260mm in length.<br>BH terminated at 24.00m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 06-05-21 | 12.00 | 24.00 | 9.00 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit: HQ Design | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC15C** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-05-21<br>10-05-21 | 44.17 | E 207,017.3 N 266,301.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | | | | | | 0.00 - 2.80 : overburden. | | Open hole drilling - no recovery. | | |
| | 0 (-) - | NA | | | (2.70) | | | | | |
| 2.70 | | | 41.47 | | 2.70 | | | | | |
| | 100 (60) 53 | | 41.37 | | 2.80 | | | | | |
| 3.00 | | NA | | | | 2.80 - 5.30 Non-intact as possible weathered rock. | | Subrounded to subangular fine and coarse assorted grey limestone GRAVEL. | | |
| | 100 (53) 33 | | | | | | | Possible weathered LIMESTONE rock.<br>Recovered as angular fine to coarse gravel and cobble sized clasts of very strong locally strong thinly bedded grey fine to coarse grained LIMESTONE with a little light grey silt. | | |
| 4.20 | | NI | | | (2.50) | | | | | |
| 4.80 | 100 (17) 0 | | | | | | | | | |
| 5.20 | 100 (33) 0 | | 38.87 | | 5.30 | | | | | |
| | 100 (93) 44 | 5 | | | | 5.30 - 10.60 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 1mm thick grey silt smear. | | Very strong locally strong thinly bedded grey fine to coarse grained LIMESTONE. | | |
| 6.00 | | | | | | | | | | |
| | 100 (94) 60 | 5 | | | | | | | | |
| 7.60 | | 6 | | | | 7.00 - 7.35 Joint, subvertical dip, planar, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | | |
| | | | | | (5.30) | | | 7.85m to 8.00m: dark grey cherty fine grained. | | |
| | 100 (96) 94 | 2 | | | | | | | | |
| 9.00 | | | | | | | | 9.00m to 9.10m: dark grey cherty fine grained. | | |
| | 100 (84) 79 | 6 | | | | | | | | |
| | | 3 | | | | | | 10.10m to 10.60m: slightly sandy. | | |
| T0.05 10.60 | | | 33.57 | | 10.60 | | | | | |
| | | | | | | | | BH terminated at 10.60m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 10-05-21 | 17.00 | 10.60 | 3.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 10.60 | water | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC15D** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-05-21<br>11-05-21 | 43.83 | E 206,992.8 N 266,300.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (1.20) | 0.00 - 1.60 : overburden. | | Open hole drilling - no recovery. | | |
| 1.20 | | | 42.63 | | 1.20 | | | | | |
| | 90 (38) 21 | NA | 42.23 | | 1.60 | 1.60 - 2.70 Non-intact as possible weathered rock. | | Subrounded to subangular medium to coarse assorted grey limestone GRAVEL. | | |
| 2.20 | | NI | | | (1.10) | | | Possible weathered LIMESTONE rock. Recovered as angular fine to coarse gravel and cobble sized clasts of strong locally very strong light grey fine and medium grained LIMESTONE with some light grey silt. | | |
| | 100 (79) 42 | 2 | 41.13 | | 2.70 | 2.70 - 9.40 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 3mm thick grey silt smear. 2.71 - 2.90 Joint, vertical dip, stepped, smooth, with 0.5 to 3mm thick grey silt smear, open. 3.40 - 3.70 Joint, subvertical dip, stepped, smooth, with 0.5 to 30mm thick grey silt smear, open to wide. 4.30 - 4.70 2 No parallel joints, subvertical dip, stepped, smooth, with 0.5 to 2mm thick grey silt smear, open. | | | | |
| 3.60 | | 7 | | | | | | Strong locally very strong thickly bedded light grey fine and medium grained LIMESTONE. | | |
| | 100 (75) 39 | 15 | | | | | | | | |
| 5.10 | | | | | | | | | | |
| | 100 (83) 65 | 3 | | | (6.70) | | | 5.90m to 6.75m: coarse grained. | | |
| 6.70 | | 6 | | | | | | | | |
| | 100 (90) 80 | 3 | | | | | | | | |
| 8.30 | | | | | | | | 8.00m to 8.30m: grey. | | |
| | 100 (97) 96 | 2 | | | | | | | | |
| 11.05 9.40 | | 0 | 34.43 | | 9.40 | | | | | |
| | | | | | | | | BH terminated at 9.40m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 11-05-21 | 13.00 | 9.40 | 1.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 9.40 | water | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.00m to 9.40m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC16A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-05-21<br>12-05-21 | 43.99 | E 206,822.7 N 266,685.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.80) | 0.00 - 4.00 : overburden. | | Open hole drilling - no recovery. | | |
| 3.80 | | | 40.19 | | 3.80 | | | | | |
| | | | 39.99 | | 4.00 | | | | | |
| | 100 (90) 36 | NA<br>9 | | | | 4.00 - 10.00 Discontinuities, medium spaced, locally very closely and closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 2mm thick grey silt smear. | | Subrounded to subangular fine and medium assorted grey limestone GRAVEL.<br>Very strong locally strong thickly bedded grey slightly bioclastic sparry fine and medium grained LIMESTONE. | | |
| 5.20 | | | | | | | | | | |
| | 100 (97) 85 | 7<br>2 | | | | | | 6.40m to 6.90m: dark grey coarse grained. | | |
| 6.80 | | | | | (6.00) | | | | | |
| | 100 (97) 85 | 3 | | | | | | 7.50m to 7.55m: dark grey coarse grained. | | |
| 8.40 | | | | | | 8.10 - 8.25 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick brown clay smear, open. | | | | |
| | 100 (95) 80 | 4<br>4 | | | | | | | | |
| ↑2.05 10.00 | | | 33.99 | | 10.00 | 9.85 - 10.00 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick brown clay smear, open. | | BH terminated at 10.00m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 12-05-21 | 17.00 | 10.00 | 4.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 10.00 | water | 100 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.00m to 10.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC16B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-05-21<br>11-05-21 | 44.26 | E 206,838.3 N 266,669.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.40) | 0.00 - 3.70 : overburden. | | Open hole drilling - no recovery. | | |
| 3.40 | | | 40.86 | | 3.40 | | | | | |
| | 100 (33) 15 | NA | 40.56 | | 3.70 | 3.70 - 5.10 Non-intact as probable weathered rock. | | Subrounded to subangular fine and coarse assorted grey limestone GRAVEL. | | |
| 4.90 | | NI | 39.16 | | (1.40) 5.10 | | | Probable weathered LIMESTONE rock. Recovered as angular fine to coarse gravel and cobble sized clasts of very strong locally strong grey slightly bioclastic sparry fine and medium grained LIMESTONE with some grey silt. | | |
| 6.00 | 100 (45) 42 | 6 | | | | 5.10 - 10.60 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, smooth, with 0.5 to 3mm thick dark grey silt smear. | | Very strong,locally strong, thickly bedded grey slightly bioclastic fine and medium grained LIMESTONE. | | |
| 7.60 | 100 (88) 73 | 5 | | | | 5.65 - 6.10 Joint, subvertical to vertical dip, planar, locally stepped, smooth, with 0.5 to 4mm thick dark grey silt smear, open to moderately wide. | | | | |
| | | 7 | | | (5.50) | 7.20 - 7.45 Joint, subvertical, undulating, smooth, with 0.5 to 1mm thick dark grey silt smear, open as drilling induced? | | | | |
| 9.00 | 100 (92) 58 | 5 | | | | 7.60 - 7.85 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | | |
| | 100 (95) 83 | 5 | | | | 8.80 - 9.05 Joint, subvertical dip, stepped, smooth, with 0.5 to 3mm thick dark grey silt smear, open to moderately wide. | | | | |
| T1.05 10.60 | | 2 | 33.66 | | 10.60 | | | | | |
| | | | | | | | | BH terminated at 10.60m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 11-05-21 | 17.00 | 10.60 | 4.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 10.60 | water | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC17A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-04-21<br>30-04-21 | 41.60 | E 206,106.2 N 265,601.4 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.00) | 0.00 - 6.00 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | | | 38.60 | | 3.00 | | | | | |
| 4.50 | 67 (-) - | NA | | | (3.00) | | | Subrounded to subangular fine and coarse assorted grey limestone GRAVEL. | | |
| 6.00 | 93 (-) - | | 35.60 | | 6.00 | | | | | |
| 9.00 (29.04 30.04) | 100 (57) 17 | NI | | | (3.30) | 6.00 - 15.00 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, smooth, with 0.5 to 1mm thick grey silt smear.<br>6.01 - 8.60 Non-intact as angular fine to coarse gravel and cobble sized clasts. | | Very strong locally strong thinly bedded grey slightly bioclastic sparry fine to medium grained LIMESTONE. | | |
| | | 0 | 32.30 | | 9.30 | | | | | |
| | | NR | 31.90 | | 9.70 | 9.30 - 9.70 No recovery. Drillers comment: mud cavity. | | No recovery. Drillers comment: mud cavity. | | |
| | | 3 | 30.90 | | (1.00)<br>10.70 | | | Very strong locally strong thinly bedded grey slightly bioclastic sparry fine to medium grained LIMESTONE. | | |
| | 85 (70) 68 | | 30.80 | | 10.80 | 10.70 - 10.80 No recovery. Drillers | | No recovery. Drillers comment: mud | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 29-04-21 | 17.00 | 9.00 | 3.00 | 99 | 63 | | |
| 30-04-21 | 08.00 | 9.00 | 3.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 15.00 | polymer | 100 |

## GENERAL REMARKS

1 gallon polydrill used.
50mm standpipe installed.
Response zone 9.00m to 15.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC17A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-04-21<br>30-04-21 | 41.60 | E 206,106.2 N 265,601.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| | | NR | | | | comment: mud cavity. | | cavity.<br>Very strong locally strong thinly bedded grey slightly bioclastic sparry fine to medium grained LIMESTONE.<br>*(continued)* | | |
| | | 4 | | | | | | | | |
| 12.50 | | 2 | | | (4.20) | | | | | |
| | 100<br>(96)<br>62 | 6 | | | | 13.45 - 14.30 Joint, subvertical dip, planar, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | | |
| | | 5 | | | | | | | | |
| 30.04 15.00 | | | 26.60 | | 15.00 | | | | | |
| | | | | | | | | BH terminated at 15.00m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 30-04-21 | 15.00 | 15.00 | 3.00 | 99 | 63 | | | | | | | 1 gallon polydrill used.<br>50mm standpipe installed.<br>Response zone 9.00m to 15.00m bgl. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC17B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-05-21<br>04-05-21 | 41.89 | E 206,112.8 N 265,582.8 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.00) | 0.00 - 6.20 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | | | 38.89 | | 3.00 | | | | | |
| 4.50 | 53 (-) - | NA | | | (3.20) | | | Subrounded to subangular fine and coarse assorted grey limestone GRAVEL. | | |
| 6.00 | 73 (-) - | | 35.69 | | 6.20 | | | | | |
| 9.00 | 93 (32) 11 | NI | 32.89 | | (2.80) 9.00 | 6.20 - 9.00 Non-intact as possible weathered rock. | | Possible weathered LIMESTONE rock.<br>Recovered as angular fine to coarse gravel and cobble sized clasts of very strong and strong thickly bedded dark grey and grey slightly bioclastic sparry fine to coarse grained LIMESTONE with a little grey silt. | | |
| | 100 (96) 87 | 5<br>3 | | | | 9.00 - 15.00 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 1mm thick grey silt smear.<br>9.30 - 9.45 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick grey silt smear, open. | | Very strong locally strong thickly bedded dark grey and grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 15.00 | polymer | 100 |

## GENERAL REMARKS

1 gallon polydrill used. BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC17B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-05-21<br>04-05-21 | 41.89 | E 206,112.8 N 265,582.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 12.00 | | 3 | | | (6.00) | | | Very strong locally strong thickly bedded dark grey and grey slightly bioclastic sparry fine to coarse grained LIMESTONE. *(continued)* | | |
| | 100 (95) 90 | 1 | | | | 12.40 - 12.75 Joint, vertical dip, planar, smooth, clean, open as drilling induced? | | | | |
| | | 3 | | | | 13.10 - 13.85 Joint, subvertical dip, planar, locally undulating, smooth, clean, open as drilling induced. | | | | |
| 04.05 15.00 | | 4 | 26.89 | | 15.00 | | | 14.65m to 14.68m: medium strong thinly laminated fissile fine grained. 14.30m to 15.00m: dark grey. | | |
| | | | | | | | | BH terminated at 15.00m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 04-05-21 | 16.00 | 15.00 | 3.00 | 99 | 63 | | | | | | | 1 gallon polydrill used. BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC18A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-05-21<br>10-05-21 | 53.46 | E 207,983.6 N 264,539.0 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (1.50) | 0.00 - 2.10 : overburden. | | Open hole drilling - no recovery. | | |
| 1.50 | | | 51.96 | | 1.50 | | | | | |
| | 80 (29) 0 | NA | 51.36 | | (0.60) 2.10 | | | Subrounded to subangular fine to medium assorted grey limestone GRAVEL. | | |
| 2.50 | | NR/NI | | | | 2.10 - 6.30 Non-intact as possible weathered rock. | | Possible weathered LIMESTONE rock.<br>Recovered as angular fine to coarse gravel cobble and boulder sized clasts of strong thinly bedded dark grey sparry bioclastic fine and medium grained LIMESTONE with some light greyish brown silt.<br>Core run - 2.50m to 4.00m: 1 No dark grey bioclastic limestone boulder 270mm in length.<br>Core run - 4.00m to 5.00m: 1 No dark grey bioclastic limestone boulder 510mm in length. | | |
| 4.00 | 60 (18) 16 | | | | | | | | | |
| 5.00 | 80 (51) 44 | | | | (4.20) | | | | | |
| 6.20 | 67 (48) 47 | | 47.16 | | 6.30 | | | | | |
| | 81 (81) 58 | 3 | | | | 6.30 - 10.70 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 3mm thick grey silt smear. | | Very strong locally strong thinly bedded dark grey sparry bioclastic sandy fine and medium grained LIMESTONE. | | |
| | | 5 | | | | | | | | |
| | | 8 | | | (4.40) | | | 8.50m to 8.55m: with visible finely disseminated pyrite. | | |
| 9.20 | | 7 | | | | 9.15 - 9.50 Joint, subvertical, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | 9.90m to 9.95m: with visible finely disseminated pyrite. | | |
| | 95 (95) 80 | 4 | 42.76 | | 10.70 | 10.70 - 12.20 Discontinuities, closely | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 12.20 | water 100 | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC18A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-05-21<br>10-05-21 | 53.46 | E 207,983.6 N 264,539.0 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 2 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| T0.05 12.20 | | 6 | 41.26 | | (1.50)<br>12.20 | spaced locally medium spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 3mm thick grey silt smear. | | Strong thinly laminated grey and dark grey calcareous fine and medium grained SANDSTONE. *(continued)* | | |
| | | | | | | | | BH terminated at 12.20m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 10-05-21 | 15.00 | 12.20 | 1.50 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used Hydreq | Bit Design HQ | Driller GF | Logged By EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC18B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-05-21<br>07-05-21 | 53.58 | E 207,971.6 N 264,548.6 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 1 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | 52.08 | | (1.50) 1.50 | 0.00 - 3.50 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | 40 (-) - | NA | 50.08 | | (2.00) 3.50 | | | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL with a little light grey sandy gravelly silt. Sand is fine to medium. Gravel is subangular fine of assorted grey limestone. | | |
| 6.00 | 93 (75) 67 | 3<br>NI<br>2<br>2 | | | | 3.50 - 10.00 Discontinuities, medium spaced, closely spaced between 7.50m to 7.80m, dipping 10 to 12°, stepped, rough, with 0.5 to 1mm thick grey silt smear.<br>4.00 - 4.20 Non-intact as light orangish brown clay.<br>4.20 - 4.35 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | Very strong locally strong thinly bedded grey slightly bioclastic slightly sandy fine and medium grained LIMESTONE.<br>4.00m to 4.20m: light orangish brown CLAY.<br>5.40-5.70m: extremely strong. | | |
| 9.00 | 100 (95) 78 | 2<br>8<br>5 | | | (6.50) | 8.60 - 9.25 Joint, subvertical dip, stepped, rough, with 0.5 to 3mm thick orangish brown clay smear, open to moderately wide. | | 8.60m to 9.00m: with angular to subangular fine to coarse gravel sized dark grey fine grained chert inclusions. | | |
| 07.05 10.00 | 100 (94) 74 | 2 | 43.58 | | 10.00 | | | BH terminated at 10.00m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 07-05-21 | 15.00 | 10.00 | 1.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 10.00 | water | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.50m to 10.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC19A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 06-05-21<br>06-05-21 | 49.99 | E 208,351.7 N 264,313.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (1.00) | 0.00 - 3.70 : overburden. | | Open hole drilling - no recovery. | | |
| 1.00 | | | 48.99 | | 1.00 | | | | | |
| 2.50 | 33 (-) - | NA | | | (2.70) | | | Subrounded to subangular fine and coarse assorted grey limestone GRAVEL with cobbles. Cobbles are of assorted grey limestone. | | |
| 3.70 | 33 (-) - | | 46.29 | | 3.70 | | | | | |
| 5.30 | 100 (88) 84 | 2 | | | | 3.70 - 9.20 Discontinuities, medium spaced, locally closely spaced to 6.00m, then medium spaced, dipping 8 to 10 °, stepped, smooth, with 0.5 to 2mm thick dark blackish grey silt smear. | | Very strong thinly bedded grey slightly sandy fine and medium grained LIMESTONE. | | |
| | | 9 | | | | | | | | |
| | 100 (95) 80 | 6 | | | (5.50) | | | 6.00m to 8.80m: dark grey slightly sandy silty fine grained. | | |
| | | 3 | | | | | | | | |
| 8.30 | 100 (87) 69 | 6 | | | | | | | | |
| 06.05 9.20 | | | 40.79 | | 9.20 | | | 8.80m to 9.20m: dark blackish grey. | | |
| | | | | | | | | BH terminated at 9.20m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 06-05-21 | 16.30 | 9.20 | 1.00 | 99 | 63 | | 0.80 |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 9.20 | polymer | 100 |

## GENERAL REMARKS

1 gallon polydrill used.
50mm standpipe installed.
Response zone 3.00m to 9.20m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC19B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 06-05-21<br>06-05-21 | 50.57 | E 208,369.2 N 264,298.4 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.00) | 0.00 - 4.80 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | | | 47.57 | | 3.00 | | | | | |
| 4.50 | 27 (-) - | NA | | | (1.80) | | | Subangular fine and coarse assorted grey limestone GRAVEL with a little grey silt. | | |
| | | | 45.77 | | 4.80 | | | | | |
| 6.00 | 100 (76) 35 | 15 | | | | 4.80 - 10.80 Discontinuities, medium spaced, locally very closely and closely spaced, dipping 10 to 12°, planar, smooth, with 0.5 to 3mm thick dark grey silt smear.<br>5.35 - 5.55 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick greyish brown silt smear, open.<br>6.05 - 7.40 Joint, subvertical dip, stepped, smooth, with 0.5 to 3mm thick grey silt smear, open to moderately wide. | | Strong, locally very strong, thinly bedded grey and dark grey slightly bioclastic silty fine grained LIMESTONE. | | |
| | 100 (96) 44 | 8 | | | | | | | | |
| | | 13 | | | (6.00) | | | 7.10m to 9.20m: dark grey locally thinly laminated silty. | | |
| | | 10 | | | | 8.70 - 8.85 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick grey silt smear, open. | | | | |
| 9.20 | 100 (95) 82 | 4 | | | | | | 9.70m to 10.80m: dark grey locally thinly laminated silty. | | |
| 06.05 10.80 | | 5 | 39.77 | | 10.80 | | | | | |
| | | | | | | | | BH terminated at 10.80m bgl on REs | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 06-05-21 | 19.00 | 10.80 | 3.00 | 99 | 63 | | 0.90 |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 10.80 | polymer | 100 |

## GENERAL REMARKS

1 gallon polydrill used. BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC19B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 06-05-21<br>06-05-21 | 50.57 | E 208,369.2 N 264,298.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2<br>Rev. DRAFT |

| RUN DETAILS | | | | | STRATA | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| | | | | | | | | instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | 1 gallon polydrill used. BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used Hydreq | Bit Design HQ | Driller GF | Logged By EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC20A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-05-21<br>18-05-21 | 48.86 | E 209,264.9 N 264,201.6 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.00) | 0.00 - 7.40 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | | | 45.86 | | 3.00 | | | | | |
| 4.00 | 40 (-) - | 4.00(50/150mm) | | | | | | Grey gravelly dark grey and grey bioclastic limestone COBBLES and BOULDERS. Gravel is subrounded to subangular fine to coarse of assorted grey limestone.<br>Core run - 4.00m to 6.40m: 1 No dark grey bioclastic limestone boulder 240mm in length. | | |
| 5.40 | 50 (-) - | 5.40 (50/0mm) | | | (4.20) | | | | | |
| 6.90 | 53 (-) - | NA<br>6.90 (50/0mm) | 41.66 | | 7.20 | | | Core run - 6.40m to 6.90m: 1 No dark grey bioclastic limestone boulder 520mm in length.<br>Core run - 6.90m to 8.40m: 1 No dark grey bioclastic limestone boulder 240mm in length. | | |
| 8.40 | 53 (-) - | 8.40(50/75mm) | | | (2.50) | | | Brownish grey sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse of assorted brown dolomitised limestone and assorted grey limestone. | | |
| 9.70 | 46 (-) - | 9.70 (50/0mm) | 39.16 | | 9.70 | | | | | |
| 10.50 | 100 (95) 0 | 2<br>8 | | | (2.30) | 9.70 - 12.00 Discontinuities, medium spaced, dipping 8 to 10°, stepped, smooth, with 0.5 to 3mm thick grey silt smear.<br>9.71 - 11.10 2 No parallel joints, vertical dip, undulating, rough, with | | Very strong locally strong thinly bedded light bluish grey fine to medium grained SANDSTONE. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 16.10 | water 100 | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC20A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-05-21<br>18-05-21 | 48.86 | E 209,264.9 N 264,201.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
| 11.90 | 100 (97) 59 | 2 | 36.86 | | 12.00 | 0.5 to 3mm thick grey silty fine sand smear, open to moderate;y wide.<br>11.40 - 11.90 Joint, subvertical dip, undulating, tight. | Very strong locally strong thinly bedded light bluish grey fine to medium grained SANDSTONE.<br>*(continued)* | | |
| 13.50 | 100 (96) 83 | 14 | | | | 12.00 - 16.10 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 3mm thick dark grey silt smear. | Very strong locally strong thinly bedded dark grey and grey sparry bioclastic fine and medium grained LIMESTONE.<br>12.05m to 12.10m: strong dark grey silty fine grained limestone.<br>12.50m to 12.55m: medium strong thinly laminated dark grey silty fine grained limestone. | | |
| 14.90 | 100 (96) 85 | 4<br>5 | | | (4.10) | | | | |
| 18.05 16.10 | 100 (93) 81 | 4 | 32.76 | | 16.10 | | BH terminated at 16.10m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 18-05-21 | 16.00 | 16.10 | 4.00 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC20B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-05-21<br>17-05-21 | 48.76 | E 209,242.0 N 264,195.1 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | | | | | | 0.00 - 8.90 : overburden. | | Open hole drilling - no recovery. | | |
| | 0<br>(-)<br>- | NA | | | (3.30) | | | | | |
| 3.30 | | | 45.46 | | 3.30 | | | | | |
| | 13<br>(-)<br>- | | | | | | | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL with a little brownish grey silt. | | |
| 4.80 | | 4.80 (47) | | | | | | | | |
| | 10<br>(-)<br>- | | | | | | | | | |
| 5.80 | | | | | | | | | | |
| | 40<br>(-)<br>- | NA | | | (5.60) | | | | | |
| 7.30 | | 7.30(50/225mm) | | | | | | | | |
| | 27<br>(-)<br>- | | | | | | | | | |
| 8.80 | | ~~8.80 (50/0mm)~~ | 39.86 | | 8.90 | | | | | |
| | 100<br>(94)<br>40 | 11 | | | | 8.90 - 16.00 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, smooth, with 0.5 to 3mm thick dark grey silt smear.<br>9.10 - 9.90 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick light grey silt smear, open. | | Very strong thinly bedded grey sparry bioclastic fine to medium grained LIMESTONE. | | |
| 10.20 | | | | | | | | | | |
| | 100 | 9 | | | | 10.00 - 10.20 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm | | 10.70m to 10.90m: dark grey silty fine | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 16.00 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.00m to 16.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC20B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-05-21<br>17-05-21 | 48.76 | E 209,242.0 N 264,195.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 11.70 | (93) 77 | 6 | | | | thick grey silt smear, open. | | grained.<br>Very strong thinly bedded grey sparry bioclastic fine to medium grained LIMESTONE. *(continued)* | | |
| 13.30 | 100 (93) 41 | 11 | | | (7.10) | 11.80 - 12.30 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick grey silt smear, open.<br>12.85 - 13.30 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | | |
| 14.80 | 100 (97) 79 | 6<br>5 | | | | 13.55 - 13.70 subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | 14.60m to 15.20m: subvertical 20mm wide white calcite vein. | | |
| 17.05 16.00 | 100 (93) 85 | 4 | 32.76 | | 16.00 | | | BH terminated at 16.00m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 17-05-21 | 16.00 | 16.00 | 4.00 | 99 | 63 | | 0.80 | | | | | 50mm standpipe installed. Response zone 3.00m to 16.00m bgl. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used Hydreq | Bit HQ Design | Driller PMcG | Logged By EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC21A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-05-21<br>13-05-21 | 51.33 | E 209,458.3 N 263,637.6 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0<br>(-)<br>- | NA | | | (4.00) | 0.00 - 7.40 : overburden. | | Open hole drilling - no recovery. | | |
| 4.00 | | | 47.33 | | 4.00 | | | | | |
| 5.00 | 60<br>(-)<br>- | NA | | | (3.40) | | | Very stiff greenish grey sandy gravelly SILT with cobbles and boulders. Sand is fine to coarse. Gravel is subangular fine to coarse of assorted brown sandstone and assorted grey limestone. Cobbles are of assorted grey limestone. Core run - 4.00m to 5.00m: 1 No dark grey limestone boulder 200mm in length. | | |
| 5.70 | 85<br>(-)<br>- | | | | | | | | | |
| 8.20 | 100<br>(24)<br>17 | 3 | 43.93 | | 7.40 | 7.40 - 7.55 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick greenish grey silt smear, open.<br>7.40 - 13.50 Discontinuities, medium spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 2mm thick greenish brown clay smear.<br>8.85 - 9.00 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick light orangish brown silt smear, open.<br>9.05 - 9.20 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick light orangish brown silt smear, open.<br>9.10 - 10.15 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm | | Strong locally medium strong and very strong, thickly bedded light brown fine to coarse grained SANDSTONE. | | |
| 9.20 | 100<br>(88)<br>82 | 3 | | | | | | | | |
| | | 8 | | | | | | | | |
| | 100<br>(94)<br>50 | 7 | | | (6.10) | | | | | |

| Drilling Progress and Water Observations | | | | | | | |
|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
| | | | | | | | |

| Rotary Flush | | | |
|---|---|---|---|
| From (m) | To (m) | Type | Return (%) |
| 0 | 13.50 | water 100 | 100 |

**GENERAL REMARKS**

50mm standpipe installed. Response zone 3.00m to 8.50m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC21A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-05-21<br>13-05-21 | 51.33 | E 209,458.3 N 263,637.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 12.20 | | 6 | | | | thick black silt smear, open.<br>10.90 - 11.00 Joint, dipping 60°, stepped, rough, with 0.5 to 1mm thick brown silt smear, open.<br>11.30 - 11.60 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick greenish grey silt smear, open. | | Strong locally medium strong and very strong, thickly bedded light brown fine to coarse grained SANDSTONE.<br>*(continued)*<br>12.00m to 12.90m: medium strong conglomeratic as subangular to rounded fine to medium gravel sized quartz clasts in a grey fine and medium grained sandstone matrix.<br>12.90m to 13.40m: medium strong thinly laminated grey silty fine grained SANDSTONE.<br>13.40m to 13.50m: brown sandstone. | | |
| T3.05 13.50 | 100<br>(20)<br>13 | NI | 37.83 | | 13.50 | | | BH terminated at 13.50m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 13-05-21 | 12.00 | 13.50 | 4.00 | 99 | 63 | | | | | | | 50mm standpipe installed. Response zone 3.00m to 8.50m bgl. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC21B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-05-21<br>13-05-21 | 51.31 | E 209,441.6 N 263,620.9 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.00) | 0.00 - 5.30 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | | | 48.31 | | 3.00 | | | | | |
| 4.50 | 40 (-) - | NA | | | (2.30) | | | Greenish grey sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse of assorted brown sandstone and assorted grey limestone. Cobbles are of assorted grey limestone. | | |
| | 83 (40) 23 | | 46.01 | | 5.30 | | | | | |
| 6.30 | | 6 | | | | 5.30 - 8.40 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 13mm thick orangish brown clay smear. | | Strong locally very strong and extremely strong, thickly bedded brownish grey and grey fine and medium grained SANDSTONE. 6.05m to 6.70m: grey. | | |
| | | 4 | | | | 5.31 - 6.00 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick brown silt smear, open. | | | | |
| | 100 (82) 44 | 10 | | | (4.50) | 7.40 - 7.50 Joint, dipping 60°, stepped, rough, with 0.5 to 1mm thick light brown silt smear, open. | | | | |
| | | 12 | | | | 7.55 - 7.70 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick light brown silt smear, open. | | | | |
| 9.40 | | 5 | 41.51 | | 9.80 | 8.30 - 9.50 Joint, subvertical dip, stepped, rough, with 0.5 to 3mm thick light greenish brown silt smear, open to moderately wide. Non-intact from 8.80m. | | | | |
| | 100 (73) 34 | 3 | 40.91 | | (0.60) 10.40 | | | Strong apparently massive subrounded and rounded fine and medium quartz CONGLOMERATE in a brown fine and medium grained sandstone matrix. | | |
| | | 23 | 40.41 | | 10.90 | 10.25 - 10.40 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick brown silt smear, open. | | Medium strong thinly laminated grey | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 11.20 | water | 100 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 4.50m to 11.20m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC21B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-05-21<br>13-05-21 | 51.31 | E 209,441.6 N 263,620.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2<br>Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| t3.05 11.20 | | 2 | 40.11 | | 11.20 | | | silty fissile fine grained SANDSTONE.<br>Strong locally very strong thickly bedded brownish grey and grey fine and medium grained SANDSTONE.<br>*(continued)*<br>BH terminated at 11.20m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 13-05-21 | 15.00 | 11.20 | 3.00 | 99 | 63 | | 0.80 |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

50mm standpipe installed. Response zone 4.50m to 11.20m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit: HQ Design | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC22A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-05-21<br>18-05-21 | 58.69 | E 209,907.5 N 264,079.4 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0<br>(-)<br>- | NA | 54.19 | | (4.50) | 0.00 - 9.90 : overburden. | | Open hole drilling - no recovery. | | |
| 4.50 | | | | | 4.50 | | | | | |
| 6.00 | 20<br>(-)<br>- | 6.00 (50/0mm) | | | (5.40) | | | Very stiff brown sandy gravelly SILT with cobbles and boulders. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse of assorted brown sandstone and assorted grey limestone. Cobbles are of assorted grey limestone.<br>Core run - 6.00m to 9.00m: 1 No dark grey bioclastic limestone boulder 350mm in length. | | |
| 9.00 | 100<br>(-)<br>- | NA<br>7.50 (50/0mm)<br>9.00 (50/0mm) | 48.79 | | 9.90 | | | | | |
| | 100<br>(68)<br>60 | 5 | | | | 9.90 - 16.50 Discontinuities, medium spaced, locally closely spaced, closely and very closely spaced between 12.10m to 13.30m, dipping 10 to 12°, stepped, rough, with 0.5 to | | Very strong locally strong thinly bedded grey fine and medium grained LIMESTONE. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| | | | | | | | | 0 | 16.50 | water | 100 | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC22A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-05-21<br>18-05-21 | 58.69 | E 209,907.5 N 264,079.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 12.00 | | 3 | | | | 2mm thick grey silt smear. | | Very strong locally strong thinly bedded grey fine and medium grained LIMESTONE. *(continued)* | | |
| | 100 (90) 57 | 16 | | | | 12.10 - 12.40 Joint, subvertical dip, stepped, rough, with 0.5 to 2mm thick grey silt smear, open. | | | | |
| | | 10 | | | (6.60) | | | | | |
| | | 4 | | | | 13.80 - 14.00 Joint, subvertical dip, undulating, tight.<br>14.00 - 14.10 Joint, dipping 60°, stepped, rough, with 0.5mm thick grey silt smear, open.<br>14.20 - 14.40 Joint, subvertical dip, undulating, tight. | | | | |
| | | 5 | | | | | | | | |
| 18.05 16.50 | | 3 | 42.19 | | 16.50 | 16.05 - 16.20 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | BH terminated at 16.50m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 18-05-21 | 16.00 | 16.50 | 4.50 | 99 | 63 | | 1.00 | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC22B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-05-21<br>17-05-21 | 58.71 | E 209,897.1 N 264,065.1 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0<br>(-)<br>- | NA | | | (4.00) | 0.00 - 10.00 : overburden. | | Open hole drilling - no recovery. | | |
| 4.00 | | | 54.71 | | 4.00 | | | | | |
| 5.00 | 50<br>(-)<br>- | | | | | | | Very stiff dark greenish grey sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is subangular fine to coarse of assorted grey limestone and assorted grey and brown sandstone. Cobbles are of assorted grey limestone. | | |
| 8.20 | 88<br>(-)<br>- | 6.50(50/75mm)<br>NA<br>8.00(50/75mm) | | | (6.00) | | | | | |
| 9.70 | 60<br>(-)<br>- | 9.50(50/75mm) | | | | | | | | |
| | | | 48.71 | | 10.00 | | | | | |
| | 93<br>(77)<br>63 | 6 | | | | 10.00 - 15.30 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 6mm thick light | | Strong locally very strong thinly bedded grey and dark grey silty fine grained SANDSTONE.<br>10.25m to 10.30m: dark grey silt. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 15.30 | polymer | 100 |

## GENERAL REMARKS

1 gallon polydrill used.
50mm standpipe installed.
Response zone 6.00m to 15.30m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC22B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-05-21<br>17-05-21 | 58.71 | E 209,897.1 N 264,065.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
| 11.20 | | | | | | grey silt smear. | Strong locally very strong thinly bedded grey and dark grey silty fine grained SANDSTONE. *(continued)* | | |
| | 100 (90) 83 | 5 | | | | 10.10 - 10.25 Joint, subvertical dip, undulating, rough, with 0.5 to 3mm thick grey silt smear, open to moderately wide. | | | |
| 12.30 | | | | | | | | | |
| | | 3 | | | (5.30) | 12.30 - 12.45 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick grey silt smear, open. | 12.60m to 12.80m: very strong dark grey slightly bioclastic cherty fine grained LIMESTONE, | | |
| | 100 (90) 77 | 10 | | | | 13.35 - 13.40 Joint, dipping 45°, stepped, rough, with 0.5 to 15mm thick light grey sandy silt smear, open to wide. | | | |
| | | 4 | | | | 13.60 - 13.85 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silty fine sandy, open. | | | |
| 17.05 15.30 | | 2 | 43.41 | | 15.30 | | | | |
| | | | | | | | BH terminated at 15.30m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 17-05-21 | 16.00 | 15.30 | 4.00 | 99 | 63 | | 1.10 |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

1 gallon polydrill used.
50mm standpipe installed.
Response zone 6.00m to 15.30m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC23A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 21-05-21<br>21-05-21 | 53.18 | E 209,711.8 N 264,648.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 3 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | | | | | | 0.00 - 15.00 : overburden. | | Open hole drilling - no recovery. | | |
| | 0 (-) - | NA | | | (3.60) | | | | | |
| 3.60 | | | 49.58 | | 3.60 | | | | | |
| | 40 (-) - | | | | | | | Very stiff greyish brown sandy gravelly SILT with cobbles and boulders. Sand is fine to coarse. Gravel is subrounded to rounded fine to coarse of assorted grey limestone. Cobbles are of assorted grey limestone. | | |
| 5.10 | | 5.10(50/75mm) | | | | | | | | |
| | 44 (-) - | | | | | | | | | |
| 6.00 | | | | | | | | | | |
| | 40 (-) - | NA | | | | | | | | |
| 7.50 | | 7.50 (49) | | | | | | | | |
| | 27 (-) - | | | | | | | | | |
| 9.00 | | | | | | | | | | |
| | 80 (-) - | | | | (11.40) | | | Core run - 9.00m to 10.50m: 1 No grey bioclastic limestone boulder 300mm in length. | | |
| 10.50 | | 10.50(50/150mm) | | | | | | Core run - 10.50m to 12.00m: 1 No grey bioclastic limestone boulder | | |

| Drilling Progress and Water Observations | | | | | | | |
|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
| | | | | | | | |

| Rotary Flush | | | |
|---|---|---|---|
| From (m) | To (m) | Type | Return (%) |
| 0 | 22.60 | water | 100 |

| GENERAL REMARKS |
|---|
| BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC23A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 21-05-21<br>21-05-21 | 53.18 | E 209,711.8 N 264,648.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 3<br>Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 12.00 | 20 (-) - | | | | | | | 300mm in length. Very stiff greyish brown sandy gravelly SILT with cobbles and boulders. Sand is fine to coarse. Gravel is subrounded to rounded fine to coarse of assorted grey limestone. Cobbles are of assorted grey limestone. *(continued)* | | |
| 13.50 | 60 (-) - | NA | | | | | | | | |
| 15.00 | 60 (-) - | 13.50 (54) | 38.18 | | 15.00 | | | | | |
| 16.50 | 73 (27) 0 | 15.00(50/75mm) NI<br>11 | 37.88 | | 15.30 | 15.00 - 15.30 Non-intact as weathered rock.<br>15.31 - 16.70 Joint, subvertical dip, 'V' shaped, stepped, rough, with 0.5 to 10mm thick greenish brown silt smear, open to wide. | | Weathered SANDSTONE rock. Recovered as angular fine to coarse gravel sized clasts of medium strong dark green medium and coarse grained SANDSTONE. | | |
| 18.00 | 100 (69) 41 | 10<br>16 | | | | 16.30 - 22.60 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 1mm thick grey silt smear. | | Medium strong and very strong, locally strong apparently massive greenish orangish brown fine to coarse grained SANDSTONE.<br>19.90m to 17.00m: medium strong dark orangish brown.<br>17.80m to 17.90m: medium strong orangish brown.<br>18.00m to 22.60m: very strong locally strong light brown. | | |
| 19.60 | 100 (96) 95 | 3<br>5 | | | (7.30) | | | | | |
| 21.00 | 100 (95) 30 | 11 | | | | 20.00 - 20.10 Joint, dipping 60°, stepped, rough, with 0.5 to 1mm thick grey silt smear, open<br>20.35 - 21.05 Joint, subvertical dip, stepped, rough, with 0.5 to 2mm thick greenish grey silt smear, open.<br>21.05 - 21.35 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick orangish brown silt smear and | | 20.30m to 20.35m: orangish brown clay. | | |
| | 100 (91) | 6 | | | | | | | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit: HQ Design | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC23A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 21-05-21<br>21-05-21 | 53.18 | E 209,711.8 N 264,648.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 3 of 3 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 21.05 22.60 | 64 | 0 | 30.58 | | 22.60 | minor orange and orangish brown iron stain and powder, open. | | | | |
| | | | | | | | | BH terminated at 22.60m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 21-05-21 | 16.00 | 22.60 | 4.00 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC23B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 19-05-21<br>19-05-21 | 53.44 | E 209,705.4 N 264,632.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 3 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | | | | | | 0.00 - 15.50 : overburden. | | Open hole drilling - no recovery. | | |
| | 0 (-) - | NA | | | (2.70) | | | | | |
| 2.70 | | | 50.74 | | 2.70 | | | | | |
| 3.00 | 100 (-) - | | | | | | | Very stiff greenish brown sandy gravelly SILT with cobbles and boulders. Sand is fine to coarse. Gravel is subrounded to rounded fine to coarse of assorted grey limestone. Cobbles are of assorted grey limestone. | | |
| | 57 (-) - | | | | | | | | | |
| 4.40 | | 4.40 (50/0mm) | | | | | | | | |
| 5.00 | 50 (-) - | | | | | | | | | |
| | 40 (-) - | | | | | | | | | |
| 6.00 | | 6.00 (47) NA | | | | | | | | |
| | 13 (-) - | | | | | | | | | |
| 7.80 | | | | | | | | | | |
| | 33 (-) - | | | | | | | | | |
| 9.00 | | 9.00 (51) | | | (12.80) | | | | | |
| | 47 (-) - | | | | | | | | | |
| 10.50 | | | | | | | | Core run - 10.50m to 12.00m: 1 No grey 'marbled' white limestone boulder | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 22.70 | water | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 4.70m to 22.70m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC23B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 19-05-21<br>19-05-21 | 53.44 | E 209,705.4 N 264,632.0 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 2 of 3 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 12.00 | 53 (-) - | | | | | | | 410mm in length. Very stiff greenish brown sandy gravelly SILT with cobbles and boulders. Sand is fine to coarse. Gravel is subrounded to rounded fine to coarse of assorted grey limestone. Cobbles are of assorted grey limestone. *(continued)* | | |
| 13.50 | 46 (-) - | 12.00(50/75mm)<br>NA | | | | | | | | |
| 15.00 | 46 (-) - | | | | | | | | | |
| 15.50 | 40 (-) - | 15.00(50/150mm) | 37.94 | | 15.50 | | | | | |
| 17.00 | 100 (44) 30 | 1<br>18 | | | | 15.50 - 22.70 Discontinuities, medium spaced, locally very closely and closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 1mm thick grey silt smear.<br>16.00 - 17.50 Joint, subvertical dip, stepped, smooth, with 0.5 to 3mm thick dark grey silt smear, open to moderately wide. | | Very strong apparently massive light orangish brown coarse grained SANDSTONE. | | |
| 18.10 | 100 (96) 57 | 3 | | | | | | | | |
| 19.70 | 100 (60) 9 | 16<br>19 | | | (7.20) | 18.10 - 20.00 Joint, subvertical dip, stepped, rough, with 0.5 to 3mm thick grey silt smear and minot orangish brown iron stain and powder, open to moderately wide. | | 17.80m to 18.60m: medium strong locally strong greyish green coarse grained sandstone. | | |
| 21.10 | 100 (97) 87 | 9 | | | | | | | | |
| | 100 (89) | 8 | | | | 21.70 - 21.85 Joint, subvertical dip, | | 21.60m to 22.00m: medium strong locally strong greenish brown coarse | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | 50mm standpipe installed. Response zone 4.70m to 22.70m bgl. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit HQ Design | Driller PMcG | Logged By EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC23B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 19-05-21<br>19-05-21 | 53.44 | E 209,705.4 N 264,632.0 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 3 of 3 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
| 19.05 22.70 | 39 | 11 | 30.74 | | 22.70 | stepped, rough, with orange and orangish brown iron stain and powder, open.<br>22.10 - 22.70 Joint, subvertical dip, stepped, rough, with 0.5 to 3mm thick orangish brown clay smear and orange and orangish brown iron stain and powder, open to moderately wide. | grained sandstone.<br>Very strong apparently massive light orangish brown coarse grained SANDSTONE. *(continued)*<br>22.40m to 22.70m: medium strong locally strong greenish brown coarse grained sandstone.<br>BH terminated at 22.70m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 19-05-21 | 17.00 | 22.70 | 3.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

50mm standpipe installed. Response zone 4.70m to 22.70m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC24A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 20-05-21<br>20-05-21 | 52.70 | E 209,900.5 N 265,229.2 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0<br>(-)<br>- | NA | | | (3.00) | 0.00 - 5.00 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | | | 49.70 | | 3.00 | | | | | |
| 4.50 | 60<br>(-)<br>- | NA | | | (2.00) | | | Subrounded to subangular fine and coarse assorted grey limestone GRAVEL. | | |
| | | | 47.70 | | 5.00 | | | | | |
| | 94<br>(33)<br>30 | NI | 47.10 | | (0.60)<br>5.60 | 5.00 - 5.60 Non-intact as weathered rock. | | Weathered LIMESTONE rock. Recovered as angular fine to coarse gravel and cobble sized clasts of medium strong thinly bedded dark grey and grey fine grained LIMESTONE with a little black silt. | | |
| 6.20 | | 3 | | | | 5.60 - 12.20 Discontinuities, very closely and closely spaced, locally medium spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 6mm thick dark grey silt smear. | | Strong locally very strong thinly bedded dark grey and grey silty sparry bioclastic fine grained LIMESTONE. | | |
| | 100<br>(95)<br>78 | 6 | | | | | | | | |
| | | 12 | | | | | | | | |
| | | 9 | | | (6.60) | 7.90 - 8.25 Joint, vertical dip, undulating, rough, with 0.5 to 1mm thick dark grey silt smear and visible finely disseminated pyrite, open. | | | | |
| 9.20 | | | | | | | | | | |
| | | 14 | | | | | | 9.20m to 9.25m: medium strong thinly laminated dark blackish grey silty. | | |
| | 100<br>(93)<br>79 | 6 | | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 12.20 | water | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 6.00m to 12.20m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC24A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 20-05-21<br>20-05-21 | 52.70 | E 209,900.5 N 265,229.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 20.05 12.20 | | 5 | 40.50 | | 12.20 | | | Strong locally very strong thinly bedded dark grey and grey silty sparry bioclastic fine grained LIMESTONE. *(continued)*<br><br>12.00m to 12.05m: dark blackish grey silt.<br><br>BH terminated at 12.20m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 20-05-21 | 13.00 | 12.20 | 3.00 | 99 | 63 | | 1.20 | | | | | 50mm standpipe installed. Response zone 6.00m to 12.20m bgl. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC24B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 20-05-21<br>20-05-21 | 52.71 | E 209,889.6 N 265,209.6 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | | |
| 0.00 | 0 (-) - | NA | | | (4.00) | 0.00 - 5.80 : overburden. | | Open hole drilling - no recovery. | | |
| 4.00 | | | 48.71 | | 4.00 | | | | | |
| 5.50 | 60 (-) - | NA | | | (1.80) | | | Subrounded to subangular fine and coarse assorted grey limestone GRAVEL. | | |
| | | | 46.91 | | 5.80 | | | | | |
| 8.50 | 100 (75) 49 | 5<br>7<br>12<br>18 | | | (6.40) | 5.80 - 12.20 Discontinuities, very closely and closely spaced, locally medium spaced, dipping 10 to 12°, planar, locally stepped, smooth, with 0.5 to 50mm thick black silt smear.<br>6.10 - 6.30 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick dark grey silt smear, open.<br>9.10 - 9.25 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick black silt smear, open.<br>10.00 - 10.20 Joint, vertical dip, stepped, rough, with 0.5 to 1mm thick brown clay smear, open.<br>10.40 - 10.70 Joint, subvertical dip, | | Strong locally very strong and medium strong thinly bedded dark grey and grey silty sparry bioclastic fine grained LIMESTONE.<br>6.30m to 6.35m: dark blackish grey silt.<br>8.90m to 9.10m: medium strong thinly laminated black silty.<br>9.25m to 9.30m: dark blackish grey silt.<br>9.50m to 9.60m: weak thinly laminated black silt as possible residual rock. | | |
| | 100 (81) 58 | 25<br>15 | | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 12.20 | water | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRC24B** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 20-05-21<br>20-05-21 | 52.71 | E 209,889.6 N 265,209.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 20.05 12.20 | | 12 | 40.51 | | 12.20 | stepped, rough, with 0.5 to 1mm thick dark grey silt smear, open. | | Strong locally very strong and medium strong thinly bedded dark grey and grey silty sparry bioclastic fine grained LIMESTONE. *(continued)*<br>11.70m to 12.10m: medium strong thinly laminated dark blackish grey silty.<br>BH terminated at 12.20m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 20-05-21 | 17.00 | 12.20 | 4.00 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPA1** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-04-21<br>07-04-21 | 42.08 | E 205,750.3 N 268,799.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.00) | 0.00 - 3.30 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | | | 39.08 | | 3.00 | | | | | |
| | 100 (81) 63 | NA<br>3 | 38.78 | | 3.30 | 3.30 - 8.00 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 2mm thick grey silt smear.<br>3.90 - 4.05 Joint, subvertical dip, stepped, rough, with 0.5 to 2mm thick grey silt smear, open. | | Subangular fine to coarse assorted dark grey and grey limestone GRAVEL with a little grey silt.<br>Very strong locally strong thickly bedded grey bioclastic sparry fine to coarse grained LIMESTONE. | | |
| 4.60 | | 8 | | | | | | | | |
| | 100 (91) 70 | 4 | | | (4.70) | | | | | |
| 6.10 | | | | | | 6.00 - 6.10 Joint, vertical dip, planar, smooth, with 0.5 to 1mm thick grey silt smear, open.<br>6.40 - 7.00 Joint, vertical dip, stepped, smooth to 6.65m, then tight, open as drilling induced? | | | | |
| | 100 (86) 63 | 6 | | | | | | | | |
| 7.40 | | | | | | | | | | |
| 07.04 8.00 | 100 (98) 97 | 2 | 34.08 | | 8.00 | | | | | |
| | | | | | | | | BH terminated at 8.00m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 07-04-21 | 12.00 | 8.00 | 3.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.00 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 1.00m to 5.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPA2** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-04-21<br>07-04-21 | 42.00 | E 205,809.4 N 268,647.6 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 1 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (2.00) | 0.00 - 4.30 : overburden. | | Open hole drilling - no recovery. | | |
| 2.00 | | | 40.00 | | 2.00 | | | | | |
| 2.90 | 44 (-) - | NA | | | (2.30) | | | Subrounded to subangular fine to coarse dark grey and grey limestone GRAVEL with boulders and a little grey sandy silt. Sand is fine to coarse. Core run - 2.00m to 2.90m: 1 No grey limestone boulder 300mm in length. | | |
| 4.50 | 81 (8) 0 | | 37.70 | | 4.30 | | | | | |
| 5.70 | 100 (38) 35 | NI | | | (2.80) | 4.30 - 7.10 Non-intact as possible weathered rock.<br>4.90 - 7.10 Possible joint, vertical dip, stepped, rough, with 0.5 to 30mm thick dark grey silt smear, non-intact. | | Possible weathered LIMESTONE rock.<br>Recovered as angular fine to coarse gravel cobble and boulder sized clasts of strong dark grey and grey fine to coarse limestone with some dark grey silt.<br>Core run - 4.50m to 5.70m: 1 No grey limestone boulder 290mm in length. | | |
| 7.10 | 100 (60) 7 | | 34.90 | | 7.10 | | | | | |
| 07.04 8.00 | 100 (93) 80 | 3 | 34.00 | | (0.90) 8.00 | 7.10 - 8.00 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 1mm thick grey silt smear. | | Very strong thickly bedded grey sparry bioclastic fine to coarse grained LIMESTONE. | | |
| | | | | | | | | BH terminated at 8.00m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 07-04-21 | 17.30 | 8.00 | 2.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.00 | water | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit: HQ Design | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPA3** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 42.66 | E 205,899.2 N 268,539.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (2.00) | 0.00 - 3.00 : overburden. | Open hole drilling - no recovery. | | |
| 2.00 | | | 40.66 | | 2.00 | | | | |
| 2.90 | 56 (-) - | NA | 39.66 | | (1.00) 3.00 | | Subangular to subrounded fine to coarse assorted dark grey and grey limestone GRAVEL with some dark grey silt. | | |
| 4.40 | 100 (89) 83 | 4 | | | | 3.00 - 8.20 Discontinuities, medium spaced, locally very closely and closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 3mm thick grey silt smear. | Very strong locally strong thickly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| 5.90 | 50 (96) 89 | 4<br>3 | | | (5.20) | | | | |
| 7.40 | 100 (96) 91 | 3 | | | | | | | |
| 8.00 | 100 (95) 46 | 7 | 34.46 | | 8.20 | 7.40 - 7.70 Joint, subvertical dip, planar, smooth, with 0.5 to 3mm thick grey silt smear, open to moderately wide. | | | |
| 08.04 | | | | | | | BH terminated at 8.20m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 08-04-21 | 13.00 | 8.20 | 2.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.20 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 1.00m to 8.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPB1** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-04-21<br>22-04-21 | 41.09 | E 206,149.8 N 266,427.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (1.50) | 0.00 - 1.50 : overburden. | Open hole drilling - no recovery. | | |
| 1.50 | | | 39.59 | | 1.50 | | | | |
| 1.80 | 100 (0) 0 | | | | | 1.50 - 2.60 Non-intact as possible weathered rock. | Possible weathered LIMESTONE rock.<br>Recovered as angular fine to coarse gravel sized clasts of very strong and strong thickly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE with some grey silt. | | |
| | 100 (0) 0 | NI | | | (1.10) | | | | |
| 2.60 | | | 38.49 | | 2.60 | | | | |
| | 100 (89) 34 | 3 | | | | 2.60 - 8.30 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, undulating, locally stepped, smooth, with 0.5 to 2mm thick dark grey silt smear.<br>3.60 - 6.10 Joint, vertical dip, planar, smooth, with 0.5 to 3mm thick grey silt smear, open to moderately wide. | Very strong locally strong thinly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| | | 12 | | | | | | | |
| 4.00 | | | | | | | | | |
| | 100 (79) 0 | 8 | | | | | | | |
| 5.60 | | 8 | | | (5.70) | | | | |
| | 100 (85) 14 | 6 | | | | 6.50 - 7.10 Joint, subvertical dip, planar, smooth, with 0.5 to 3mm thick grey silt smear, open to moderately wide. | 6.10m to 6.30m: very strong dark grey cherty fine grained. | | |
| 7.10 | | | | | | | | | |
| | 100 (90) 63 | 6 | | | | 7.70 - 7.85 Joint, subvertical dip, planar, smooth, with 0.5 to 3mm thick grey silt smear, open to moderately wide. | 7.10m to 7.30m: very strong dark grey cherty fine grained.<br>7.30m to 7.50m: strong dark grey silty. | | |
| 22.04 8.30 | | 2 | 32.79 | | 8.30 | | BH terminated at 8.30m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 22-04-21 | 13.00 | 8.30 | 1.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.30 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 0.50m to 5.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPB2** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-04-21<br>26-04-21 | 44.83 | E 206,338.1 N 266,402.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (3.00) | 0.00 - 3.40 : overburden. | Open hole drilling - no recovery. | | |
| 3.00 | | | 41.83 | | 3.00 | | | | |
| 3.60 | 83 (0) 0 | NA | 41.43 | | 3.40 | | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL. | | |
| | | 3.60 (50/0mm) 6 | | | | 3.40 - 8.60 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 3mm thick grey silt smear.<br>3.41 - 3.40 2 No parallel joints, subvertical dip, planar, smooth, with 0.5 to 3mm thick grey silt smear, open to moderately wide. | Very strong locally strong thinly bedded grey slightly bioclastic sparry fine to medium grained LIMESTONE. | | |
| 4.80 | 100 (54) 0 | 9 | | | | | | | |
| 6.10 | 100 (87) 81 | 5 | | | (5.20) | | | | |
| 7.60 | 100 (96) 54 | 3<br>7 | | | | 6.65 - 7.00 Joint, subvertical dip, undulating, tight to 6.70m then stepped, smooth, with 0.5 to 1mm thick grey silt smear, open.<br>7.20 - 7.60 Joint, subvertical dip, planar, smooth, with 0.5 to 1mm thick brownish grey silt smear, open. | | | |
| 26.04 8.60 | 100 (96) 59 | 3 | 36.23 | | 8.60 | 7.75 - 8.05 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick greyish brown silt smear, open. | BH terminated at 8.60m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 26-04-21 | 13.00 | 8.60 | 3.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.60 | water 100 | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPB3** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-04-21<br>23-04-21 | 43.57 | E 206,292.4 N 266,287.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00<br>1.50 | 0<br>(-)<br>- | NA | 42.07 | | (1.50)<br>1.50 | 0.00 - 2.40 : overburden. | Open hole drilling - no recovery. | | |
| 2.30 | 63<br>(-)<br>- | NA | 41.17 | | (0.90)<br>2.40 | | Subrounded to subangular fine to coarse brown dolomitised limestone and assorted grey limestone GRAVEL with a little grey silt. | | |
| 3.70 | 100<br>(68)<br>0 | 10<br>5<br>NI<br>3.70 (25/0mm) | | | | 2.40 - 8.40 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 2mm thick grey silt smear.<br>3.40 - 3.70 Non-intact as angular fine to coarse gravel sized clasts with s little grey silt. | Very strong thinly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| 4.90 | 100<br>(62)<br>0 | 4<br>NI | | | | 4.00 - 4.90 Non-intact as angular fine to coarse gravel sized clasts with s little grey silt. | | | |
| 6.10 | 100<br>(93)<br>78 | 2 | | | (6.00) | | | | |
| 7.60 | 100<br>(88)<br>52 | 7<br>6 | | | | 6.25 - 6.55 Joint, subvertical dip, planar, locally stepped, rough, with 0.5 to 1mm thick grey silt smear, open.<br>6.70 - 6.80 Joint, dipping 60°, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | |
| 23.04 8.40 | 100<br>(94)<br>85 | 1 | 35.17 | | 8.40 | 6.75 - 7.10 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open.<br>7.20 - 7.30 Joint, dipping 60°, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | 8.30m to 8.40m: dark grey.<br>BH terminated at 8.40m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 23-04-21 | 14.00 | 8.40 | 1.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.40 | water | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPB4** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 28-04-21<br>28-04-21 | 48.16 | E 206,577.7 N 266,241.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS: Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | STRATA DESCRIPTION: Discontinuities / Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (2.80) | 0.00 - 8.30 : overburden. | Open hole drilling - no recovery. | | |
| 2.80 | | | 45.36 | | 2.80 | | | | |
| 3.80 | 70 (-) - | | | | | | Light grey slightly sandy gravelly SILT with cobbles and boulders. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of assorted dark grey and grey limestone. Cobbles are of assorted grey limestone. Core run - 2.80m to 3.80m: 1 No dark grey limestone boulder 230mm in length. | | |
| 5.10 | 30 (-) - | | | | | | | | |
| 6.00 | 67 (-) - | 5.10(50/150mm) NA | | | (5.50) | | | | |
| 7.00 | 20 (-) - | | | | | | | | |
| 7.60 | 50 (-) - | 7.00 (50/0mm) | | | | | | | |
| 28.04 8.30 | 42 (-) - | | 39.86 | | 8.30 | | | | |
| | | | | | | | BH terminated at 8.30m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 28-04-21 | 13.00 | 8.30 | 3.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.30 | water 100 | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPC1** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 21-04-21<br>22-04-21 | 41.88 | E 206,277.4 N 266,008.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (1.50) | 0.00 - 3.20 : overburden. | | Open hole drilling - no recovery. | | |
| 1.50 | | | 40.38 | | 1.50 | | | | | |
| | 26 (-) - | NA | | | (1.70) | | | Subrounded to subangular fine to coarse assorted light grey and dark grey limestone GRAVEL. | | |
| 3.00 | | | 38.68 | | 3.20 | | | | | |
| | 100 (40) 22 | | | | | 3.20 - 5.50 Non-intact as weathered rock.<br>3.21 - 5.50 Discontinuities, apparently closely spaced, locally medium spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 2mm thick grey silt smear, non-intact.<br>3.80 - 4.80 Probable joint, subvertical dip, planar, smooth, with 0.5 to 4mm thick grey silt smear, open, non-intact. | | Weathered LIMESTONE rock. Recovered as angular fine to coarse gravel and cobble sized clasts of strong and very strong thinly bedded dark grey and grey fine and medium grained LIMESTONE. | | |
| 4.20 | | 4.20 (50/0mm) NI | | | | | | | | |
| | 100 (64) 23 | | | | (2.30) | | | | | |
| 21.04 5.50 | | | 36.38 | | 5.50 | | | | | |
| 22.04 | 100 (96) 95 | 2 | | | | 5.10 - 5.50 Probable joint, subvertical dip, planar, smooth, with 0.5 to 4mm thick grey silt smear, open, non-intact.<br>5.50 - 8.30 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 2mm thick grey silt smear. | | Very strong thinly bedded grey slightly bioclastic fine to coarse grained LIMESTONE.<br>5.65m to 6.10m: extremely strong dark grey cherty fine grained. | | |
| | | 3 | | | | | | | | |
| 7.10 | | | | | (2.80) | | | | | |
| | 100 (96) 77 | 3 | | | | 7.80 - 7.95 Joint, subvertical dip, stepped, smooth, cleam, open as drilling induced? | | 8.00m to 8.30m: extremely strong dark grey cherty fine grained. | | |
| 22.04 8.30 | | | 33.58 | | 8.30 | | | BH terminated at 8.30m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 21-04-21 | 17.00 | 5.50 | 1.50 | 99 | 63 | | |
| 22-04-21 | 08.00 | 5.50 | 1.50 | 99 | 63 | | |
| 22-04-21 | 12.00 | 8.30 | 1.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.30 | water | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.00m to 8.30m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPC2** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 21-04-21<br>21-04-21 | 43.33 | E 206,331.8 N 265,917.4 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 1 | DRAFT |

| RUN DETAILS: Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | STRATA DESCRIPTION: Discontinuities / Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | | | | | | 0.00 - 7.30 : overburden. | Open hole drilling - no recovery. | | |
| | 0 (-) - | NA | | | (2.80) | | | | |
| 2.80 | | | 40.53 | | 2.80 | | | | |
| 4.00 | 50 (-) - | | | | | | Light grey sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse of assorted grey limestone. Cobbles are of assorted grey limestone. | | |
| 4.90 | 44 (-) - | | | | | | | | |
| | 46 (-) - | 4.90(50/150mm) NA | | | (4.50) | | | | |
| 6.00 | | | | | | | | | |
| 6.70 | 100 (-) - | | | | | | | | |
| | 69 (35) 0 | 6.70(50/75mm) | 36.03 | | 7.30 | | | | |
| 21.04 8.00 | | 13 | 35.33 | | (0.70) 8.00 | 7.30 - 8.00 Discontinuities, apparently closely spaced, locally medium spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 4mm thick light grey silt smear.<br>7.31 - 8.00 Probable joint, apparently subvertical dip, stepped, smooth, with 0.5 to 4mm thick light grey silt smear, open to moderately wide. | Strong apparently massive light grey coarse grained LIMESTONE. | | |
| | | | | | | | BH terminated at 8.00m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 21-04-21 | 13.00 | 8.00 | 2.80 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.00 | water 100 | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPD1** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-04-21<br>29-04-21 | 46.35 | E 206,815.2 N 266,394.8 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 1 | DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (2.10) | 0.00 - 2.70 : overburden. | | Open hole drilling - no recovery. | | |
| 2.10 | | | 44.25 | | 2.10 | | | | | |
| 2.70 | 100 (-) - | NA | 43.65 | | (0.60) 2.70 | | | Subrounded to subangular fine to coarse brown dolomitised limestone and assorted grey limestone GRAVEL with a little grey silt. | | |
| 4.30 | 100 (90) 65 | 0<br>6 | | | | 2.70 - 9.00 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 3mm thick grey silt smear.<br>3.80 - 4.30 Joint, subvertical dip, planar, rough, with 0.5 to 2mm thick grey silt smear, open. | | Very strong thickly bedded grey slightly bioclastic sparry fine and medium grained LIMESTONE. | | |
| 5.90 | 100 (95) 70 | 4<br>6 | | | (6.30) | 4.90 - 5.15 Joint, subvertical dip, planar, rough, with 0.5 to 1mm thick grey silt smear, open. | | | | |
| 7.50 | 100 (83) 25 | 15<br>3 | | | | 5.90 - 7.15 Joint, subvertical dip, planar, locally stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | | |
| 29.04 9.00 | 100 (96) 87 | 5 | 37.35 | | 9.00 | 8.80 - 8.90 Joint, dipping 60°, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | BH terminated at 9.00m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 29-04-21 | 13.00 | 9.00 | 2.70 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 9.00 | water | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 0.50m to 5.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPD2** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-04-21<br>30-04-21 | 46.54 | E 206,847.5 N 266,277.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (1.70) | 0.00 - 2.70 : overburden. | Open hole drilling - no recovery. | | |
| 1.70 | | | 44.84 | | 1.70 | | | | |
| | 100 (35) 15 | NA | 44.54 | | 2.00 | | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL. | | |
| 2.50 | | 5 | | | | 2.70 - 9.00 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 2mm thick brown silt smear. | Very strong thickly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| | 100 (96) 61 | 7 | | | | 3.80 - 4.30 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | |
| 4.10 | | 6 | | | | 4.40 - 4.55 Joint, subvertical dip, undulating, locally stepped, smooth, with 0.5 to 2mm thick light grey silt smear, open. | | | |
| | 100 (97) 78 | 6 | | | (6.80) | 5.35 - 5.55 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | |
| 29.04 5.70 | | | | | | | | | |
| 30.04 | 100 (91) 90 | 6 | | | | 6.70 - 7.00 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | |
| 7.30 | | 3 | | | | 7.40 - 7.50 Joint, dipping 60°, undulating, tight. | | | |
| | 100 (91) 69 | 4 | | | | 7.90 - 8.15 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear and minor orangish brown iron stain, open. | | | |
| 30.04 8.80 | | | 37.74 | | 8.80 | 8.60 - 8.75 Joint, subvertical dip, planar, smooth, with 0.5 to 1mm thick grey silt smear, open. | BH terminated at 8.80m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 29-04-21 | 17.00 | 5.70 | 2.00 | 99 | 63 | | |
| 30-04-21 | 08.00 | 5.70 | 2.00 | 99 | 63 | | |
| 30-04-21 | 12.00 | 8.80 | 2.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.80 | water | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPE1** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-04-21<br>30-04-21 | 47.46 | E 206,900.0 N 266,121.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thickness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (2.60) | 0.00 - 3.00 : overburden. | | Open hole drilling - no recovery. | | |
| 2.60 | 100 (-) - | NA | 44.86<br>44.76<br>44.46 | | 2.60<br>2.70<br>3.00 | | | Brownish grey SILT.<br>Subangular to subrounded medium and coarse assorted grey limestone GRAVEL. | | |
| 4.40 | 100 (81) 52 | 8 | | | | 3.00 - 8.60 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 2mm thick brown clay smear.<br>3.15 - 3.65 Joint, vertical dip, stepped, smooth, with 0.5 to 3mm thick light grey silt smear, open.<br>4.20 - 4.45 Probable joint, apparently subvertical dip, stepped, smooth, with 0.5 to 1mm thick light grey silt smear, open. | | Very strong thinly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| 6.00 | 100 (93) 89 | 8<br>3 | | | (5.60) | 5.80 - 6.15 Joint, subvertical dip, planar, smooth, clean, open as drilling induced? | | | | |
| 7.60 | 100 (97) 95 | 3<br>4 | | | | | | | | |
| 8.60 | 100 (92) 90 | 3 | 38.86 | | 8.60 | | | BH terminated at 8.60m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 30-04-21 | 17.00 | 8.60 | 3.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.60 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 0.50m to 8.60m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCBPE2** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-05-21<br>04-05-21 | 48.43 | E 206,966.5 N 265,968.6 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 1 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (2.70) | 0.00 - 8.20 : overburden. | | Open hole drilling - no recovery. | | |
| 2.70 | | | 45.73 | | 2.70 | | | | | |
| 3.60 | 33 (-) - | | | | | | | Very stiff brown sandy gravelly SILT with cobbles and boulders. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse of assorted grey limestone. Cobbles are of assorted grey limestone. | | |
| 4.60 | 40 (-) - | 4.60(50/75mm) | | | | | | | | |
| 5.80 | 42 (-) - | NA | | | (5.50) | | | | | |
| 6.80 | 90 (-) - | 6.80 (50/0mm) | | | | | | Core run - 6.80m to 9.00m: 1 No dark grey limestone boulder 260mm in length. | | |
| 04.05 8.20 | 100 (-) - | | 40.23 | | 8.20 | | | | | |
| | | | | | | | | BH terminated at 8.20m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 04-05-21 | 13.00 | 8.20 | 3.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.20 | water 100 | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCMMA** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-03-21<br>08-03-21 | 39.92 | E 203,771.4 N 269,437.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (6.00) | 0.00 - 6.70 : overburden. | | Open hole drilling - no recovery. | | |
| 6.00 | | | 33.92 | | 6.00 | | | | | |
| 6.70 | 42 (-) - | NA | 33.22 | | (0.70) 6.70 | | | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL. | | |
| 8.20 | 100 (92) 59 | 0<br>5 | | | (5.20) | 6.70 - 11.90 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 2mm thick greenish grey silt smear.<br>6.71 - 6.80 Joint, dipping 60°, stepped, smooth, with 0.5 to 1mm thick brown clay smear, open.<br>7.50 - 8.00 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick dark grey silt smear, open. | | Strong locally very strong thinly bedded grey sparry bioclastic fine to coarse grained LIMESTONE. | | |
| 9.80 | 100 (95) 85 | 4<br>4 | | | | | | | | |
| | 100 (96) 90 | 4 | | | | | | | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| | | | | | | | | 0 | 11.90 | water 100 | 100 | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used Hydreq | Bit Design HQ | Driller BD | Logged By EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCMMA** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-03-21<br>08-03-21 | 39.92 | E 203,771.4 N 269,437.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | STRATA | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 11.40 | | 2 | | | | | | Strong locally very strong thinly bedded grey sparry bioclastic fine to coarse grained LIMESTONE. *(continued)* | | |
| 08.03 11.90 | 100 (100) 100 | | 28.02 | | 11.90 | | | | | |
| | | | | | | | | BH terminated at 11.90m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 08-03-21 | 17.00 | 11.90 | 6.00 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: BD | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCMMB** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-04-21<br>16-04-21 | 42.67 | E 205,759.5 N 266,148.2 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | STRATA DESCRIPTION: Discontinuities / Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 – 1.50 | 0 (-) - | NA | 41.17 | | (1.50) | 0.00 - 9.20 : overburden. | Open hole drilling - no recovery. | | |
| 1.50 – 2.80 | 30 (-) - | | | | (7.70) | | Very stiff greyish brown gravelly sandy SILT with cobbles and boulders. Sand is coarse. Gravel is subangular fine to medium of assorted brown sandstone and assorted grey limestone. Cobbles are of assorted grey limestone. | | |
| 2.80 – 4.20 | 39 (-) - | | | | | | | | |
| 4.20 – 5.80 | 100 (-) - | 4.20 (53)<br>NA | | | | | Core run - 4.20m to 5.80m: 1 No grey coarse grained limestone boulder 230mm in length. 1 No grey limestone boulder 300mm in length. | | |
| 5.80 – 6.90 | 36 (-) - | 5.80(25/10mm) | | | | | | | |
| 6.90 – 8.00 | 72 (-) - | 6.90(25/10mm) | | | | | Core run - 6.90m to 8.00m: 1 No grey limestone boulder 230mm in length. | | |
| 8.00 – 9.20 | 67 (-) - | 8.00(31/75mm) | 33.47 | | 9.20 | | | | |
| 9.20 – 10.70 | 100 (91) 55 | 5<br>3 | | | | 9.20 - 9.60 2 No parallel joints, vertical dip, planar, smooth, with 0.5 to 3mm thick grey silt smear, open.<br>10.70 - 15.00 Non-intact as angular | Very strong apparently thickly bedded grey sparry fine to coarse grained LIMESTONE. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.70 | water | 100 |
| 8.7 | 16.60 | water | 0 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 9.20m to 16.60m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: DC | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCMMB** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-04-21<br>16-04-21 | 42.67 | E 205,759.5 N 266,148.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depth Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION Discontinuities Detail | DESCRIPTION Main | Geology | Instrument/ Backfill |
| 11.90 | 92 (45) 23 | | | | | fine to coarse gravel sized clasts with a little orangish green silt. No recovery as washout of fines during drilling. | Very strong apparently thickly bedded grey sparry fine to coarse grained LIMESTONE. *(continued)* | | |
| 13.40 | 93 (71) 54 | NR/NI | | | (7.40) | | | | |
| 15.00 | 56 (21) 9 | | | | | | | | |
| 16.04 16.60 | 100 (86) 56 | 6<br>1 | 26.07 | | 16.60 | 15.00 - 16.60 Discontinuities, apparently medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 2mm thick brownish grey clay smear. | | | |
| | | | | | | | BH terminated at 16.60m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 16-04-21 | 17.00 | 16.60 | 1.50 | 99 | 63 | | 1.60 |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

50mm standpipe installed. Response zone 9.20m to 16.60m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: DC | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCMMC** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 14-05-21<br>14-05-21 | 51.23 | E 209,673.8 N 263,342.3 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 3 | DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (2.50) | 0.00 - 15.80 : overburden. | | Open hole drilling - no recovery. | | |
| 2.50 | | | 48.73 | | 2.50 | | | | | |
| | 37 (-) - | | | | (1.50) | | | Grey slightly gravelly sandstone COBBLES. Gravel is subrounded fine to medium of assorted grey limestone. | | |
| 4.00 | | | 47.23 | | 4.00 | | | | | |
| | 33 (-) - | 4.00 (38)<br>5.50(39/150mm) | | | | | | Very stiff dark greyish green sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse of assorted grey limestone and assorted grey and brown sandstone. Cobbles are of assorted grey limestone. | | |
| 5.80 | | | | | | | | | | |
| | 100 (-) - | NA | | | (5.20) | | | | | |
| 7.00 | | 7.00(40/150mm) | | | | | | | | |
| | 56 (-) - | 8.50(50/75mm) | | | | | | | | |
| 8.80 | | | 42.03 | | 9.20 | | | | | |
| | 79 (-) - | 10.00(59/225mm) | | | | | | Stiff dark orangish brown mottled grey CLAY. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 22.00 | polymer | 100 |

## GENERAL REMARKS

1 gallon polydrill used.
50mm standpipe installed.
Response zone 6.50m to 22.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCMMC** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 14-05-21<br>14-05-21 | 51.23 | E 209,673.8 N 263,342.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 3 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 12.20 | | | | | | | | Stiff dark orangish brown mottled grey CLAY. *(continued)* | | |
| 15.20 | 90 (-) - | NA 13.00(30/75mm) | | | (6.60) | | | | | |
| | | | 35.43 | | 15.80 | | | | | |
| | 100 (39) 0 | | 33.73 | | (1.70) 17.50 | 15.80 - 22.00 Non-intact as weathered rock.<br>15.81 - 22.00 Discontinuities, apparently closely spaced, locally very closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 4mm thick orangish brown silt smear. | | Weathered SANDSTONE rock. Recovered as angular fine to coarse gravel sized clasts of very strong and strong apparently massive light orangish brown fine and medium grained SANDSTONE. | | |
| 18.20 | | NI | 33.13 | | (0.60) 18.10 | | | Weathered CONGLOMERATE rock. Recovered as angular fine to coarse gravel sized clasts of medium strong apparently massive subrounded and rounded quartz CONGLOMERATE in a brown fine and medium grained sandstone matrix. | | |
| 21.20 | 100 (61) 26 | NI | 30.03 | | (3.10) 21.20 | | | Weathered SANDSTONE rock. Recovered as angular fine to coarse gravel sized clasts of very strong and strong apparently massive light orangish brown coarse grained SANDSTONE with surficial orangish brown iron stain and powder.<br><br>20.60m to 20.80m: conglomeratic. | | |
| 14.05 22.00 | 100 (78) 36 | | 29.23 | | (0.80) 22.00 | | | Weathered CONGLOMERATE rock. Recovered as angular fine to coarse gravel sized clasts of medium strong | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 14-05-21 | 17.00 | 22.00 | 2.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

1 gallon polydrill used.
50mm standpipe installed.
Response zone 6.50m to 22.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCMMC** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 14-05-21<br>14-05-21 | 51.23 | E 209,673.8 N 263,342.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 3 of 3 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| | | | | | | | | apparently massive subrounded and rounded quartz CONGLOMERATE in a brown fine and medium grained sandstone matrix.<br>BH terminated at 22.00m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) |
| | | | | | | | | | | | |

**GENERAL REMARKS**

1 gallon polydrill used.
50mm standpipe installed.
Response zone 6.50m to 22.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSA** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-03-21<br>09-03-21 | 36.77 | E 203,014.4 N 271,312.4 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 1 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.70) | 0.00 - 3.80 : overburden. | | Open hole drilling - no recovery. | | |
| 3.70 | | | 33.07 | | 3.70 | | | | | |
| | 100 (86) 35 | NA<br>1<br>7 | 32.97 | | 3.80 | 3.80 - 9.00 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 3mm thick grey silt smear.<br>3.90 - 4.05 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open.<br>4.45 - 5.00 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick grey silt smear, open.<br>5.45 - 5.60 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open.<br>6.70 - 6.90 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick brown clay smear, open. | | Subrounded to subangular fine to coarse assorted grey limestone GRAVEL.<br>Strong locally very strong thinly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| 5.30 | 100 (90) 73 | 4<br>4 | | | (5.20) | | | | | |
| 6.90 | 100 (96) 83 | 6 | | | | | | | | |
| 8.50 | 100 (94) 76 | 6 | | | | | | | | |
| 09.03 9.00 | | | 27.77 | | 9.00 | 8.75 - 9.00 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick dark brown clay smear, open. | | BH terminated at 9.00m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 09-03-21 | 17.00 | 9.00 | 3.70 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 9.00 | water 100 | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: BD | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSB** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 37.49 | E 204,133.0 N 271,675.8 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 1 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | | | | | | 0.00 - 8.50 : overburden. | | Open hole drilling - no recovery. | | |
| | 0<br>(-)<br>- | NA | | | (6.00) | | | | | |
| 6.00 | | | 31.49 | | 6.00 | | | | | |
| | 100<br>(-)<br>- | | 31.19 | | 6.30 | | | Light brown fine and medium SAND. (0.30m recovered). | | |
| 6.80 | | 6.80(50/75mm) | | | | | | Subrounded to subangular fine to coarse assorted dark grey and grey limestone GRAVEL with a little light brown silt. | | |
| | 23<br>(-)<br>- | NA | | | (2.20) | | | | | |
| 25.03 8.50 | | | 28.99 | | 8.50 | | | | | |
| | | | | | | | | BH terminated at 8.50m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 25-03-21 | 12.00 | 8.50 | 6.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.50 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 2.50m to 8.50m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSC** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-03-21<br>26-03-21 | 37.56 | E 204,158.2 N 271,142.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | 33.06 | | (4.50) | 0.00 - 5.80 : overburden. | | Open hole drilling - no recovery. | | |
| 4.50 | 33 (13) 7 | NA | 31.76 | | (1.30) | | | Subrounded to subangular fine to coarse assorted dark grey and grey limestone GRAVEL with a little brownish grey silt. | | |
| 5.80 | 100 (95) 69 | 6.00 (100/0mm)<br>5 | | | (3.10) | 5.80 - 8.90 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 1mm thick grey silt smear.<br>7.10 - 7.16 Joint, dipping 54°, stepped, smooth, with 0.5 to 2mm thick orangish brown silt smear, open.<br>7.30 - 7.36 Joint, dipping 54°, stepped, smooth, with 0.5 to 2mm thick orangish brown silt smear, open.<br>7.80 - 7.95 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick light orangish brown silt smear, open. | | Strong locally very strong thickly bedded grey slightly bioclastic sparry coarse grained LIMESTONE. | | |
| 7.50 | 100 (89) 60 | 6<br>4 | 28.66 | | | | | | | |
| 8.90 | | | | | | | | BH terminated at 8.90m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 26-03-21 | 17.30 | 8.90 | 4.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.90 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 2.60m to 8.60m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSD** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 38.04 | E 204,659.6 N 270,685.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (4.50) | 0.00 - 4.80 : overburden. | | Open hole drilling - no recovery. | | |
| 4.50 | | 4.50 (50/0mm) NA | 33.54 | | 4.50 | | | | | |
| | 100 (70) 47 | 6 | 33.24 | | 4.80 | 4.80 - 8.70 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 1mm thick grey silt smear. | | Subrounded to subangular fine to coarse rare brown dolomitised limestone and assorted dark grey and grey limestone GRAVEL. | | |
| 6.00 | 100 (81) 73 | 3 | | | (3.90) | | | Very strong locally strong thinly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| 7.60 | 100 (96) 94 | 4 | | | | | | | | |
| 01.04 8.70 | | 3 | 29.34 | | 8.70 | | | | | |
| | | | | | | | | BH terminated at 8.70m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 01-04-21 | 13.00 | 8.70 | 4.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.70 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.00m to 8.70m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSE** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 37.54 | E 204,383.5 N 270,253.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (4.50) | 0.00 - 8.50 : overburden. | | Open hole drilling - no recovery. | | |
| 4.50 | | | 33.04 | | 4.50 | | | | | |
| 6.00 | 20 (-) - | NA | | | (3.80) | | | Stiff dark brown sandy SILT. Sand is fine. | | |
| | 20 (-) - | | 29.24 | | 8.30 | | | | | |
| 08.04 8.50 | | | 29.04 | | 8.50 | | | Stiff brownish grey slightly sandy slightly gravelly SILT with cobbles. Sand is medium to coarse. Gravel is subangular fine to coarse of assorted grey limestone. Cobbles are of grey limestone.<br>BH terminated at 8.50m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 08-04-21 | 12.00 | 8.50 | 4.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.50 | water | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.00m to 8.50m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: AS | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSF** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 06-04-21<br>06-04-21 | 40.57 | E 205,217.1 N 268,854.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | | | | | | 0.00 - 8.00 : overburden. | | Open hole drilling - no recovery. | | |
| | 0<br>(-)<br>- | NA | | | (5.00) | | | | | |
| 5.00 | | | 35.57 | | 5.00 | | | | | |
| | 47<br>(-)<br>- | | | | | | | Stiff greyish brown sandy gravelly SILT with cobbles and boulders. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse of assorted grey limestone. Cobbles are of light brown dolomitised limestone and grey limestone.<br>Core run - 6.50m to 8.00m: 1 No light grey limestone boulder 280mm in length. | | |
| 6.50 | | 6.50 NA (50/0mm) | | | (3.00) | | | | | |
| | 87<br>(-)<br>- | | | | | | | | | |
| 06.04 8.00 | | | 32.57 | | 8.00 | | | | | |
| | | | | | | | | BH terminated at 8.00m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 06-04-21 | 17.30 | 8.00 | 5.00 | 99 | 63 | | | 0 | 8.00 | water 100 | 100 | 50mm standpipe installed. Response zone 1.00m to 8.00m bgl. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used Hydreq | Bit Design HQ | Driller AS | Logged By EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSG** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 06-04-21<br>06-04-21 | 43.03 | E 204,966.4 N 268,335.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (4.00) | 0.00 - 8.40 : overburden. | | Open hole drilling - no recovery. | | |
| 4.00 | | | 39.03 | | 4.00 | | | | | |
| 5.70 | 94 (-) - | NA | | | (4.00) | | | Stiff brown slightly gravelly sandy SILT with cobbles and boulders. Sand is coarse. Gravel is subangular fine to coarse of assorted grey limestone. Cobbles are of grey and dark grey limestone.<br>Core run - 4.00m to 5.70m: 1 No dark grey bioclastic limestone boulder 280mm in length. 1 No grey limestone boulder 400mm in length. | | |
| 7.30 | 63 (-) - | | | | | | | | | |
| 06.04 8.00 | 85 (-) - | 7.30 (50/0mm) | 35.03 | | 8.00 | | | Core run - 7.30m to 8.00m: 1 No dark grey bioclastic limestone boulder 290mm in length. | | |
| | | | | | | | | BH terminated at 8.00m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 06-04-21 | 12.00 | 8.00 | 4.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.00 | water | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 1.00m to 8.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: AS | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSH** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-04-21<br>15-04-21 | 42.86 | E 205,449.3 N 266,923.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (1.50) | 0.00 - 4.20 : overburden. | | Open hole drilling - no recovery. | | |
| 1.50 | | | 41.36 | | 1.50 | | | | | |
| | 33 (-) - | NA | | | (2.70) | | | Plastic black amorphous PEAT. | | |
| 3.00 | | | | | | | | | | |
| | 40 (21) 15 | | 38.66 | | 4.20 | | | | | |
| 4.50 | | 4 | | | | 4.20 - 8.10 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, smooth, with 0.5 to 2mm thick grey silt smear.<br>5.25 - 5.35 Joint, dipping 60°, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | Very strong locally strong thinly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| | 100 (96) 77 | 5 | | | | | | | | |
| 5.80 | | | | | | | | | | |
| | 100 (96) 69 | 3 | | | (3.90) | 6.25 - 6.60 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick dark grey silt smear and minor orangish brown iron stain, open. | | | | |
| 7.30 | | | | | | | | | | |
| 15.04 8.10 | 100 (96) 94 | 3 | 34.76 | | 8.10 | | | | | |
| | | | | | | | | BH terminated at 8.10m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 15-04-21 | 14.00 | 8.10 | 1.50 | 99 | 63 | | 3.10 |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.10 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 4.20m to 8.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: DC | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSI** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-05-21<br>13-05-21 | 43.96 | E 207,112.4 N 267,230.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (1.30) | 0.00 - 6.10 : overburden. | | Open hole drilling - no recovery. | | |
| 1.30 | | | 42.66 | | 1.30 | | | | | |
| | | | 42.46 | | 1.50 | | | Dark brown organic SILT with rootlets. | | |
| 3.00 | 58 (-) - | | | | | | | Firm dark brown sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse of assorted brown sandstone and assorted grey limestone. Cobbles are of assorted grey limestone. | | |
| 4.40 | 100 (-) - | NA | | | (4.60) | | | | | |
| | | 4.40(50/75mm) | | | | | | | | |
| 6.00 | 25 (-) - | | 37.86 | | 6.10 | | | | | |
| | | ~~6.00 (50/0mm)~~ | | | | 6.10 - 8.50 Discontinuities, medium spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 1mm thick grey silt smear. | | Very strong locally strong thickly bedded grey slightly bioclastic fine and medium grained LIMESTONE. 6.60m to 6.70m: weak thinly laminated black fissile silty fine grained limestone. | | |
| 7.50 | 100 (95) 91 | 3 | | | (2.40) | | | | | |
| | 100 (97) 94 | 3 | | | | | | | | |
| 13.05 8.50 | | 2 | 35.46 | | 8.50 | | | | | |
| | | | | | | | | BH terminated at 8.50m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 13-05-21 | 17.00 | 8.50 | 1.30 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.50 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 3.00m to 8.50m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSJ** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 20-04-21<br>20-04-21 | 42.84 | E 206,394.4 N 265,434.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.00) | 0.00 - 8.40 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | | | 39.84 | | 3.00 | | | | | |
| 4.20 | 25 (-) - | | | | | | | Very stiff brown gravelly sandy SILT with cobbles. Sand is fine to coarse. Gravel is subrounded to subangular fine to medium of assorted grey sandstone and assorted grey limestone. Cobbles are of assorted grey limestone. | | |
| 5.60 | 21 (-) - | 5.60(50/225mm) NA | | | (5.40) | | | | | |
| 7.00 | 50 (-) - | 7.00(50/150mm) | | | | | | | | |
| 20.04 8.40 | 35 (-) - | | 34.44 | | 8.40 | | | | | |
| | | | | | | | | BH terminated at 8.40m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 20-04-21 | 17.00 | 8.40 | 3.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.40 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 6.00m to 8.40m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: PMcG | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSK** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 05-05-21<br>05-05-21 | 42.89 | E 205,723.4 N 265,046.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | | | | | | 0.00 - 7.60 : overburden. | | Open hole drilling - no recovery. | | |
| | 0 (-) - | NA | | | (7.00) | | | | | |
| 7.00 | 67 | | 35.89 | | 7.00 | | | | | |
| 7.30 | (-) - | NA | 35.29 | | (0.60) 7.60 | | | Dark grey slightly gravelly SILT. Gravel is subangular fine to coarse of light grey sandstone. | | |
| | 88 (60) 37 | NI | 34.59 | | (0.70) 8.30 | 7.60 - 8.30 Non-intact as weathered rock. | | Weathered SANDSTONE rock. Recovered as angular medium to coarse strong light grey coarse grained sandstone. | | |
| 05.05 9.00 | | 3 | 33.89 | | (0.70) 9.00 | 8.30 - 9.00 Discontinuities, medium spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 1mm thick grey silt smear.<br>8.50 - 8.65 Joint, vertical dip, undulating, tight. | | Strong apparently massive light grey coarse grained SANDSTONE.<br>BH terminated at 9.00m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 05-05-21 | 14.00 | 9.00 | 7.00 | 99 | 63 | | 0.90 |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 9.00 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 2.00m to 9.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSL** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-05-21<br>11-05-21 | 47.67 | E 208,351.2 N 265,947.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.00) | 0.00 - 4.90 : overburden. | | Open hole drilling - no recovery. | | |
| 3.00 | | | 44.67 | | 3.00 | | | | | |
| 4.50 | 67 (-) - | NA | | | (1.90) | | | Stiff grey sandy gravelly SILT. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse of brown dolomitised limestone and assorted grey limestone. | | |
| 5.20 | 71 (42) 41 | 4.80(50/75mm) | 42.77 | | 4.90 | | | | | |
| | 100 (94) 92 | 5 | | | (3.50) | 4.90 - 8.40 Discontinuities, medium spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 2mm thick dark grey silt smear.<br>5.20 - 5.30 Joint, vertical dip, stepped, smooth, with 0.5 to 4mm thick greyish brown silt, open to moderately wide. | | Very strong locally strong thinly bedded dark grey sparry bioclastic fine and medium grained LIMESTONE. | | |
| | | 2 | | | | | | | | |
| | | 1 | | | | | | | | |
| 11.05 8.40 | | 2 | 39.27 | | 8.40 | | | | | |
| | | | | | | | | BH terminated at 8.40m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 11-05-21 | 18.00 | 8.40 | 3.00 | 99 | 63 | | 1.00 |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.40 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 2.50m to 8.40m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSM** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 19-05-21<br>19-05-21 | 50.15 | E 209,528.2 N 266,768.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (3.30) | 0.00 - 8.20 : overburden. | | Open hole drilling - no recovery. | | |
| 3.30 | | | 46.85 | | 3.30 | | | | | |
| 4.50 | 33 (-) - | 4.50 (40) | | | (4.90) | | | Very stiff dark brownish grey sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of assorted grey and dark grey limestone. Cobbles are of assorted grey limestone. | | |
| 6.00 | 33 (-) - | NA<br>6.00 (45) | | | | | | | | |
| 7.50 | 60 (-) - | 7.50(59/225mm) | | | | | | | | |
| T9.05 8.20 | 85 (-) - | | 41.95 | | 8.20 | | | | | |
| | | | | | | | | BH terminated at 8.20m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 19-05-21 | 14.00 | 8.20 | 3.30 | 99 | 63 | | 1.00 |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.20 | water | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 2.00m to 8.20m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCPSN** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-05-21<br>12-05-21 | 47.40 | E 207,822.7 N 263,405.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (1.50) | 0.00 - 2.50 : overburden. | | Open hole drilling - no recovery. | | |
| 1.50 | | | 45.90 | | 1.50 | | | | | |
| | 73 (37) 35 | NA | 44.90 | | (1.00) 2.50 | | | Gravelly very strong grey limestone BOULDER with cobbles. Gravel is subangular coarse of brown sandstone. Cobbles are of light brown sandstone. Boulder is 260mm in length. | | |
| 3.00 | | NR/NI | | | | 2.50 - 4.50 Non-intact as weathered rock. No recovery as washout of fines during drilling. No record of cavity. | | Very strong locally strong thinly bedded dark grey slightly bioclastic fine and medium grained LIMESTONE. | | |
| 4.50 | 80 (51) 43 | | | | | | | | | |
| | 100 (97) 96 | 1 | | | (5.50) | 4.50 - 8.00 Discontinuities, medium spaced, dipping 12 to 14°, stepped, smooth, with 0.5 to 1mm thick grey silt smear. | | 5.05m to 5.06m: visible finely disseminated pyrite. | | |
| | | 4 | | | | | | | | |
| 6.00 | | | | | | | | 6.00m to 8.00m: grey bioclastic. | | |
| | 100 (92) 85 | 3 | | | | 6.95 - 7.05 Joint, dipping 60°, stepped, smooth, with 0.5 to 1mm thick brown clay smear, open. | | | | |
| | | 5 | | | | 7.45 - 8.00 Joint, subvertical dip, undulating, smooth, clean, open as drilling induced? | | | | |
| 12.05 8.00 | | | 39.40 | | 8.00 | | | BH terminated at 8.00m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 12-05-21 | 17.00 | 8.00 | 1.50 | 99 | 63 | | 1.00 |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 8.00 | water | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 2.00m to 8.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: GF | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 31-03-21<br>31-03-21 | 39.94 | E 205,107.1 N 268,530.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (2.00) | 0.00 - 4.70 : overburden. | | Open hole drilling - no recovery. | | |
| 2.00 | | | 37.94 | | 2.00 | | | | | |
| | | | 37.84 | | 2.10 | | | Dark grey SILT. | | |
| 3.00 | 30 (-) - | NA | | | (2.60) | | | Subrounded to subangular fine to coarse assorted dark grey and grey limestone GRAVEL with some grey silt. | | |
| 4.50 | 27 (-) - | | 35.24 | | 4.70 | | | | | |
| 6.00 | 87 (81) 53 | 1<br>8 | | | | 4.70 - 10.20 Discontinuities, medium spaced, locally very closely and closely spaced, dipping 12 to 14°, stepped, rough, with 0.5 to 5mm thick grey silt smear. | | Very strong locally strong and medium strong thinly bedded grey slightly bioclastic sparry coarse grained LIMESTONE. | | |
| 7.50 | 100 (96) 83 | 6<br>5 | | | (5.50) | | | | | |
| 9.00 | 100 (84) 38 | 9 | | | | 7.60 - 7.75 Joint, subvertical dip, stepped, rough, with 0.5 to 2mm thick grey silt smear, open.<br>8.20 - 8.70 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick grey silt smear, open. | | | | |
| 31.03 10.20 | 100 (95) 80 | 3 | 29.74 | | 10.20 | 9.70 - 10.15 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | BH terminated at 10.20m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 31-03-21 | 12.00 | 10.20 | 2.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 10.20 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 1.00m to 5.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 39.33 | E 205,160.9 N 268,572.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 2 |
| | Rev. DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0 (-) - | NA | | | (2.00) | 0.00 - 6.20 : overburden. | | Open hole drilling - no recovery. | | |
| 2.00 | | | 37.33 | | 2.00 | | | | | |
| 2.90 | 89 (-) - | NA 4.40(50/75mm) | | | (4.20) | | | Grey slightly sandy gravelly SILT with cobbles and boulders. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse of assorted dark grey and grey limestone. Cobbles are of assorted grey limestone. Core run - 2.00m to 2.90m: 1 No grey limestone boulder 240mm in length. 1 No grey limestone boulder 240mm in length. Core run - 2.90m to 4.40m: 1 No grey limestone boulder 640mm in length. | | |
| 4.40 | 77 (-) - | | | | | | | | | |
| 5.90 | 40 (-) - | | | | | | | | | |
| | | | 33.13 | | 6.20 | | | | | |
| 7.40 | 100 (71) 43 | 7<br>1 | | | | 6.20 - 6.80 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick grey silt smear, open. 6.20 - 11.90 Discontinuities, medium spaced, locally very closely and closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 6mm thick grey silt smear. 7.40 - 9.40 Joint, apparently subvertical dip, stepped, smooth, with 0.5 to 6mm thick grey silt smear, open, non-intact. | | Very strong locally strong thickly bedded light grey sparry bioclastic fine to coarse grained LIMESTONE. | | |
| 8.90 | 100 (25) 0 | NI | | | (5.70) | | | | | |
| 10.40 | 100 (83) 48 | 6<br>9 | | | | 10.20 - 11.15 Joint, apparently subvertical dip, stepped, smooth, with 0.5 to 6mm thick grey silt | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 11.90 | water | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 1.00m to 6.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 39.33 | E 205,160.9 N 268,572.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 01.04 11.90 | 100<br>(87)<br>43 | 3 | 27.43 | | 11.90 | smear, open to moderately wide. | | Very strong locally strong thickly bedded light grey sparry bioclastic fine to coarse grained LIMESTONE. *(continued)* | | |
| | | | | | | | | BH terminated at 11.90m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 01-04-21 | 13.00 | 11.90 | 2.00 | 99 | 63 | | | | | | | 50mm standpipe installed. Response zone 1.00m to 6.00m bgl. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 31-03-21<br>31-03-21 | 39.50 | E 205,120.1 N 268,562.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (2.00) | 0.00 - 5.50 : overburden. | | Open hole drilling - no recovery. | | |
| 2.00 | | | 37.50 | | 2.00 | | | | | |
| 2.90 | 56 (-) - | NA | | | (3.50) | | | Stiff grey slightly sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of assorted grey limestone. Cobbles are of assorted grey limestone. | | |
| 4.30 | 21 (-) - | | | | | | | | | |
| 5.00 | 71 (-) - | | | | | | | | | |
| 5.50 | 50 (-) - | 5.00 (50/0mm) | 34.00 | | 5.50 | | | | | |
| 7.10 | 100 (91) 58 | 4<br>6 | | | (4.80) | 5.50 - 10.30 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, rough, with 0.5 to 2mm thick dark grey silt smear.<br>5.90 - 6.25 Joint, subvertical dip, undulating, smooth, with 0.5 to 2mm thick grey silt smear, open.<br>7.35 - 7.70 Joint, subvertical dip, undulating, smooth, with 0.5 to 3mm thick grey silt smear, open to moderately wide.<br>8.00 - 8.15 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick grey silt smear, open.<br>8.50 - 8.60 Joint, dipping 60°, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open.<br>9.25 - 9.40 Joint, subvertical dip, undulating, tight.<br>9.50 - 9.65 Joint, subvertical dip, undulating, tight. | | Very strong locally strong thickly bedded grey bioclastic sparry coarse grained LIMESTONE. | | |
| 8.70 | 100 (85) 42 | 9<br>5 | | | | | | | | |
| 31.03 10.30 | 100 (84) 80 | 3<br>1 | 29.20 | | 10.30 | | | | | |
| | | | | | | | | BH terminated at 10.30m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 31-03-21 | 17.00 | 10.30 | 2.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 10.30 | water 100 | 100 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA04** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 39.31 | E 205,132.8 N 268,607.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (2.00) | 0.00 - 7.40 : overburden. | | Open hole drilling - no recovery. | | |
| 2.00 | | | 37.31 | | 2.00 | | | | | |
| 2.90 | 67 (-) - | | | | | | | Stiff grey slightly sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse of assorted dark grey and grey limestone. Cobbles are of assorted grey limestone. | | |
| 4.40 | 33 (-) - | 4.40(50/150mm) NA | | | (5.40) | | | | | |
| 5.90 | 47 (-) - | 5.90 (30/0mm) | | | | | | | | |
| 7.40 | 73 (-) - | | 31.91 | | 7.40 | | | | | |
| 8.90 | 100 (96) 65 | 7.40 (50/0mm) 3<br>6 | | | (4.50) | 7.40 - 11.90 Discontinuities, medium spaced, locally very closely and closely spaced, dipping 12 to 14°, stepped, smooth, with 0.5 to 5mm thick grey silt smear.<br>8.60 - 9.40 Joint, subvertical dip, stepped, smooth, with 0.5 to 4mm thick grey silt smear, open to moderately wide. | | Very strong locally strong thickly bedded grey bioclastic sparry fine to medium grained LIMESTONE. | | |
| 10.40 | 100 (91) 37 | 7<br>6 | | | | 9.85 - 10.05 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick grey silt smear, open.<br>10.50 - 10.90 Joint, subvertical dip, stepped, smooth, with 0.5 to 6mm | | 9.40m to 10.30m: light grey. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| | | | | | | | | 0 | 11.90 | water 100 | 100 | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used Hydreq | Bit HQ Design | Driller IP | Logged By EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA04** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 39.31 | E 205,132.8 N 268,607.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 01.04 11.90 | 100<br>(79)<br>41 | 13 | 27.41 | | 11.90 | thick grey silt smear, open to moderately wide.<br>11.30 - 11.75 Joint, subvertical dip, undulating, smooth, with 0.5 to 3mm thick grey silt smear, open to moderately wide. | | Very strong locally strong thickly bedded grey bioclastic sparry fine to medium grained LIMESTONE.<br>*(continued)* | | |
| | | | | | | | | BH terminated at 11.90m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 01-04-21 | 17.30 | 11.90 | 2.00 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

Irish drilling LTD

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA05** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 39.80 | E 205,071.8 N 268,671.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (2.00) | 0.00 - 5.50 : overburden. | | Open hole drilling - no recovery. | | |
| 2.00 | | | 37.80 | | 2.00 | | | | | |
| | | | 37.70 | | 2.10 | | | Stiff dark grey SILT. | | |
| 2.90 | 67 (-) - | | | | | | | Stiff greyish brown slightly sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse of assorted grey limestone. Cobbles are of assorted dark grey and grey limestone. | | |
| 4.40 | 57 (-) - | NA | | | (3.40) | | | | | |
| | 80 (22) 0 | 4.40 (50/0mm) | 34.30 | | 5.50 | | | | | |
| 5.90 | | 3 | | | | 5.50 - 10.50 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 2mm thick grey silt smear.<br>6.15 - 6.50 Non-intact as angular fine to coarse gravel sized clasts with a little grey silt.<br>7.20 - 7.65 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick grey silt smear and minor orangish brown iron stain, open.<br>7.85 - 8.30 Joint, subvertical dip, stepped, rough, with 0.5 to 3mm thick grey silt smear, open to moderately wide.<br>8.95 - 9.00 Joint, dipping 52°, stepped, rough, with 0.5 to 1mm thick dark grey silt smear, open. | | Very strong locally strong thinly bedded grey sparry bioclastic fine to coarse grained LIMESTONE with vertical and subvertical 1 to 3mm thick white calcitic veinlets. | | |
| | 100 (73) 52 | NI | | | | | | | | |
| 7.40 | | 1 | | | | | | | | |
| | 100 (89) 51 | 6 | | | (5.00) | | | | | |
| 8.90 | | 8 | | | | | | | | |
| | 100 (97) 91 | 3 | | | | | | | | |
| 30.03 10.50 | | 1 | 29.30 | | 10.50 | | | | | |
| | | | | | | | | BH terminated at 10.50m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 30-03-21 | 14.00 | 10.50 | 2.00 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 10.50 | water 100 | 100 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 1.00m to 5.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA06** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 39.80 | E 205,056.4 N 268,660.9 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 1 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0 (-) - | NA | | | (2.00) | 0.00 - 5.30 : overburden. | | Open hole drilling - no recovery. | | |
| 2.00 | | | 37.80 | | 2.00 | | | | | |
| | | | 37.60 | | 2.20 | | | Stiff dark grey SILT. | | |
| 3.10 | 63 (-) - | NA | | | (3.10) | | | Stiff grey slightly sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse of assorted dark grey and grey limestone. Cobbles are of assorted grey limestone. | | |
| 4.60 | 73 (-) - | | | | | | | | | |
| 5.90 | 69 (44) 28 | 6 | 34.50 | | 5.30 | 5.30 - 10.40 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 3mm thick dark grey silt smear.<br>5.80 - 6.20 Joint, subvertical dip, stepped, smooth, with 0.5 to 12mm thick grey silt smear, open to wide. | | Very strong locally strong thinly bedded grey sparry bioclastic fine to coarse grained LIMESTONE. | | |
| 7.20 | 100 (94) 67 | 3 | | | | | | | | |
| 8.80 | 100 (97) 94 | 3<br>3 | | | (5.10) | 7.10 - 7.20 Joint, dipping 60°, stepped, smooth, with 0.5 to 8mm thick grey silt smear, open to moderately wide. | | 7.20m to 7.25m: grey silt. | | |
| 30.03 10.40 | 100 (98) 97 | 4<br>0 | 29.40 | | 10.40 | | | 9.80m to 9.83m: dark grey silt. | | |
| | | | | | | | | BH terminated at 10.40m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 30-03-21 | 17.30 | 10.40 | 2.00 | 99 | 63 | | | 0 | 10.40 | water | 100 | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA07** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 43.06 | E 205,030.7 N 268,716.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0<br>(-)<br>- | NA | | | (6.00) | 0.00 - 6.30 : overburden. | | Open hole drilling - no recovery. | | |
| 6.00 | | | 37.06 | | 6.00 | | | | | |
| | 92<br>(59)<br>20 | NA<br>8 | 36.76 | | 6.30 | 6.30 - 11.70 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 2mm thick dark grey silt smear.<br>6.40 - 6.80 Joint, vertical dip, stepped, rough, with 0.5 to 3mm thick grey silt smear, open to moderately wide. | | Grey slightly sandy slightly gravelly SILT. Sand is coarse. Gravel is subrounded fine to medium of assorted grey limestone.<br>Very strong locally strong thickly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE with subvertical 1 to 2mm thick white calcitic veinlets. | | |
| 7.30 | 100<br>(97)<br>87 | 4<br>2 | | | (5.40) | | | | | |
| 8.80 | 100<br>(95)<br>87 | 4 | | | | 9.95 - 10.10 Joint, subvertical dip, stepped, rough, with 0.5 to 2mm thick grey silt smear, open. | | | | |
| 10.30 | 100 | 4 | | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 3.00 | water 100 | 100 |
| 3 | 11.70 | water 100 | 0 |

## GENERAL REMARKS

50mm standpipe installed. Response zone 1.00m to 6.00m bgl.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA07** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 43.06 | E 205,030.7 N 268,716.6 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 2 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 29.03 11.70 | (97)<br>96 | 1 | 31.36 | | 11.70 | | | | | |
| | | | | | | | | BH terminated at 11.70m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 29-03-21 | 12.00 | 11.70 | 6.00 | 99 | 63 | | | | | | | 50mm standpipe installed. Response zone 1.00m to 6.00m bgl. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA08** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 42.68 | E 205,046.5 N 268,719.0 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0<br>(-)<br>- | NA | | | (6.00) | 0.00 - 7.90 : overburden. | | Open hole drilling - no recovery. | | |
| 6.00 | | | 36.68 | | 6.00 | | | | | |
| 7.40 | 35<br>(-)<br>- | NA<br>7.40 (50/0mm) | 34.78 | | (1.90)<br>7.90 | | | Assorted grey limestone COBBLES. | | |
| 8.80 | 64<br>(52)<br>47 | 6 | | | | 7.90 - 11.90 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, rough, with 0.5 to 3mm thick orangish grey silt smear.<br>8.80 - 9.15 Joint, subvertical dip, stepped, smooth, with 0.5 to 2mm thick grey silt smear, open. | | Very strong locally strong thinly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. | | |
| 10.40 | 100<br>(94)<br>68 | 4<br>2 | | | (4.00) | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 3.50 | water 100 | 100 |
| 3.5 | 11.90 | water | 0 |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA08** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 42.68 | E 205,046.5 N 268,719.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 29.03 11.90 | 100<br>(92)<br>85 | 3 | 30.78 | | 11.90 | | | Very strong locally strong thinly bedded grey slightly bioclastic sparry fine to coarse grained LIMESTONE. *(continued)* | | |
| | | | | | | | | BH terminated at 11.90m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 29-03-21 | 17.00 | 11.90 | 6.00 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA09** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-03-21<br>26-03-21 | 45.35 | E 204,940.2 N 268,872.5 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | | | | | | 0.00 - 10.50 : overburden. | | Open hole drilling - no recovery. | | |
| | 0 (-) - | NA | | | (7.00) | | | | | |
| 7.00 | | | 38.35 | | 7.00 | | | | | |
| | 19 (-) - | | | | | | | Subrounded to subangular fine to coarse assorted dark grey and grey limestone GRAVEL with a little grey silt. | | |
| 8.60 | | 8.60(50/225mm) NA | | | (3.50) | | | | | |
| | 14 (-) - | | | | | | | | | |
| 10.00 | | 10.00(50/75mm) | 34.85 | | 10.50 | | | | | |
| | 75 (60) | 2 | | | | 10.50 - 14.00 Discontinuities, medium spaced, locally closely | | | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| | | | | | | | | 0 | 14.00 | water 100 | 100 | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA09** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-03-21<br>26-03-21 | 45.35 | E 204,940.2 N 268,872.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 2 of 2 |
| | Rev. DRAFT |

| RUN DETAILS | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Geology | Instrument/ Backfill |
| 11.60 | 55 | 4 | | | | spaced, dipping 12 to 14°, stepped, smooth, with 0.5 to 1mm thick grey silt smear.<br>11.40 - 11.50 Joint, dipping 60°, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | Very strong locally strong thinly bedded grey sparry bioclastic fine to coarse grained LIMESTONE.<br>*(continued)* | | |
| 13.20 | 100 (95) 89 | 4 | | | (3.50) | | | | |
| 26.03 14.00 | 100 (96) 85 | 6 | 31.35 | | 14.00 | | | | |
| | | | | | | | BH terminated at 14.00m bgl on REs instruction. | | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 26-03-21 | 17.00 | 14.00 | 7.00 | 99 | 63 | | | | | | | BH backfilled. |

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA10** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 45.39 | E 204,955.9 N 268,883.5 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 1 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 0.00 | 0<br>(-)<br>- | NA | | | (5.50) | 0.00 - 10.00 : overburden. | | Open hole drilling - no recovery. | | |
| 5.50 | | | 39.89 | | 5.50 | | | | | |
| 7.00 | 13<br>(-)<br>- | 7.00 (13) | | | (4.50) | | | Brown slightly sandy gravelly SILT. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse assorted grey limestone. | | |
| 8.50 | 13<br>(-)<br>- | NA | | | | | | | | |
| 10.00 | 27<br>(-)<br>- | 8.50 (20) | 35.39 | | 10.00 | | | | | |
| | 100<br>(97)<br>89 | 5 | | | | 10.00 - 15.20 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 2mm thick grey | | Very strong locally strong thinly bedded dark grey sparry bioclastic fine to coarse grained LIMESTONE. | | |

**Drilling Progress and Water Observations**

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

**Rotary Flush**

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 15.20 | water 100 | 100 |

**GENERAL REMARKS**

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit Design: HQ | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **BHRCSSA10** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 45.39 | E 204,955.9 N 268,883.5 |

| Engineer | Sheet | Rev. |
|---|---|---|
| Bord na Mona | 2 of 2 | DRAFT |

| RUN DETAILS | | | | | | STRATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Spacing | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | Detail | Main | Geology | Instrument/ Backfill |
| 11.50 | | 4 | | | | silt smear. | | Very strong locally strong thinly bedded dark grey sparry bioclastic fine to coarse grained LIMESTONE. *(continued)* | | |
| | 100 (97) 96 | 2 | | | (5.20) | | | | | |
| 13.00 | | | | | | | | | | |
| | 100 (97) 94 | 3 | | | | | | | | |
| 14.50 | | | | | | | | | | |
| 25.03 15.20 | 100 (98) 97 | 1 | 30.19 | | 15.20 | | | | | |
| | | | | | | | | BH terminated at 15.20m bgl on REs instruction. | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 25-03-21 | 17.00 | 15.20 | 5.50 | 99 | 63 | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: Hydreq | Bit: HQ Design | Driller: IP | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS UK DH (SPTS) DERRYADD WF RC ALL FILE MAY 28 2021.GPJ IDL TP TEMPLATE.GDT 6/9/21

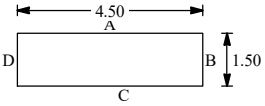
# Appendix 3
# Trial Pit Records

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP001 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,045.7 N 269,699.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.59m O.D. | **DATE:** 10.2.21 |

**GROUNDWATER**

Water strikes: 1st: dry 2nd: 3rd: Rose to after:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 38.39 | 0.20 | Plastic dark blackish brown amorphous PEAT. H8 B2 F1 R0 W0 TV0 TH0 A0. |
| | | | VANE D 1 | 0.40 0.40-0.60 | 33mm vane 7 kN/m² | | 37.99 | 0.60 | Very soft dark brown fibrous PEAT. H2 B1 F2 R1 W1 TV1 TH1 A2. |
| | | | VANE PLATE D 2 | 0.50 0.60 0.60-0.70 | H70 vane 22 kN/m² Rem 10 kN/m² | | 37.79 | 0.80 | Damp grey silty fine SAND with many rootlets. |
| 1 | | | B 3 | 0.90-1.20 | | | 36.79 | 1.80 | Very soft moist grey slightly gravelly silty CLAY. Gravel is subangular to rounded medium to coarse of limestone. |
| 2 | | | B 4 | 2.00-2.40 | | | 36.19 | 2.40 | Stiff damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| | | | | | | END | | | TP terminated at 2.40m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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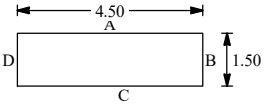
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP002 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,764.6 N 270,150.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.67m O.D. | **DATE:** 15.2.21 |

**GROUNDWATER**

Water strikes: 1st: dry 2nd: 3rd: Rose to after:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 38.57 | 0.10 | Rushes over soft plastic dark blackish brown amorphous PEAT. H8 B1 F1 R0 W1 TV0 TH0 A0. |
| | | | VANE | 0.30 | 33mm vane 11 kN/m² | | 38.17 | 0.50 | Very soft greyish brown fibrous PEAT. H2 B2 F3 R2 W1 TV1 TH1 A2. |
| 1 | | | D 1<br>B 2 | 0.60-0.90<br>0.60-0.90 | H70 vane 38 kN/m² Rem 7 kN/m² | | 36.47 | 2.20 | Soft damp grey slightly gravelly slightly sandy SILT with medium cobble content and medium boulder content and may rootlets. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | B 3 | 2.20-2.80 | | | 35.87 | 2.80 | Stiff dark grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| | | | | | | END | | | TP terminated at 2.80m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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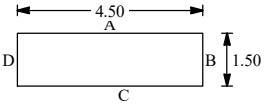
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP100 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,937.8 N 264,759.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.75m O.D. | **DATE:** 24.3.21 |

**GROUNDWATER**

Water strikes: 1st: 3.00m Rose to after: 20min 2.00m
2nd:
3rd:

**PIT DIRECTION:** 315-135
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from base.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A1. |
| | | | D 1 | 0.40-0.50 | 33mm vane 10 kN/m² | | | | |
| | | | B 2 | 0.40-0.70 | | | | | |
| | | | VANE | 0.50 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 32 kN/m² Rem 8 kN/m² | | 42.55 | 1.20 | |
| | | | B 3 | 1.30-1.60 | | | | | Spongy dark brown pseudo fibrous PEAT. H6 B3 F2 R1 W2 TV1 TH1 A2. |
| | | | D 4 | 1.60-1.70 | | | | | |
| 2 | | 1 | VANE | 2.00 | H70 vane 34 kN/m² Rem 10 kN/m² | | | | |
| 3 | | 1 | VANE | 3.00 | H70 vane 64 kN/m² Rem 22 kN/m² | | 40.75 | 3.00 | |
| | | | | | | | 40.45 | 3.30 | Moist grey clayey silty gravelly subrounded to rounded limestone COBBLES with medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 5 | 3.40-3.70 | | | | | Firm damp grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 4 | | | | | | | 39.55 | 4.20 | |
| | | | | | | END | | | TP terminated at 4.20m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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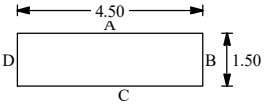
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP101 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,999.2 N 264,813.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.28m O.D. | **DATE:** 24.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W3 TV2 TH2 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | VANE | 0.40 | 33mm vane 22 kN/m² | | | | |
| 1 | | | | | | | 43.08 | 1.20 | |
| | | | B 3 | 1.20-1.50 | | | | | Very soft moist light grey slightly sandy gravelly silty organic CLAY with low cobble content and low boulder content nd some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subrounded of limestone. Boulders are up to 300mm in length. |
| | | | D 4 | 1.50-1.60 | | | | | |
| 2 | | | | | | | 42.18 | 2.10 | |
| | | | B 5 | 2.10-2.40 | | | | | Very soft moist light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is angular to subangular to subrounded fine to coarse of dolomitised limestone and limestone. Cobbles are angular to subrounded of dolomitised limestone and limestone. Boulders are angular to subrounded of dolomitised limestone and limestone. Boulders are up to 700mm in length. |
| | | | D 6 | 2.40 | | END | 41.88 | 2.40 | TP terminated at 2.40m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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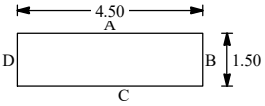
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP102 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,089.7 N 264,859.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 45.85m O.D. | **DATE:** 24.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft orangish brown fibrous PEAT. H2 B2 F3 R2 W1 TV2 TH2 A1. |
| | | | VANE | 0.30 | 33mm vane 15 kN/m² | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 20 kN/m² Rem 2 kN/m² | | | | |
| | | | | | | | 44.05 | 1.80 | |
| | | | B 3 | 1.80-2.10 | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W1 TV1 TH1 A1. |
| 2 | | | VANE | 2.00 | H70 vane 34 kN/m² Rem 8 kN/m² | | | | |
| | | | D 4 | 2.10-2.20 | | | | | |
| | | | | | | | 43.05 | 2.80 | |
| | | | B 5 | 2.80-3.10 | | | | | Very soft damp grey slightly sandy slightly gravelly silty organic CLAY with low cobble content and low boulder content. Sand is fine. Gravel is subangular to subrounded fine to coarse of dolomitised limestone and limestone. Cobbles are subangular to rounded of dolomitised limestone and limestone. Boulders are subangular to rounded of dolomitised limestone and limestone. Boulders are up to 400mm in length. |
| 3 | | | VANE | 3.00 | H70 vane 72 kN/m² Rem 22 kN/m² | | | | |
| | | | | | | | 42.35 | 3.50 | |
| | | | | | | | | | Yellowish grey clayey silty angular to subangular fine to coarse dolomitised limestone GRAVEL with high cobble content and high boulder content. Cobbles are subangular to subrounded of dolomitised limestone. Boulders are subangular to subrounded of dolomitised limestone. |
| | | | | | | | 41.95 | 3.90 | |
| | | | | | | END | | | TP terminated at 3.90m bgl. Obstruction as rock. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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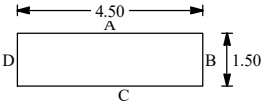
| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP103 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,235.1 N 264,937.0 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 42.43m O.D. | | **DATE:** 24.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.20m Rose to after: 20min 2.19m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W2 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | VANE | 0.50 | 33mm vane 16 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 22 kN/m² Rem 2 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 36 kN/m² Rem 8 kN/m² | | 40.23 | 2.20 | |
| | | | B 3 | 2.20-2.50 | | | | | Very soft moist bluish grey laminated organic silty CLAY with some plant material. Organic odour. |
| | | | D 4 | 2.50-2.60 | | | | | |
| 3 | | | VANE | 3.00 | H70 vane 54 kN/m² Rem 16 kN/m² | | | | |
| 4 | | | B 5 | 4.20-4.50 | | | 37.93 | 4.50 | |
| | | | D 6 | 4.50 | | END | | | TP terminated at 4.50m bgl on REs instruction. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.20m bgl. TP backfilled with arisings.

**Scale:** 1:25

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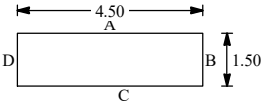
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP104 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,186.5 N 264,873.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 45.71m O.D. | **DATE:** 24.3.21 |

**GROUNDWATER**

Water strikes: 1st: 3.70m Rose to after: 20min 3.60m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.70m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 45.66 | 0.05 | Moss heather and saplings over dark blackish brown peaty CLAY with many rootlets. |
| | | | CBR | 0.20 | | | | | Firm damp orangish grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| 1 | | | | | | | 44.01 | 1.70 | |
| | | | | | | | | | Soft moist light grey clayey very gravelly SILT with high cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| 2 | | | B 3 | 2.00-2.30 | | | | | |
| | | | D 4 | 2.30-2.40 | | | | | |
| 3 | | | | | | | | | |
| | | 1 | B 5 | 3.50-3.70 | | | | | |
| | | 1 | | | | | 42.01 | 3.70 | |
| | | | D 6 | 3.70 | | END | | | TP terminated at 3.70m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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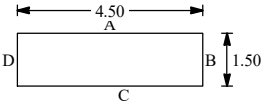
| | | |
|---|---|---|
| **PROJECT: Derryadd Wind Farm** | | **TRIALPIT: TP105** |
| **LOCATION: Derryadd, Co. Longford** | | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** | **Rig: Hyundai 140 LC9** |
| **ENGINEER: Bord na Mona** | **E 206,287.0 N 264,845.2** | **Rev: DRAFT** |
| **Ground level: 43.56m O.D.** | | **DATE: 25.3.21** |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 3.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W2 TV1 TH1 A1. |
| | | | VANE | 0.30 | | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | 33mm vane 13 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 16 kN/m² Rem 2 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 26 kN/m² Rem 4 kN/m² | | | | |
| | | | B 3 | 2.20-2.50 | | | | | |
| | | | D 4 | 2.50-2.60 | | | | | |
| | | | | | | | 40.56 | 3.00 | |
| 3 | | | VANE | 3.00 | H70 vane 38 kN/m² Rem 10 kN/m² | | | | Soft damp bluish grey slightly gravelly organic silty CLAY with low boulder content. Gravel is subrounded to rounded medium to coarse of limestone. Boulders are subrounded of limestone. Boulders are up to 2000mm in length. |
| | | | B 5 | 3.00-3.30 | | | | | |
| | | | VANE | 3.30 | H70 vane 98 kN/m² Rem 50 kN/m² | | | | |
| | | | D 6 | 3.30-3.40 | | | | | |
| | | | | | | | 39.86 | 3.70 | |
| | | | B 7 | 3.70-3.90 | | | | | Firm damp light grey slightly sandy silty very gravelly CLAY with high cobble content and medium boulder content. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 8 | 3.90 | | END | 39.66 | 3.90 | |
| 4 | | | | | | | | | TP terminated at 3.90m bgl. Obstruction as boulders. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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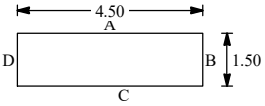
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP106 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,369.3 N 264,807.3 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 45.44m O.D. | | **DATE:** 25.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 3.30m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F3 R2 W2 TV1 TH1 A1. |
| | | | VANE | 0.30 | 33mm vane 13 kN/m² | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 50 kN/m² Rem 10 kN/m² | | | | |
| | | | | | | | 43.84 | 1.60 | |
| | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H4 B2 F2 R1 W2 TV1 TH1 A1. |
| 2 | | | VANE | 2.00 | H70 vane 48 kN/m² Rem 10 kN/m² | | | | |
| | | | B 3 | 2.00-2.30 | | | | | |
| | | | D 4 | 2.40-2.50 | | | | | |
| 3 | | | VANE | 3.00 | H70 vane 68 kN/m² Rem 30 kN/m² | | | | |
| | | | | | | | 42.14 | 3.30 | |
| | | | B 5 | 3.30-3.60 | | | | | Firm damp grey silty very gravelly organic CLAY with medium cobble content and medium boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 1000mm in length. |
| | | | D 6 | 3.60-3.70 | | | | | |
| 4 | | | | | | | 41.14 | 4.30 | |
| | | | | | | END | | | TP terminated at 4.30m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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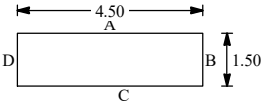
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT: Derryadd Wind Farm** | | **TRIALPIT: TP107** |
| **LOCATION: Derryadd, Co. Longford** | | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** | **Rig: Hyundai 140 LC9** |
| **ENGINEER: Bord na Mona** | **E 206,472.2 N 264,779.8** | **Rev: DRAFT** |
| **Ground level: 45.17m O.D.** | | **DATE: 25.3.21** |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 0.60m | 20min | 0.50m |
| 2nd: | 3.00m | 20min | 2.85m |
| 3rd: | | | |

**PIT DIRECTION: 045-225**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from g/l to 3.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Heather moss and grass over spongy dark brown pseudo fibrous PEAT. H4 B2 F2 R1 W1 TV1 TH1 A1. |
| | | 1 | VANE | 0.30 | 33mm vane 13 kN/m² | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | 44.57 | 0.60 | |
| | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W1 TV1 TH1 A2. |
| 1 | | | VANE | 1.00 | H70 vane 36 kN/m² Rem 6 kN/m² | | | | |
| | | | B 3 | 1.60-1.90 | | | | | |
| | | | D 4 | 1.90-2.00 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 42 kN/m² Rem 10 kN/m² | | | | |
| | | 2 | | | | | 42.17 | 3.00 | |
| 3 | | | VANE | 3.00 | H70 vane 70 kN/m² Rem 34 kN/m² | | | | Firm damp grey silty very gravelly organic CLAY with medium cobble content and low boulder content and some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 5 | 3.00-3.30 | | | | | |
| | | | D 6 | 3.30-3.40 | | | 41.67 | 3.50 | |
| | | | | | | | | | Soft damp grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 7 | 3.70-3.90 | | | | | |
| 4 | | | D 8 | 4.00 | | **END** | 41.17 | 4.00 | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.60m bgl. Ingress of water at 3.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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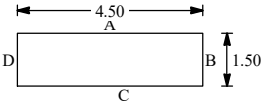
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP108 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,669.0 N 264,757.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 45.11m O.D. | **DATE:** 25.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.50<br>0.40 | 33mm vane 18 kN/m² | | 44.61 | 0.50 | Very soft orangish brown fibrous PEAT.<br>H2 B2 F3 R2 W1 TV1 TH1 A1. |
| 1 | | | VANE | 1.00 | H70 vane 64 kN/m²<br>Rem 30 kN/m² | | 43.51 | 1.60 | Spongy dark orangish brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W3 TV1 TH1 A2. |
| 2 | | | B 3<br>D 4 | 1.60-1.90<br>1.90-2.00 | | | 42.21 | 2.90 | Very soft moist bluish grey organic silty CLAY with some plant material. |
| 3 | | | B 5<br>D 6 | 2.90-3.20<br>3.20-3.30 | | | 41.41 | 3.70 | Soft moist grey silty very gravelly CLAY with high cobble content and high boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 550mm in length. |
| | | | | | | END | | | TP terminated at 3.70m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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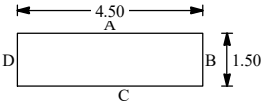
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP109 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,747.1 N 264,697.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.19m O.D. | **DATE:** 25.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.90m to 3.40m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.50<br>0.40 | 33mm vane 22 kN/m² | | 43.29 | 0.90 | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R2 W3 TV2 TH2 A1. |
| 1 | | | B 3<br>VANE<br>D 4 | 0.90-1.20<br>1.00<br>1.20-1.30 | H70 vane 70 kN/m² Rem 48 kN/m² | | 42.39 | 1.80 | Firm damp grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 2 | | | B 5 | 2.10-2.40 | | | 40.79 | 3.40 | Very soft moist light grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 3 | | | | | | | 40.59 | 3.60 | Stiff grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 4 | | | | | | END | | | TP terminated at 3.60m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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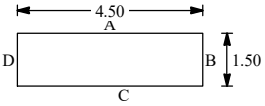
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP110 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,828.0 N 264,634.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.00m O.D. | **DATE:** 26.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W2 TV1 TH1 A2. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | VANE | 0.40 | 33mm vane 11 kN/m² | | | | |
| 1 | | | | | | | 42.30 | 1.70 | |
| | | | B 3 | 1.70-2.00 | | | | | Soft damp grey organic gravelly silty CLAY with medium cobble content and medium boulder content and some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 2 | | | D 4 | 2.00-2.10 | | | | | |
| | | | | | | | 41.40 | 2.60 | |
| | | | | | | | | | Firm damp grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | B 5 | 2.90-3.20 | | | | | |
| | | | D 6 | 3.20 | | | | | |
| | | | | | | | 40.50 | 3.50 | |
| | | | | | | END | | | TP terminated at 3.50m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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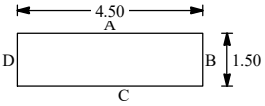
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP111 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,903.9 N 264,571.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.55m O.D. | **DATE:** 26.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.80m Rose to after: 20min 1.30m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 12 kN/m² | | | | |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.60 | | | 42.95 | 0.60 | |
| 1 | | 1 | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W1 TV1 TH1 A1. |
| | | | | | | | 41.75 | 1.80 | |
| | | | B 3 | 1.80-2.10 | | | | | Very soft moist grey organic silty CLAY with some plant material. Organic odour. |
| 2 | | | D 4 | 2.10-2.20 | | | | | |
| | | | | | | | 41.25 | 2.30 | |
| | | 1 | | | | | | | Moist grey silty clayey subangular to subrounded fine to coarse limestone GRAVEL with high cobble content and low boulder content. Cobbles are subangular to subrounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 900mm in length. |
| | | | | | | | 40.75 | 2.80 | |
| | | | | | | END | | | TP terminated at 2.80m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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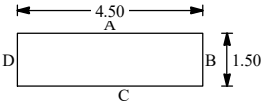
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP112 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,980.0 N 264,508.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.30m O.D. | **DATE:** 26.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 44.10 | 0.20 | Spongy dark brownish black pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | D 1<br>B 2 | 0.30-0.40<br>0.30-0.60 | | | 43.40 | 0.90 | Soft damp grey silty very gravelly organic CLAY with high cobble content and medium boulder content and some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 1300mm in length. |
| 1 | | | B 3 | 1.40-1.60 | | | 42.20 | 2.10 | Moist light grey clayey silty subangular to subrounded fine to coarse limestone GRAVEL with medium cobble content and medium boulder content. Cobbles are subangular to subrounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 500mm in length. |
| 2 | | | | | | END | | | TP terminated at 2.10m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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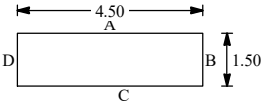
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP113 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,060.1 N 264,444.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 45.28m O.D. | **DATE:** 26.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.50m Rose to after: 20min 1.50m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.20-0.30<br>0.20-0.50<br>0.30 | 33mm vane 10 kN/m² | | 44.58 | 0.70 | Spongy dark brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W1 TV1 TH1 A1. |
| | | | B 3<br>D 4 | 0.70-1.00<br>1.00-1.10 | | | 43.78 | 1.50 | Very soft moist grey organic gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 1 | | 1.1 | | | | | 42.98 | 2.30 | Soft moist light grey clayey very gravelly SILT with high cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 5<br>D 6 | 1.80-2.10<br>2.10-2.20 | | | | | |
| 2 | | | | | | END | | | TP terminated at 2.30m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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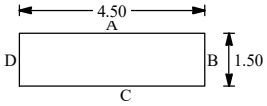
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP114 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,133.7 N 264,388.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 47.25m O.D. | **DATE:** 26.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.30m | 20min | 1.20m |
| 2nd: | 2.10m | 20min | 1.70m |
| 3rd: | | | |

**PIT DIRECTION:** 315-135
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.30m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 47.05 | 0.20 | Rushes and moss over spongy dark blackish brown pseudo fibrous PEAT. H6 F1. |
| | | | D 1<br>B 2 | 0.30-0.40<br>0.30-0.60 | | | 45.95 | 1.30 | Firm damp light orangish brown gravelly clayey SILT with medium cobble content and low boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 1 | | 1 | | | | | 45.35 | 1.90 | Very soft moist light brown slightly sandy clayey very gravelly SILT with medium cobble content and low boulder content. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | 2 | B 3 | 1.60-1.90 | | | | | |
| 2 | | 2 | D 4 | 1.90 | | END | | | TP terminated at 1.90m bgl. Obstruction as probable rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.30m bgl. Ingress of water at 2.10m bgl. TP backfilled with arisings.

**Scale:** 1:25

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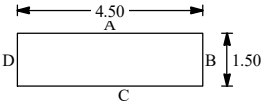
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP115 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,218.4 N 264,319.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 48.12m O.D. | **DATE:** 26.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.40m Rose to after: 20min 1.00m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 48.02 | 0.10 | Moss and rushes over dark brown organic peaty CLAY. |
| | | | D 1<br>B 2 | 0.20-0.30<br>0.20-0.40 | | | 47.62 | 0.50 | Firm damp brownish grey organic gravelly silty CLAY with medium cobble content and low boulder content and some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subrounded of limestone. Boulders are up to 300mm in length. |
| 1 | | 1 | B 3 | 1.10-1.40 | | | 46.72 | 1.40 | Very soft moist light grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | 1 | D 4 | 1.40 | | END | | | TP terminated at 1.40m bgl. Obstruction as rock. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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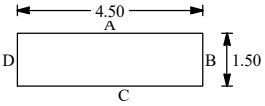
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP116 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,297.2 N 264,254.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 50.88m O.D. | **DATE:** 26.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | D 1<br>B 2<br>VANE | 0.20-0.30<br>0.20-0.50<br>0.30 | 33mm vane 14 kN/m² | | | | Spongy dark orangish brown pseudo fibrous PEAT.<br>H4 B2 F2 R1 W3 TV1 TH1 A1. |
| 1 | | | | | | | 49.38 | 1.50 | |
| | | | | | | | 48.98 | 1.90 | Damp grey clayey silty gravelly angular to subangular limestone BOULDERS with cobbles. Gravel is angular to subangular fine to coarse of limestone. Cobbles are subangular to angular of limestone. Boulders are up to 700mm in length. |
| 2 | | | B 3<br>D 4 | 1.90-2.20<br>2.20-2.30 | | | 48.58 | 2.30 | Soft moist grey organic gravelly silty CLAY with medium cobble content and medium boulder content and some wood. Gravel is angular to subangular fine to coarse of limestone. Cobbles are angular to subangular of limestone. Boulders are subangular to angular of limestone. Boulders are up to 450mm in length. |
| | | | | | | END | | | TP terminated at 2.30m bgl. Obstruction as rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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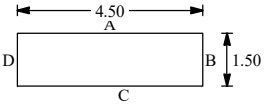
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP117R |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,391.6 N 264,233.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 52.43m O.D. | **DATE:** 26.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 52.33 | 0.10 | Soft damp dark brown organic peaty CLAY. |
| | | | BR<br>D 1<br>B 2 | 0.20<br>0.20-0.30<br>0.20-0.50 | | | 51.23 | 1.20 | Firm damp light orangish brown gravelly silty CLAY with low cobble content and low boulder content and some plant material. Gravel is angular to subangular fine to coarse of limestone. Cobbles are angular to subrounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 300mm in length. |
| 1 | | | | | | | 50.33 | 2.10 | Soft moist light brown clayey very gravelly SILT with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 3 | 1.60-1.90 | | | | | |
| 2 | | | | | | END | | | TP terminated at 2.10m bgl. Obstruction as rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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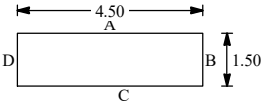
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP118R |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,489.5 N 264,214.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 52.93m O.D. | **DATE:** 26.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.40m Rose to after: 20min 2.30m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | MADE GROUND: Spongy dark orangish brown clayey pseudo fibrous PEAT with some plastic. |
| | | | B 2 | 0.20-0.40 | | | | | |
| | | | VANE | 0.40 | 33mm vane 18 kN/m² | | | | |
| | | | D 1 | 0.40-0.50 | | | 52.33 | 0.60 | |
| | | | B 3 | 0.60-0.90 | | | | | Soft damp orangish brown gravelly silty CLAY with medium cobble content and low boulder content. Gravel is angular to subangular fine to coarse of limestone and sandstone. Cobbles are angular to subangular of limestone and sandstone. Boulders are subangular to subrounded of limestone and sandstone. Boulders are up to 350mm in length. |
| | | | D 4 | 0.90-1.00 | | | 52.03 | 0.90 | |
| 1 | | | | | | | | | Very soft moist light grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 450mm in length. |
| | | | B 5 | 1.60-1.90 | | | | | |
| | | | D 6 | 1.90-2.00 | | | | | |
| 2 | | 1 | | | | | | | |
| | | 1 | | | | | 50.53 | 2.40 | |
| | | | | | | END | | | TP terminated at 2.40m bgl. Obstruction as rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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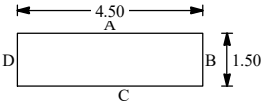
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP119R |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,589.3 N 264,195.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 52.76m O.D. | **DATE:** 29.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 0.90m | 20min | 0.80m |
| 2nd: | 3.00m | 20min | 2.80m |
| 3rd: | | | |

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.90m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | VANE<br>D 1<br>B 2 | 0.30<br>0.30-0.40<br>0.30-0.60 | 33mm vane 9 kN/m² | | 52.26 | 0.50 | MADE GROUND: Grass and rushes over firm dark brown slightly gravelly peaty CLAY with low cobble content and steel railway track visible. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded of limestone. |
| | | 1 | | | | | 51.86 | 0.90 | Spongy dark orangish brown pseudo fibrous PEAT.<br>H6 B2 F1 R1 W2 TV1 TH1 A1. |
| 1 | | | B 3<br>D 4 | 0.90-1.20<br>1.20-1.30 | | | 51.16 | 1.60 | Soft moist light orangish grey organic gravelly silty CLAY with low cobble content and some wood and some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. |
| 2 | | 2 | B 5<br>D 6 | 2.20-2.50<br>2.50-2.60 | | | 49.76 | 3.00 | Very soft moist light grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 3 | | | | | | END | | | TP terminated at 3.00m bgl. Obstruction as probable rock. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.90m bgl. Ingress of water at 3.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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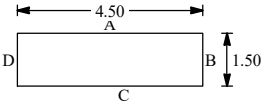
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP120R |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,688.6 N 264,178.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 53.40m O.D. | **DATE:** 29.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.20m Rose to after: 20min 1.10m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.90m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | MADE GROUND: Spongy dark brown clayey pseudo fibrous PEAT. |
| | | | VANE | 0.40 | 33mm vane 21 kN/m² | | | | |
| | | | D 1 | 0.40-0.50 | | | 52.90 | 0.50 | |
| | | | B 2 | 0.40-0.70 | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A2. |
| 1 | | 1 | | | | | 52.20 | 1.20 | |
| | | | B 3 | 1.20-1.50 | | | | | Soft moist light orangish grey organic gravelly silty CLAY with low cobble content and low boulder content and some wood and some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 350mm in length. |
| | | | D 4 | 1.50-1.80 | | | | | |
| | | | | | | | 51.50 | 1.90 | |
| 2 | | | | | | | | | Very soft moist light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | B 5 | 2.30-2.60 | | | | | |
| | | | D 6 | 2.60-2.70 | | | | | |
| 3 | | | | | | | 49.70 | 3.70 | |
| | | | B 7 | 3.80-4.00 | | | | | Stiff light grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 4 | | | D 8 | 4.00 | | END | 49.40 | 4.00 | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.20m bgl. TP backfilled with arisings.

**Scale:** 1:25

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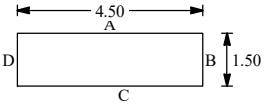
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP121R |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,778.7 N 264,141.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 53.52m O.D. | **DATE:** 29.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.40m Rose to after: 20min 1.40m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.40m to 2.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark brown clayey pseudo fibrous PEAT. H5 B1 F1 R1 W2 TV2 TH2 A1. |
| | | | | | | | 53.12 | 0.40 | |
| | | | VANE | 0.40 | 33mm vane 18 kN/m² | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B3 F3 R1 W2 TV1 TH1 A2. |
| | | | B 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 20 kN/m² Rem 2 kN/m² | | | | |
| | | 1 | B 3 | 1.30-1.60 | | | | | |
| | | | D 4 | 1.60-1.70 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 24 kN/m² Rem 6 kN/m² | | | | |
| | | | | | | | 51.32 | 2.20 | |
| | | 1 | | | | | 51.12 | 2.40 | Dark brown slightly gravelly peaty angular to subangular sandstone and limestone BOULDERS with cobbles. Gravel is angular to subangular fine to coarse of sandstone and limestone. Cobbles are angular to subangular of sandstone and limestone. Boulders are up to 1000mm in length. |
| | | | | | | END | | | TP terminated at 2.40m bgl. Unable to progress TP - sidewall collapse and ingress of water. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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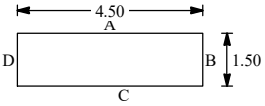
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP123 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,869.5 N 264,099.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 53.87m O.D. | **DATE:** 29.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.50m Rose to after: 20min 1.10m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F3 R2 W2 TV2 TH2 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | 33mm vane 18 kN/m² | | | | |
| | | | VANE | 0.40 | | | | | |
| 1 | | 1 | VANE | 1.00 | H70 vane 62 kN/m² Rem 34 kN/m² | | 52.47 | 1.40 | |
| | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H4 B2 F2 R1 W3 TV2 TH2 A1. |
| 2 | | | VANE | 2.00 | H70 vane 40 kN/m² Rem 10 kN/m² | | | | |
| | | | B 3 | 2.00-2.30 | | | | | |
| | | | D 4 | 2.30-2.40 | | | 51.37 | 2.50 | |
| | | 1 | | | | | 51.17 | 2.70 | Moist light orangish grey slightly sandy silty gravelly subangular to rounded limestone and sandstone COBBLES with medium boulder content. Sand is medium. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Boulders are subangular to subrounded of limestone and sandstone. Boulders are up to 400mm in length. |
| | | | B 5 | 2.70-3.00 | | | | | |
| | | | VANE | 2.90 | H70 vane 91 kN/m² Rem 50 kN/m² | | | | Moist light grey slightly sandy silty clayey angular to subangular fine to coarse limestone and sandstone GRAVEL with high cobble content and medium boulder content. Sand is medium to coarse. Cobbles are angular to subrounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 3 | | | D 6 | 3.00-3.10 | | | | | |
| 4 | | | | | | | 49.67 | 4.20 | |
| | | | | | | END | | | TP terminated at 4.20m bgl. Obstruction. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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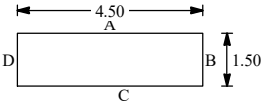
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TP124** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 207,959.4 N 264,142.7 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 52.93m O.D.** | **DATE: 29.3.21** |

**GROUNDWATER**

Water strikes: 1st: 3.20m Rose to after: 20min 2.40m
2nd:
3rd:

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.90m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 52.63 | 0.30 | Very soft dark brown fibrous PEAT. H3 B2 F3 R2 W3 TV2 TH2 A1. |
| | | | D 1 | 0.30-0.40 | | | | | Very soft dark orangish brown fibrous PEAT. H2 B3 F3 R2 W3 TV2 TH2 A1. |
| | | | B 2 | 0.30-0.60 | 33mm vane 15 kN/m² | | | | |
| | | | VANE | 0.40 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 52 kN/m² Rem 28 kN/m² | | 51.33 | 1.60 | |
| | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A2. |
| 2 | | | VANE | 2.00 | H70 vane 30 kN/m² Rem 8 kN/m² | | | | |
| | | 1 | B 3 | 2.20-2.50 | | | | | |
| | | | D 4 | 2.50-2.60 | | | 50.03 | 2.90 | |
| 3 | | | VANE | 3.00 | H70 vane 68 kN/m² Rem 34 kN/m² | | | | Moist brownish grey silty clayey gravelly subangular to subrounded sandstone and limestone COBBLES with medium boulder content. Gravel is subangular to subrounded fine to coarse of sandstone and limestone. Boulders are subangular to rounded of sandstone and limestone. Boulders are up to 400mm in length. |
| | | 1 | B 5 | 3.10-3.40 | | | 49.73 | 3.20 | Soft moist light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 350mm in length. |
| | | | D 6 | 3.40 | | END | 49.53 | 3.40 | TP terminated at 3.40m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.20m bgl. TP backfilled with arisings.

**Scale:** 1:25

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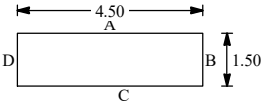
| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP125 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 208,011.3 N 264,229.2 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 51.96m O.D. | | **DATE:** 29.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.40m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Grass and saplings over spongy dark orangish brown pseudo fibrous PEAT. H5 B3 F2 R1 W2 TV1 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 15 kN/m² | | | | |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 20 kN/m² Rem 2 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 30 kN/m² Rem 12 kN/m² | | 49.86 | 2.10 | |
| | | | B 3 | 2.10-2.40 | | | 49.56 | 2.40 | Soft moist brownish grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| | | | D 4 | 2.40 | | END | | | TP terminated at 2.40m bgl. Unable to progress TP - sidewall collapse and ingress of surface water. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of surface water. TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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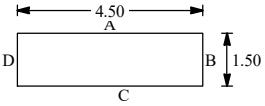
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP126 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 208,061.5 N 264,309.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 51.88m O.D. | **DATE:** 29.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.10m Rose to after: 20min 1.60m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H2 B3 F3 R2 W2 TV1 TH1 A2. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.50 | 33mm vane 17 kN/m² | | | | |
| | | | VANE | 0.40 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 48 kN/m² Rem 18 kN/m² | | | | |
| | | 1 | VANE | 1.50 | H70 vane 76 kN/m² Rem 40 kN/m² | | 50.28 | 1.60 | |
| | | | B 3 | 1.60-1.90 | | | | | Moist light greyish brown silty sandy angular to subangular fine to coarse sandstone and limestone GRAVEL with high cobble content and high boulder content. Sand is fine to coarse. Cobbles are angular to subrounded of sandstone and limestone. Boulders are subangular to subrounded of sandstone and limestone. Boulders are up to 400mm in length. |
| 2 | | 1 | D 4 | 1.90-2.00 | | | 49.58 | 2.30 | |
| | | | | | | END | | | TP terminated at 2.30m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.10m bgl. TP backfilled with arisings.

**Scale:** 1:25

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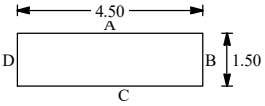
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP127 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 208,118.8 N 264,401.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 52.14m O.D. | **DATE:** 30.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.40m Rose to after: 20min 0.80m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.40m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H2 B2 F3 R2 W3 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | VANE | 0.40 | 33mm vane 23 kN/m² | | | | |
| | | 1 | | | | | | | |
| 1 | | | | | | | | | |
| | | 1 | | | | | 50.74 | 1.40 | |
| | | | B 3 | 1.40-1.70 | | | | | Soft moist light greyish brown silty very gravelly CLAY with high cobble content and high boulder content. Gravel is angular to subangular fine to coarse of limestone and sandstone. Cobbles are angular to subangular of limestone and sandstone. Boulders are angular to subangular of limestone and sandstone. Boulders are up to 1500mm in length. |
| | | | B 4 | 1.70-1.80 | | | | | |
| 2 | | | | | | | | | |
| | | | | | | | 49.84 | 2.30 | |
| | | | | | | END | | | TP terminated at 2.30m bgl. Obstruction as possible rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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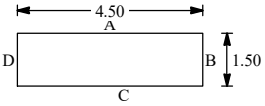
| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TP128** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 208,093.9 N 264,504.2 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 53.48m O.D.** | **DATE: 30.3.21** |

**GROUNDWATER**

Water strikes: 1st: 0.90m Rose to after: 20min 0.89m
2nd:
3rd:

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.40m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Rushes and saplings over spongy dark brownish black pseudo fibrous PEAT. H4 B2 F2 R2 W2 TV2 TH2 A1. |
| | | | VANE | 0.30 | 33mm vane 22 kN/m² | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.50 | | | | | |
| | | 1 1 | | | | | 52.58 | 0.90 | |
| 1 | | | B 3 | 0.90-1.20 | | | | | Very soft moist light grey organic gravelly silty CLAY with medium cobble content and medium boulder content and some plant material and some wood. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 350mm in length. |
| | | | D 4 | 1.20-1.30 | | | | | |
| | | | | | | | 52.08 | 1.40 | |
| | | | | | | | | | Very soft moist light grey clayey very gravelly SILT with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 600mm in length. |
| 2 | | | B 5 | 2.00-2.30 | | | | | |
| | | | D 6 | 2.30-2.40 | | | | | |
| | | | | | | | | | 2.50m: with high boulder content. |
| | | | | | | | 50.78 | 2.70 | |
| | | | | | | END | | | TP terminated at 2.70m bgl. Obstruction as probable rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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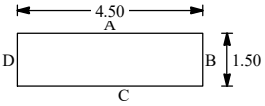
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP129 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 208,009.6 N 264,546.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 54.24m O.D. | **DATE:** 30.3.21 |

**GROUNDWATER**

Water strikes: 1st: 0.60m Rose to after: 20min 0.59m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Moss lichen and saplings over spongy dark blackish brown pseudo fibrous PEAT. H4 B3 F2 R2 W2 TV2 TH2 A1. |
| | | 1.1 | D 1<br>B 2<br>VANE<br>CBR<br>B 3<br>D 4 | 0.40-0.50<br>0.40-0.60<br>0.50<br>0.60<br>0.60-0.80<br>0.80-0.90 | 33mm vane 16 kN/m² | | 53.64 | 0.60 | Moist light brownish grey organic gravelly silty CLAY with medium cobble content and medium boulder content and some plant material and some wood. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 300mm in length. |
| 1 | | | | | | | 52.34 | 1.90 | Very soft moist light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 450mm in length.<br>2.20m: with high boulder content. |
| 2 | | | B 5<br>D 6 | 2.10-2.40<br>2.40 | | END | 51.84 | 2.40 | TP terminated at 2.40m bgl. Obstruction as possible rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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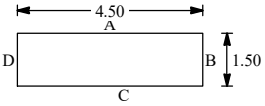
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP130 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,923.1 N 264,600.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 53.64m O.D. | **DATE:** 30.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.40m Rose to after: 20min 1.39m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Grass and saplings over very soft dark orangish brown fibrous PEAT. H3 B3 F3 R2 W2 TV2 TH2 A1. |
| | | | D 1 | 0.20-0.30 | | | | | |
| | | | B 2 | 0.20-0.50 | | | | | |
| | | | VANE | 0.30 | 33mm vane 17 kN/m² | | | | |
| 1 | | | | | | | | | |
| | | 1.1 | | | | | 52.24 | 1.40 | |
| | | | B 3 | 1.40-1.70 | | | | | Very soft moist grey organic gravelly silty CLAY with low cobble content and low boulder content and some plant material and some wood. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | B 4 | 1.70-1.80 | | | | | |
| | | | | | | | 51.64 | 2.00 | |
| 2 | | | | | | | | | Soft damp grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 5 | 2.60-2.90 | | | | | |
| | | | D 6 | 2.90-3.00 | | | | | |
| | | | | | | | 50.64 | 3.00 | |
| 3 | | | | | | END | | | TP terminated at 3.00m bgl. Obstruction as possible rock. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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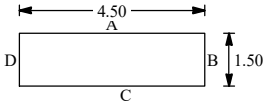
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP131 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 208,212.8 N 264,421.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 50.24m O.D. | **DATE:** 30.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: 1.20m 20min 0.60m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.60m bgl to 2.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV2 TH2 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | VANE | 0.40 | 33mm vane 19 kN/m² | | | | |
| | | 1 | | | | | 49.64 | 0.60 | |
| | | | B 3 | 0.60-0.90 | | | | | Spongy orangish brown pseudo fibrous PEAT. H5 B3 F2 R1 W2 TV1 TH1 A2. |
| | | | D 4 | 0.90-1.00 | | | | | |
| 1 | | 1 | | | | | 49.04 | 1.20 | |
| | | | | | | | | | Moist brownish grey clayey gravelly subangular to subrounded sandstone and limestone BOULDERS with high cobble content. Gravel is subangular to subrounded fine to coarse of sandstone and limestone. Cobbles are subangular to subrounded of sandstone and limestone. Boulders are up to 800mm in length. |
| | | | B 5 | 1.80-2.10 | | | | | |
| 2 | | | D 6 | 2.10-2.20 | | | 48.04 | 2.20 | |
| | | | B 7 | 2.30-2.60 | | | | | Firm damp light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 8 | 2.60-2.70 | | | | | |
| | | | | | | | 47.34 | 2.90 | |
| 3 | | | | | | END | | | TP terminated at 2.90m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.20m bgl. TP backfilled with arisings.

**Scale:** 1:25

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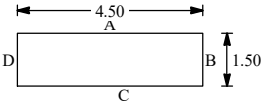
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP132 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 208,299.1 N 264,366.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 49.78m O.D. | **DATE:** 30.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 3.00m | 20min | 2.10m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.10m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1 | 0.20-0.30 | | | 49.38 | 0.40 | Spongy dark orangish brown clayey pseudo fibrous PEAT. H4 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | B 2 | 0.40-0.60 | | | 49.08 | 0.70 | Damp light orangish brown sandy silty subangular to subrounded limestone and sandstone COBBLES with medium boulder content. Sand is fine. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 300mm in length. |
| | | | B 3 | 0.70-1.00 | | | | | Firm damp grey gravelly silty CLAY with low cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 300mm in length. |
| 1 | | | D 4 | 1.00-1.10 | | | | | |
| 2 | | 1 | | | | | 47.68 | 2.10 | |
| | | | B 5 | 2.40-2.70 | | | | | Moist light grey silty clayey angular to subrounded fine to coarse limestone and sandstone GRAVEL with high cobble content and medium boulder content. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 3 | | 1 | | | | END | 46.78 | 3.00 | TP terminated at 3.00m bgl. Unable to progress TP - sidewall collapse and ingress of water. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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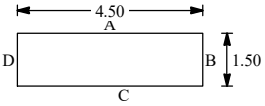
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP134 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 208,468.4 N 264,262.3 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 50.10m O.D. | | **DATE:** 31.3.21 |

**GROUNDWATER**

Water strikes: 1st: 0.50m Rose to after: 20min 0.40m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.20-0.30<br>0.20-0.50<br>0.30 | 33mm vane 15 kN/m² | | 49.10 | 1.00 | Very soft dark brown fibrous PEAT.<br>H3 B2 F3 R2 W2 TV1 TH1 A1. |
| 1 | | | B 3<br>D 4 | 1.00-1.30<br>1.30-1.40 | | | 47.30 | 2.80 | Firm damp grey organic gravelly silty CLAY with low cobble content and low boulder content and some plant material and some wood. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 2 | | | | | | | | | |
| 3 | | | B 5 | 3.10-3.30 | | | 46.60 | 3.50 | Stiff damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | END | | | TP terminated at 3.50m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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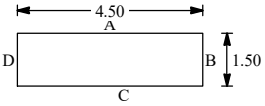
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP135 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 208,545.6 N 264,212.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 48.51m O.D. | **DATE:** 31.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | VANE | 0.30 | 33mm vane 9 kN/m² | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | 47.91 | 0.60 | |
| | | | B 3 | 0.60-0.80 | | | | | Firm damp light grey organic clayey SILT. |
| | | | D 4 | 0.80-0.90 | | | 47.51 | 1.00 | |
| 1 | | | | | | | | | Stiff dark grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| | | | B 5 | 1.70-2.00 | | | | | |
| 2 | | | D 6 | 2.00-2.10 | | | 46.41 | 2.10 | |
| | | | | | | END | | | TP terminated at 2.10m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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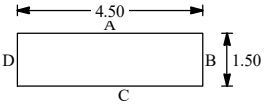
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP136 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 208,652.9 N 264,177.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 49.22m O.D. | **DATE:** 31.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.60<br>0.40 | 33mm vane 9 kN/m² | | 48.52 | 0.70 | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | B 3<br>D 4 | 0.70-1.00<br>1.00-1.10 | | | 48.02 | 1.20 | Soft damp grey sandy gravelly clayey SILT with low cobble content. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. |
| 1 | | | | | | | | | |
| | | | B 5<br>D 6 | 1.70-2.00<br>2.00-2.10 | | | 46.52 | 2.70 | Soft moist grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | | | | | | | |
| 3 | | | | | | | 45.92 | 3.30 | Stiff damp dark grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| | | | | | | END | | | TP terminated at 3.30m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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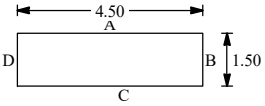
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP137 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 208,740.3 N 264,154.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 48.70m O.D. | **DATE:** 31.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A2. |
| | | | D 1 | 0.20-0.30 | | | | | |
| | | | B 2 | 0.20-0.50 | | | | | |
| | | | VANE | 0.30 | 33mm vane 11 kN/m² | | | | |
| 1 | | | | | | | 47.40 | 1.30 | |
| | | | B 3 | 1.30-1.50 | | | | | Very soft damp light greenish grey organic silty CLAY with some plant material and many gastropod shells. Organic odour. |
| | | | | | | | 47.20 | 1.50 | |
| | | | D 4 | 1.50-1.60 | | | | | Soft moist grey gravelly organic silty CLAY with medium cobble content and low boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 250mm in length. |
| | | | B 5 | 1.60-1.90 | | | | | |
| | | | D 6 | 1.90-2.00 | | | | | |
| | | | | | | | 46.70 | 2.00 | |
| 2 | | | B 7 | 2.00-2.30 | | | | | Very stiff brownish grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | | | | | 46.40 | 2.30 | |
| | | | D 8 | 2.30 | | END | | | TP terminated at 2.30m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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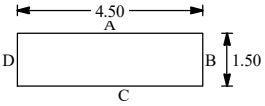
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP138 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 208,839.1 N 264,127.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 49.02m O.D. | **DATE:** 31.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.20-0.30<br>0.20-0.50<br>0.30 | 33mm vane 11 kN/m² | | | | Spongy dark orangish brown pseudo fibrous PEAT.<br>H4 B2 F2 R2 W2 TV1 TH1 A1. |
| 1 | | | VANE | 1.00 | H70 vane 42 kN/m² Rem 12 kN/m² | | 47.62 | 1.40 | |
| | | | B 3<br>D 4 | 1.40-1.70<br>1.70-1.80 | | | 47.02 | 2.00 | Very soft moist light yellowish cream highly organic CLAY with much plant material and many gastropod shells.<br>Organic odour. |
| 2 | | | VANE<br>B 5<br>D 6 | 2.00<br>2.30-2.60<br>2.60-2.70 | H70 vane 60 kN/m² Rem 18 kN/m² | | 46.32 | 2.70 | Soft moist grey slightly sandy silty very gravelly CLAY with high cobble content and medium boulder content. Sand is fine. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | | | | END | | | TP terminated at 2.70m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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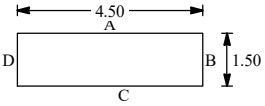
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP139 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 **of** 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 208,941.4 N 264,110.8 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 48.87m O.D. | | **DATE:** 31.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.70m Rose to after: 20min 1.20m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.40m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE<br>D 1<br>B 2 | 0.40<br>0.40-0.50<br>0.40-0.70 | 33mm vane 11 kN/m² | | 48.07 | 0.80 | Very soft dark orangish brown fibrous PEAT. H3 B3 F3 R2 W1 TV1 TH1 A1. |
| 1 | | 1 | VANE<br>B 3<br>D 4 | 1.00<br>1.20-1.50<br>1.50-1.60 | H70 vane 16 kN/m² Rem 2 kN/m² | | 47.67<br>47.17 | 1.20<br>1.70 | Spongy dark brown pseudo fibrous PEAT. H5 B3 F3 R2 W1 TV1 TH1 A1.<br>Very soft moist light yellowish cream highly organic CLAY with medium boulder content and some plant material and some gastropod shells. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. Organic odour. |
| 2 | | 1 | B 5<br>VANE<br>D 6 | 1.70-2.00<br>1.80<br>2.40-2.70 | H70 vane 72 kN/m² Rem 22 kN/m² | | 46.47<br>46.17 | 2.40<br>2.70 | Moist grey silty sandy angular to subangular fine to coarse limestone GRAVEL with medium cobble content and medium boulder content. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 1000mm in length.<br>Stiff grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 600mm in length. |
| 3 | | | B 7 | 2.70 | | END | | | TP terminated at 2.70m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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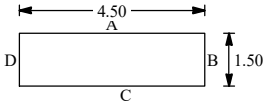
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP140 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,038.4 N 264,135.8 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 48.67m O.D. | | **DATE:** 31.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.00m Rose to after: 20min 0.91m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.60<br>0.40 | 33mm vane 13 kN/m² | | 47.67 | 1.00 | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W1 TV1 TH1 A2. |
| 1 | | 1 | B 3<br>D 4 | 1.00-1.30<br>1.30-1.40 | | | 47.17 | 1.50 | Firm damp grey slightly sandy organic gravelly silty CLAY with medium cobble content and medium boulder content. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| | | | B 5<br>D 6 | 1.50-1.80<br>1.80-1.90 | | | 46.47 | 2.20 | Firm grey gravelly clayey SILT with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 2 | | | B 7<br>D 8 | 2.60-2.90<br>2.90 | | | 45.77 | 2.90 | Stiff grey gravelly silty CLAY with high cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| 3 | | | | | | END | | | TP terminated at 2.90m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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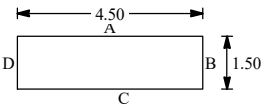
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP141 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,132.7 N 264,172.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 49.75m O.D. | **DATE:** 9.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 270-090
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 49.65 | 0.10 | Grass and saplings over spongy dark brown clayey pseudo fibrous PEAT. H6 B2 F1 R0 W1 TV1 TH1 A0. |
| | | | D 1<br>B 2 | 0.20-0.30<br>0.20-0.50 | | | 48.85 | 0.90 | Soft damp orangish grey organic gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 1 | | | B 3<br>D 4 | 1.30-1.60<br>1.60-1.70 | | | 47.55 | 2.20 | Firm damp bluish grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| 2 | | | B 5 | 2.20-2.50 | | | 47.25 | 2.50 | Stiff brownish grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 6 | 2.50 | | END | | | TP terminated at 2.50m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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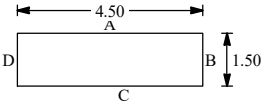
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP142 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,195.2 N 264,198.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 48.93m O.D. | **DATE:** 9.4.21 |

**GROUNDWATER**

Water strikes: 1st: 0.60m Rose to after: 20min 0.52m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 48.73 | 0.20 | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W1 TV1 TH1 A0. |
| | | 1 | | | | | 48.33 | 0.60 | Damp dark greyish brown clayey gravelly subangular to subrounded limestone BOULDERS with high cobble content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are up to 500mm in length. |
| | | | D 1<br>B 2 | 0.70-0.80<br>0.70-1.00 | | | 47.43 | 1.50 | Firm damp grey gravelly sandy clayey SILT with medium cobble content and low boulder content. Sand is fine. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 350mm in length. |
| 1 | | | | | | | | | |
| | | | B 3<br>D 4 | 1.60-1.90<br>1.90-2.00 | | | 46.63 | 2.30 | Stiff grey gravelly silty CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| 2 | | | | | | | | | |
| | | | | | | END | | | TP terminated at 2.30m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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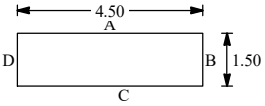
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP143 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,282.8 N 264,235.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 49.82m O.D. | **DATE:** 9.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | VANE | 0.30 | 33mm vane 22 kN/m² | | | | Very soft dark brownish black fibrous PEAT. H3 B2 F3 R1 W2 TV2 TH2 A0. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | | | | | 49.12 | 0.70 | |
| | | | B 3 | 0.70-1.00 | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F3 R1 W1 TV1 TH1 A1. |
| 1 | | | | | | | 48.62 | 1.20 | |
| | | | B 4 | 1.20-1.40 | | | | | Very soft moist yellowish cream highly organic CLAY with some pant material and some gastropod shells. Organic odour. |
| | | | | | | | 48.42 | 1.40 | |
| | | | B 5 | 1.50-1.80 | | | | | Firm grey gravelly clayey SILT with low cobble content and low boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | | | | | 47.32 | 2.50 | |
| | | | B 6 | 2.90-3.20 | | | | | Stiff damp grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | | | | | 46.62 | 3.20 | |
| | | | | | | END | | | TP terminated at 3.20m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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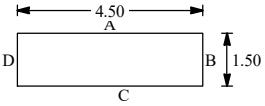
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP144 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,379.2 N 264,273.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 48.78m O.D. | **DATE:** 9.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 270-090
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 48.68 | 0.10 | Spongy dark blackish brown pseudo fibrous PEAT. H6 B1 F1 R0 W1 TV1 TH1 A0. |
| | | | B 1 | 0.10-0.40 | | | 47.68 | 1.10 | Stiff orangish grey slightly sandy gravelly organic silty CLAY with low cobble content and low boulder content and some plant material. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 1 | | | B 2 | 1.20-1.50 | | | 46.88 | 1.90 | Soft damp grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 1000mm in length. |
| 2 | | | | | | END | | | TP terminated at 1.90m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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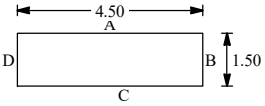
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP145 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,472.7 N 264,307.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 50.08m O.D. | **DATE:** 8.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | B 2 | 0.20-0.50 | 33mm vane 19 kN/m² | | | | Grass and rushes over spongy dark brown pseudo fibrous PEAT. H4 B2 F3 R1 W2 TV2 TH2 A1. |
| | | | VANE | 0.30 | | | 49.18 | 0.90 | |
| 1 | | | B 1 | 0.90-1.20 | | | 48.48 | 1.60 | Firm damp grey gravelly silty organic CLAY with medium cobble content and some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. |
| 2 | | | B 3 | 1.70-2.00 | | | | | Stiff damp dark grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 600mm in length. |
| 3 | | | B 4 | 2.80-3.10 | | | 46.88 | 3.20 | |
| | | | | | | END | | | TP terminated at 3.20m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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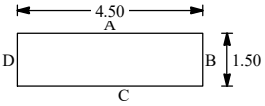
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP146 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,566.5 N 264,350.8 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 52.62m O.D. | | **DATE:** 8.4.21 |

**GROUNDWATER**

Water strikes: 1st: 0.50m Rose to after: 20min 0.49m
2nd:
3rd:

**PIT DIRECTION:** 270-090
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.30m to 2.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | VANE<br>B 1 | 0.20<br>0.20-0.50 | 33mm vane 12 kN/m² | | 52.12 | 0.50 | Grass and rushes over spongy dark blackish brown pseudo fibrous PEAT. H5 B3 F2 R1 W2 TV1 TH1 A1. |
| | | 1.1 | B 2 | 0.60-0.90 | | | 51.32 | 1.30 | Firm damp light orangish grey gravelly clayey SILT with low cobble content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. |
| 1 | | | B 3 | 1.30-1.60 | | | 49.82 | 2.80 | Soft moist grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | | | | | | | 2.50m: with medium boulder content. |
| | | | B 4 | 2.80-3.10 | | | 49.42 | 3.20 | Very stiff dark grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | | | | END | | | TP terminated at 3.20m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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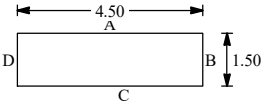
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP147 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,662.5 N 264,371.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 56.42m O.D. | **DATE:** 8.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 270-090
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.50m to 2.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE<br>D 1<br>B 2 | 0.30<br>0.30-0.40<br>0.30-0.50 | 33mm vane 18 kN/m² | | 55.82 | 0.60 | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | B 3<br>D 4 | 0.60-0.90<br>0.90-1.00 | | | 54.92 | 1.50 | Soft damp bluish grey slightly sandy gravelly clayey SILT with low cobble content and low boulder content. Sand is fine. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 1 | | | B 5<br>D 6 | 1.50-1.80<br>1.80-1.90 | | | 54.22 | 2.20 | Moist light grey silty sandy subangular to rounded fine to coarse limestone GRAVEL with high cobble content and medium boulder content. Sand is fine. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 2 | | | | | | | 53.82 | 2.60 | Very soft moist grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 7 | 2.90-3.20 | | | 53.22 | 3.20 | Stiff damp light brown gravelly CLAY with medium cobble content and medium boulder content. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are angular to subrounded of limestone. Boulders are angular to subrounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | | | | END | | | TP terminated at 3.20m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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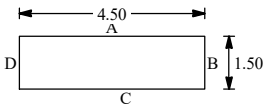
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP148 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,762.1 N 264,393.4 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 57.43m O.D. | | **DATE:** 8.4.21 |

**GROUNDWATER**

Water strikes: 1st: 1.30m Rose to after: 20min 1.29m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE<br>D 1<br>B 2 | 0.20<br>0.20-0.30<br>0.30-0.60 | 33mm vane 14 kN/m² | | 57.13 | 0.30 | Grass and heather over spongy dark blackish brown pseudo fibrous PEAT. H6 F1 R1 W1 TV1 TH1 A0. |
| | | | D 3 | 0.60-0.70 | | | 56.43 | 1.00 | Firm orangish grey silty very gravelly CLAY with low cobble content. Gravel is angular to subrounded fine to coarse of limestone sandstone and quartz. Cobbles are subangular to subrounded of limestone sandstone and quartz. |
| 1 | | 1.1 | B 4<br>D 5 | 1.20-1.60<br>1.50-1.60 | | | 55.33 | 2.10 | Soft moist grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | | | | END | | | TP terminated at 2.10m bgl. Obstruction. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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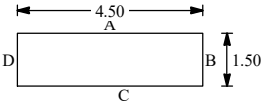
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP149 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,857.5 N 264,410.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 57.56m O.D. | **DATE:** 8.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.20-0.30<br>0.20-0.50<br>0.30 | 33mm vane 13 kN/m² | | 56.86 | 0.70 | Very soft dark orangish brown fibrous PEAT.<br>H3 B2 F3 R1 W3 TV1 TH1 A1. |
| 1 | | | B 3<br>D 4 | 0.70-1.00<br>1.00-1.10 | | | 56.16 | 1.40 | Soft damp greyish green organic gravelly silty CLAY with medium cobble content and low boulder content and some plant material and some wood. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 2 | | | B 5<br>D 6 | 1.40-1.70<br>1.70-1.80 | | | 55.26 | 2.30 | Soft moist light grey silty very gravelly CLAY with high cobble content and high boulder content. Gravel is angular to subangular fine to coarse of limestone. Cobbles are angular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 1300mm in length. |
| | | | | | | END | | | TP terminated at 2.30m bgl. Obstruction. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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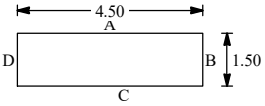
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP150 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,954.4 N 264,398.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 54.78m O.D. | **DATE:** 8.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 54.48 | 0.30 | Moss and saplings over spongy dark brown pseudo fibrous PEAT. H5 B2 F2 R1 W1 TV1 TH1 A0. |
| | | | BR<br>D 1<br>B 2 | 0.40<br>0.40-0.50<br>0.40-0.70 | | | 53.58 | 1.20 | Firm damp orangish brownish grey organic silty very gravelly CLAY with low cobble content and low boulder content and some plant material and some wood. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 1 | | | B 3<br>D 4 | 1.50-1.80<br>1.80-1.90 | | | 52.78 | 2.00 | Soft moist grey silty very gravelly CLAY with high cobble content and low boulder content. Gravel is angular to subangular fine to coarse of limestone. Cobbles are angular to subrounded of limestone. Boulders are angular to subangular of limestone. Boulders are up to 1100mm in length. |
| 2 | | | | | | END | | | TP terminated at 2.00m bgl. Obstruction. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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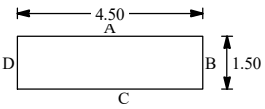
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP151 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,979.6 N 264,304.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 55.05m O.D. | **DATE:** 8.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2 | 0.10-0.20<br>0.10-0.40 | | | 54.95 | 0.10 | Moss and rushes over spongy dark brown clayey pseudo fibrous PEAT.<br>H5 B2 F2 R1 W1 TV1 TH1 A0. |
| | | | | | | | | | Firm damp orangish grey organic gravelly silty CLAY with low cobble content and low boulder content and some plant material and some wood. Gravel is subangular fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 250mm in length. |
| 1 | | | B 3<br>D 4 | 1.10-1.40<br>1.40-1.50 | | | 53.95 | 1.10 | Very soft moist grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| 2 | | | | | | | 52.85 | 2.20 | |
| | | | | | | END | | | TP terminated at 2.20m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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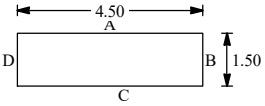
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP152 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,997.0 N 264,199.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 56.44m O.D. | **DATE:** 7.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | B 1 | 0.20-0.60 | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F3 R1 W2 TV2 TH2 A1. |
| | | | VANE | 0.40 | 33mm vane 19 kN/m² | | | | |
| | | | D 2 | 0.50-0.60 | | | | | |
| 1 | | | | | | | 55.24 | 1.20 | |
| | | | B 3 | 1.20-1.50 | | | | | Very soft moist light greenish grey organic gravelly clayey SILT with low cobble content and low boulder content and some plant material and wood. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 300mm in length. |
| | | | D 4 | 1.50-1.60 | | | | | |
| | | | | | | | 54.64 | 1.80 | |
| 2 | | | | | | | | | Very soft moist light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 600mm in length. |
| | | | B 5 | 2.40-2.70 | | | | | |
| | | | D 6 | 2.70-2.80 | | | | | |
| 3 | | | | | | | 53.04 | 3.40 | |
| | | | | | | END | | | TP terminated at 3.40m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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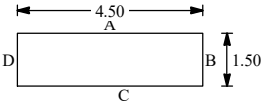
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP153 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,969.9 N 264,105.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 55.72m O.D. | **DATE:** 7.4.21 |

**GROUNDWATER**

Water strikes: 1st: 0.80m Rose to after: 20min 0.10m
2nd:
3rd:

**PIT DIRECTION:** 315-135
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1 | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B3 F3 R1 W3 TV2 TH2 A2. |
| | | | B 1 | 0.30-0.60 | | | | | |
| | | | VANE | 0.40 | 33mm vane 20 kN/m² | | | | |
| | | | D 2 | 0.60-0.70 | | | | | |
| | | 1 | | | | | 54.92 | 0.80 | |
| | | | B 3 | 0.80-1.10 | | | | | Very soft moist light grey organic gravelly silty CLAY with low cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 350mm in length. |
| 1 | | | D 4 | 1.10-1.20 | | | | | |
| | | | | | | | 54.32 | 1.40 | |
| | | | | | | | | | Moist grey silty clayey angular to rounded fine to coarse limestone GRAVEL with high cobble content and medium boulder content. Cobbles are angular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 600mm in length. |
| 2 | | | | | | | | | |
| | | | B 5 | 2.70-3.00 | | | | | |
| 3 | | | | | | | 52.62 | 3.10 | |
| | | | | | | END | | | TP terminated at 3.10m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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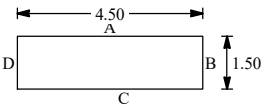
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP154 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,893.9 N 264,038.1 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 58.59m O.D. | | **DATE:** 7.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark blackish brown fibrous PEAT. H3 B1 F3 R1 W1 TV2 TH2 A1. |
| | | | VANE | 0.40 | 33mm vane 21 kN/m² | | | | |
| | | | B 1 | 0.40-0.70 | | | | | |
| | | | D 2 | 0.70-0.80 | | | | | |
| 1 | | | | | | | 57.09 | 1.50 | |
| | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F3 R1 W2 TV1 TH1 A2. |
| | | | B 3 | 1.70-2.00 | | | | | |
| 2 | | | D 4 | 2.00-2.10 | | | | | |
| | | | | | | | 56.09 | 2.50 | |
| | | | B 5 | 2.50-2.80 | | | | | Very soft light brownish grey organic gravelly clayey SILT with medium cobble content and low boulder content and some plant material and wood. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 6 | 2.80-2.90 | | | | | |
| 3 | | | | | | | 54.99 | 3.60 | |
| | | | B 7 | 3.70-4.00 | | | | | Firm damp light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | | 54.59 | 4.00 | |
| 4 | | | D 8 | 4.00 | | END | | | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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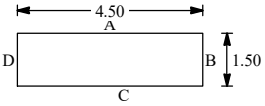
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP155 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,822.1 N 263,971.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 57.99m O.D. | **DATE:** 7.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 270-090
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 57.79 | 0.20 | Grass over very soft damp peaty CLAY. |
| | | | B 1 | 0.20-0.50 | | | | | Firm damp light orangish brown gravelly clayey SILT with low cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| | | | D 2 | 0.50-0.60 | | | | | |
| 1 | | | B 3 | 1.00-1.30 | | | 56.99 | 1.00 | Soft moist light orangish brown gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | D 4 | 1.30-1.40 | | | | | |
| | | | B 5 | 1.70-2.00 | | | 56.29 | 1.70 | Firm damp light brown silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | D 6 | 2.00-2.10 | | | | | |
| | | | | | | | 55.69 | 2.30 | |
| | | | | | | END | | | TP terminated at 2.30m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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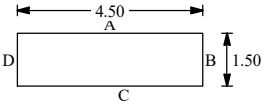
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT: Derryadd Wind Farm** | | **TRIALPIT: TP156** |
| **LOCATION: Derryadd, Co. Longford** | | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** | **Rig: Hyundai 140 LC9** |
| **ENGINEER: Bord na Mona** | **E 209,748.7 N 263,909.1** | **Rev: DRAFT** |
| **Ground level: 53.74m O.D.** | | **DATE: 7.4.21** |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION: 180-360**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.80m to 2.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 53.54 | 0.20 | Spongy dark blackish brown pseudo fibrous PEAT. H5 B1 F2 R1 W1 TV1 TH1 A0. |
| | | | B 1 | 0.20-0.50 | | | | | Stiff damp orangish brownish grey gravelly silty organic CLAY with low cobble content and some plant material and some wood. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. |
| | | | D 2 | 0.50-0.60 | | | 52.94 | 0.80 | |
| 1 | | | | | | | | | Soft moist grey slightly sandy gravelly clayey SILT with medium cobble content and medium boulder content. Sand is fine. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 350mm in length. |
| | | | B 3 | 1.30-1.60 | | | | | |
| | | | D 4 | 1.60-1.70 | | | | | |
| 2 | | | | | | | 51.14 | 2.60 | |
| | | | B 5 | 2.60-2.90 | | | | | Very stiff damp greyish brown gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is angular to rounded fine to coarse of limestone. Cobbles are angular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 6 | 2.90-3.00 | | | | | |
| 3 | | | | | | | 50.64 | 3.10 | |
| | | | | | | END | | | TP terminated at 3.10m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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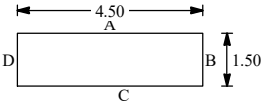
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP157 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,668.7 N 263,844.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 50.42m O.D. | **DATE:** 7.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 50.12 | 0.30 | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A0. |
| | | | D 1<br>B 2 | 0.40-0.50<br>0.40-0.60 | | | 49.72 | 0.70 | Soft damp brownish grey organic gravelly silty CLAY with medium cobble content and low boulder content and some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| | | | B 3<br>D 4 | 0.70-1.00<br>1.00-1.10 | | | 48.82 | 1.60 | Firm damp grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 1 | | | | | | | 47.82 | 2.60 | Very soft moist grey clayey very gravelly SILT with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 2 | | | B 5<br>D 6 | 2.10-2.40<br>2.40-2.50 | | | | | |
| | | | | | | END | | | TP terminated at 2.60m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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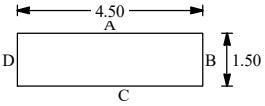
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP158 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,590.9 N 263,779.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 49.66m O.D. | **DATE:** 7.4.21 |

**GROUNDWATER**

Water strikes: 1st: 1.00m Rose to after: 20min 0.99m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.20-0.30<br>0.20-0.50<br>0.30 | 33mm vane 11 kN/m² | | 48.66 | 1.00 | Spongy dark brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W2 TV1 TH1 A1. |
| 1 | | | B 3<br>D 4 | 1.00-1.30<br>1.30-1.40 | | | 47.86 | 1.80 | Very soft damp greenish yellowish grey organic gravelly silty CLAY with medium cobble content and medium boulder content and some plant material and some shells fragments. Gravel is angular to subangular fine to coarse of limestone. Cobbles are angular to subangular of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 600mm in length. |
| 2 | | | B 5<br>D 6 | 1.80-2.10<br>2.10-2.20 | | | 47.06 | 2.60 | Stiff damp dark grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | B 7<br>D 8 | 2.60-2.90<br>2.90-3.00 | | | 46.46 | 3.20 | Soft moist grey clayey very gravelly SILT with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | END | | | TP terminated at 3.20m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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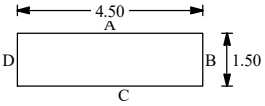
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP159 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,630.5 N 263,686.3 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 51.29m O.D. | | **DATE:** 1.4.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.60m | 20min | 1.40m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 51.19 | 0.10 | Moss and rushes over spongy dark blackish brown clayey pseudo fibrous PEAT. H6 B1 F1 R1 W1 TV1 TH1 A0. |
| | | | D 1 | 0.10-0.20 | | | | | |
| | | | B 2 | 0.10-0.40 | | | 50.89 | 0.40 | Soft damp dark brownish grey organic gravelly silty CLAY with medium cobble content and low boulder content and some plant material. Gravel is angular to subangular fine to coarse of sandstone and limestone. Cobbles are subangular to rounded of sandstone and limestone. Boulders are subangular to subrounded of sandstone and limestone. Boulders are up to 350mm in length. |
| | | | | | | | | | Soft moist grey slightly sandy clayey very gravelly SILT with high cobble content and medium boulder content. Sand is fine. Gravel is subangular to rounded fine to coarse of sandstone and limestone. Cobbles are subrounded to rounded of sandstone and limestone. Boulders are subrounded to rounded of sandstone and limestone. Boulders are up to 500mm in length. |
| 1 | | | | | | | | | |
| | | | B 3 | 1.20-1.50 | | | | | 1.30m: with low large boulder content. Boulders are subangular of sandstone. Boulders are up to 1300mm in length. |
| | | 1 | | | | | | | |
| | | 1 | D 4 | 1.50-1.60 | | | 49.69 | 1.60 | |
| | | | | | | END | | | TP terminated at 1.60m bgl. Obstruction. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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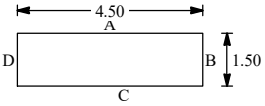
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP160 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,646.7 N 263,586.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 51.03m O.D. | **DATE:** 6.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.70m to 2.70m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE<br>D 1<br>B 2 | 0.20<br>0.20-0.30<br>0.20-0.50 | 33mm vane 12 kN/m² | | 50.33 | 0.70 | Very soft dark orangish brown fibrous PEAT. H3 B3 F3 R2 W1 TV1 TH1 A1. |
| 1 | | | B 3<br>D 4 | 0.70-1.00<br>1.00-1.10 | | | 49.33 | 1.70 | Soft moist grey organic gravelly silty CLAY with medium cobble content and medium boulder content and some plant material. Gravel is subangular to subrounded fine to coarse of sandstone conglomerate and limestone. Cobbles are subangular to subrounded of sandstone conglomerate and limestone. Boulders are subangular to subrounded of sandstone conglomerate and limestone. Boulders are up to 350mm in length. |
| 2 | | | B 5<br>D 6 | 1.70-2.00<br>2.00-2.10 | | | 48.33 | 2.70 | Very soft moist grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of sandstone and limestone. Cobbles are subangular to rounded of sandstone and limestone. Boulders are rounded of sandstone and limestone. Boulders are up to 300mm in length. |
| | | | B 7<br>D 8 | 2.70-2.90<br>2.90 | | END | 48.13 | 2.90 | Stiff grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | | | | | | | TP terminated at 2.90m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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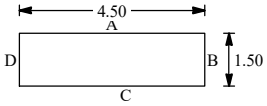
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP161 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,663.9 N 263,488.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 50.74m O.D. | **DATE:** 6.4.21 |

**GROUNDWATER**

Water strikes: 1st: 1.10m Rose to after: 20min 1.09m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE<br>D 1<br>B 2 | 0.20<br>0.20-0.30<br>0.20-0.50 | 33mm vane 11 kN/m² | | 50.14 | 0.60 | Spongy dark orangish brown pseudo fibrous PEAT.<br>H4 B2 F3 R1 W3 TV1 TH1 A2. |
| | | | B 3<br>D 4 | 0.60-0.90<br>0.90-1.00 | | | 49.64 | 1.10 | Soft moist brownish grey sandy very gravelly SILT with medium cobble content and medium boulder content. Sand is coarse. Gravel is subangular to rounded fine to coarse of sandstone limestone and conglomerate. Cobbles are subangular to rounded of sandstone limestone and conglomerate. Boulders are subangular to rounded of sandstone limestone and conglomerate. Boulders are up to 350mm in length. |
| 1 | | 1.1 | B 5 | 1.70-2.00 | | | 48.74 | 2.00 | Moist grey slightly sandy clayey silty subangular to rounded fine to coarse sandstone and limestone GRAVEL with high cobble content and medium boulder content. Cobbles are subangular to rounded of sandstone and limestone. Boulders are subangular to rounded of sandstone and limestone. Boulders are up to 400mm in length. |
| 2 | | | | | | END | | | TP terminated at 2.00m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.10m bgl. TP backfilled with arisings.

**Scale:** 1:25

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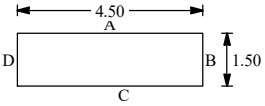
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP162 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,681.2 N 263,393.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 50.97m O.D. | **DATE:** 6.4.21 |

**GROUNDWATER**

Water strikes: 1st: 1.20m Rose to after: 20min 1.10m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 50.87 | 0.10 | Rushes and grass over spongy dark brown pseudo fibrous PEAT. H5 B2 F2 R1 W1 TV1 TH1 A1. |
| | | | D 1<br>B 2 | 0.20-0.30<br>0.20-0.50 | | | 50.47 | 0.50 | Soft moist grey slightly sandy silty very gravelly organic SILT with high cobble content and high boulder content. Gravel is subangular to subrounded fine to coarse of sandstone and limestone. Cobbles are subangular to subrounded of sandstone and limestone. Boulders are subangular to subrounded of sandstone and limestone. Boulders are up to 400mm in length. |
| | | | B 3 | 0.90-1.20 | | | 49.77 | 1.20 | Firm damp grey gravelly silty CLAY with low cobble content and low boulder content. Gravel is angular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subangular to subrounded of limestone and sandstone. Boulders are up to 300mm in length. |
| 1 | | 1 | D 4 | 1.20-1.30 | | | 48.87 | 2.10 | Moist grey slightly clayey slightly silty subangular to subrounded fine to coarse limestone and sandstone GRAVEL with high cobble content and high boulder content. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| | | | B 5 | 1.50-1.80 | | | | | |
| | | | D 6 | 1.80-1.90 | | | | | |
| 2 | | | | | | END | | | TP terminated at 2.10m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.20m bgl. TP backfilled with arisings.

**Scale:** 1:25

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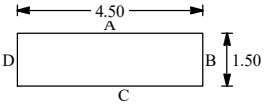
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP163 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,696.0 N 263,293.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 52.53m O.D. | **DATE:** 6.4.21 |

**GROUNDWATER**

Water strikes: 1st: 1.40m Rose to after: 20min 0.90m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.40m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.20-0.30<br>0.20-0.50<br>0.30 | 33mm vane 20 kN/m² | | 52.03 | 0.50 | Very soft dark blackish brown fibrous PEAT.<br>H2 B1 F3 R2 W3 TV2 TH2 A1. |
| 1 | | 1 | B 3<br>D 4 | 1.10-1.40<br>1.40-1.50 | | | 51.13 | 1.40 | Spongy dark orangish brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W2 TV1 TH1 A2. |
| 2 | | | | | | | 50.13 | 2.40 | Moist brownish grey clayey silty gravelly subangular to subrounded limestone and sandstone BOULDERS with high cobble content. Gravel is angular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are up to 1500mm in length. |
| | | | | | | END | | | TP terminated at 2.40m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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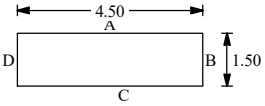
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP164 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,713.5 N 263,194.9 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 54.15m O.D. | | **DATE:** 6.4.21 |

**GROUNDWATER**

Water strikes: 1st: 1.90m Rose to after: 20min 1.60m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.70m to 2.70m bgl.Pit unstable. Sidewall collapse from 0.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE<br>D 1<br>B 2 | 0.20<br>0.20-0.30<br>0.20-0.40 | 33mm vane 20 kN/m² | | 53.75 | 0.40 | Spongy dark blackish brown pseudo fibrous PEAT.<br>H6 B1 F1 R1 W2 TV2 TH2 A1. |
| | | | | | | | 53.35 | 0.80 | Subangular to subrounded limestone BOULDERS. Boulders are up to 2500mm in length. |
| 1 | | 1 | B 3<br>D 4 | 1.00-1.30<br>1.30-1.40 | | | 52.25 | 1.90 | Very soft moist grey silty very gravelly CLAY with high cobble content and high boulder content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 2 | | | | | | END | | | TP terminated at 1.90m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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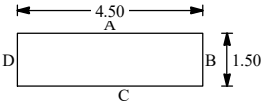
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP165 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,516.3 N 263,711.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 50.75m O.D. | **DATE:** 1.4.21 |

**GROUNDWATER**

Water strikes: 1st: 1.90m Rose to after: 20min 1.70m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.90m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.20-0.30<br>0.20-0.50<br>0.30 | 33mm vane 11 kN/m² | | 49.45 | 1.30 | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W2 TV1 TH1 A1. |
| | | 1 | | | | | 48.85 | 1.90 | Moist brownish grey clayey gravelly subangular to rounded limestone and sandstone BOULDERS with high cobble content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are up to 1200mm in length. |
| | | 1 | B 3<br>D 4 | 1.90-2.20<br>2.20-2.30 | | | 47.85 | 2.90 | Firm damp grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 350mm in length. |
| | | | B 5<br>D 6 | 2.90-3.20<br>3.20-3.30 | | | 47.35 | 3.40 | Very soft moist light grey slightly sandy clayey very gravelly SILT with high cobble content and medium boulder content. Sand is fine. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | | | | END | | | TP terminated at 3.40m bgl. Unable to progress TP - sidewall collapse. |

**Remarks:** Ingress of water at 1.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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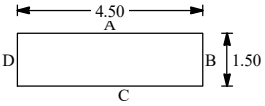
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP167 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,359.9 N 263,577.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 51.76m O.D. | **DATE:** 1.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.70m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 51.66 | 0.10 | Grass moss and rushes over spongy dark blackish brown pseudo fibrous PEAT. H5 B1 F2 R1 W2 TV1 TH1 A0. |
| | | | D 1<br>B 2 | 0.20-0.30<br>0.20-0.50 | | | 51.06 | 0.70 | Soft damp orangish grey organic gravelly silty CLAY with medium cobble content and low boulder content and some plant material. Gravel is subrounded to rounded fine to coarse of sandstone and limestone. Cobbles are subrounded to rounded of sandstone and limestone. Boulders are subrounded to rounded of sandstone and limestone. Boulders are up to 300mm in length. |
| 1 | | | B 3<br>D 4 | 0.80-1.10<br>1.10-1.20 | | | 49.86 | 1.90 | Soft moist grey clayey very gravelly SILT with high cobble content and medium boulder content. Gravel is angular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 350mm in length. |
| 2 | | | B 5<br>D 6 | 2.30-2.60<br>2.60-2.70 | | | 48.96 | 2.80 | Firm moist grey clayey very gravelly SILT with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 450mm in length. |
| | | | | | | END | | | TP terminated at 2.80m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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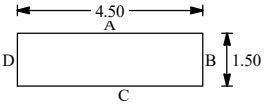
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP168 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,267.9 N 263,609.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 51.34m O.D. | **DATE:** 1.4.21 |

**GROUNDWATER**

Water strikes: 1st: 1.90m Rose to after: 20min 1.80m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.90m to 2.90m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.20-0.30<br>0.20-0.50<br>0.30 | 33mm vane 15 kN/m² | | 50.64 | 0.70 | Spongy dark brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W2 TV1 TH1 A0. |
| | | | CBR | 0.70 | | | 49.44 | 1.90 | Firm damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 1 | | 1 | | | | | | | |
| 2 | | | B 3 | 2.60-2.90 | | | 48.44 | 2.90 | Very soft moist grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| | | | D 4 | 2.90 | | END | | | TP terminated at 2.90m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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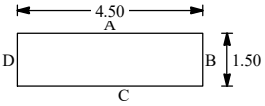
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP169 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,214.0 N 263,692.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 51.47m O.D. | **DATE:** 1.4.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.80m | 20min | 1.40m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 51.17 | 0.30 | POSSIBLE MADE GROUND: Spongy dark brown pseudo fibrous PEAT with some pieces of concrete pipe. H5 B1 F2 R1 W2 TV1 TH1 A0. |
| | | | D 1<br>B 2 | 0.40-0.50<br>0.40-0.60 | | | 50.77 | 0.70 | Very soft moist light orangish grey silty very gravelly CLAY with medium cobble content and high boulder content. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 400mm in length. |
| 1 | | 1 | B 3 | 1.50-1.80 | | | 49.67 | 1.80 | Firm damp grey slightly sandy clayey very gravelly SILT with high cobble content and high boulder content. Gravel is angular to subangular fine to coarse of limestone. Cobbles are angular to subrounded of limestone. Boulders are angular to subrounded of limestone. Boulders are up to 600mm in length. |
| | | 1 | D 4 | 1.80 | | END | | | TP terminated at 1.80m bgl. Obstruction as boulders. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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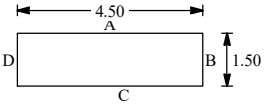
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP170 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,157.6 N 263,781.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 50.58m O.D. | **DATE:** 1.4.21 |

**GROUNDWATER**

Water strikes: 1st: 1.60m Rose to after: 20min 1.10m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE<br>D 1 | 0.20<br>0.20-0.30 | 33mm vane 12 kN/m² | | 50.28 | 0.30 | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | B 2<br>B 3 | 0.30-0.60<br>0.60-0.70 | | | 49.78 | 0.80 | Soft moist orangish grey organic silty very gravelly CLAY with medium cobble content and low boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 300mm in length. |
| 1 | | 1 | D 4<br>D 5 | 0.90-1.20<br>1.20-1.30 | | | 48.98 | 1.60 | Soft moist light grey silty very gravelly CLAY with high cobble content and high boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 450mm in length. |
| 2 | | | B 6 | 2.00-2.30 | | | 48.18 | 2.40 | Very soft moist light grey slightly sandy clayey very gravelly SILT with medium cobble content and medium boulder content. Gravel is angular to subangular fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | END | | | TP terminated at 2.40m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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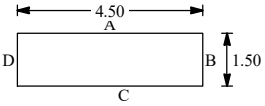
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP171 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,108.9 N 263,862.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 50.67m O.D. | **DATE:** 1.4.21 |

**GROUNDWATER**

Water strikes: 1st: 2.70m Rose to after: 20min 2.50m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.40m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 50.37 | 0.30 | Spongy dark orangish brown pseudo fibrous PEAT. H5 B1 F1 R1 W2 TV1 TH1 A0. |
| | | | | | | | 49.97 | 0.70 | Orangish grey clayey gravelly angular to subrounded limestone and sandstone BOULDERS with high cobble content. Gravel is angular to subangular fine to coarse of limestone and sandstone. Cobbles are angular to subrounded of limestone and sandstone. Boulders are up to 700mm in length. |
| | | | B 1<br>D 2 | 0.70-0.80<br>0.70-1.00 | | | 49.27 | 1.40 | Light orangish grey organic silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is angular to subangular fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subangular to subrounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 1 | | | | | | | 47.97 | 2.70 | Moist light grey slightly sandy clayey silty angular to subrounded fine to coarse limestone and sandstone GRAVEL with medium cobble content and medium boulder content. Sand is fine. Cobbles are angular to subrounded of limestone and sandstone. Boulders are subangular to subrounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 2 | | | B 3<br>D 4 | 1.40-1.70<br>1.70-1.80 | | | | | |
| | | 1 | | | | END | | | TP terminated at 2.70m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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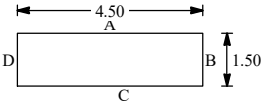
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP172 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,056.5 N 263,946.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 50.76m O.D. | **DATE:** 1.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | | | | | 50.46 | 0.30 | Spongy dark brown pseudo fibrous PEAT. H5 B1 F1 R1 W2 TV1 TH1 A0. |
| | | | D 1<br>B 2 | 0.30-0.40<br>0.30-0.60 | | | 49.86 | 0.90 | Firm damp grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is angular to subrounded fine to coarse of sandstone and limestone. Cobbles are subangular to subrounded of sandstone and limestone. Boulders are subangular to subrounded of sandstone and limestone. Boulders are up to 350mm in length. |
| 1 | | | | | | | 49.56 | 1.20 | Weathered SANDSTONE rock. Recovered as angular to subangular coarse gravel cobble and boulder sized clasts of sandstone. Boulders are up to 700mm in length. |
| | | | | | | END | | | TP terminated at 1.20m bgl. Obstruction as rock. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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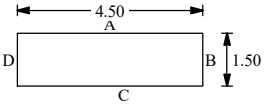
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT: Derryadd Wind Farm** | | **TRIALPIT: TP173** |
| **LOCATION: Derryadd, Co. Longford** | | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 208,985.1 N 264,030.5 | **Rig: Hyundai 140 LC9** |
| **ENGINEER: Bord na Mona** | | **Rev: DRAFT** |
| **Ground level: 49.57m O.D.** | | **DATE: 31.3.21** |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.80m | 20min | 1.79m |
| 2nd: | 3.50m | 20min | 2.10m |
| 3rd: | | | |

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.70m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R2 W2 TV1 TH1 A2. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | | | | | |
| | | | VANE | 0.50 | 33mm vane 11 kN/m² | | | | |
| 1 | | | | | | | | | |
| | | 1 | B 3 | 1.70-2.00 | | | | | |
| 2 | | 2 | D 4 | 2.00-2.10 | | | 47.07 | 2.50 | |
| | | | | | | | 46.87 | 2.70 | Very soft moist greenish grey peaty organic CLAY with some shell fragments and many plant fibres. |
| 3 | | | | | | | | | Very soft moist grey organic silty CLAY with some plant material. Organic odour. |
| | | | B 5 | 3.20-3.50 | | | | | |
| | | 3 | D 6 | 3.50 | | | 46.07 | 3.50 | |
| | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.80m bgl. Ingress of water at 3.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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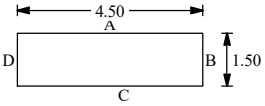
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP174 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,618.6 N 264,431.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 55.71m O.D. | **DATE:** 8.4.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 0.50m | 20min | 0.40m |
| 2nd: | 1.30m | 20min | 0.80m |
| 3rd: | | | |

**PIT DIRECTION:** 045-225
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.30m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B3 F3 R1 W2 TV1 TH1 A1. |
| | | 1 | D 1<br>B 2<br>VANE | 0.20-0.50<br>0.20-0.30<br>0.30 | 33mm vane 10 kN/m² | | | | |
| | | 2 | | | | | | | |
| 1 | | 3 | | | | | 54.41 | 1.30 | |
| | | | B 3 | 1.30-1.60 | | | | | Firm damp light orangish grey slightly sandy silty very gravelly CLAY with medium cobble content and low boulder content. Sand is coarse. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 350mm in length. |
| | | | D 4 | 1.60-1.70 | | | | | |
| 2 | | | | | | | 53.71 | 2.00 | |
| | | | B 5 | 2.00-2.30 | | | | | Very soft light brown silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | | 52.81 | 2.90 | |
| 3 | | | | | | END | | | TP terminated at 2.90m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.50m bgl. Ingress of water at 1.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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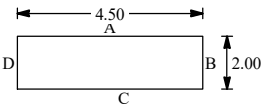
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP175 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,650.7 N 264,526.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 56.32m O.D. | **DATE:** 9.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 225-045
**PIT DIMENSION:** 2.00 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2 | 0.10-0.20<br>0.10-0.40 | | | 55.32 | 1.00 | Firm damp light orangish brown slightly sandy gravelly clayey SILT with medium cobble content and low boulder content. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subangular to subrounded of limestone and sandstone. Boulders are up to 300mm in length. |
| 1 | | | B 3<br>D 4 | 1.00-1.30<br>1.30-1.40 | | | 54.22 | 2.10 | Soft moist light grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subrounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | B 5<br>D 6 | 2.10-2.40<br>2.40 | | | 53.72 | 2.60 | Stiff light greyish brown silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | | | | END | | | TP terminated at 2.60m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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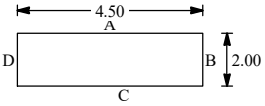
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP176 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,688.9 N 264,606.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 53.37m O.D. | **DATE:** 9.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 2.00 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.70m to 2.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 53.32 | 0.05 | Rushes over soft dark brown peaty CLAY. |
| | | | D 1<br>B 2 | 0.10-0.20<br>0.10-0.40 | | | 52.67 | 0.70 | Firm light orangish brown slightly sandy gravelly clayey SILT with low cobble content and low boulder content. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 300mm in length. |
| 1 | | | B 3<br>D 4 | 0.80-1.10<br>1.10-1.20 | | | 51.37 | 2.00 | Soft damp grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | B 5<br>D 6 | 2.00-2.30<br>2.30-2.40 | | | 50.97 | 2.40 | Stiff damp dark grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | | 50.67 | 2.70 | Very stiff dark brownish grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| | | | | | | END | | | TP terminated at 2.70m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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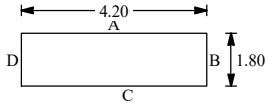
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP177 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,711.3 N 264,719.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 52.78m O.D. | **DATE:** 12.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: 0.40m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 4.20m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark brown fibrous PEAT. |
| | | | D 1 | 0.50-0.60 | | | 52.18 | 0.60 | |
| | | | B 2 | 0.60-0.90 | | | | | Soft grey silty gravelly very sandy CLAY with medium cobble content and low boulder content. Sand is fine. Gravel is subrounded to subangular medium of limestone and sandstone. Cobbles are angular to subangular of limestone and sandstone. Boulders are rounded to subrounded of limestone. |
| | | | D 3 | 0.90-1.00 | | | | | |
| 1 | | | | | | | 51.38 | 1.40 | |
| | | | B 4 | 1.40-1.70 | | | | | Firm grey slightly sandy silty very gravelly CLAY with medium cobble content and medium boulder content. Sand is medium. Gravel is subrounded to subangular coarse of limestone. Cobbles are rounded to subrounded of limestone. Boulders are rounded to subrounded of limestone. |
| | | | D 5 | 1.70-1.80 | | | | | |
| 2 | | | | | | | | | |
| | | | B 6 | 2.50-3.00 | | | | | |
| 3 | | | D 7 | 3.00-3.10 | | | 49.68 | 3.10 | |
| | | | | | | END | | | TP terminated at 3.10m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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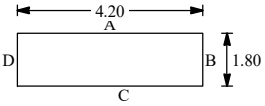
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP178 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,742.9 N 264,814.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 53.56m O.D. | **DATE:** 12.4.21 |

**GROUNDWATER**

Water strikes: 1st: 1.50m Rose to after: 20min 1.48m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.80 * 4.20m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1 | 0.20-0.30 | | | 52.86 | 0.70 | Very soft dark brown fibrous PEAT. H3 B1 F2 R2 W3 TV0 TH1 A0. |
| | | | B 2 | 0.70-1.00 | | | 51.76 | 1.80 | Soft light grey silty gravelly very sandy CLAY with high cobble content and medium boulder content. Sand is medium. Gravel is subrounded to subangular medium of limestone. Cobbles are rounded to subrounded of limestone. Boulders are rounded to subrounded of limestone. |
| 1 | | 1 | | | | | | | |
| 2 | | | B 3 | 2.00-2.40 | | | 50.96 | 2.60 | Grey silty medium SAND and subrounded to subangular coarse limestone GRAVEL with high cobble content and medium boulder content. Cobbles are rounded to subrounded of limestone. Boulders are subrounded to rounded of limestone. |
| | | | D 4 | 2.40-2.50 | | | | | |
| | | | | | | END | | | TP terminated at 2.60m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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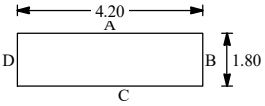
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP179 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,773.8 N 264,908.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 54.58m O.D. | **DATE:** 13.4.21 |

**GROUNDWATER**

Water strikes: 1st: 2.70m Rose to after: 20min 2.68m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.80 * 4.20m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | | | | | 54.38 | 0.20 | TOPSOIL: Dark brown peaty CLAY with many rootlets. |
| | | | B 1 | 0.20-0.50 | | | | | Firm grey slightly silty very gravelly CLAY with low cobble content. Gravel is subrounded to subangular medium of limestone. Cobbles are rounded to subrounded of limestone. |
| | | | D 2 | 0.50-0.60 | | | 53.98 | 0.60 | |
| 1 | | | | | | | | | Grey clayey medium SAND and subrounded to subangular medium limestone GRAVEL with high cobble content and high boulder content. Cobbles are rounded to subrounded of limestone. Boulders are subrounded to rounded of limestone. |
| | | | B 3 | 1.30-1.50 | | | | | |
| | | | D 4 | 1.50-1.60 | | | | | |
| 2 | | | | | | | | | |
| | | 1.1 | B 5 | 2.70-3.00 | | | | | |
| 3 | | | | | | | 51.58 | 3.00 | |
| | | | | | | END | | | TP terminated at 3.00m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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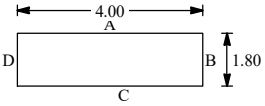
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TP180** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates: E 209,801.8 N 265,002.9** |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 53.66m O.D.** | **DATE: 13.4.21** |

**GROUNDWATER**

**Water strikes:** **Rose to after:**
**1st:** **2.50m**
**2nd:**
**3rd:**

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.80 * 4.00m**
**LOGGED BY: DK**




Shoring/Support: N/A
Stability: Pit moderately unstable from g/l 2.50m bgl. Pit unstable. Sidewall collapse from 2.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft light brown fibrous PEAT. H2 B1 F1 R2 W2 TV0 TH1 A1. |
| | | | VANE | 0.30 | 33mm vane 20 kN/m² | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| 1 | | | VANE | 1.00 | H70 30 kN/m² Rem 6 kN/m² | | | | |
| | | | B 3 | 1.50-1.80 | | | | | |
| | | | D 4 | 1.80-1.90 | | | | | |
| 2 | | | VANE | 2.00 | H70 46 kN/m² Rem 10 kN/m² | | | | |
| | | 1 | VANE | 2.40 | H70 90 kN/m² Rem 50 kN/m² | | 51.16 | 2.50 | |
| | | | B 5 | 2.50-2.90 | | | | | Firm grey slightly silty slightly gravelly CLAY with medium cobble content and medium boulder content. Sand is coarse. Gravel is subrounded to subangular coarse of limestone. Cobbles are rounded to subrounded of limestone. Boulders are rounded to subrounded of limestone. |
| | | | D 6 | 2.90-3.00 | | | | | |
| 3 | | | B 7 | 3.00-3.40 | | | | | |
| | | | D 8 | 3.40 | | END | 50.26 | 3.40 | TP terminated at 3.40m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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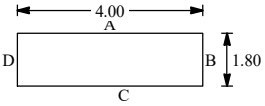
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT: Derryadd Wind Farm** | | **TRIALPIT: TP181** |
| **LOCATION: Derryadd, Co. Longford** | | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** | **Rig: Hyundai 140 LC9** |
| **ENGINEER: Bord na Mona** | **E 209,832.9 N 265,098.3** | **Rev: DRAFT** |
| **Ground level: 52.39m O.D.** | | **DATE: 13.4.21** |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.40m | | |
| 2nd: | 2.60m | 20min | 2.50m |
| 3rd: | | | |

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.80 * 4.00m**
**LOGGED BY: DK**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark brown fibrous PEAT. H3 B2 F2 R3 W3 TV0 TH1 AI. |
| | | | VANE | 0.20 | 33mm vane 16 kN/m² | | | | |
| | | | D 1 | 0.20-0.30 | | | | | |
| | | | B 2 | 0.20-0.50 | | | | | |
| 1 | | | VANE | 1.00 | H70 50 kN/m² Rem 20 kN/m² | | | | |
| | | 1 | | | | | | | |
| | | | B 3 | 1.50-1.90 | | | | | |
| | | | D 4 | 1.90-2.00 | | | | | |
| 2 | | | VANE | 2.00 | H70 30 kN/m² Rem 2 kN/m² | | | | |
| | | 1 2 | | | | | | | |
| 3 | | | | | | | 48.99 | 3.40 | |
| | | | B 5 | 3.40-3.60 | | | | | Soft whitish grey organic SILT with rootlets and many shells. |
| | | | | | | | 48.79 | 3.60 | |
| | | | D 6 | 3.60 | | END | | | TP terminated at 3.60m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.40m bgl. Ingress of water at 2.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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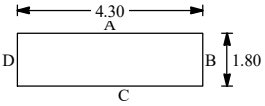
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TP182** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 209,864.8 N 265,195.8 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 52.14m O.D.** | **DATE: 13.4.21** |

**GROUNDWATER**

Water strikes: Rose to after:
1st: 1.00m
2nd:
3rd:

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.80 * 4.30m**
**LOGGED BY: DK**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark blackish brown fibrous PEAT. H2 B2 F2 R3 W3 TV0 TH1 A1. |
| | | | VANE | 0.60 | 33mm vane 10 kN/m² | | | | |
| | | | D 1 | 0.60-0.70 | | | | | |
| | | | B 2 | 0.60-1.00 | | | | | |
| | | | | | | | 51.14 | 1.00 | |
| 1 | | | VANE | 1.00 | H70 100 kN/m² Rem 60 kN/m² | | | | Firm grey silty gravelly very sandy CLAY with high cobble content and high boulder content. Sand is coarse. Gravel is subrounded to subangular fine to coarse of limestone. Cobbles are subrounded to subangular of limestone. Boulders are rounded to subrounded of limestone. |
| | | | B 3 | 1.00-1.30 | | | | | |
| | | | D 4 | 1.30-1.40 | | | | | |
| 2 | | | B 5 | 2.00-2.50 | | | | | |
| | | | D 6 | 2.50 | | | | | |
| 3 | | | | | | | 48.94 | 3.20 | |
| | | | | | | END | | | TP terminated at 3.20m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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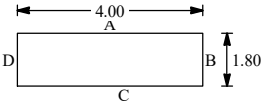
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP183 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,895.9 N 265,289.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 52.46m O.D. | **DATE:** 13.4.21 |

**GROUNDWATER**

Water strikes: 1st: 3.00m Rose to after: 20min 2.98m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 4.00m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit moderately stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft brown fibrous PEAT. H2 B1 F2 R2 W2 TV0 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 15 kN/m² | | | | |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.60 | | | | | |
| 1 | | | VANE | 1.00 | H70 40 kN/m² Rem 8 kN/m² | | | | |
| | | | | | | | 50.96 | 1.50 | |
| | | | B 3 | 1.50-1.70 | | | | | Soft grey silty CLAY with high boulder content. Boulders are angular to subangular of limestone. |
| | | | D 4 | 1.70-1.80 | | | | | |
| 2 | | | | | | | 49.96 | 2.50 | |
| | | | B 5 | 2.50-2.70 | | | | | Firm grey silty gravelly very sandy CLAY with high cobble content and high boulder content. Sand is medium. Gravel is subrounded to subangular coarse of limestone. Cobbles are subrounded to subangular of limestone. Boulders are rounded to subrounded of limestone. |
| | | | D 6 | 2.70-2.80 | | | | | |
| | | | B 7 | 2.70-3.00 | | | | | |
| | | 1 | | | | | 49.46 | 3.00 | |
| 3 | | | | | | END | | | TP terminated at 3.00m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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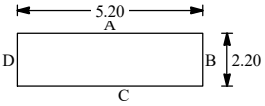
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP184 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,991.8 N 265,291.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 52.56m O.D. | **DATE:** 14.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: 2.00m
2nd: 2.30m
3rd: 2.80m

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 2.20 * 5.20m
**LOGGED BY:** MM




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 52.36 | 0.20 | Very soft black PEAT. |
| | | | VANE<br>D 1<br>B 2 | 0.30<br>0.30-0.40<br>0.30-0.40 | 33mm vane 66 kN/m² | | | | Very soft brown fibrous PEAT.<br>H3 B1 F2 R3 W2 A1. |
| 1 | | | VANE<br>B 3<br>VANE | 1.00<br>1.10-1.30<br>1.20 | H70 70 kN/m²<br>33mm vane 67 kN/m² | | | | |
| | | | D 4<br>B 5 | 1.50-1.60<br>1.60-1.90 | | | | | |
| 2 | | 1<br>2 | D 6<br>VANE | 1.90-2.00<br>2.00 | H70 100 kN/m² | | 50.26 | 2.30 | |
| | | | B 7<br>D 8 | 2.30-2.60<br>2.50-2.60 | | | 49.76 | 2.80 | Soft creamish grey calcareous SILT with high boulder content. Boulders are rounded to subrounded of limestone. Boulders are up to 800mm in length. |
| | | 3 | | | | END | | | TP terminated at 2.80m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.00m bgl. Ingress of water at 2.30m bgl. Ingress of water at 2.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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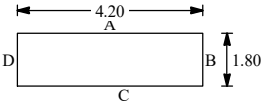
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP185R |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,925.1 N 265,386.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 53.46m O.D. | **DATE:** 13.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 4.20m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit moderately stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft light brown fibrous PEAT. H3 B1 F2 R3 W2 TV0 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 23 kN/m² | | | | |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | | | | | |
| 1 | | | | | | | 52.26 | 1.20 | |
| | | | B 3 | 1.20-1.50 | | | | | Firm grey silty gravelly very sandy CLAY with high cobble content and high boulder content. Sand is medium. Gravel is subrounded to subangular coarse of limestone. Cobbles are rounded to subrounded of limestone. Boulders are rounded to subrounded of limestone. |
| 2 | | | B 4 | 2.00-2.50 | | | | | |
| | | | | | | | 50.96 | 2.50 | |
| | | | | | | END | | | TP terminated at 2.50m bgl. Obstruction. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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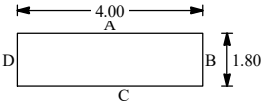
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP186 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,943.4 N 265,482.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 52.26m O.D. | **DATE:** 14.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: 0.90m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 4.00m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit moderately stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 52.16 | 0.10 | Plastic black amorphous PEAT. H8 B1 F0 R0 W0 TV0 TH0 A0. |
| | | | | | | | | | Very soft brown fibrous PEAT. H2 B2 F2 R3 W3 TV0 TH1 A1. |
| | | | VANE | 0.50 | 33mm vane 10 kN/m² | | | | |
| | | | D 1 | 0.50-0.60 | H70 64 kN/m² | | | | |
| | | | B 2 | 0.50-0.80 | Rem 20 kN/m² | | | | |
| | | | VANE | 0.51 | | | 51.46 | 0.80 | |
| | | ▼ | B 3 | 0.90-1.20 | | | | | Soft grey gravelly very sandy CLAY with high cobble content and medium boulder content. Sand is medium. Gravel is subrounded to subangular coarse of limestone. Cobbles are rounded to subrounded of limestone. Boulders are rounded to subrounded of limestone. |
| 1 | | | | | | | | | |
| | | | D 4 | 1.20-1.30 | | | | | |
| 2 | | | B 5 | 2.00-2.30 | | | | | |
| | | | D 6 | 2.30-2.40 | | | | | |
| | | | | | | | 49.76 | 2.50 | |
| | | | | | | END | | | TP terminated at 2.50m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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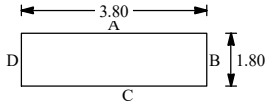
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP187 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,915.2 N 265,578.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 53.23m O.D. | **DATE:** 14.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: 1.10m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 3.80m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit moderately stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft brown fibrous PEAT. H2 B2 F2 R2 W2 TV0 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 14 kN/m² | | | | |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.80 | | | | | |
| | | | D 4 | 0.70 | | | | | |
| 1 | | ▼ | | | | | 52.13 | 1.10 | |
| | | | | | | | | | Soft grey silty gravelly very sandy CLAY with high cobble content and high boulder content. Sand is medium. Gravel is subrounded to subangular coarse of limestone. Cobbles are rounded to subrounded of limestone. Boulders are rounded to subrounded of limestone. |
| | | | B 3 | 1.50-1.70 | | | | | |
| 2 | | | | | | | 51.23 | 2.00 | |
| | | | | | | END | | | TP terminated at 2.00m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.10m bgl. TP backfilled with arisings.

**Scale:** 1:25

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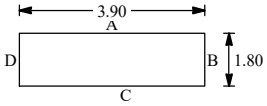
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP188 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,889.6 N 265,676.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 54.02m O.D. | **DATE:** 14.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: 1.00m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 3.90m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit moderately stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft brown fibrous PEAT. H3 B2 F2 R3 W2 TV0 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 16 kN/m² | | | | |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | | | | | |
| | | | | | | | 53.02 | 1.00 | |
| 1 | | | VANE | 1.00 | H70 94 kN/m² Rem 50 kN/m² | | | | Soft yellow sandy silty CLAY with low cobble content. Cobbles are rounded to subrounded of limestone. |
| | | | | | | | 52.82 | 1.20 | |
| | | | | | | | | | Soft grey silty gravelly very sandy CLAY with high cobble content and high boulder content. Sand is medium. Gravel is subrounded to subangular coarse of limestone. Cobbles are rounded to subrounded of limestone. Boulders are angular to subangular of limestone. |
| | | | B 3 | 1.50-1.70 | | | | | |
| | | | D 4 | 1.70-1.80 | | | | | |
| 2 | | | | | | | | | |
| | | | | | | | 51.72 | 2.30 | |
| | | | | | | END | | | TP terminated at 2.30m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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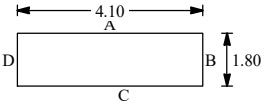
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP189R |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,860.3 N 265,774.2 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 54.07m O.D. | | **DATE:** 14.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: 1.00m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 4.10m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 53.97 | 0.10 | Plastic black amorphous PEAT. H8 B1 F0 R0 W0 TV0 TH1 A0. |
| | | | | | | | | | Very soft brown fibrous PEAT. H2 B2 F2 R3 W3 TV0 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 24 kN/m² | | | | |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.80 | | | | | |
| 1 | | ▼ | VANE | 1.00 | H70 86 kN/m² Rem 42 kN/m² | | 53.07 | 1.00 | Soft grey slightly gravelly very sandy CLAY with high cobble content and high boulder content. Sand is medium. Gravel is subrounded to subangular coarse of limestone. Cobbles are rounded to subrounded of limestone. Boulders are rounded to subrounded of limestone. |
| | | | B 3 | 1.50-1.80 | | | | | |
| | | | D 4 | 1.80-1.90 | | | | | |
| 2 | | | | | | | 51.97 | 2.10 | |
| | | | | | | END | | | TP terminated at 2.10m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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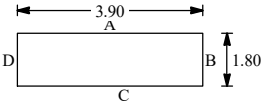
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP190R |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,834.0 N 265,870.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 54.43m O.D. | **DATE:** 15.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: 0.80m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 3.90m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit moderately stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 54.23 | 0.20 | Plastic dark brown amorphous PEAT. H8 B1 F0 R0 W0 TV0 TH0 A0. |
| | | | VANE<br>D 1<br>B 2 | 0.40<br>0.40-0.50<br>0.40-0.70 | 33mm vane 16 kN/m² | | 53.63 | 0.80 | Very soft brown fibrous PEAT. H2 B2 F2 R3 W3 TV1 TH0 A2. |
| 1 | | | B 3<br>D 4 | 1.00-1.50<br>1.50-1.60 | | | | | Soft grey gravelly very silty CLAY with high cobble content and high boulder content. Gravel is subrounded to subangular coarse of limestone. Cobbles are rounded to subrounded of limestone. Boulders are rounded to subrounded of limestone. |
| 2 | | | B 5<br>D 6 | 1.90-2.20<br>2.20 | | END | 52.23 | 2.20 | TP terminated at 2.20m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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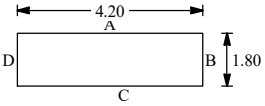
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP191R |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,821.4 N 265,971.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 54.79m O.D. | **DATE:** 15.4.21 |

**GROUNDWATER**

Water strikes: 1st: 2.40m Rose to after: 20min 2.39m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 4.20m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit moderately stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 54.29 | 0.50 | MADE GROUND: Brown peaty CLAY with high cobble content. Cobbles are rounded to subrounded of limestone. |
| | | | B 1 | 0.50-0.80 | | | 53.49 | 1.30 | Very soft brown fibrous PEAT. H2 B1 F1 R2 W3 TV1 TH1 A0. |
| | | | VANE | 0.80 | 33mm vane 16 kN/m² | | | | |
| | | | D 2 | 0.80-0.90 | | | | | |
| 1 | | | | | | | | | |
| | | | B 3 | 1.50-1.90 | | | 52.39 | 2.40 | Soft grey silty gravelly very sandy CLAY with high cobble content and high boulder content. Sand is medium. Gravel is subrounded to subangular coarse of limestone. Cobbles are rounded to subrounded of limestone. Boulders are rounded to subrounded of limestone. |
| | | | D 4 | 1.90-2.00 | | | | | |
| 2 | | | B 5 | 2.00-2.40 | | | | | |
| | | 1.1 | D 6 | 2.40 | | END | | | TP terminated at 2.40m bgl. Obstruction. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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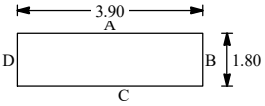
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP192R |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,811.0 N 266,069.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 53.95m O.D. | **DATE:** 15.4.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.80m | | |
| 2nd: | 2.90m | 20min | 2.80m |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 3.90m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 53.65 | 0.30 | MADE GROUND: Firm brown gravelly peaty CLAY with plastic. Gravel is subrounded to rounded of limestone. |
| | | | VANE | 0.40 | 33mm vane 21 kN/m² | | | | Very soft dark brown fibrous PEAT. H3 B1 F2 R3 W3 TV0 TH1 A0. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | | | | | |
| 1 | | | VANE | 1.00 | H70 44 kN/m² Rem 16 kN/m² | | | | |
| | | | B 3 | 1.50-1.80 | | | | | |
| | | 1 | VANE | 1.70 | H70 84 kN/m² Rem 46 kN/m² | | 52.15 | 1.80 | |
| | | | D 4 | 1.80-1.90 | | | | | Soft grey silty gravelly very sandy CLAY with high cobble content and high boulder content. Sand is medium. Gravel is subrounded to subangular coarse of limestone. Cobbles are rounded to subrounded of limestone. Boulders are rounded to subrounded of limestone. |
| 2 | | | | | | | | | |
| | | | B 5 | 2.50-2.90 | | | | | |
| | | 1 2 | | | | | 51.05 | 2.90 | |
| | | | D 6 | 2.90 | | END | | | TP terminated at 2.90m bgl. Obstruction. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.80m bgl. Ingress of water at 2.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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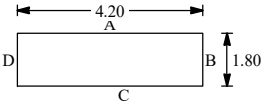
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP193R |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,792.7 N 266,165.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 53.67m O.D. | **DATE:** 16.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 4.20m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit moderately stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 53.47 | 0.20 | MADE GROUND: Dark brown peaty CLAY with fragments of plastic. |
| | | | VANE<br>D 1<br>B 2 | 0.60<br>0.60-0.70<br>0.60-0.90 | 33mm vane 21 kN/m² | | 52.67 | 1.00 | Very soft brown fibrous PEAT.<br>H2 B1 F2 R2 W0 TV0 TH1 A0. |
| 1 | | | B 3<br>D 4 | 1.40-1.70<br>1.70-1.80 | | | 51.57 | 2.10 | Soft light brown gravelly very sandy CLAY with medium cobble content. Sand is medium. Gravel is subrounded to subangular coarse of limestone. Cobbles are rounded to subrounded of limestone. |
| 2 | | | | | | END | | | TP terminated at 2.10m bgl. Obstruction. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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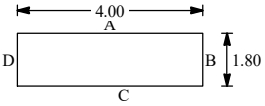
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP194R |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,777.8 N 266,263.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 53.78m O.D. | **DATE:** 16.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 4.00m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit moderately stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 53.58 | 0.20 | MADE GROUND: Dark brown peaty sandy gravelly CLAY with fragments of plastic. |
| | | | VANE<br>D 1<br>B 2 | 0.40<br>0.40-0.50<br>0.40-0.60 | 33mm vane 24 kN/m² | | 53.08 | 0.70 | Plastic dark brown amorphous PEAT.<br>H8 B1 F1 R0 W0 TV0 TH0 A0. |
| 1 | | | VANE<br>B 3<br>D 4 | 1.00<br>1.00-1.30<br>1.30-1.40 | H70 30 kN/m² Rem 6 kN/m² | | 51.18 | 2.60 | Very soft brown fibrous PEAT.<br>H2 B2 F2 R2 W2 TV0 TH1 A0. |
| 2 | | | VANE | 2.00 | H70 24 kN/m² Rem 2 kN/m² | | | | |
| | | | | | | END | | | TP terminated at 2.60m bgl. Unable to progress TP due to limited area to stockpile excavated material. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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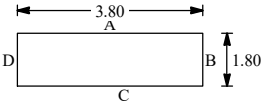
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP195R |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,762.1 N 266,363.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 53.74m O.D. | **DATE:** 16.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 3.80m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit moderately stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | MADE GROUND: Brown sandy peaty CLAY with high cobble content and fragments of plastic. Cobbles are rounded to subrounded of limestone. |
| | | | | | | | 53.04 | 0.70 | |
| | | | D 1 | 0.70-0.80 | | | | | Plastic dark brown amorphous PEAT. H8 B1 F0 R0 W0 TV1 TH0 A0. |
| 1 | | | | | | | 52.64 | 1.10 | |
| | | | B 2 | 1.10-1.40 | | | | | Soft brown mottled grey gravelly very sandy CLAY with high cobble content and high boulder content. Sand is medium. Gravel is subrounded to subangular coarse of limestone. Cobbles are rounded to subrounded of limestone. Boulders are rounded to subrounded of limestone. |
| | | | B 3 | 1.40-1.50 | | | | | |
| 2 | | | D 4 | 2.00-2.30 | | | | | |
| | | | B 5 | 2.30-2.40 | | | | | |
| | | | | | | | 51.24 | 2.50 | |
| | | | | | | END | | | TP terminated at 2.50m bgl. Obstruction. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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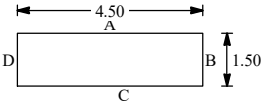
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP196R |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,746.1 N 266,460.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 53.63m O.D. | **DATE:** 19.4.21 |

**GROUNDWATER**

Water strikes: 1st: 3.80m Rose to after: 20min 3.78m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 53.13 | 0.50 | MADE GROUND: Grass saplings and briars over brown gravelly peaty silty CLAY with medium cobble content and some fragments of plastic. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. |
| | | | D 1<br>B 2<br>VANE | 0.80-0.90<br>0.80-1.10<br>0.90 | 33mm vane 24 kN/m² | | 52.73 | 0.90 | Very soft dark orangish brown clayey fibrous PEAT.<br>H3 B1 F3 R2 W2 TV2 TH2 A1. |
| 1 | | | B 3<br>D 4 | 1.20-1.50<br>1.50-1.60 | | | 51.23 | 2.40 | Very soft orangish brown clayey fibrous PEAT.<br>H2 B2 F2 R2 W2 TV1 TH1 A2. |
| 2 | | | B 5<br>D 6 | 2.40-2.70<br>2.70-2.80 | | | 50.33 | 3.30 | Soft damp brownish grey organic gravelly silty CLAY with medium cobble content and low boulder content with some wood material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length.<br>Organic odour. |
| 3 | | 1.1 | B 7<br>D 8 | 3.50-3.80<br>3.80 | | END | 49.83 | 3.80 | Soft moist grey clayey gravelly SILT with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length.<br>TP terminated at 3.80m bgl. Obstruction. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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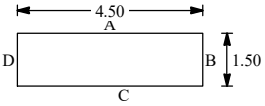
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP197R |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,729.0 N 266,558.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 52.20m O.D. | **DATE:** 19.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.90m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 51.80 | 0.40 | MADE GROUND: Grass over firm brown gravelly peaty silty CLAY with low cobble content and some roots and rootlets. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Probable former trackway. |
| | | | VANE<br>D 1<br>B 2 | 0.70<br>0.70-0.80<br>0.70-1.00 | 33mm vane 28 kN/m² | | 51.20 | 1.00 | Spongy dark brown clayey pseudo fibrous PEAT. H4 B1 F2 R1 W2 TV2 TH2 A1. |
| 1 | | | | | | | 50.30 | 1.90 | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 TV1 TH1 A2. |
| 2 | | | B 3<br>D 4 | 2.10-2.40<br>2.40-2.50 | | | 49.60 | 2.60 | Soft moist bluish grey very gravelly organic silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 1200mm in length. |
| 3 | | | B 5<br>D 6 | 2.90-3.20<br>3.20 | | END | 49.00 | 3.20 | Soft moist grey slightly sandy clayey very gravelly SILT with medium cobble content and medium boulder content. Sand is fine to medium. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| 4 | | | | | | | | | TP terminated at 3.20m bgl. Obstruction as possible rock. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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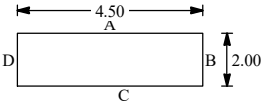
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP198 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,699.8 N 266,658.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 50.53m O.D. | **DATE:** 19.4.21 |

**GROUNDWATER**

Water strikes: 1st: 0.40m Rose to after: 20min 0.30m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 2.00 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1 | | | | | 50.13 | 0.40 | Grass saplings and briars over spongy dark brownish black pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | D 1<br>B 2 | 0.40-0.50<br>0.40-0.70 | | | 49.73 | 0.80 | Very soft moist grey organic gravelly silty CLAY with medium cobble content and medium boulder content and some wood. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. Organic odour. |
| 1 | | | D 3 | 1.10-1.40 | | | 49.13 | 1.40 | Soft damp grey clayey very gravelly SILT with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 4 | 1.40 | | END | | | TP terminated at 1.40m bgl. Obstruction as possible rock. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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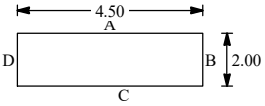
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP199 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,634.5 N 266,736.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 51.13m O.D. | **DATE:** 19.4.21 |

**GROUNDWATER**

Water strikes: 1st: 2.40m Rose to after: 20min 2.35m
2nd:
3rd:

**PIT DIRECTION:** 270-090
**PIT DIMENSION:** 2.00 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A2. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | VANE | 0.50 | 33mm vane 18 kN/m² | | | | |
| 1 | | | | | | | 49.93 | 1.20 | |
| | | | B 3 | 1.30-1.60 | | | | | Soft damp bluish grey organic silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 500mm in length. |
| | | | D 4 | 1.60-1.70 | | | 49.43 | 1.70 | |
| | | | B 5 | 1.70-2.00 | | | | | Firm damp grey slightly sandy clayey very gravelly SILT with medium cobble content and medium boulder content. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 550mm in length. |
| 2 | | 1 | | | | | 48.73 | 2.40 | |
| | | | | | | END | | | TP terminated at 2.40m bgl. Obstruction as probable rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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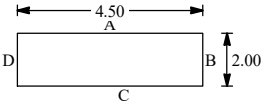
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP200 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,548.3 N 266,787.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 51.04m O.D. | **DATE:** 19.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 2.00 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | | | | | 50.84 | 0.20 | Plastic dark orangish brown amorphous PEAT. H8 B1 F1 R0 W2 TV1 TH1 A0. |
| | | | | | | END | | | TP terminated at 0.20m bgl. TP terminated due to possible archaeological feature. |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP terminated due to possible archaeological feature.

**Scale:** 1:25

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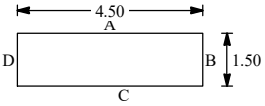
| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TP206** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 206,279.5 N 264,946.5 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 43.39m O.D.** | **DATE: 25.3.21** |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 3.70m to 4.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.60<br>0.40 | 33mm vane 12 kN/m² | | 42.59 | 0.80 | Very soft orangish brown fibrous PEAT.<br>H3 B2 F2 R1 W2 TV1 TH1 A1. |
| 1 | | | VANE<br>B 3<br>D 4 | 1.00<br>1.20-1.50<br>1.50-1.60 | H70 vane 30 kN/m² Rem 6 kN/m² | | 40.69 | 2.70 | Spongy dark brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W2 TV1 TH1 A1. |
| 2 | | | VANE<br>VANE | 2.00<br>2.50 | H70 vane 48 kN/m² Rem 20 kN/m²<br>H70 vane 90 kN/m² Rem 40 kN/m² | | 39.49 | 3.90 | |
| 3 | | | B 5<br>D 6 | 2.70-3.00<br>3.00-3.10 | | | 38.89 | 4.50 | Firm moist grey slightly sandy organic silty very gravelly CLAY with medium cobble content and medium boulder content and some plant material. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 4 | | | B 7 | 4.00-4.30 | | | END | | Damp light grey sandy silty subangular to subrounded fine to coarse limestone GRAVEL with low cobble content. Sand is fine to coarse. Cobbles are subrounded to rounded of quartz calcite and limestone. |
| 5 | | | | | | | | | TP terminated at 4.50m bgl on REs instruction. |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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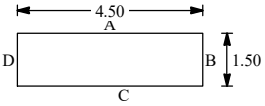
| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TP207** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 206,265.5 N 265,046.4 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 42.50m O.D.** | **DATE: 24.3.21** |

**GROUNDWATER**

Water strikes: 1st: 1.90m Rose to after: 20min 1.80m
2nd:
3rd:

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.20-0.30<br>0.20-0.50<br>0.30 | 33mm vane 14 kN/m² | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R2 W2 TV1 TH1 A1. |
| 1 | | 1 | VANE | 1.00 | H70 vane 22 kN/m² Rem 4 kN/m² | | 40.60 | 1.90 | |
| 2 | | | VANE | 2.00 | H70 vane 80 kN/m² Rem 10 kN/m² | | 40.30 | 2.20 | Moist dark grey silty gravelly subangular to subrounded limestone BOULDERS with high cobble content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are up to 700mm in length. |
| | | | B 3<br>D 4 | 2.20-2.40<br>2.40-2.50 | | | 39.90 | 2.60 | Soft moist dark grey gravelly silty CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. |
| 3 | | | B 5<br>D 6<br>B 7 | 2.60-2.90<br>2.90-3.00<br>3.50-3.80 | | | 38.70 | 3.80 | Soft moist light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| | | | D 8 | 3.80 | | END | | | TP terminated at 3.80m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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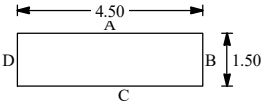
| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP209 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,203.1 N 265,231.8 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 43.76m O.D. | | **DATE:** 24.3.21 |

**GROUNDWATER**

Water strikes: 1st: 3.30m Rose to after: 20min 3.05m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H5 B1 F2 R1 W1 TV1 TH1 A1. |
| | | | VANE | 0.30 | 33mm vane 25 kN/m² | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.50 | | | | | |
| | | | | | | | 42.86 | 0.90 | |
| | | | B 3 | 0.90-1.20 | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F3 R2 W2 TV1 TH1 A1. |
| 1 | | | VANE | 1.00 | H70 vane 62 kN/m² Rem 10 kN/m² | | | | |
| | | | D 4 | 1.20-1.30 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 64 kN/m² Rem 20 kN/m² | | | | |
| | | | | | | | 41.26 | 2.50 | |
| | | | B 5 | 2.50-2.80 | | | | | Spongy dark brown pseudo fibrous PEAT. H5 B2 F2 R2 W1 TV1 TH1 A1. |
| | | | D 6 | 2.80-2.90 | | | | | |
| 3 | | 1 | VANE | 3.00 | H70 vane 84 kN/m² Rem 30 kN/m² | | | | |
| | | 1 | | | | | 40.46 | 3.30 | |
| | | | B 7 | 3.30-3.60 | | | | | Firm damp light grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | | 40.16 | 3.60 | |
| | | | D 8 | 3.60 | | END | | | TP terminated at 3.60m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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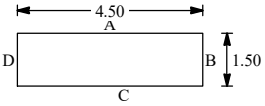
| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP210 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,182.6 N 265,333.7 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 42.11m O.D. | | **DATE:** 15.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.40-0.50<br>0.40-0.60<br>0.50 | 33mm vane 15 kN/m² | | 41.11 | 1.00 | Spongy dark orangish brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W2 TV1 TH1 A1. |
| 1 | | | VANE<br>B 3<br>D 4<br>VANE | 1.00<br>1.00-1.30<br>1.30-1.40<br>1.50 | H70 vane 20 kN/m² Rem 6 kN/m²<br>H70 vane 70 kN/m² Rem 36 kN/m² | | 40.51 | 1.60 | Very soft moist bluish grey slightly sandy organic silty CLAY with some plant material.<br>Sand is fine.<br>Organic odour. |
| 2<br>3 | | | B 5<br>D 6 | 2.60-2.90<br>2.90-3.00 | | | 38.21 | 3.90 | Very soft moist light grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 4 | | | B 7<br>D 8 | 3.90-4.20<br>4.20 | | END | 37.91 | 4.20 | Stiff damp light grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length.<br>TP terminated at 4.20m bgl. Obstruction as boulders. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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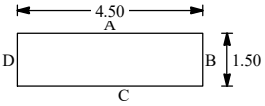
| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP211 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,159.1 N 265,430.1 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 41.58m O.D. | | **DATE:** 15.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 3.10m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.50<br>0.40 | 33mm vane 8 kN/m² | | 40.98 | 0.60 | Spongy dark orangish brown pseudo fibrous PEAT.<br>H5 B2 F2 R2 W2 TV1 TH1 A1. |
| 1 | | | D 3<br>B 4 | 0.70-0.80<br>0.70-0.90 | | | 40.18 | 1.40 | Very soft moist grey organic silty CLAY/PEAT with some plant material.<br>Organic odour. |
| 2 | | | B 5<br>D 6 | 1.50-1.70<br>1.70 | | | 38.48 | 3.10 | Firm damp light grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| 3 | | | | | | | 37.68 | 3.90 | Firm damp light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| 4 | | | | | | END | | | TP terminated at 3.90m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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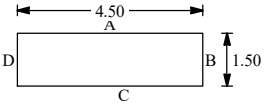
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP212 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,140.7 N 265,527.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.23m O.D. | **DATE:** 15.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.50 | 33mm vane 11 kN/m² | | | | |
| | | | VANE | 0.40 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 54 kN/m² Rem 8 kN/m² | | 40.03 | 1.20 | |
| | | | B 3 | 1.30-1.40 | | | | | Soft damp grey gravelly silty organic CLAY with low cobble content and low boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| | | | D 4 | 1.30-1.50 | | | | | |
| 2 | | | | | | | 39.13 | 2.10 | |
| | | | | | | | | | soft moist grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 1300mm in length. |
| 3 | | | B 5 | 3.40-3.70 | | | | | |
| | | | D 6 | 3.70-3.80 | | | 37.43 | 3.80 | |
| | | | | | | END | | | TP terminated at 3.80m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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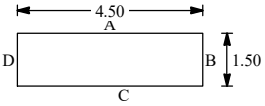
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP213 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,126.5 N 265,627.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.28m O.D. | **DATE:** 16.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.40-0.50<br>0.40-0.70<br>0.50 | 33mm vane 8 kN/m² | | 40.38 | 0.90 | Spongy dark orangish brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W1 TV1 TH1 A2. |
| 1 | | | B 3<br>D 4 | 0.90-1.20<br>1.20-1.30 | | | 39.68 | 1.60 | Very soft moist grey organic SILT with some plant material.<br>Organic odour. |
| 2 | | | B 5<br>D 6 | 1.80-2.10<br>2.10-2.20 | | | 37.58 | 3.70 | Firm damp grey slightly gravelly slightly sandy silty CLAY with medium cobble content and low boulder content. Gravel is angular to rounded fine to coarse of limestone. Cobbles are angular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 800mm in length.<br>3.40m: with medium boulder content. |
| 3 | | | | | | END | | | TP terminated at 3.70m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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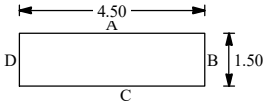
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP214 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,104.7 N 265,724.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.68m O.D. | **DATE:** 16.3.21 |

**GROUNDWATER**

Water strikes: 1st: 0.90m Rose to after: 20min 0.88m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.70m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE<br>D 1<br>B 2 | 0.30<br>0.30-0.40<br>0.30-0.60 | 33mm vane 13 kN/m² | | 40.78 | 0.90 | Spongy dark orangish brown pseudo fibrous PEAT.<br>H4 B2 F2 R2 W2 TV1 TH1 A1. |
| | | 1.1 | B 3<br>D 4 | 0.90-1.20<br>1.20-1.30 | | | 39.98 | 1.70 | Soft moist grey organic silty very gravelly CLAY with medium cobble content and low boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 400mm in length. |
| 1 | | | | | | | 38.18 | 3.50 | Soft moist light grey slightly sandy gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| 2 | | | B 5<br>D 6 | 2.70-3.00<br>3.00-3.10 | | | | | |
| 3 | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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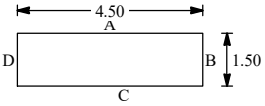
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP215 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,086.5 N 265,824.2 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 41.36m O.D. | | **DATE:** 16.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.30m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H4 B2 F2 R2 W2 TV1 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 12 kN/m² | | | | |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | | | | | |
| 1 | | | | | | | 40.06 | 1.30 | |
| | | | B 3 | 1.30-1.60 | | | | | Very soft damp grey organic silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 4 | 1.60-1.70 | | | | | |
| 2 | | | | | | | 39.06 | 2.30 | |
| | | | | | | | | | Firm damp light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| 3 | | | B 5 | 3.00-3.30 | | | | | |
| | | | D 6 | 3.30-3.40 | | | | | |
| | | | B 7 | 3.80-4.10 | | | | | |
| 4 | | | | | | | 37.26 | 4.10 | |
| | | | D 8 | 4.10 | | END | | | TP terminated at 4.10m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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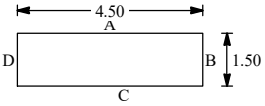
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP216 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,063.3 N 265,921.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.18m O.D. | **DATE:** 16.3.21 |

**GROUNDWATER**

Water strikes: 1st: 4.00m Rose to after: 20min 3.10m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | VANE | 0.30 | 33mm vane 13 kN/m² | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| 1 | | | | | | | 39.68 | 1.50 | |
| | | | B 3 | 1.50-1.80 | | | | | Very soft damp grey organic gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 1000mm in length. |
| | | | D 4 | 1.80-1.90 | | | | | |
| 2 | | | | | | | 38.58 | 2.60 | |
| | | | B 5 | 2.70-3.00 | | | | | Moist light grey slightly sandy clayey silty subangular to rounded fine to coarse limestone GRAVEL with high cobble content and medium boulder content. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| 3 | | 1 | D 6 | 3.00-3.10 | | | | | |
| 4 | | | | | | | 36.98 | 4.20 | |
| | | | | | | END | | | TP terminated at 4.20m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 4.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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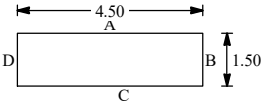
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP217 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,045.6 N 266,019.8 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 40.91m O.D. | | **DATE:** 16.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.70m Rose to after: 20min 1.60m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R2 W2 TV1 TH1 A1. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | | | | | |
| | | | VANE | 0.50 | 33mm vane 8 kN/m² | | | | |
| 1 | | | | | | | 39.61 | 1.30 | |
| | | | B 3 | 1.30-1.60 | | | | | Very soft damp grey slightly gravelly organic laminated silty CLAY with some plant material. Gravel is subrounded coarse of limestone. Organic odour. |
| | | 1 | D 4 | 1.60-1.70 | | | | | |
| 2 | | | | | | | 38.51 | 2.40 | |
| | | | | | | | | | Firm damp light grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 5 | 2.80-3.10 | | | | | |
| 3 | | | | | | | 37.51 | 3.40 | |
| | | | | | | END | | | TP terminated at 3.40m bgl. Unable to progress TP due to ingress of water. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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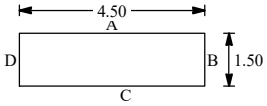
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT: Derryadd Wind Farm** | | **TRIALPIT: TP218** |
| **LOCATION: Derryadd, Co. Longford** | | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** | **Rig: Hyundai 140 LC9** |
| **ENGINEER: Bord na Mona** | **E 206,021.5 N 266,116.1** | **Rev: DRAFT** |
| **Ground level: 40.45m O.D.** | | **DATE: 12.3.21** |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.00m | 20min | 0.98m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable from 2.20m bgl.
Sidewall collapse from 3.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W1 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | 33mm vane 9 kN/m² | | | | |
| | | | VANE | 0.40 | | | | | |
| 1 | | 1 | VANE | 1.00 | H70 vane 52 kN/m² Rem 8 kN/m² | | 39.05 | 1.40 | |
| | | | B 3 | 1.40-1.70 | | | | | Soft damp grey organic laminated silty CLAY with some plant material. Organic odour. |
| | | | D 4 | 1.70-1.80 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 30 kN/m² Rem 2 kN/m² | | 38.25 | 2.20 | |
| | | | | | | | | | Very soft moist grey organic silty CLAY. |
| | | | B 5 | 2.50-3.00 | | | | | |
| 3 | | | VANE | 3.00 | H70 vane 64 kN/m² Rem 2 kN/m² | | | | |
| | | | D 6 | 3.00-3.10 | | | 36.85 | 3.60 | |
| | | | | | | | | | Soft moist light grey slightly sandy clayey very gravelly SILT with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | B 7 | 3.80-4.10 | | | | | |
| 4 | | | | | | | 36.35 | 4.10 | |
| | | | D 8 | 4.10 | | **END** | | | TP terminated at 4.10m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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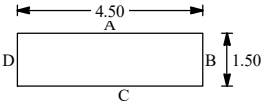
| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP218R |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,318.6 N 266,148.9 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 43.06m O.D. | | **DATE:** 17.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.60<br>0.40 | 33mm vane 11 kN/m² | | 41.86 | 1.20 | |
| 1 | | | B 3<br>D 4 | 1.20-1.50<br>1.50-1.60 | | | 41.26 | 1.80 | Soft damp grey organic gravelly silty CLAY with low cobble content and low boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 2 | | | B 5<br>D 6 | 2.20-2.50<br>2.50-2.60 | | | 39.76 | 3.30 | Soft moist grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | B 7<br>D 8 | 3.60-3.90<br>3.90 | | END | 39.16 | 3.90 | Firm damp grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| 4 | | | | | | | | | TP terminated at 3.90m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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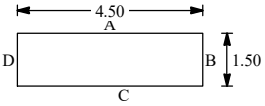
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP219 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,923.4 N 266,139.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.00m O.D. | **DATE:** 12.3.21 |

**GROUNDWATER**

Water strikes: 1st: 0.90m Rose to after: 20min 0.89m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 3.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W2 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | VANE | 0.40 | 33mm vane 13 kN/m² | | | | |
| | | 1.1 | | | | | | | |
| 1 | | | | | | | | | |
| | | | | | | | 39.30 | 1.70 | |
| | | | B 3 | 1.70-2.00 | | | | | Soft damp grey organic gravelly silty CLAY with low cobble content and low boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 2 | | | D 4 | 2.00-2.10 | | | | | |
| | | | | | | | 38.00 | 3.00 | |
| 3 | | | B 5 | 3.00-3.30 | | | | | Damp light grey sandy clayey silty subangular to subrounded fine to coarse limestone GRAVEL with medium cobble content and low boulder content. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| | | | | | | | 37.30 | 3.70 | |
| | | | D 6 | 3.70-4.00 | | | | | Stiff light grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| | | | | | | | 37.00 | 4.00 | |
| 4 | | | B 7 | 4.00 | | END | | | TP terminated at 4.00m bgl. Obstruction as boulders. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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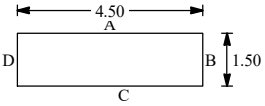
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP220 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,826.9 N 266,137.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.79m O.D. | **DATE:** 15.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W2 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.50 | 33mm vane 13 kN/m² | | | | |
| | | | VANE | 0.40 | | | | | |
| 1 | | | | | H70 vane 18 kN/m² Rem 4 kN/m² | | 41.39 | 1.40 | |
| | | | B 3 | 1.40-1.70 | H70 vane 64 kN/m² Rem 20 kN/m² | | | | Soft moist grey very gravelly organic silty CLAY with medium cobble content and medium boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 4 | 1.70-1.80 | | | | | |
| 2 | | | | | | | 40.59 | 2.20 | |
| | | | | | | | | | Firm damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | B 5 | 2.80-3.10 | | | | | |
| 3 | | | D 6 | 3.10-3.20 | | | | | |
| | | | | | | | 39.19 | 3.60 | |
| | | | B 7 | 3.70-4.00 | | | | | Stiff damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 600mm in length. |
| 4 | | | D 8 | 4.00 | | END | 38.79 | 4.00 | TP terminated at 4.00m bgl. Obstruction as boulders. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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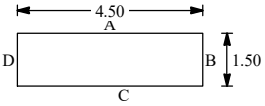
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP221 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,772.5 N 266,142.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.86m O.D. | **DATE:** 15.3.21 |

**GROUNDWATER**

Water strikes: 1st: 3.00m Rose to after: 20min 2.99m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.90m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.50<br>0.40 | 33mm vane 12 kN/m² | | 41.96 | 0.90 | Very soft dark orangish brown fibrous PEAT.<br>H3 B2 F3 R2 W2 TV1 TH1 A1. |
| 1 | | | B 3<br>D 4 | 0.90-1.20<br>1.20-1.30 | | | 39.76 | 3.10 | Soft moist grey organic slightly sandy slightly gravelly SILT with low cobble content and low boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 600mm in length. |
| 2 | | | | | | | 39.06 | 3.80 | Stiff grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 3 | | 1.1 | B 5<br>D 6 | 3.50-3.80<br>3.80 | | END | | | TP terminated at 3.80m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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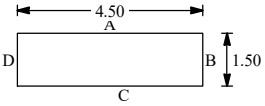
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP222 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,117.7 N 266,143.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.83m O.D. | **DATE:** 16.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R2 W2 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | VANE | 0.40 | 33mm vane 8 kN/m² | | | | |
| 1 | | | | | | | 39.13 | 1.70 | |
| | | | B 3 | 1.70-2.00 | | | | | Soft damp grey organic laminated silty CLAY with some plant material. Organic odour. |
| 2 | | | D 4 | 2.00-2.10 | | | 38.23 | 2.60 | |
| | | | | | | | | | Very soft moist grey organic silty CLAY. Organic odour. |
| | | | B 5 | 2.90-3.20 | | | | | |
| 3 | | | D 6 | 3.20-3.30 | | | 37.23 | 3.60 | |
| | | | B 7 | 3.60-3.90 | | | | | Very soft moist light grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 4 | | | | | | END | 36.83 | 4.00 | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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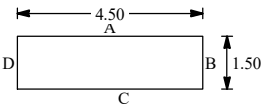
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP223 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,219.9 N 266,147.5 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 40.90m O.D. | | **DATE:** 17.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.10m Rose to after: 20min 1.09m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | VANE | 0.30 | 33mm vane 11 kN/m² | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| 1 | | 1.1 | | | | | 39.80 | 1.10 | |
| | | | B 3 | 1.10-1.40 | | | | | Damp orangish grey slightly sandy clayey silty subangular to rounded fine to coarse limestone and sandstone GRAVEL with medium cobble content and medium boulder content. Sand is coarse. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 350mm in length. |
| | | | D 4 | 1.40-1.50 | | | 39.50 | 1.40 | Firm damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| 2 | | | | | | | | | |
| | | | B 5 | 2.20-2.50 | | | | | |
| | | | D 6 | 2.50-2.60 | | | 38.30 | 2.60 | |
| | | | B 7 | 2.70-3.00 | | | | | Stiff grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| 3 | | | D 8 | 3.00 | | END | 37.90 | 3.00 | TP terminated at 3.00m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.10m bgl. TP backfilled with arisings.

**Scale:** 1:25

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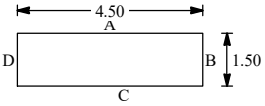
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP224 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,261.3 N 266,056.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.28m O.D. | **DATE:** 17.3.21 |

**GROUNDWATER**

Water strikes: 1st: dry 2nd: 3rd: Rose to after:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.50 | | | | | |
| | | | VANE | 0.40 | 33mm vane 6 kN/m² | | 40.78 | 0.50 | |
| | | | B 3 | 0.50-0.80 | | | | | Firm damp grey slightly sandy gravelly silty CLAY with medium cobble content and medium boulder content. Sand is fine. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | B 4 | 0.80-0.90 | | | 40.28 | 1.00 | |
| 1 | | | | | | | | | Firm moist light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 5 | 1.90-2.20 | | | | | |
| 2 | | | D 6 | 2.20-2.30 | | | | | |
| | | | | | | | 38.68 | 2.60 | |
| | | | B 7 | 2.60-2.90 | | | | | Stiff grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | | 38.38 | 2.90 | |
| | | | D 8 | 2.90 | | END | | | TP terminated at 2.90m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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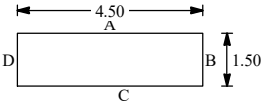
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP225 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,421.1 N 266,155.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.11m O.D. | **DATE:** 17.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: 3.30m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.50<br>0.40 | 33mm vane 12 kN/m² | | 43.21 | 0.90 | Very soft orangish brown fibrous PEAT.<br>H1 B3 F3 R2 W1 TV1 TH1 A1. |
| 1 | | | B 3 | 1.30-1.50 | | | 41.81 | 2.30 | Spongy dark orangish brown pseudo fibrous PEAT.<br>H4 B2 F2 R1 W2 TV1 TH1 A2. |
| 2 | | | B 4 | 2.30-2.60 | | | 41.21 | 2.90 | Soft moist bluish grey organic gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | 1 | | | | | 40.81 | 3.30 | Moist grey silty clayey subangular to rounded fine to coarse limestone GRAVEL with high cobble content and medium boulder content. Cobbles are subangular to subrounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 400mm in length. |
| 4 | | | | | | END | | | TP terminated at 3.30m bgl. Obstruction as possible rock. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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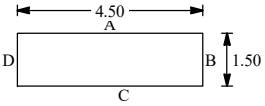
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP226 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,521.2 N 266,153.0 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 45.48m O.D. | | **DATE:** 17.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.40m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE | 0.30 | 33mm vane 10 kN/m² | | 45.08 | 0.40 | Grass and saplings over spongy dark brown clayey pseudo fibrous PEAT. H5 F2 R0 W1 TV1 TH1 A1. |
| | | | D 1<br>B 2 | 0.40-0.50<br>0.40-0.70 | | | 44.48 | 1.00 | Soft damp grey organic slightly gravelly sandy SILT with low cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 1 | | | B 3 | 1.50-1.80 | | | 42.98 | 2.50 | Soft moist light grey slightly sandy silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 2 | | | D 4 | 2.60-2.80 | | | 42.48 | 3.00 | Stiff damp dark grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | | | | END | | | TP terminated at 3.00m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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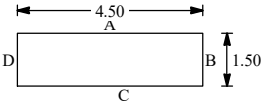
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP227 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,615.1 N 266,151.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 48.03m O.D. | **DATE:** 18.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.10m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | B 1 | 0.20-0.50 | | | | | Moss and saplings over very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W2 TV1 TH1 A1. |
| | | | VANE | 0.50 | 33mm vane 20 kN/m² | | | | |
| | | | D 2 | 0.50-0.60 | | | | | |
| 1 | | | | | | | 46.63 | 1.40 | |
| | | | B 3 | 1.40-1.70 | | | | | Very soft damp grey organic slightly sandy slightly gravelly silty CLAY with low cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 2 | | | | | | | 45.93 | 2.10 | |
| | | | B 4 | 2.50-2.80 | | | | | Very soft moist light grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | | | | | 44.93 | 3.10 | |
| | | | | | | END | | | TP terminated at 3.10m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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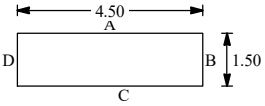
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP229 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,806.0 N 266,161.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 48.93m O.D. | **DATE:** 18.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 135-315
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 48.68 | 0.25 | Moss over soft dark brown peaty CLAY with many rootlets. |
| | | | D 1<br>B 2 | 0.30-0.40<br>0.30-0.50 | | | 48.03 | 0.90 | Soft damp dark grey organic gravelly silty CLAY with low cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 1 | | | B 3<br>D 4 | 1.20-1.50<br>1.50-1.60 | | | 46.53 | 2.40 | Soft damp light orangish greyish brown slightly gravelly sandy CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 600mm in length.<br>1.80m: with medium boulder content. Boulders are up to 800mm in length. |
| 2 | | | B 5<br>D 6 | 2.10-2.40<br>2.40 | | END | | | TP terminated at 2.40m bgl. Obstruction as possible rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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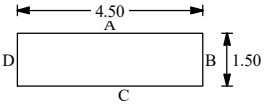
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP231 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,021.1 N 266,187.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.50m O.D. | **DATE:** 22.3.21 |

**GROUNDWATER**

Water strikes: 1st: 0.10m Rose to after: 20min 0.99m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1 | | | | | 44.40 | 0.10 | Grass and rushes over spongy dark brownish black pseudo fibrous PEAT. H5 B3 F1 R1 W1 TV1 TH1 A1. |
| | | | CBR | 0.20 | 33mm vane 29 kN/m² | | | | Firm damp grey slightly gravelly organic silty CLAY with some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Organic odour. |
| | | | VANE | 0.30 | | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.50 | | | 44.00 | 0.50 | |
| | | | B 3 | 0.60-0.90 | | | | | Moist light grey clayey silty subangular to subrounded fine to coarse limestone GRAVEL with medium cobble content and low boulder content. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 500mm in length. |
| 1 | | 1 | | | | | | | |
| | | | | | | | | | 1.50m: with medium boulder content. |
| | | | | | | | 42.70 | 1.80 | |
| | | | | | | END | | | TP terminated at 1.80m bgl. Obstruction as boulders. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.10m bgl. TP backfilled with arisings.

**Scale:** 1:25

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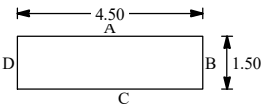
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP233 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,995.5 N 266,374.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.60m O.D. | **DATE:** 22.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.20m | 20min | 1.18m |
| 2nd: | 2.20m | 20min | 1.80m |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | VANE | 0.30 | 33mm vane 13 kN/m² | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.50 | | | | | |
| 1 | | 1 | VANE | 1.00 | H70 vane 20 kN/m² Rem 10 kN/m² | | 42.40 | 1.20 | |
| | | | B 3 | 1.20-1.50 | | | | | Very soft moist bluish grey silty CLAY with some plant material. Organic odour. |
| | | | VANE | 1.50 | H70 vane 62 kN/m² Rem 20 kN/m² | | | | |
| | | | D 4 | 1.50-1.60 | | | | | |
| | | 2 | | | | | 41.60 | 2.00 | |
| 2 | | | B 5 | 2.00-2.20 | | | | | Moist light grey slightly silty slightly clayey angular to subrounded fine to coarse limestone GRAVEL with high cobble content and medium boulder content. Cobbles are subangular to subrounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 450mm in length. |
| | | 2 | | | | END | 41.40 | 2.20 | TP terminated at 2.20m bgl. Obstruction as probable rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.20m bgl. Ingress of water at 2.20m bgl. TP backfilled with arisings.

**Scale:** 1:25

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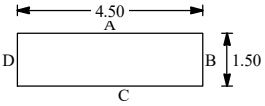
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP234 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,954.1 N 266,464.5 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 43.49m O.D. | | **DATE:** 22.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.50m Rose to after: 20min 1.80m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | | | | | 43.09 | 0.40 | Spongy dark brownish black pseudo fibrous PEAT. H6 B1 F2 R1 W2 TV1 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 13 kN/m² | | | | |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | | | | | |
| | | | VANE | 0.70 | 33mm vane 14 kN/m² | | | | |
| | | | VANE | 0.90 | H70 vane 40 kN/m² | | 42.49 | 1.00 | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F3 R1 W2 TV1 TH1 A2. |
| 1 | | | B 3 | 1.00-1.30 | Rem 8 kN/m² | | | | Firm damp bluish grey organic gravelly silty CLAY with medium cobble content and low boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 400mm in length. Organic odour. |
| | | | D 4 | 1.30-1.40 | | | | | |
| | | 1 | | | | | | | |
| 2 | | | | | | | 41.39 | 2.10 | |
| | | | B 5 | 2.30-2.50 | | | | | Moist light grey silty clayey angular to subangular fine to coarse limestone GRAVEL with medium cobble content and medium boulder content. Cobbles are angular to subangular of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 1500mm in length. |
| | | 1 | | | | | 40.99 | 2.50 | |
| | | | | | | END | | | TP terminated at 2.50m bgl. Obstruction as probable rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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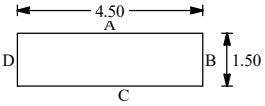
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP235 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,911.0 N 266,557.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.25m O.D. | **DATE:** 22.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.50m Rose to after: 20min 1.60m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.50<br>0.40 | 33mm vane 7 kN/m² | | 42.55 | 0.70 | Spongy dark orangish brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W1 TV1 TH1 A2. |
| 1 | | | VANE | 1.00 | H70 vane 18 kN/m² Rem 6 kN/m² | | 41.95 | 1.30 | Spongy dark greyish brown clayey pseudo fibrous PEAT.<br>H5 B2 F2 R1 W1 TV1 TH1 A2. |
| 2 | | 1 | B 3<br>VANE<br>D 4 | 1.30-1.60<br>1.60<br>1.60-1.70 | H70 vane 90 kN/m² Rem 30 kN/m² | | 40.75 | 2.50 | Very soft moist grey organic gravelly silty CLAY with medium cobble content and medium boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 400mm in length.<br>Organic odour. |
| | | 1 | | | | END | | | TP terminated at 2.50m bgl. Obstruction as rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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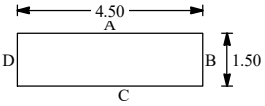
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP236 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,866.5 N 266,647.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.95m O.D. | **DATE:** 22.3.21 |

**GROUNDWATER**

Water strikes: 1st: 0.50m 2nd: 2.00m 3rd:
Rose to after: 20min 0.49m

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.80m to 2.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1 | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.60<br>0.40 | 33mm vane 11 kN/m² | | 43.15 | 0.80 | Very soft dark orangish brown fibrous PEAT.<br>H3 B2 F3 R2 W1 TV1 TH1 A2. |
| 1 | | | B 3<br>VANE<br>D 4 | 0.90-1.20<br>1.00<br>1.20-1.30 | H70 vane 32 kN/m² Rem 8 kN/m² | | 41.95 | 2.00 | Spongy dark brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 TV1 TH1 A2. |
| 2 | | 2 | VANE<br>B 5<br>D 6 | 2.00<br>2.00-2.30<br>2.30-2.40 | H70 vane 70 kN/m² Rem 32 kN/m² | | 40.25 | 3.70 | Soft damp grey organic slightly sandy gravelly silty CLAY with medium cobble content and low boulder content and some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length.<br>Organic odour. |
| 3 | | | B 7<br>D 8 | 3.70-4.00<br>4.00-4.10 | | | 39.85 | 4.10 | Stiff damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 4 | | | | | | END | | | TP terminated at 4.10m bgl. Obstruction as boulders. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.50m bgl. Ingress of water at 2.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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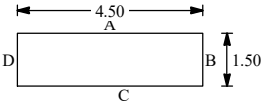
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP237 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,825.6 N 266,738.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.12m O.D. | **DATE:** 22.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE<br>D 1<br>B 2 | 0.30<br>0.30-0.40<br>0.30-0.50 | 33mm vane 11 kN/m² | | 43.12 | 1.00 | Very soft dark orangish brown fibrous PEAT.<br>H3 B2 F3 R2 W2 TV1 TH1 A0. |
| 1 | | | VANE<br>B 3<br>D 4 | 1.00<br>1.30-1.50<br>1.50-1.60 | H70 vane 32 kN/m² Rem 6 kN/m² | | 41.72 | 2.40 | Spongy dark brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W2 TV1 TH1 A2. |
| 2 | | | VANE<br>B 5<br>VANE<br>D 6 | 2.00<br>2.40-2.70<br>2.50<br>2.70-2.80 | H70 vane 38 kN/m² Rem 12 kN/m²<br>H70 vane 60 kN/m² Rem 30 kN/m² | | 40.62 | 3.50 | Firm moist grey organic gravelly silty CLAY with medium cobble content and medium boulder content and some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length.<br>Organic odour. |
| 3 | | | B 7<br>D 8 | 3.60-3.90<br>3.90 | | END | 40.22 | 3.90 | Stiff damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length.<br>TP terminated at 3.90m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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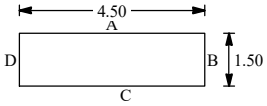
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP238 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,890.0 N 266,815.1 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 43.63m O.D. | | **DATE:** 23.3.21 |

**GROUNDWATER**

Water strikes: 1st: 0.70m Rose to after: 20min 0.70m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.60<br>0.40 | 33mm vane 10 kN/m² | | 42.93 | 0.70 | Spongy dark orangish brown pseudo fibrous PEAT.<br>H4 B2 F2 R2 W1 TV1 TH1 A2. |
| 1 | | | VANE | 1.00 | H70 vane 24 kN/m² Rem 6 kN/m² | | 41.73 | 1.90 | Spongy dark brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W1 TV1 TH1 A2. |
| 2 | | | B 3<br>VANE<br>D 4 | 1.90-2.20<br>2.00<br>2.20-2.30 | H70 vane 48 kN/m² Rem 30 kN/m² | | 41.33 | 2.30 | Very soft damp brownish grey organic peaty SILT with some plant material.<br>Organic odour. |
| 3 | | | VANE<br>B 5<br>D 6 | 3.00<br>3.20-3.50<br>3.50-3.90 | H70 vane 78 kN/m² Rem 40 kN/m² | | 38.83 | 4.80 | Very soft moist organic silty CLAY. |
| 4 | | | | | | END | | | TP terminated at 4.80m bgl on REs instruction. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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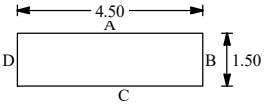
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP239 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,782.4 N 266,828.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.80m O.D. | **DATE:** 23.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.70m Rose to after: 20min 1.60m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H5 B3 F2 R1 W2 TV1 TH1 A2. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | 33mm vane 7 kN/m² | | | | |
| | | | VANE | 0.40 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 28 kN/m² Rem 4 kN/m² | | | | |
| | | 1 | | | | | 42.10 | 1.70 | |
| | | | VANE | 1.70 | H70 vane 74 kN/m² Rem 18 kN/m² | | | | Soft moist grey organic slightly sandy slightly gravelly SILT with low cobble content and low boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | B 3 | 1.70-2.00 | | | | | |
| 2 | | | D 4 | 2.00-2.10 | | | | | |
| | | | | | | | 41.00 | 2.80 | |
| | | | B 5 | 2.80-3.10 | | | | | Stiff damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | D 6 | 3.10-3.20 | | | | | |
| | | | | | | | 40.30 | 3.50 | |
| | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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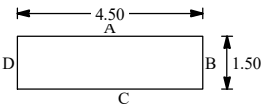
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP240 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,748.0 N 266,911.4 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 44.30m O.D. | | **DATE:** 23.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.00m Rose to after: 20min 0.98m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.60<br>0.40 | 33mm vane 13 kN/m² | | | | Spongy dark orangish brown pseudo fibrous PEAT.<br>H4 B2 F2 R2 W2 TV1 TH1 A2. |
| 1 | | 1 | VANE<br>B 3<br>D 4 | 1.00<br>1.00-1.30<br>1.30-1.40 | H70 vane 30 kN/m² Rem 10 kN/m² | | 43.30 | 1.00 | Soft moist grey organic gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 2 | | | VANE | 2.00 | H70 vane 62 kN/m² Rem 14 kN/m² | | | | |
| 3 | | | B 5<br>D 6 | 3.40-3.70<br>3.70-3.80 | | | 40.30 | 4.00 | |
| 4 | | | B 7<br>D 8 | 4.20-4.50<br>4.50 | | | 39.80 | 4.50 | Firm damp grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 5 | | | | | | END | | | TP terminated at 4.50m bgl on REs instruction. |

**Remarks:** Ingress of water at 1.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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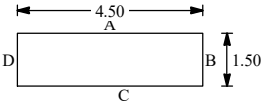
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP241 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,999.6 N 266,215.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.30m O.D. | **DATE:** 12.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W1 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | 33mm vane 9 kN/m² | | | | |
| | | | VANE | 0.40 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 48 kN/m² Rem 20 kN/m² | | | | |
| | | | | | | | 38.90 | 1.40 | |
| | | | B 3 | 1.40-1.70 | | | | | Soft damp grey organic laminated silty CLAY with some plant material. Organic odour. |
| | | | D 4 | 1.70-2.70 | | | | | |
| | | | | | | | 38.30 | 2.00 | |
| 2 | | | VANE | 2.00 | H70 vane 40 kN/m² Rem 16 kN/m² | | | | Very soft moist grey organic silty CLAY. |
| 3 | | | VANE | 3.00 | H70 vane 26 kN/m² Rem 2 kN/m² | | | | |
| | | | B 5 | 3.50-4.00 | | | | | |
| | | | | | | | 36.30 | 4.00 | |
| 4 | | | VANE D 6 | 4.00 4.00 | H70 vane 50 kN/m² Rem 12 kN/m² | END | | | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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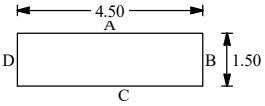
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP242 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,982.3 N 266,313.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.98m O.D. | **DATE:** 12.3.21 |

**GROUNDWATER**

Water strikes: 1st: 0.60m 2nd: 3rd:
Rose to after: 20min 0.60m

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B3 F2 R2 W1 TV1 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 5 kN/m² | | | | |
| | | 11 | D 1 | 0.50-0.60 | | | | | |
| | | | B 2 | 0.50-0.80 | | | | | |
| 1 | | | | | | | 38.88 | 1.10 | |
| | | | B 3 | 1.10-1.30 | | | | | Very soft moist grey organic laminated silty CLAY with some plant material. Organic odour. |
| | | | | | | | 38.68 | 1.30 | |
| | | | D 4 | 1.30 | | END | | | TP terminated at 1.30m bgl. Unable to progress TP - sidewall collapse. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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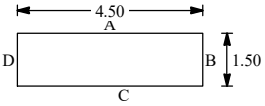
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP243 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,966.9 N 266,411.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.93m O.D. | **DATE:** 12.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W1 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | VANE | 0.50 | 33mm vane 9 kN/m² | | | | |
| 1 | | | | | | | 38.73 | 1.20 | |
| | | | B 3 | 1.20-1.50 | | | | | Soft damp grey organic laminated silty CLAY with some plant material. Organic odour. |
| | | | D 4 | 1.50-1.60 | | | | | |
| 2 | | | | | | | 37.93 | 2.00 | |
| | | | | | | | | | Very soft moist grey silty CLAY. |
| | | | B 5 | 2.80-3.10 | | | | | |
| 3 | | | D 6 | 3.10 | | | | | |
| 4 | | | | | | | 35.73 | 4.20 | |
| | | | | | | END | | | TP terminated at 4.20m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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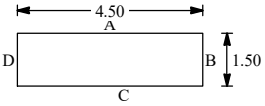
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP245 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,928.5 N 266,607.1 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 39.84m O.D. | | **DATE:** 11.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.50<br>0.40 | 33mm vane 9 kN/m² | | 39.24 | 0.60 | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A1. |
| | | | | | | | 39.04 | 0.80 | Soft damp greyish brown organic peaty CLAY with some plant material and some shell fragments. |
| 1 | | | B 3<br>D 4 | 0.80-1.10<br>1.10-1.20 | | | 37.34 | 2.50 | Very soft damp grey organic laminated silty CLAY with some plant material. Organic odour. |
| 2 | | | B 5<br>D 6 | 2.50-2.80<br>2.80 | | | 36.64 | 3.20 | Very soft moist light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | | | | END | | | TP terminated at 3.20m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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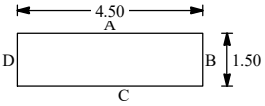
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP246 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,899.1 N 266,707.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.95m O.D. | **DATE:** 11.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.50<br>0.40 | 33mm vane 9 kN/m² | | 39.15 | 0.80 | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R1 W1 TV1 TH1 A1. |
| 1 | | | B 3<br>D 4 | 0.80-1.10<br>1.10-1.20 | | | 37.75 | 2.20 | Soft damp grey organic laminated silty CLAY with some plant material. Organic odour. |
| 2 | | | B 5<br>D 6<br>B 7<br>D 8 | 2.20-2.50<br>2.50-2.60<br>2.60-2.80<br>2.80 | | END | 37.35<br>37.15 | 2.60<br>2.80 | Very soft moist light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length.<br>Very stiff brownish grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length.<br>TP terminated at 2.80m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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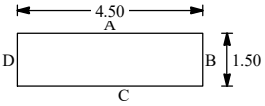
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP247 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,855.0 N 266,794.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.00m O.D. | **DATE:** 11.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W1 TV1 TH1 A1. |
| | | | B 2 | 0.30-0.50 | | | | | |
| | | | D 1 | 0.50-0.60 | | | | | |
| | | | VANE | 0.60 | 33mm vane 8 kN/m² | | 39.30 | 0.70 | |
| | | | | | | | | | Very soft moist grey organic laminated silty CLAY with some plant material. Organic odour. |
| | | | B 3 | 0.80-1.10 | | | | | |
| 1 | | | D 4 | 1.10-1.20 | | | | | |
| | | | | | | | 38.20 | 1.80 | |
| | | | B 5 | 1.80-2.10 | | | | | Stiff brownish grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. Hard digging. |
| 2 | | | D 6 | 2.10 | | | | | |
| 3 | | | | | | | 36.90 | 3.10 | |
| | | | | | | END | | | TP terminated at 3.10m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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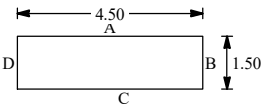
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT: Derryadd Wind Farm** | | **TRIALPIT: TP248** |
| **LOCATION: Derryadd, Co. Longford** | | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** | **Rig: Hyundai 140 LC9** |
| **ENGINEER: Bord na Mona** | **E 205,818.6 N 266,888.8** | **Rev: DRAFT** |
| **Ground level: 40.40m O.D.** | | **DATE: 11.3.21** |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 3.50m | 20min | 3.20m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 3.00m to 3.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W1 TV1 TH1 A1. |
| | | | VANE | 0.50 | 33mm vane 9 kN/m² | | | | |
| | | | D 1 | 0.50-0.60 | | | | | |
| | | | B 2 | 0.50-0.70 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 36 kN/m² Rem 12 kN/m² | | | | |
| | | | | | | | 38.90 | 1.50 | |
| | | | B 3 | 1.50-1.80 | | | | | Soft damp grey organic laminated silty CLAY with some plant material. Organic odour. |
| | | | D 4 | 1.80-1.90 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 42 kN/m² Rem 8 kN/m² | | | | |
| | | | | | | | 37.40 | 3.00 | |
| 3 | | | VANE | 3.00 | H70 vane 94 kN/m² Rem 50 kN/m² | | | | Moist light grey silty clayey subangular to subrounded fine to coarse limestone GRAVEL with medium cobble content and low boulder content. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | 1 | B 5 | 3.20-3.50 | | | | | |
| | | 1 | | | | | 36.90 | 3.50 | |
| | | | D 6 | 3.50 | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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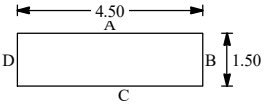
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP249R |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,781.0 N 266,979.3 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 43.15m O.D. | | **DATE:** 10.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.30m Rose to after: 20min 0.80m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W2 TV1 TH1 A1. |
| | | | VANE | 0.50 | 33mm vane 15 kN/m² | | | | |
| | | | D 1 | 0.50-0.60 | | | | | |
| | | | B 2 | 0.50-0.80 | | | | | |
| | | 1 | | | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 40 kN/m² Rem 8 kN/m² | | | | |
| | | 1 | | | | | 41.45 | 1.70 | |
| | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| 2 | | | VANE | 2.00 | H70 vane 52 kN/m² Rem 12 kN/m² | | | | |
| | | | B 3 | 2.00-2.30 | | | | | |
| | | | D 4 | 2.30-2.40 | | | | | |
| 3 | | | VANE | 3.00 | H70 vane 66 kN/m² Rem 20 kN/m² | | | | |
| | | | | | | | 39.85 | 3.30 | |
| | | | | | | | | | Soft damp grey organic silty CLAY with some plant material. |
| | | | B 5 | 3.50-3.80 | | | | | |
| | | | | | | | 39.35 | 3.80 | |
| | | | D 6 | 3.80 | | END | | | TP terminated at 3.80m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.30m bgl. TP backfilled with arisings. H70 vane in DPTP249R at 4.00m bgl - 78KPa/24KPa.

**Scale:** 1:25

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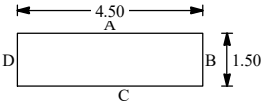
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP250 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,759.4 N 267,078.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.83m O.D. | **DATE:** 10.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R1 W2 TV1 TH1 A2. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | 33mm vane 11 kN/m² | | | | |
| | | | VANE | 0.50 | | | | | |
| 1 | | | | | | | 39.33 | 1.50 | |
| | | | B 3 | 1.50-1.70 | | | | | Soft black and brown silty PEAT. |
| | | | | | | | 39.13 | 1.70 | |
| | | | D 4 | 1.70-1.80 | | | | | Soft moist grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 350mm in length. |
| | | | B 5 | 1.80-2.00 | | | | | |
| 2 | | | | | | | 38.83 | 2.00 | |
| | | | | | | END | | | TP terminated at 2.00m bgl. Obstruction as rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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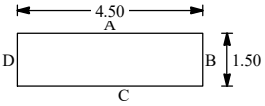
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TP251** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates: E 205,738.4 N 267,174.4** |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 41.18m O.D.** | **DATE: 10.3.21** |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 4.10m | 20min | 3.30m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F3 R1 W1 TV1 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 10 kN/m² | | | | |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | | | | | |
| 1 | | | | | | | | | |
| 2 | | | | | | | 39.18 | 2.00 | |
| | | | | | | | | | Very soft moist grey organic silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 3 | 2.30-2.40 | | | | | |
| | | | D 4 | 2.30-2.40 | | | | | |
| | | | | | | | 38.48 | 2.70 | |
| | | | | | | | | | Firm damp grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | 1 | B 5 | 3.20-3.50 | | | | | |
| | | | D 6 | 3.50-3.60 | | | | | |
| 4 | | 1 | | | | | 37.08 | 4.10 | |
| | | | | | | END | | | TP terminated at 4.10m bgl. Obstruction. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 4.10m bgl. TP backfilled with arisings.

**Scale:** 1:25

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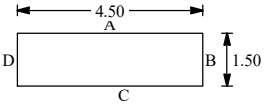
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP252 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,718.8 N 267,274.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.29m O.D. | **DATE:** 10.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F2 R2 W2 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | VANE | 0.40 | 33mm vane 11 kN/m² | | | | |
| 1 | | | | | | | 40.09 | 1.20 | |
| | | | | | | | 39.49 | 1.80 | Damp grey organic gravelly silty clayey angular to rounded limestone COBBLES with medium boulder content. Gravel is angular to subrounded fine to coarse of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 500mm in length. |
| 2 | | | B 3 | 2.00-2.30 | | | | | Soft moist light grey slightly sandy gravelly silty CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| | | | D 4 | 2.30-2.40 | | | | | |
| 3 | | | | | | | | | |
| 4 | | | B 5 | 3.90-4.20 | | | | | |
| | | | | | | | 37.09 | 4.20 | |
| | | | D 6 | 4.20 | | END | | | TP terminated at 4.20m bgl. Obstruction as boulders. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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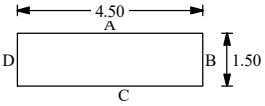
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TP253** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates: E 205,695.9 N 267,368.4** |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 41.71m O.D.** | **DATE: 10.3.21** |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 3.90m | 20min | 3.30m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.40m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE<br>D 1<br>B 2 | 0.30<br>0.30-0.40<br>0.30-0.60 | 33mm vane 11 kN/m² | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W2 TV1 TH1 A1. |
| 1 | | | | | | | 40.31 | 1.40 | |
| | | | B 3<br>D 4 | 1.40-1.70<br>1.70-1.80 | | | 39.91 | 1.80 | Damp grey silty clayey gravelly subrounded to rounded limestone and sandstone COBBLES with low boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 2 | | | B 5<br>D 6 | 2.30-2.60<br>2.60-2.70 | | | 39.01 | 2.70 | Soft moist grey slightly sandy gravelly SILT with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 3 | | 1 | B 7<br>D 8 | 3.60-3.90<br>3.90 | | | 37.81 | 3.90 | Firm moist light grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 450mm in length. |
| 4 | | 1 | | | | END | | | TP terminated at 3.90m bgl. Obstruction. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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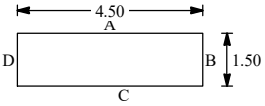
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP254 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,676.0 N 267,470.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.05m O.D. | **DATE:** 10.3.21 |

**GROUNDWATER**

Water strikes: 1st: 3.30m Rose to after: 20min 3.22m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.90m to 3.30m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 41.75 | 0.30 | Very soft dark brown fibrous PEAT. H3 B1 F2 R1 W1 TV1 TH1 A1. |
| | | | D 1<br>B 2 | 0.40-0.50<br>0.40-0.70 | | | 41.15 | 0.90 | Soft damp grey slighty sandy gravelly silty CLAY with medium cobble content and medium boulder content. Sand is fine. Gravel is angular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 450mm in length. |
| 1 | | | B 3<br>D 4 | 0.90-1.20<br>1.20-1.30 | | | 38.75 | 3.30 | Soft moist light grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is angular to subrounded fine to coarse of limestone and sandstone. Cobbles are angular to subrounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 500mm in length. |
| 2 | | | | | | | | | |
| 3 | | 1 | B 5<br>D 6 | 3.00-3.30<br>3.30 | | END | | | TP terminated at 3.30m bgl. Obstruction as rock. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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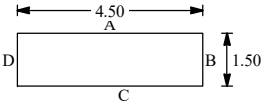
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP255 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,659.2 N 267,567.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.78m O.D. | **DATE:** 10.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.50m Rose to after: 20min 1.49m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 41.68 | 0.10 | Very soft dark brown fibrous PEAT. H3 B1 F2 R1 W1 TV1 TH1 A1. |
| | | | B 2 | 0.20-0.50 | | | | | Soft damp grey slighty sandy gravelly organic silty CLAY with medium cobble content and low boulder content. Sand is fine. Gravel is angular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | | | | | 40.88 | 0.90 | |
| 1 | | | | | | | | | Soft moist light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is angular to subangular fine to coarse of limestone and sandstone. Cobbles are angular to subangular of limestone and sandstone. Boulders are angular to subrounded of limestone and sandstone. Boulders are up to 450mm in length. |
| | | | B 3 | 1.20-1.50 | | | | | |
| | | 1.1 | | | | | 40.28 | 1.50 | |
| | | | D 4 | 1.50 | | END | | | TP terminated at 1.50m bgl. Obstruction as possible rock. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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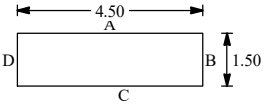
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP256 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,663.0 N 267,658.9 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 41.24m O.D. | | **DATE:** 9.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.40m | 20min | 1.39m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1 | 0.30-0.40 | | | | | Rushes over spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 16 kN/m² | | | | |
| | | | B 2 | 0.70-1.00 | | | | | |
| 1 | | | | | | | 40.04 | 1.20 | |
| | | | B 3 | 1.20-1.50 | | | | | Soft damp grey brown organic SILT with some plant material. |
| | | 1.1 | D 4 | 1.50-1.60 | | | | | |
| 2 | | | | | | | 39.14 | 2.10 | |
| | | | | | | | | | Very soft damp grey SILT. |
| | | | B 5 | 2.60-2.90 | | | | | |
| | | | D 6 | 2.90-3.00 | | | | | |
| 3 | | | | | | | 38.14 | 3.10 | |
| | | | B 7 | 3.20-3.50 | | | | | Soft moist grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 8 | 3.50-3.60 | | | | | |
| | | | | | | | 37.44 | 3.80 | |
| | | | | | | END | | | TP terminated at 3.80m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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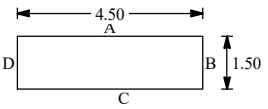
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP258 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,686.0 N 267,861.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.43m O.D. | **DATE:** 9.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W1 TV1 TH1 A1. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | | | | | |
| | | | VANE | 0.50 | 33mm vane 8 kN/m² | | | | |
| | | | | | | | 40.43 | 1.00 | |
| 1 | | | | | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F3 R3 W2 TV1 TH1 A2. |
| | | | D 3 | 1.70-1.80 | | | | | |
| | | | | | | | 39.53 | 1.90 | |
| | | | B 4 | 1.90-2.00 | | | 39.43 | 2.00 | Very soft moist grey gravelly silty CLAY with medium cobble content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. |
| 2 | | | D 5 | 2.00 | | END | | | TP terminated at 2.00m bgl. Obstruction as rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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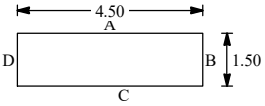
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP265 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,954.3 N 268,334.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.62m O.D. | **DATE:** 9.3.21 |

**GROUNDWATER**

Water strikes:
1st: 0.80m Rose to after: 20min 0.79m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 43.52 | 0.10 | Moss and rushes over spongy dark blackish brown clayey pseudo fibrous PEAT. H5 B2 F2 R1 W0 TV1 TH1 A1. |
| | | | VANE | 0.20 | 33mm vane 8 kN/m² | | | | Soft damp grey gravelly silty CLAY with medium cobble content and medium boulder content and some plant material. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | 1 1 | | | | | 42.82 | 0.80 | |
| | | | | | | END | | | TP terminated at 0.80m bgl. Obstruction as rock. |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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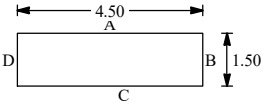
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP266 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,043.6 N 268,305.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.74m O.D. | **DATE:** 8.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.60m Rose to after: 20min 1.40m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 43.44 | 0.30 | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W1 TV1 TH1 A1. |
| | | | VANE<br>D 1<br>B 2 | 0.40<br>0.40-0.50<br>0.40-0.70 | 33mm vane 6 kN/m² | | 42.84 | 0.90 | Soft moist grey slightly sandy slightly gravelly silty organic CLAY with medium cobble content and some rootlets. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. |
| 1 | | 1 | D 3 | 1.30-1.60 | | | 42.14 | 1.60 | Firm damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 350mm in length. |
| | | | B 4 | 1.60 | | END | | | TP terminated at 1.60m bgl. Obstruction as possible rock. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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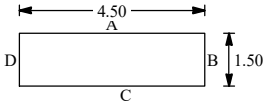
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP267 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,144.5 N 268,277.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.53m O.D. | **DATE:** 9.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 0.30m | 20min | 0.28m |
| 2nd: | 1.60m | 20min | 1.52m |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 42.43 | 0.10 | Grass and rushes over plastic dark brownish black clayey amorphous PEAT. H8 B1 F1 R0 W1 TV1 TH1 A1. |
| | | 1 | B 2 | 0.20-0.50 | | | | | Soft moist dark grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| | | | VANE | 0.30 | 33mm vane 22 kN/m² | | | | |
| | | | D 1 | 0.30-0.40 | | | 41.83 | 0.70 | |
| 1 | | | | | | | 41.33 | 1.20 | Firm damp orangish brownish grey slightly sandy clayey very gravelly SILT with medium cobble content and low boulder content. Gravel is angular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| | | | B 3 | 1.20-1.50 | | | | | Brown very gravelly very silty SAND with medium cobble content and low boulder content. Gravel is angular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| | | 2 | D 4 | 1.50-1.60 | | | 41.03 | 1.50 | |
| | | | | | | END | 40.93 | 1.60 | Firm damp orangish brownish grey slightly sandy clayey very gravelly SILT with medium cobble content and low boulder content. Gravel is angular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 2 | | | | | | | | | TP terminated at 1.60m bgl. Obstruction as possible rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.30m bgl. Ingress of water at 1.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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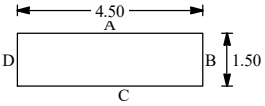
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP268 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,232.0 N 268,346.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.48m O.D. | **DATE:** 9.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.50m Rose to after: 20min 1.45m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 42.38 | 0.10 | Grass and rushes over firm dark blackish brown gravelly peaty CLAY with medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Boulders are subrounded of limestone. Boulders are up to 600mm in length. |
| | | | D 1<br>B 2 | 0.20-0.40<br>0.20-0.50 | | | | | Very soft moist dark grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 1200mm in length. |
| | | | | | | | 41.58 | 0.90 | |
| 1 | | | B 4<br>D 3 | 1.10-1.40<br>1.20-1.30 | | | | | Firm damp grey very gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are angular to subrounded of limestone. Boulders are angular to subrounded of limestone. Boulders are up to 500mm in length. |
| | | 1 | | | | | 40.98 | 1.50 | |
| | | | | | | END | | | TP terminated at 1.50m bgl. Obstruction as boulders. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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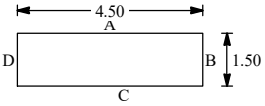
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP269 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,236.9 N 268,247.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.28m O.D. | **DATE:** 9.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 43.23 | 0.05 | Rushes and moss over dark brownish black gravelly peaty CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. |
| | | | D 1<br>B 2<br>BR | 0.20-0.30<br>0.20-0.50<br>0.30 | | | 42.58 | 0.70 | Firm damp brownish grey slightly gravelly sandy SILT with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subrounded of limestone and sandstone. Boulders are up to 350mm in length. |
| 1 | | | B 3<br>D 4 | 1.10-1.40<br>1.40-1.50 | | | 41.68 | 1.60 | Stiff damp grey slightly sandy gravelly SILT with low cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subrounded of limestone and sandstone. Boulders are up to 350mm in length. |
| 2 | | | B 5<br>D 6 | 1.80-2.10<br>2.10 | | | 41.18<br>END | 2.10 | Firm moist grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | | | | | | | TP terminated at 2.10m bgl. Obstruction. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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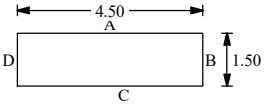
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP270 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,335.7 N 268,217.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.54m O.D. | **DATE:** 9.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | D 1 | 0.30-0.40 | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 16 kN/m² | | | | |
| | | | B 2 | 0.40-0.70 | | | 43.04 | 0.50 | |
| | | | | | | | | | Very soft orangish brown fibrous PEAT. H2 B2 F3 R2 W2 TV1 TH1 A2. |
| 1 | | | VANE | 1.00 | H70 vane 43 kN/m² Rem 18 kN/m² | | 42.24 | 1.30 | |
| | | | B 3 | 1.30-1.60 | | | | | Very soft moist grey organic SILT with some rootlets and some plant material. |
| | | | D 4 | 1.60-1.70 | | | | | |
| | | | VANE | 1.70 | H70 vane 58 kN/m² Rem 16 kN/m² | | 41.54 | 2.00 | |
| 2 | | | B 5 | 2.10-2.40 | | | | | Firm damp light grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | | | | | 41.14 | 2.40 | |
| | | | D 6 | 2.40 | | END | | | TP terminated at 2.40m bgl. Obstruction. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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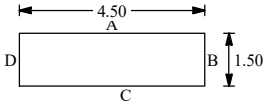
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP275 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,506.7 N 268,683.8 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 45.30m O.D. | | **DATE:** 8.3.21 |

**GROUNDWATER**

Water strikes: 1st: 0.70m Rose to after: 10min 0.70m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 45.10 | 0.20 | Moss briars and saplings over dark brown peaty CLAY with many rootlets. |
| | | 1.1 | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.60<br>0.40 | 33mm vane 11 kN/m² | | 43.40 | 1.90 | Firm damp light orangish greyish brown gravelly silty CLAY with low cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subangular to subrounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 1 | | | | | | | | | |
| 2 | | | B 3 | 2.00-2.30 | | | 43.00 | 2.30 | Stiff damp light grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of calcite and limestone. Cobbles are subangular to subrounded of calcite and limestone. Boulders are subrounded to subrounded of calcite and limestone. Boulders are up to 400mm in length. |
| | | | D 4 | 2.30 | | END | | | TP terminated at 2.30m bgl. Obstruction. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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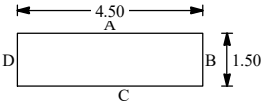
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP276 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,429.7 N 268,733.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.08m O.D. | **DATE:** 5.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 41.78 | 0.30 | Grass and saplings over plastic dark brownish black clayey amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A0. |
| | | | D 1<br>B 2 | 0.40-0.50<br>0.40-0.70 | | | 40.78 | 1.30 | Soft moist brownish grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 350mm in length. |
| 1 | | | B 3<br>D 4 | 1.30-1.60<br>1.60 | | | 39.78 | 2.30 | Stiff damp bluish grey gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | | | | END | | | TP terminated at 2.30m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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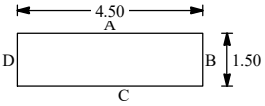
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP277 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,359.3 N 268,804.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.69m O.D. | **DATE:** 5.3.21 |

**GROUNDWATER**

Water strikes: 1st: 3.60m Rose to after: 20min 3.59m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 39.49 | 0.20 | Very soft dark brownish black fibrous PEAT. H3 B1 F2 R1 W1 TV1 TH1 A0. |
| | | | D 1 | 0.40-0.50 | | | 39.19 | 0.50 | Spongy greyish brown clayey pseudo fibrous PEAT. H5 B2 F2 R1 W0 TV1 TH1 A1. |
| | | | VANE | 0.70 | 33mm vane 15 kN/m² | | | | Soft damp grey organic laminated silty CLAY with some plant material. |
| | | | B 2 | 0.80-1.10 | | | | | |
| 1 | | | D 3 | 1.10-1.20 | | | 38.19 | 1.50 | |
| | | | | | | | | | Very soft moist grey SILT. |
| 2 | | | B 4 | 2.30-2.60 | | | | | |
| | | | D 5 | 2.60-2.70 | | | | | |
| 3 | | | | | | | 36.09 | 3.60 | |
| | | | B 6 | 3.70-4.00 | | | 35.69 | 4.00 | Very soft moist grey clayey very gravelly SILT with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 4 | | | D 7 | 4.00 | | END | | | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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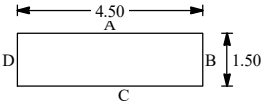
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP278 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,288.8 N 268,875.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.40m O.D. | **DATE:** 5.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 39.10 | 0.30 | Very soft dark greyish brown clayey fibrous PEAT. H3 B2 F2 R1 W1 TV1 TH1 A1. |
| | | | D 1 | 0.40-0.50 | | | | | Soft damp grey organic laminated SILT with some plant material and some rootlets. |
| | | | B 2 | 0.40-0.70 | 33mm vane 15 kN/m² | | | | |
| | | | VANE | 0.50 | | | | | |
| | | | CBR | 0.70 | | | | | |
| 1 | | | | | | | 38.10 | 1.30 | Very soft moist grey silty CLAY. |
| | | | B 3 | 1.80-2.10 | | | | | |
| 2 | | | D 4 | 2.10-2.20 | | | | | |
| 3 | | | | | | | 35.90 | 3.50 | Very soft moist light grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | B 5 | 3.50-3.80 | | | | | |
| | | | D 6 | 3.80-3.90 | | | | | |
| 4 | | | | | | | 35.40 | 4.00 | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| | | | | | | END | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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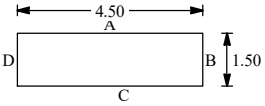
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT: Derryadd Wind Farm** | | **TRIALPIT: TP279R** |
| **LOCATION: Derryadd, Co. Longford** | | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** | **Rig: Hyundai 140 LC9** |
| **ENGINEER: Bord na Mona** | **E 205,219.4 N 268,944.3** | **Rev: DRAFT** |
| **Ground level: 43.30m O.D.** | | **DATE: 5.3.21** |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Grass and rushes over very soft dark brownish black fibrous PEAT. H3 B1 F3 R2 W1 TV1 TH1 A0. |
| | | | | | | | 43.00 | 0.30 | |
| | | | VANE | 0.40 | 33mm vane 16 kN/m² | | | | Very soft orangish brown fibrous PEAT. H2 B2 F3 R2 W1 TV1 TH1 A2. |
| | | | D 1 | 0.40-0.50 | H70 vane 42 kN/m² | | | | |
| | | | VANE | 0.50 | Rem 8 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 41 kN/m² Rem 6 kN/m² | | | | |
| | | | VANE | 1.50 | H70 vane 38 kN/m² | | | | |
| | | | B 2 | 1.60-1.80 | Rem 4 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 50 kN/m² Rem 10 kN/m² | | | | |
| | | | | | | | 41.10 | 2.20 | |
| | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B3 F3 R2 W2 TV1 TH1 A2. |
| | | | B 4 | 2.40-2.60 | | | | | |
| | | | VANE | 2.50 | H70 vane 52 kN/m² | | | | |
| | | | D 3 | 2.60-2.70 | Rem 16 kN/m² | | | | |
| 3 | | | | | | | | | |
| | | | | | | | 39.40 | 3.90 | |
| 4 | | | | | | | | | Soft grey slightly gravelly organic laminated SILT with some rootlets and some plant material. |
| | | | B 5 | 4.20-4.50 | | | | | |
| | | | | | | | 38.80 | 4.50 | |
| | | | D 6 | 4.50 | | END | | | TP terminated at 4.50m bgl on REs instruction. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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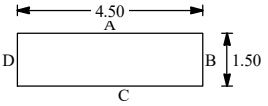
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP280 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,142.5 N 269,017.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.27m O.D. | **DATE:** 3.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.60m | 20min | 1.20m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | MADE GROUND: Grass over dark brownish black gravelly clayey amorphous PEAT with low cobble content and some plastic. Gravel is angular to subangular fine to coarse of limestone. Cobbles are subangular of limestone. |
| | | | VANE D 1 | 0.40<br>0.40-0.50 | 33mm vane 24 kN/m² | | | | |
| | | | | | | | 43.27 | 1.00 | |
| 1 | | | VANE | 1.00 | H70 vane 73 kN/m²<br>Rem 18 kN/m² | | | | Very soft orangish brown fibrous PEAT.<br>H3 B2 F3 R1 W1 TV1 TH1 A2. |
| | | 1 | B 2 | 1.20-1.40 | | | | | |
| | | | D 3 | 1.40-1.50 | | | | | |
| | | 1 | | | | | 42.67 | 1.60 | |
| | | | | | | END | | | TP terminated at 1.60m bgl. Pipe crossing TP 090-270 at 1.60m bgl. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.60m bgl. Pipe crossing TP 090-270 at 1.60m bgl. H70 vane in DPTP280 at 2.00m bgl - 68KPa/10KPa. H70 vane in DPTP280 at 3.00m bgl - 34KPa/2KPa. H70 vane in DPTP280 at 4.00m bgl - 48KPa/8KPa.

**Scale:** 1:25

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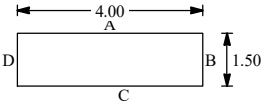
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP281 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 **of** 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,086.0 N 269,097.0 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 45.05m O.D. | | **DATE:** 17.2.21 |

**GROUNDWATER**

Water strikes: 1st: 1.00m 2nd: 3rd:
Rose to after: 20min g/l

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | MADE GROUND: Grass over plastic brownish black gravelly clayey amorphous PEAT with low cobble content and some plastic. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. |
| | | | VANE D 1 | 0.60 0.60-0.70 | 33mm vane 21 kN/m² | | | | |
| 1 | | | VANE B 2 | 1.00 1.00-1.30 | H70 vane 80 kN/m² Rem 15 kN/m² | | 44.05 | 1.00 | |
| | | | | | | | 43.55 | 1.50 | Very soft orangish brown fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A2. |
| 2 | | | | | | | 42.75 | 2.30 | Spongy orangish brown pseudo fibrous PEAT. H5 B1 F2 R1 W3 TV1 TH1 A2. |
| | | | | | | | 42.45 | 2.60 | Light grey gravelly clayey sandy SILT with low cobble content. Sand is fine to medium. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. |
| | | | | | | END | | | TP terminated at 2.60m bgl. Unable to progress TP - due to ingress of water from water pipe. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.00m bgl from 12" concrete pipe. TP backfilled with arisings.

**Scale:** 1:25

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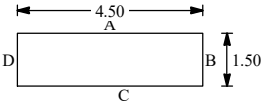
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP282 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,006.1 N 269,162.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.60m O.D. | **DATE:** 17.2.21 |

**GROUNDWATER**

Water strikes: 1st: 1.60m Rose to after: 20min 1.59m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 41.40 | 0.20 | Spongy blackish brown pseudo fibrous PEAT. H5 B1 F2 R1 W1 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W2 TV1 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 12 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 75 kN/m² Rem 10 kN/m² | | | | |
| | | | B 2 | 1.00-1.30 | | | | | |
| | | | VANE | 1.05 | H70 vane 50 kN/m² Rem 10 kN/m² | | | | |
| | | 1.1 | | | | | 39.80 | 1.80 | |
| | | | B 3 | 1.80-2.10 | | | | | Soft damp grey organic slightly gravelly sandy SILT with low cobble content and some rootlets. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. |
| 2 | | | | | | | 39.20 | 2.40 | |
| | | | | | | | | | Firm damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 3 | | | B 4 | 3.00-3.50 | | | | | |
| | | | | | | | 38.10 | 3.50 | |
| | | | | | | END | | | TP terminated at 3.50m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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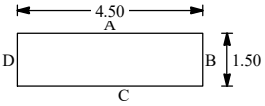
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP283 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,944.8 N 269,239.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.72m O.D. | **DATE:** 17.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 0.50m | 20min | 0.48m |
| 2nd: | 2.10m | 20min | 1.60m |
| 3rd: | | | |

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.60m to 2.10m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy brownish black pseudo fibrous PEAT. H4 B2 F2 R1 W1 TV1 TH1 A1. |
| | | 1 | D 1 | 0.30-0.40 | | | | | |
| | | | VANE | 0.40 | 33mm vane 17 kN/m² | | 40.22 | 0.50 | |
| | | | | | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F3 R1 W2 TV1 TH1 A2. |
| | | | B 2 | 0.70-0.80 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 40 kN/m² Rem 5 kN/m² | | | | |
| | | 2 | VANE | 1.50 | H70 vane 78 kN/m² Rem 3 kN/m² | | 39.12 | 1.60 | |
| | | | B 3 | 1.60-1.90 | | | | | Moist grey silty sandy angular to subrounded fine to coarse limestone and quartz GRAVEL with low cobble content. Cobbles are subangular to subrounded of limestone and quartz. |
| 2 | | 2 | | | | | 38.62 | 2.10 | |
| | | | | | | | | | Firm damp grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 4 | 2.90-3.20 | | | | | |
| 3 | | | | | | | 37.52 | 3.20 | |
| | | | | | | END | | | TP terminated at 3.20m bgl. Unable to progress TP - sidewall collapse and ingress of water. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.50m bgl. Ingress of water at 2.10m bgl. TP backfilled with arisings.

**Scale:** 1:25

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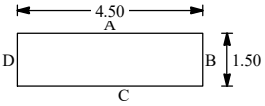
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP284 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,899.3 N 269,325.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.99m O.D. | **DATE:** 17.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F3 R3 W2 TV1 TH1 A1. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | VANE | 0.50 | 33mm vane 14 kN/m² | | 38.39 | 0.60 | |
| | | | B 2 | 0.60-0.80 | | | | | Firm damp grey slightly sandy clayey SILT with low boulder content. Sand is fine. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 1 | | | | | | | | | |
| 2 | | | | | | | 36.89 | 2.10 | |
| | | | | | | | | | Firm damp grey slightly sandy slightly gravelly SILT with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 3 | 2.80-3.00 | | | | | |
| 3 | | | B 4 | 3.00-3.50 | | | | | |
| | | | | | | | 35.49 | 3.50 | |
| | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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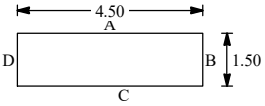
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP285 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,847.9 N 269,416.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.37m O.D. | **DATE:** 17.2.21 |

**GROUNDWATER**

Water strikes: 1st: 0.40m Rose to after: 20min g/l
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.90m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | | | | | 37.97 | 0.40 | Plastic brownish black amorphous PEAT. H8 B3 F1 R0 W1 TV0 TH0 A1. |
| | | | B 1 | 0.40-0.70 | | | | | Very soft damp grey slightly sandy organic silty CLAY. Sand is fine to medium. |
| | | | VANE | 0.50 | 33mm vane 9 kN/m² | | | | |
| | | | B 2 | 0.70-2.20 | | | | | |
| 1 | | | | | | | 36.47 | 1.90 | |
| 2 | | | | | | | | | Damp grey silty fine to coarse SAND. |
| | | | | | | | 35.87 | 2.50 | |
| | | | | | | END | | | TP terminated at 2.50m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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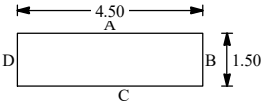
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP286 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,791.5 N 269,487.2 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 39.67m O.D. | | **DATE:** 17.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Grass and briars over plastic brownish black amorphous PEAT. H8 B1 F1 R1 W1 TV1 TH1 A1. |
| | | | D 1 | 0.50-0.60 | | | | | |
| | | | VANE | 0.60 | 33mm vane 23 kN/m² | | | | |
| | | | VANE | 0.61 | H70 vane 60 kN/m² Rem 18 kN/m² | | | | |
| 1 | | | | | | | 38.57 | 1.10 | |
| | | | D 2 | 1.10-1.20 | | | | | Spongy dark brown pseudo fibrous PEAT. H4 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | | | | | 37.67 | 2.00 | |
| 2 | | | B 3 | 2.00-2.30 | | | | | Very soft moist grey slightly sandy organic SILT with some rootlets. Sand is fine. |
| 3 | | | | | | | 36.37 | 3.30 | |
| | | | | | | | | | Firm grey slightly gravelly slightly sandy SILT. Gravel is subangular to subrounded of limestone. |
| 4 | | | B 4 | 4.00-4.50 | | | | | |
| | | | | | | | 35.17 | 4.50 | |
| | | | | | | END | | | TP terminated at 4.50m bgl on REs instruction. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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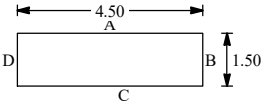
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP287 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,750.3 N 269,584.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.27m O.D. | **DATE:** 18.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 0.70m | 20min | 0.55m |
| 2nd: | 3.60m | 20min | 3.10m |
| 3rd: | | | |

**PIT DIRECTION:** 270-090
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.77 | 0.50 | Rushes over plastic dark brown amorphous PEAT. H8 B2 F1 R1 W1 TV1 TH1 A0. |
| | | 1 | | | | | 37.47 | 0.80 | Very soft brown clayey fibrous PEAT. H2 B3 F3 R2 W1 TV1 TH1 A1. |
| | | 1 | VANE D 1 | 0.70 0.70-0.80 | 33mm vane 13 kN/m² | | | | |
| 1 | | | D 2 | 1.00-1.20 | | | 36.47 | 1.80 | Very soft moist grey slightly gravelly silty organic CLAY/peat with some rootlets and some plant material. Gravel is subangular to rounded fine to coarse of limestone and quartz. |
| | | | B 3 | 1.80-2.00 | | | 34.87 | 3.40 | Firm damp grey sandy SILT. Sand is fine. |
| 2 | | 2 | | | | | | | |
| 3 | | 2 | B 4 | 3.50-4.00 | | | 34.27 | 4.00 | Soft moist grey sandy clayey SILT. Sand is fine. |
| 4 | | | | | | END | | | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.70m bgl. Ingress of water at 3.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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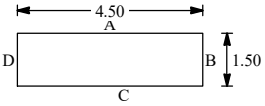
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP288 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,702.9 N 269,677.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.85m O.D. | **DATE:** 18.2.21 |

**GROUNDWATER**

Water strikes: 1st: 2.00m Rose to after: 20min 1.70m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 38.75 | 0.10 | Plastic black slightly silty amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A0. |
| | | | VANE D 1 | 0.60 0.60-0.70 | 33mm vane 17 kN/m² | | 38.05 | 0.80 | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A2. |
| | | | B 2 | 0.80-1.00 | | | 36.85 | 2.00 | Very soft moist grey sandy clayey organic SILT with some rootlets. Sand is fine. |
| 1 | | 1 | | | | | | | |
| 2 | | 1 | B 3 | 2.00-2.30 | | | 36.55 | 2.30 | Moist grey silty fine to coarse SAND. |
| | | | | | | END | | | TP terminated at 2.30m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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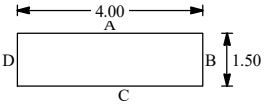
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP289 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,656.1 N 269,763.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.77m O.D. | **DATE:** 18.2.21 |

**GROUNDWATER**

Water strikes: 1st: 1.70m 2nd: 3rd:
Rose to after: 20min 1.67m

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.90m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.57 | 0.20 | Moss and rushes over firm moist dark brown peaty CLAY. |
| | | | D 1 | 0.20-0.30 | | | | | Firm damp orangish grey organic sandy SILT with many rootlets.Sand is fine. |
| | | | VANE | 0.30 | 33mm vane 24 kN/m² | | | | |
| | | | B 2 | 0.30-0.50 | | | 36.87 | 0.90 | |
| 1 | | | B 3 | 0.90-1.20 | | | | | Moist grey sandy SILT. Sand is fine and medium. |
| | | 1 | | | | | 35.77 | 2.00 | |
| 2 | | | | | | END | | | TP terminated at 2.00m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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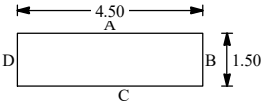
| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TP290** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 204,604.1 N 269,851.1 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 37.24m O.D.** | **DATE: 18.2.21** |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 36.94 | 0.30 | Rushes over plastic brownish black slightly silty amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A1. |
| | | | D 1 VANE | 0.40-0.50 0.50 | 33mm vane 11 kN/m² | | 36.44 | 0.80 | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A2. |
| 1 | | | B 2 VANE | 0.80-1.20 0.90 | 33mm vane 16 kN/m² | | | | Very soft moist grey organic SILT with some rootlets and some plant material. |
| 2 | | | B 3 | 2.50-3.00 | | | 34.24 | 3.00 | |
| 3 | | | | | | END | | | TP terminated at 3.00m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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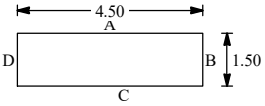
| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TP291** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 204,595.5 N 269,951.2 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 36.95m O.D.** | **DATE: 22.2.21** |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 0.30m | 20min | 0.22m |
| 2nd: | 2.60m | 20min | 1.80m |
| 3rd: | | | |

**PIT DIRECTION: 180-360**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1 | | | | | | | Rushes and briars over dark orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A2. |
| | | | D 1 | 0.60-0.70 | | | 36.25 | 0.70 | |
| | | | B 2 | 0.70-1.00 | | | | | Very soft moist grey organic silty CLAY some rootlets and some plant material. |
| | | | VANE | 0.80 | 33mm vane 13 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 45 kN/m² Rem 5 kN/m² | | | | |
| | | 2 | | | | | 34.95 | 2.00 | |
| 2 | | | B 3 | 2.00-2.30 | | | | | Firm damp grey sandy SILT. |
| | | 2 | | | | | 34.35 | 2.60 | |
| | | | | | | END | | | TP terminated at 2.60m bgl. Unable to progress TP - due to ingress of water. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.30m bgl. Ingress of water at 2.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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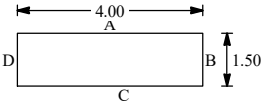
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP292 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 **of** 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,620.3 N 270,040.8 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 38.05m O.D. | | **DATE:** 22.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 3.30m | 20min | 2.90m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION:** 315-135
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.85 | 0.20 | Plastic dark brownish black amorphous PEAT. H8 B1 F1 R1 W0 TV1 TH1 A1. |
| | | | VANE D 1 | 0.50 0.50-0.60 | 33mm vane 12 kN/m² | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A1. |
| 1 | | | VANE B 2 | 1.00 1.00-1.20 | H70 vane 60 kN/m² Rem 10 kN/m² | | | | |
| | | | VANE B 3 | 1.40 1.50-1.80 | H70 vane 90 kN/m² Rem 25 kN/m² | | 36.55 | 1.50 | Soft moist grey slightly sandy organic laminated silty CLAY with some rootlets and some plant material. Sand is fine. |
| 2 | | | | | | | 35.55 | 2.50 | |
| | | 1 | B 4 | 2.50-3.00 | | | | | Moist grey silty fine to medium SAND. |
| 3 | | 1 | | | | | 34.75 | 3.30 | |
| | | | | | | END | | | TP terminated at 3.30m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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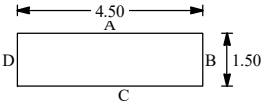
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP293 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,652.8 N 270,139.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.23m O.D. | **DATE:** 22.2.21 |

**GROUNDWATER**

Water strikes: 1st: 0.30m Rose to after: 20min 0.21m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1 | | | | | | | Moss and rushes over spongy dark brown pseudo fibrous PEAT. H5 B3 F2 R1 W1 TV1 TH1 A2. |
| | | | | | | | 36.73 | 0.50 | |
| | | | D 1 | 0.50-0.60 | | | | | Very soft moist grey organic laminated silty CLAY/ PEAT with some rootlets and some plant material. |
| | | | B 2 | 0.50-0.80 | 33mm vane 9 kN/m² | | | | |
| | | | VANE | 0.60 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 20 kN/m² Rem 2 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 40 kN/m² Rem 10 kN/m² | | | | |
| | | | | | | | 35.03 | 2.20 | |
| | | | VANE | 2.20 | H70 vane 90 kN/m² Rem 10 kN/m² | | | | Firm damp grey slightly sandy SILT. |
| | | | B 3 | 2.20-2.50 | | | | | |
| | | | | | | | 34.23 | 3.00 | |
| 3 | | | | | | END | | | TP terminated at 3.00m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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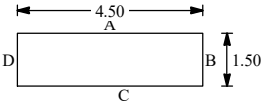
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP294 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,628.0 N 270,230.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.90m O.D. | **DATE:** 22.2.21 |

**GROUNDWATER**

Water strikes: 1st: 3.50m Rose to after: 20min 2.80m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Heather and rushes over spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W1 TV1 TH1 A2. |
| | | | VANE D 1 | 0.70 0.70-0.80 | 33mm vane 12 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 60 kN/m² Rem 15 kN/m² | | 36.70 | 1.20 | |
| | | | B 2 | 1.20-1.50 | | | | | Very soft moist grey slightly gravelly sandy organic laminated clayey SILT with some rootlets and some plant material. |
| 2 | | | VANE | 2.00 | H70 vane 50 kN/m² Rem 18 kN/m² | | 35.70 | 2.20 | |
| | | | B 3 VANE | 2.20-2.50 2.30 | H70 vane 140 kN/m² Rem 20 kN/m² | | | | Firm damp grey slightly sandy clayey SILT. Sand is fine. |
| 3 | | 1 | | | | | 34.60 | 3.30 | |
| | | 1 | B 4 | 3.30-3.50 | | | 34.40 | 3.50 | Moist grey sandy silty subangular to subrounded fine to coarse limestone GRAVEL. Sand is fine. |
| | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - due to ingress of water. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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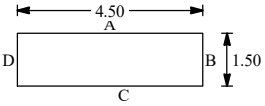
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP295 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,600.3 N 270,330.9 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 38.87m O.D. | | **DATE:** 22.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 3.40m | 20min | 3.00m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 38.47 | 0.40 | Heather and saplings over plastic dark brownish black silty amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A1. |
| | | | D 1 | 0.60-0.70 | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A2. |
| | | | VANE | 0.70 | 33mm vane 14 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 84 kN/m² Rem 20 kN/m² | | 37.07 | 1.80 | |
| | | | B 2 | 1.80-2.10 | | | 36.07 | 2.80 | Moist grey slighty clayey silty fine to medium SAND. |
| 2 | | | | | | | | | |
| 3 | | 1 | | | | | | | Moist light grey very silty fine SAND. |
| | | 1 | B 3 | 3.50-3.80 | | | 35.07 | 3.80 | |
| | | | | | | END | | | TP terminated at 3.80m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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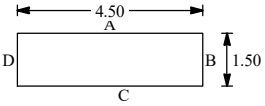
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP297 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,533.7 N 270,515.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.16m O.D. | **DATE:** 22.2.21 |

**GROUNDWATER**

Water strikes: 1st: 2.70m Rose to after: 20min 2.40m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.86 | 0.30 | Grass and leaves over plastic brownish black amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A0. |
| | | | D 1 | 0.60-0.70 | | | 36.86 | 1.30 | Light orangish brown silty gravelly fine SAND. Gravel is subangular to subrounded fine of limestone sandstone and quartz. |
| 1 | | | B 2 | 1.40-1.70 | | | 35.46 | 2.70 | Soft damp grey sandy organic SILT with some rootlets and plant material. Sand is fine. |
| 2 | | 1 | | | | END | | | TP terminated at 2.70m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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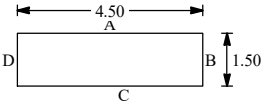
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP298 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,502.7 N 270,607.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.18m O.D. | **DATE:** 22.2.21 |

**GROUNDWATER**

Water strikes: 1st: 0.80m 2nd: 3rd:
Rose to after: 20min 0.60m

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Grass and moss over damp greyish brown slightly clayey very silty fine SAND. |
| | | | PLATE D 1 | 0.30<br>0.40-0.50 | | | 36.78 | 0.40 | |
| | | 1 | | | | | | | Damp brownish grey silty fine to coarse SAND. |
| 1 | | 1 | B 2 | 1.00-1.20 | | | | | |
| 2 | | | | | | | 35.08 | 2.10 | |
| | | | | | | END | | | TP terminated at 2.10m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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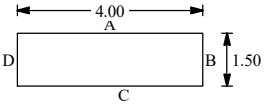
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP299 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,468.3 N 270,709.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.52m O.D. | **DATE:** 23.2.21 |

**GROUNDWATER**

Water strikes: 1st: 1.00m Rose to after: 20min g/l
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.22 | 0.30 | Rushes and moss over plastic blackish brown gravelly clayey amorphous PEAT. Gravel is subangular to subrounded fine to coarse of limestone psammite and quartz. H8 B1 F1 R0 W0 TV1 TH1 A0. |
| | | | DATE B 1 | 0.40 0.40-0.70 | | | 36.02 | 1.50 | Moist grey sandy angular to subrounded fine to coarse limestone sandstone and quartz GRAVEL. Sand is fine to coarse. |
| | | | | | | END | | | TP terminated at 1.50m bgl. Unable to progress TP - due to ingress of water. |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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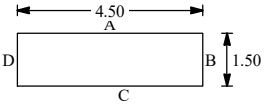
| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TP301** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 204,406.4 N 270,897.7 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 38.48m O.D.** | **DATE: 23.2.21** |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 38.08 | 0.40 | MADE GROUND: Rushes over spongy dark blackish brown pseudo fibrous PEAT with some plastic and some concrete pipe. |
| | | | D 1 | 0.50-0.60 | | | | | Very soft orangish brown fibrous PEAT. H2 B2 F3 R1 W1 TV1 TH1 A1. |
| | | | VANE | 0.70 | 33mm vane 17 kN/m² | | | | |
| | | | D 2 | 0.90-1.20 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 35 kN/m² Rem 2 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 30 kN/m² Rem 1 kN/m² | | 35.48 | 3.00 | |
| 3 | | | VANE B 3 | 3.00 3.00-3.40 | H70 vane 32 kN/m² Rem 4 kN/m² | | 34.68 | 3.80 | Very soft damp grey organic laminated SILT with some plant material. |
| | | | | | | END | | | TP terminated at 3.80m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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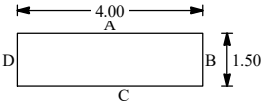
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP302 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,373.4 N 270,991.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.50m O.D. | **DATE:** 24.2.21 |

**GROUNDWATER**

Water strikes: 1st: 2.00m Rose to after: 20min 0.80m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Rushes over damp orangish grey silty very gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of sandstone limestone and quartz. |
| | | 1 | B 1 | 0.20-0.50 | | | | | |
| 1 | | | | | | | 36.00 | 1.50 | |
| | | | B 2 | 1.50-1.80 | | | | | Moist brownish grey gravelly silty fine SAND. Gravel is subangular to subrounded fine of sandstone limestone and quartz. |
| | | 1 | | | | | 35.50 | 2.00 | |
| 2 | | | | | | END | | | TP terminated at 2.00m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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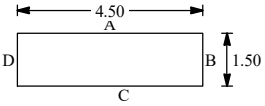
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP303 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,340.4 N 271,084.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 36.93m O.D. | **DATE:** 23.2.21 |

**GROUNDWATER**

Water strikes: 1st: 1.80m Rose to after: 20min 0.90m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1 | 0.20-0.30 | | | 36.53 | 0.40 | Reeds over very soft orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 13 kN/m² | | 36.13 | 0.80 | Very soft greyish brown clayey fibrous PEAT. H3 F2 R1 W0 TV1 TH1 A1. |
| 1 | | | B 2 | 0.80-1.20 | | | 35.13 | 1.80 | Very soft damp grey organic laminated SILT with some plant material. |
| | | | VANE | 1.10 | 33mm vane 17 kN/m² | | | | |
| 2 | | | B 3 | 1.80-2.10 | | | 34.63 | 2.30 | Bluish grey slightly sandy subrounded to rounded fine to coarse limestone sandstone and quartz GRAVEL. |
| | | | | | | END | | | TP terminated at 2.30m bgl. Unable to progress TP - sidewall collapse and ingress of water. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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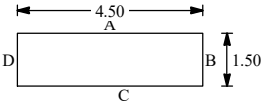
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP304 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,309.3 N 271,178.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 36.94m O.D. | **DATE:** 23.2.21 |

**GROUNDWATER**

Water strikes: 1st: 2.90m Rose to after: 20min 2.00m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.90m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A1. |
| | | | D 1 | 0.40-0.50 | | | 36.44 | 0.50 | |
| | | | VANE | 0.50 | 33mm vane 14 kN/m² | | | | Very soft greyish brown clayey fibrous PEAT. H3 F2 R1 W0 TV1 TH1 A1. |
| 1 | | | VANE | 1.00 | 33mm vane 17 kN/m² | | 35.84 | 1.10 | |
| | | | B 2 | 1.10-1.40 | | | | | Very soft grey organic laminated silty CLAY with some plant material. |
| | | | VANE | 1.50 | H70 vane 68 kN/m² Rem 17 kN/m² | | 35.04 | 1.90 | |
| 2 | | 1 | B 3 | 2.00-2.30 | | | | | Damp grey slightly clayey silty fine to coarse SAND. |
| | | 1 | | | | | 33.94 | 3.00 | |
| 3 | | | | | | END | | | TP terminated at 3.00m bgl. Unable to progress TP - sidewall collapse and ingress of water. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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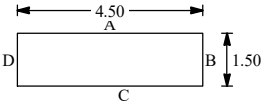
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP305 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,281.1 N 271,275.0 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 37.24m O.D. | | **DATE:** 23.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 3.00m | 20min | 2.30m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A1. |
| | | | VANE D 1 | 0.50 0.50-0.60 | 33mm vane 11 kN/m² | | | | |
| 1 | | | VANE B 2 VANE | 1.00 1.00-1.20 1.01 | 33mm vane 13 kN/m² H70 vane 45 kN/m² Rem 10 kN/m² | | | | |
| | | | VANE | 1.60 | H70 vane 40 kN/m² Rem 10 kN/m² | | 35.44 | 1.80 | |
| | | | B 3 | 1.80-2.10 | | | | | Very soft damp grey organic laminated silty CLAY with some rootlets. |
| 2 | | 1 | | | | | 34.44 | 2.80 | |
| | | 1 | B 4 | 2.80-3.00 | | | | | Damp grey slightly clayey silty fine SAND. |
| 3 | | | | | | | 34.04 | 3.20 | |
| | | | | | | END | | | TP terminated at 3.20m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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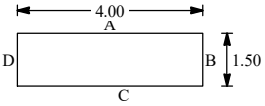
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP306 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,184.3 N 271,257.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 36.64m O.D. | **DATE:** 24.2.21 |

**GROUNDWATER**

Water strikes: 1st: 1.80m Rose to after: 20min 0.90m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 36.44 | 0.20 | Spongy dark orangish brown pseudo fibrous PEAT. H5 B1 F2 R1 W1 TV1 TH1 A1. |
| | | | VANE D 1 | 0.40 0.40-0.50 | 33mm vane 13 kN/m² | | 35.94 | 0.70 | Very soft grey clayey fibrous PEAT. H3 B2 F3 R1 W0 TV1 TH1 A1. |
| 1 | | 1 | B 2 VANE | 0.70-1.00 0.80 | 33mm vane 14 kN/m² | | 35.14 | 1.50 | Very soft moist grey organic laminated SILT with some shell fragments. |
| | | 1 | B 3 | 1.50-1.80 | | | 34.74 | 1.90 | Moist grey sandy silty subangular to subrounded fine to coarse sandstone limestone and quartz GRAVEL with low cobble content. Cobbles are subangular to subrounded of sandstone limestone and quartz. |
| 2 | | | | | | END | | | TP terminated at 1.90m bgl. Unable to progress TP - sidewall collapse and ingress of water. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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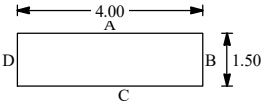
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP308 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,961.7 N 271,284.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.82m O.D. | **DATE:** 24.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | B 1 | 0.10-0.30 | | | | | Rushes over stiff damp dark orangish grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is angular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 300mm in length. |
| | | | PLATE | 0.30 | | | | | |
| | | | | | | | 38.12 | 0.70 | Very stiff dark grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 500mm in length. |
| 1 | | | B 2 | 0.90-1.20 | | | | | |
| | | | | | | | 37.02 | 1.80 | |
| | | | | | | END | | | TP terminated at 1.80m bgl. Obstruction as boulders. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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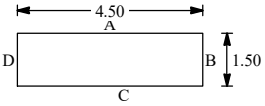
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP310 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,893.9 N 271,159.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.51m O.D. | **DATE:** 25.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | D 1 | 0.20-0.30 | | | 38.21 | 0.30 | Plastic dark brownish black amorphous PEAT. H8 B1 F1 R0 W2 TV1 TH1 A0. |
| | | | VANE | 0.40 | 33mm vane 12 kN/m² | | 38.01 | 0.50 | Soft damp greyish brown organic silty CLAY with some rootlets. |
| | | | B 2 | 0.50-0.80 | | | 37.01 | 1.50 | Soft damp grey slightly sandy gravelly SILT with low cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 1 | | | | | | | | | |
| | | | B 3 | 1.50-2.00 | | | 36.11 | 2.40 | Stiff damp dark grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | | | | | | | |
| | | | | | | END | | | TP terminated at 2.40m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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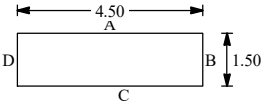
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP311 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,240.2 N 271,369.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.45m O.D. | **DATE:** 23.2.21 |

**GROUNDWATER**

Water strikes: 1st: 2.00m Rose to after: 20min 1.90m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark blackish brown fibrous PEAT. H3 B2 F3 R1 W0 TV1 TH1 A1. |
| | | | | | | | 36.95 | 0.50 | |
| | | | B 1 | 0.50-0.80 | | | | | Grey slightly gravelly silty fine to medium SAND. |
| 1 | | | | | | | | | |
| | | | | | | | 35.95 | 1.50 | |
| | | | | | | | | | Firm damp grey sandy SILT. Sand is fine. |
| | | 1 | | | | | | | |
| 2 | | 1 | B 2 | 2.00-2.30 | | | | | |
| | | | | | | | 34.55 | 2.90 | |
| 3 | | | | | | END | | | TP terminated at 2.90m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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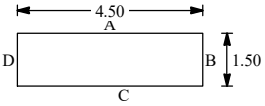
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP312 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,192.6 N 271,453.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.05m O.D. | **DATE:** 24.2.21 |

**GROUNDWATER**

Water strikes: 1st: 1.60m Rose to after: 20min 1.10m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 36.85 | 0.20 | Very soft dark brown black fibrous PEAT. H2 B1 F3 R2 W2 TV1 TH1 A0. |
| | | | D 1 | 0.30-0.40 | | | | | Very soft orangish brown clayey fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A1. |
| | | | VANE | 0.50 | H70 vane 70 kN/m² Rem 10 kN/m² | | | | |
| | | | B 2 | 0.50-0.70 | | | 36.35 | 0.70 | |
| 1 | | 1 | | | | | 35.85 | 1.20 | Very soft moist grey organic clayey sandy SILT with some rootlets. Sand is fine. |
| | | | B 3 | 1.20-1.50 | | | 35.55 | 1.50 | Soft dark brown slightly gravelly sandy SILT. |
| | | 1 | | | | | 35.25 | 1.80 | Moist grey very sandy subangular to subrounded fine limestone sandstone and quartz GRAVEL. Sand is medium to coarse. |
| | | | | | | END | | | TP terminated at 1.80m bgl. Unable to progress TP - sidewall collapse and ingress of water. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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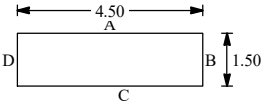
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP313 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,144.5 N 271,546.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 36.71m O.D. | **DATE:** 24.2.21 |

**GROUNDWATER**

Water strikes: 1st: 2.20m Rose to after: 20min 1.60m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE D 1 | 0.30 0.30-0.40 | 33mm vane 14 kN/m² | | | | Heather and rushes over dark orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A1. |
| | | | VANE | 0.50 | H70 vane 46 kN/m² Rem 6 kN/m² | | 36.11 | 0.60 | |
| | | | | | | | | | Very soft damp greyish brown peaty CLAY with many fibres and rootlets. Organic odour. |
| 1 | | | VANE | 1.00 | H70 vane 64 kN/m² Rem 18 kN/m² | | 35.61 | 1.10 | |
| | | | B 2 | 1.10-1.40 | | | | | Very soft moist grey organic SILT with some rootlets and some plant material. |
| | | 1 | | | | | 34.91 | 1.80 | |
| | | | B 3 | 1.80-2.10 | | | | | Moist grey gravelly silty fine to coarse SAND. Gravel is subangular to subrounded fine of limestone and quartz. |
| 2 | | 1 | | | | | 34.51 | 2.20 | |
| | | | | | | END | | | TP terminated at 2.20m bgl. Unable to progress TP - sidewall collapse and ingress of water. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.20m bgl. TP backfilled with arisings.

**Scale:** 1:25

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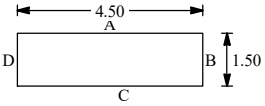
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP314 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,084.3 N 271,620.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.69m O.D. | **DATE:** 24.2.21 |

**GROUNDWATER**

Water strikes: 1st: 3.20m Rose to after: 20min 1.50m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 3.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A1. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | VANE | 0.50 | 33mm vane 11 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 32 kN/m² Rem 4 kN/m² | | | | |
| | | 1 | VANE | 1.50 | H70 vane 60 kN/m² Rem 6 kN/m² | | 36.09 | 1.60 | |
| | | | B 2 | 1.60-1.90 | | | 35.99 | 1.70 | Damp grey silty gravelly fine to medium SAND. Gravel is subangular to subrounded fine of limestone and quartz. |
| | | | | | | | | | Soft damp grey organic silty CLAY with some rootlets and some plant material. |
| 2 | | | VANE | 2.00 | H70 vane 58 kN/m² Rem 22 kN/m² | | | | |
| | | | VANE | 2.50 | H70 vane 88 kN/m² Rem 24 kN/m² | | | | |
| 3 | | 1 | | | | | 34.49 | 3.20 | |
| | | | B 3 | 3.20-3.50 | | | 34.19 | 3.50 | Very soft damp grey slightly sandy SILT. |
| | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - due to ingress of water. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.20m bgl. TP backfilled with arisings.

**Scale:** 1:25

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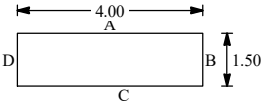
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP315 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,053.9 N 271,716.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 36.73m O.D. | **DATE:** 24.2.21 |

**GROUNDWATER**

Water strikes: 1st: 0.80m Rose to after: 20min 0.10m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1 | | | | | | | |
| | | | B 1 | 0.30-0.60 | | | | | Orangish brown interbedded very sandy subrounded to rounded fine to coarse limestone sandstone and quartz GRAVEL. Sand is fine to coarse. |
| | | 1 | | | | | 35.63 | 1.10 | |
| | | | | | | END | | | TP terminated at 1.10m bgl. Unable to progress TP - sidewall collapse. |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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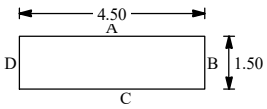
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP317 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 **of** 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,140.6 N 271,889.9 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 38.68m O.D. | | **DATE:** 25.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 3.30m | 20min | 3.23m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W2 TV1 TH1 A1. 0.20m: wooden stakes. |
| | | | D 1 | 0.40-0.50 | 33mm vane 9 kN/m² | | | | |
| | | | VANE | 0.50 | | | | | |
| 1 | | | VANE | 1.01 | H70 vane 38 kN/m² Rem 4 kN/m² | | | | |
| | | | B 2 | 1.20-1.40 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 24 kN/m² Rem 10 kN/m² | | | | |
| | | | B 3 | 2.70-3.00 | | | | | |
| 3 | | 1 | VANE | 3.00 | H70 vane 38 kN/m² Rem 7 kN/m² | | | | |
| 4 | | | VANE | 4.00 | H70 vane 38 kN/m² Rem 15 kN/m² | | 34.58 | 4.10 | |
| | | | B 4 | 4.10-4.30 | | | | | Very soft moist grey organic silty CLAY with some rootlets and some plant material. |
| | | | | | | | 34.28 | 4.40 | |
| | | | | | | END | | | TP terminated at 4.40m bgl on REs instruction. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.30m bgl. TP backfilled with arisings. H70 vane in DPTP317 at 5.00m bgl - 22KPa/10KPa.

**Scale:** 1:25

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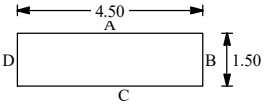
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT: Derryadd Wind Farm** | | **TRIALPIT: TP318** |
| **LOCATION: Derryadd, Co. Longford** | | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** | **Rig: Hyundai 140 LC9** |
| **ENGINEER: Bord na Mona** | **E 204,114.8 N 271,978.1** | **Rev: DRAFT** |
| **Ground level: 39.74m O.D.** | | **DATE: 25.2.21** |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H2 B3 F3 R2 W2 TV1 TH1 A1. |
| | | | VANE D 1 | 0.50 0.50-0.60 | 33mm vane 10 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 28 kN/m² Rem 6 kN/m² | | | | |
| | | | B 2 | 1.70-2.00 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 18 kN/m² Rem 4 kN/m² | | | | |
| 3 | | | VANE | 3.00 | H70 vane 18 kN/m² Rem 4 kN/m² | | | | |
| | | | B 3 | 3.20-3.50 | | | 36.24 | 3.50 | |
| | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings. H70 vane in DPTP318 at 4.00m bgl - 20KPa/8KPa. H70 vane in DPTP318 at 5.00m bgl - 12KPa/2KPa.

**Scale:** 1:25

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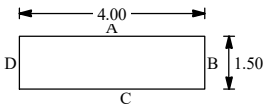
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP319 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,089.1 N 272,082.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.25m O.D. | **DATE:** 25.2.21 |

**GROUNDWATER**

Water strikes: 1st: 1.30m 2nd: 3rd:
Rose to after: 20min 1.29m

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Heather and moss over dark orangish brown fibrous PEAT. H2 B3 F3 R2 W1 TV1 TH1 A1. |
| | | | D 1 | 0.50-0.60 | | | | | |
| | | | VANE | 0.60 | 33mm vane 6 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 11 kN/m² | | | | |
| | | 1.1 | B 2 | 1.10-1.40 | Rem 2 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 6 kN/m² | | 39.15 | 2.10 | |
| | | | | | Rem 1 kN/m² | END | | | TP terminated at 2.10m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.30m bgl. TP backfilled with arisings. H70 vane in DPTP319 at 3.00m bgl - 20KPa/4KPa. H70 vane in DPTP319 at 4.00m bgl - 20KPa/2KPa. H70 vane in DPTP319 at 5.00m bgl - 24KPa/6KPa.

**Scale:** 1:25

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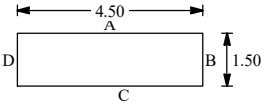
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP320 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,071.9 N 272,180.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.35m O.D. | **DATE:** 25.2.21 |

**GROUNDWATER**

Water strikes: 1st: 2.20m Rose to after: 20min 2.20m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Heather and moss over dark orangish brown fibrous PEAT. H2 B2 F3 R1 W1 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | VANE | 0.40 | 33mm vane 8 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 8 kN/m² Rem 1 kN/m² | | | | |
| | | | B 2 | 1.20-1.50 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 18 kN/m² Rem 2 kN/m² | | 38.15 | 2.20 | |
| | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B3 F2 R1 W1 TV1 TH1 A1. |
| | | | B 3 | 2.70-3.00 | | | 37.35 | 3.00 | |
| 3 | | | VANE | 3.00 | H70 vane 12 kN/m² Rem 1 kN/m² | END | | | TP terminated at 3.00m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.20m bgl. TP backfilled with arisings. H70 vane in DPTP320 at 4.00m bgl - 22KPa/6KPa. H70 vane in DPTP320 at 5.00m bgl - 30KPa/8KPa.

**Scale:** 1:25

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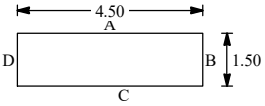
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP321 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,118.2 N 272,244.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.04m O.D. | **DATE:** 25.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 225-045
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Heather and grass over dark orangish brown fibrous PEAT. H3 B3 F3 R2 W1 TV1 TH1 A1. |
| | | | D 1 | 0.50-0.60 | | | | | |
| | | | VANE | 0.60 | 33mm vane 10 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 6 kN/m² Rem 1 kN/m² | | | | |
| | | | B 2 | 1.20-1.50 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 12 kN/m² Rem 4 kN/m² | | 37.94 | 2.10 | |
| | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B3 F3 R1 W2 TV1 TH1 A1. |
| 3 | | | VANE | 3.00 | H70 vane 18 kN/m² Rem 4 kN/m² | | | | |
| | | | B 3 | 3.50-3.80 | | | | | |
| 4 | | | VANE | 4.00 | H70 vane 20 kN/m² Rem 8 kN/m² | END | 36.04 | 4.00 | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings. H70 vane in DPTP321 at 5.00m bgl - 16KPa/6KPa.

**Scale:** 1:25

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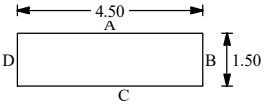
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP322 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,953.1 N 271,744.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.24m O.D. | **DATE:** 24.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.94 | 0.30 | Plastic brownish black amorphous PEAT. H8 B1 F1 R0 W2 TV1 TH1. |
| | | | B 1 | 0.30-0.50 | | | 37.34 | 0.90 | Damp brownish grey silty fine and medium SAND. |
| 1 | | | B 2 | 0.90-1.20 | | | 36.34 | 1.90 | Soft moist grey slightly sandy organic SILT with some rootlets and some plant material. |
| 2 | | | | | | | 36.04 | 2.20 | Soft moist grey very gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| | | | B 3 | 2.20-2.50 | | | 35.64 | 2.60 | Very stiff dark grey gravelly SILT with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | END | | | TP terminated at 2.60m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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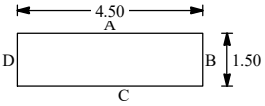
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP326 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,579.5 N 271,596.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.42m O.D. | **DATE:** 26.2.21 |

**GROUNDWATER**

Water strikes: 1st: 1.40m Rose to after: 20min 1.39m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Grass and rushes over spongy dark brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | VANE D 1 | 0.50 0.50-0.60 | 33mm vane 12 kN/m² | | | | |
| 1 | | 1.1 | | | | | 39.02 | 1.40 | |
| | | | B 2 | 1.40-1.70 | | | | | Soft moist grey silty very gravelly CLAY with low cobble content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. |
| | | | | | | | 38.52 | 1.90 | |
| 2 | | | B 3 | 2.00-2.30 | | | | | Very stiff brownish grey slightly sandy gravelly SILT with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | | 37.62 | 2.80 | |
| | | | | | | END | | | TP terminated at 2.80m bgl. Obstruction as very stiff strata - hard digging. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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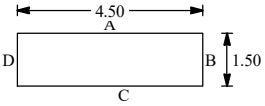
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP327 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,494.0 N 271,574.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.29m O.D. | **DATE:** 26.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 135-315
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 41.09 | 0.20 | Rushes over dark brown gravelly peaty CLAY. Gravel is subangular to subrounded fine to coarse of sandstone and limestone. |
| | | | B 1 | 0.50-0.60 | | | 40.39 | 0.90 | Firm damp brownish grey silty organic very gravelly CLAY with medium cobble content and low boulder content and some wood. Gravel is angular to subangular fine to coarse of sandstone and limestone. Cobbles are subangular to subrounded of sandstone and limestone. Boulders are subangular to subrounded of sandstone and limestone. Boulders are up to 400mm in length. |
| 1 | | | B 2 | 1.10-1.30 | | | 39.19 | 2.10 | Stiff damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | | | | END | | | TP terminated at 2.10m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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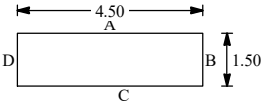
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP329 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,295.2 N 271,476.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.40m O.D. | **DATE:** 1.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 340-160
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 38.30 | 0.10 | Grass and heather over plastic black clayey amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A0. |
| | | | B 1 ATE | 0.20-0.50 0.30 | | | 37.80 | 0.60 | Firm damp orangish brownish grey slightly sandy gravelly silty CLAY with medium cobble content and low boulder content and some rootlets. Sand is fine. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subrounded of limestone and sandstone. Boulders are up to 600mm in length. |
| 1 | | | B 2 | 1.70-2.00 | | | 36.40 | 2.00 | Firm damp dark grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 2 | | | | | | END | | | TP terminated at 2.00m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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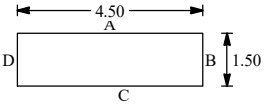
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP330 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,270.6 N 271,379.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 36.14m O.D. | **DATE:** 26.2.21 |

**GROUNDWATER**

Water strikes: 1st: 0.30m Rose to after: 20min 0.29m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1.1 | D 1 | 0.30-0.40 | 33mm vane 11 kN/m² | | 35.74 | 0.40 | Grass rushes and moss over very soft brown clayey fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A0. |
| | | | B 2 | 0.40-0.70 | | | 35.04 | 1.10 | Soft damp grey slightly gravelly sandy silty CLAY with low cobble content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. |
| 1 | | | B 3 | 1.30-1.60 | | | 34.54 | 1.60 | Very stiff brownish grey gravelly SILT with high cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | | | | END | | | TP terminated at 1.60m bgl. Obstruction as boulders. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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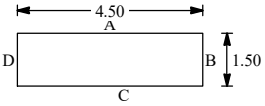
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP331 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,250.5 N 271,297.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.49m O.D. | **DATE:** 16.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.29 | 0.20 | Firm damp greyish brown gravelly clayey SILT with low cobble content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. |
| | | | | | | | 36.79 | 0.70 | Plastic orangish brown amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A1. |
| | | | VANE D 1 | 0.70 0.70-0.80 | 33mm vane 18 kN/m² | | | | Very soft orangish brown fibrous PEAT with tree trunk 4.00m in length. H3 B2 F3 R2 W1 TV1 TH1 A2. |
| 1 | | | VANE | 1.00 | H70 vane 46 kN/m² Rem 6 kN/m² | | | | |
| | | | | | | | 35.49 | 2.00 | |
| 2 | | | VANE B 2 | 2.00 2.00-2.30 | H70 vane 23 kN/m² Rem 2 kN/m² | | | | Damp bluish grey very sandy very silty GRAVEL with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | | | | | 34.59 | 2.90 | |
| 3 | | | B 3 | 3.00-3.40 | | | 34.09 | 3.40 | Stiff grey slightly sandy gravelly SILT with high cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are s subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | | | | END | | | TP terminated at 3.40m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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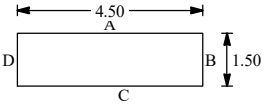
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP332 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,221.2 N 271,191.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 36.54m O.D. | **DATE:** 16.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Grass and rushes over plastic dark brown amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | 36.04 | 0.50 | |
| | | | ANE<br>B 2<br>ANE | 0.50<br>0.50-0.90<br>0.51 | 33mm vane 11 kN/m²<br>H70 vane 120 kN/m²<br>Rem 50 kN/m² | | 35.64 | 0.90 | Firm damp brownish grey clayey very gravelly SILT with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| 1 | | | | | | END | | | TP terminated at 0.90m bgl. Obstruction as grey limestone rock. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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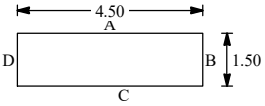
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP334 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,222.4 N 270,993.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.50m O.D. | **DATE:** 16.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 0.90m | 10min | 0.90m |
| 2nd: | 2.20m | 10min | 2.19m |
| 3rd: | | | |

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Heather grass saplings over spongy dark brown pseudo fibrous PEAT. H6 F1 R1 W2 TV1 TH1 A1. |
| | | | VANE D 1 | 0.50 0.50-0.60 | 33mm vane 19 kN/m² | | 36.90 | 0.60 | |
| | | 1 1 | VANE B 2 | 0.80 0.90-1.20 | H70 vane 40 kN/m² Rem 5 kN/m² | | 36.60 | 0.90 | Very soft dark orangish brown fibrous PEAT. H3 F2 R2 W1 TV1 TH1 A2. |
| 1 | | | | | | | 36.30 | 1.20 | Moist grey slightly gravelly silty medium to coarse SAND. Gravel is angular to subangular fine to coarse of limestone quartz and calcite. |
| | | | | | | | 35.70 | 1.80 | Firm grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of grey limestone. Cobbles are subrounded to rounded of grey limestone. Boulders are subrounded to rounded of grey limestone. Boulders are up to 450mm in length. |
| 2 | | 2 2 | B 3 | 2.00-2.20 | | | 35.30 | 2.20 | Stiff grey slightly gravelly sandy SILT with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of grey limestone. Cobbles are subrounded to rounded of grey limestone. Boulders are subrounded to rounded of grey limestone. Boulders are up to 400mm in length. |
| | | | | | | END | | | TP terminated at 2.20m bgl. Obstruction as possible rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.90m bgl. Ingress of water at 2.20m bgl.TP backfilled with arisings.

**Scale:** 1:25

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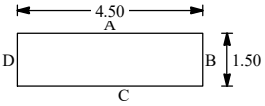
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP335 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,281.7 N 270,913.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.13m O.D. | **DATE:** 16.2.21 |

**GROUNDWATER**

Water strikes: 1st: dry 2nd: 3rd: Rose to after:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1 | 0.30-0.40 | | | 36.73 | 0.40 | Heather and rushes over dark brown clayey fibrous PEAT. H3 B1 F2 R2 W0 TV1 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 18 kN/m² | | | | |
| | | | B 2 | 0.50-0.70 | | | 36.33 | 0.80 | Very soft moist bluish grey organic gravelly SILT with low cobble content. Gravel is subangular to rounded fine to coarse of limestone and quartz. Cobbles are subrounded to rounded of limestone. |
| 1 | | | B 3 | 1.80-2.00 | | | 35.13 | 2.00 | Firm grey clayey very gravelly SILT with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 2 | | | B 4 | 2.00-2.30 | | | 34.83 | 2.30 | Stiff grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | | | | END | | | TP terminated at 2.30m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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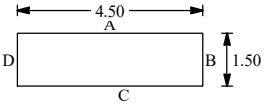
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP336 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,325.1 N 270,832.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.41m O.D. | **DATE:** 16.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.10m | 20min | 1.09m |
| 2nd: | 1.50m | 20min | 1.49m |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1 | 0.50-0.60 | | | | | Very soft dark brown fibrous PEAT. H3 B2 F2 R2 W1 TV1 TH1 A1. |
| | | | VANE | 0.60 | 33mm vane 13 kN/m² | | | | |
| 1 | | 1 | VANE | 1.00 | H70 vane 52 kN/m² Rem 22 kN/m² | | 36.31 | 1.10 | |
| | | | B 2 | 1.10-1.40 | | | | | Bluish grey gravelly very silty fine SAND with low cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | 2 | | | | | | | |
| 2 | | | | | | | 35.01 | 2.40 | |
| | | | B 3 | 2.40-2.60 | | | | | Stiff brownish grey slightly sandy silty gravelly CLAY with high cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | | 34.51 | 2.90 | |
| 3 | | | | | | END | | | TP terminated at 2.90m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.10m bgl. Ingress of water at 1.50m bgl.TP backfilled with arisings.

**Scale:** 1:25

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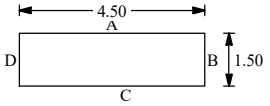
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP337 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,380.2 N 270,735.1 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 36.94m O.D. | | **DATE:** 16.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 36.74 | 0.20 | Grass and rushes over plastic dark brownish black amorphous PEAT with some rootlets. H7 B1 F1 R0 W0 TV1 TH1 A1. |
| | | | | | | | 36.44 | 0.50 | Very soft dark greyish brown fibrous PEAT. H3 B2 F2 R1 W0 TV1 TH1 A1. |
| | | | D 1 | 0.50-0.60 | | | | | Very soft moist bluish grey slightly sandy slightly gravelly organic silty CLAY with low cobble content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. |
| | | | VANE | 0.80 | 33mm vane 12 kN/m² | | | | |
| | | | B 2 | 0.80-1.00 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 30 kN/m² Rem 12 kN/m² | | | | |
| | | | | | | | 34.94 | 2.00 | |
| 2 | | | B 3 | 2.00-2.30 | | | | | Stiff damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded of limestone. Boulders are subrounded of limestone. Boulders are up to 500mm in length. |
| | | | | | | | 34.04 | 2.90 | |
| 3 | | | | | | END | | | TP terminated at 2.90m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of surface water. TP backfilled with arisings.

**Scale:** 1:25

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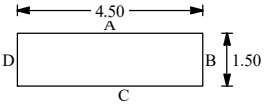
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP338 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,428.4 N 270,658.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.20m O.D. | **DATE:** 1.3.21 |

**GROUNDWATER**

Water strikes: 1st: 0.60m Rose to after: 20min 0.59m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 36.90 | 0.30 | Grass rushes and saplings over plastic dark brownish black amorphous PEAT. H8 B1 F1 R0 W1 TV1 TH1 A1. |
| | | 1.1 | VANE<br>D 1<br>B 2 | 0.50<br>0.50-0.60<br>0.60-0.90 | 33mm vane 14 kN/m² | | 36.60 | 0.60 | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A1. |
| 1 | | | | | | | 35.50 | 1.70 | Very soft moist grey organic laminated silty CLAY with some rootlets and some plant material. |
| 2 | | | B 3 | 1.80-2.10 | | | 35.00 | 2.20 | Stiff damp grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | END | | | TP terminated at 2.20m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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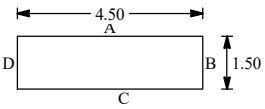
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP339 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,544.5 N 270,642.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.31m O.D. | **DATE:** 16.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 270-090
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 38.01 | 0.30 | Rushes and saplings over plastic brownish black amorphous PEAT. H7 B1 F1 R1 W0 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | Firm damp grey organic gravelly SILT with medium cobble content and many rootlets. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. |
| | | | VANE | 0.40 | 33mm vane 11 kN/m² | | | | |
| | | | B 2 | 0.50-0.70 | | | 37.51 | 0.80 | |
| 1 | | | | | | | | | Soft moist bluish grey slightly sandy silty very gravelly silty CLAY with medium cobble content and medium boulder content. Sand is fine to medium. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 3 | 1.50-1.80 | | | | | |
| 2 | | | | | | | 35.81 | 2.50 | |
| | | | | | | | 35.61 | 2.70 | Stiff damp dark grey silty very gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | END | | | TP terminated at 2.70m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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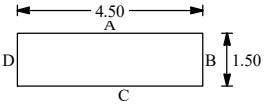
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP341 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,715.2 N 270,750.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.85m O.D. | **DATE:** 26.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 135-315
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Rushes over spongy dark orangish brown pseudo fibrous PEAT. H5 B3 F1 R1 W3 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | VANE | 0.50 | 33mm vane 14 kN/m² | | | | |
| | | | | | | | 43.15 | 0.70 | |
| | | | B 2 | 0.70-1.00 | | | | | Very soft moist grey slightly gravelly SILT with low cobble content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subrounded of limestone and sandstone. |
| 1 | | | VANE | 1.00 | H70 vane 42 kN/m² Rem 6 kN/m² | | | | |
| | | | | | | | 42.15 | 1.70 | |
| | | | | | | | | | Firm damp grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | B 3 | 2.00-2.30 | | | | | |
| | | | | | | | 41.55 | 2.30 | |
| | | | | | | | | | Stiff damp brownish grey very gravelly CLAY with high cobble content and high boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| | | | B 4 | 2.40-2.70 | | | | | |
| | | | | | | | 41.15 | 2.70 | |
| | | | | | | END | | | TP terminated at 2.70m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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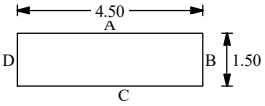
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP342 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,774.9 N 270,686.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.42m O.D. | **DATE:** 26.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Saplings and briars over soft damp grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 1 | 0.30-0.60 | | | | | |
| 1 | | | | | | | 41.12 | 1.30 | |
| | | | | | | | | | Firm damp brownish grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 800mm in length. |
| 2 | | | B 2 | 2.20-2.50 | | | | | |
| | | | | | | | 39.92 | 2.50 | |
| | | | | | | END | | | TP terminated at 2.50m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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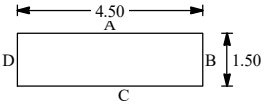
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP343 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,799.4 N 270,807.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.36m O.D. | **DATE:** 25.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: 0.30m
2nd: 0.60m
3rd:

**PIT DIRECTION:** 315-135
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1 | | | | | | | Heather and tree stumps over spongy dark brownish black pseudo fibrous PEAT. H6 B2 F1 R1 W3 TV1 TH1 A1. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | 2 | VANE | 0.50 | 33mm vane 14 kN/m² | | 43.66 | 0.70 | |
| | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B3 F2 R1 W3 TV1 TH1 A2. |
| 1 | | | VANE | 1.00 | H70 vane 44 kN/m² Rem 10 kN/m² | | | | |
| | | | VANE | 1.50 | H70 vane 65 kN/m² Rem 14 kN/m² | | 42.56 | 1.80 | |
| | | | B 2 | 1.80-2.00 | | | | | Very soft moist dark grey organic silty CLAY with some timber and many rootlets and much plant material. |
| 2 | | | | | | | 41.76 | 2.60 | |
| | | | B 3 | 2.70-3.00 | | | | | Soft damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 500mm in length. |
| 3 | | | B 4 | 3.00-3.30 | | | | | |
| | | | | | | | 41.06 | 3.30 | |
| | | | | | | END | | | TP terminated at 3.30m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.30m bgl. Ingress of water at 0.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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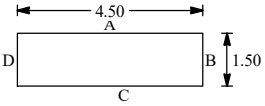
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP344 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,872.9 N 270,845.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.58m O.D. | **DATE:** 25.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE<br>D 1 | 0.30<br>0.30-0.40 | 33mm vane 12 kN/m² | | 40.88 | 0.70 | Spongy dark orangish brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W3 TV1 TH1 A1. |
| | | | D 2<br>VANE | 0.70-1.00<br>0.80 | 33mm vane 13 kN/m² | | 40.08 | 1.50 | Soft moist grey organic SILT with many pieces of wood. Wood is up to 400mm in length. |
| 1 | | | B 3 | 1.70-1.90 | | | 39.18 | 2.40 | Soft moist light grey slightly sandy gravelly SILT with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 1100mm in length. |
| 2 | | | B 4 | 2.40-2.80 | | | 38.78 | 2.80 | Stiff damp grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | END | | | TP terminated at 2.80m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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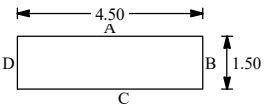
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP345 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,476.7 N 270,573.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.42m O.D. | **DATE:** 15.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.22 | 0.20 | Grass over plastic brownish black amorphous PEAT. H7 B1 F1 R1 W0 TV0 TH0 A1. |
| | | | D 1 | 0.40-0.50 | | | 36.52 | 0.90 | Very soft dark greyish brown clayey fibrous PEAT. H3 B2 F2 R2 W2 TV1 TH1 A1. |
| | | | VANE | 0.50 | 33mm vane 11 kN/m² | | | | |
| | | | VANE | 0.51 | H70 vane 24 kN/m² Rem 4 kN/m² | | | | |
| 1 | | | B 2 | 0.90-1.20 | | | 35.32 | 2.10 | Very soft damp grey organic sandy SILT with some rootlets. Sand is fine. |
| | | | VANE | 1.50 | H70 vane 35 kN/m² Rem 6 kN/m² | | | | |
| 2 | | | | | | | 34.12 | 3.30 | Very soft moist grey slightly gravelly sandy CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | B 3 | 2.50-2.70 | | | | | |
| 3 | | | | | | END | | | TP terminated at 3.30m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of surface water. TP backfilled with arisings.

**Scale:** 1:25

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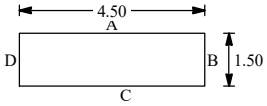
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP346 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,532.4 N 270,495.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.56m O.D. | **DATE:** 15.2.21 |

**GROUNDWATER**

Water strikes: 1st: 1.00m Rose to after: 20min 0.99m
2nd:
3rd:

**PIT DIRECTION:** 270-090
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE | 0.50 | H70 vane 72 kN/m² Rem 11 kN/m² | | 36.66 | 0.90 | MADE GROUND: Grass and saplings over firm grey mottled brownish black peaty CLAY with some concrete pipe fragments. |
| 1 | | | D 1 / VANE / B 2 | 0.90-1.00 / 1.00 / 1.00-1.30 | 33mm vane 18 kN/m² | | 35.56 | 2.00 | Very soft damp grey slightly sandy organic silty CLAY with some rootlets. Sand is fine. Organic odour. |
| | | | VANE | 1.50 | H70 vane 57 kN/m² Rem 2 kN/m² | | | | |
| 2 | | | VANE | 2.50 | H70 vane 63 kN/m² Rem 7 kN/m² | | 34.06 | 3.50 | Very soft moist grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| 3 | | | B 3 | 3.20-3.50 | | | | | |
| | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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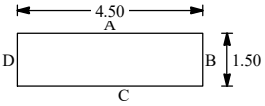
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TP347** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 203,584.3 N 270,401.1 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 37.50m O.D.** | **DATE: 15.2.21** |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION: 180-360**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.20 | 0.30 | Plastic blackish brown amorphous PEAT. H8 B1 F1 R1 W0 TV0 TH0 A0. |
| | | | D 1 | 0.40-0.50 | | | | | Very soft orangish greyish brown clayey fibrous PEAT. H3 B2 F2 R2 W1 TV1 TH1 A1. |
| | | | VANE | 0.50 | 33mm vane 16 kN/m² | | | | |
| | | | VANE | 0.51 | H70 vane 26 kN/m² Rem 10 kN/m² | | 36.70 | 0.80 | |
| | | | | | | | 35.70 | 1.80 | Very soft damp grey organic silty CLAY with some rootlets. Organic odour. |
| 1 | | | B 2 | 1.00-1.30 | | | | | |
| | | | VANE | 1.50 | H70 vane 30 kN/m² Rem 8 kN/m² | | | | |
| 2 | | | | | | | 34.00 | 3.50 | Very soft moist grey gravelly clayey SILT with low cobble content. Gravel is subangular to subrounded fine to coarse of limestone and chert. Cobbles are subrounded to rounded of limestone and chert. |
| | | | VANE | 2.50 | H70 vane 41 kN/m² Rem 5 kN/m² | | | | |
| 3 | | | B 3 | 2.70-3.00 | | | | | |
| | | | VANE | 3.50 | H70 vane 61 kN/m² Rem 2 kN/m² | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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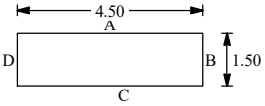
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP348 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,645.4 N 270,321.4 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 37.76m O.D. | | **DATE:** 15.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.56 | 0.20 | Rushes over plastic dark blackish brown amorphous PEAT. H8 B1 F1 R0 W0 TV0 TH0 A0. |
| | | | VANE D 1 | 0.40 0.40-0.50 | 33mm vane 12 kN/m² | | 37.06 | 0.70 | Very soft orangish greyish brown clayey fibrous PEAT. H3 B2 F2 R2 W1 TV1 TH1 A2. |
| | | | B 2 | 0.70-1.00 | | | | | Very soft moist bluish grey slightly sandy organic SILT. Sand is fine to medium. |
| 1 | | | VANE | 1.00 | H70 vane 46 kN/m² Rem 5 kN/m² | | 36.56 | 1.20 | |
| | | | | | | | | | Very soft moist bluish grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| 2 | | | VANE | 2.00 | H70 vane 38 kN/m² Rem 6 kN/m² | | | | |
| | | | B 3 | 2.50-2.70 | | | | | |
| 3 | | | B 4 | 3.00-3.50 | | | 34.26 | 3.50 | |
| | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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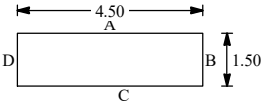
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP349 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,694.3 N 270,233.0 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 38.06m O.D. | | **DATE:** 1.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.00m to 2.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.86 | 0.20 | Rushes and saplings over plastic dark brownish black amorphous PEAT. H8 B1 F1 R0 W1 TV1 TH1 A0. |
| | | | D 1 | 0.30-0.40 | | | 37.66 | 0.40 | Soft damp greyish brown organic peaty CLAY with some fibres. |
| | | | CBR | 0.40 | | | | | |
| | | | D 2 | 0.40-0.70 | | | 37.06 | 1.00 | Firm damp brownish grey slightly sandy gravelly SILT with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 1 | | | B 3 | 1.10-1.30 | | | 35.86 | 2.20 | Very soft moist grey slightly sandy gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 2 | | | B 4 | 2.20-2.50 | | | 35.56 | 2.50 | Very stiff brownish grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | | | | END | | | TP terminated at 2.50m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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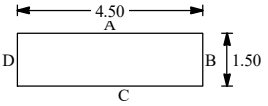
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP351 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,794.9 N 270,062.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.14m O.D. | **DATE:** 15.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Firm damp grey silty very gravelly CLAY with medium cobble content and medium boulder content and some rootlets. Gravel is subrounded to rounded fine to coarse of limestone and chert. Cobbles are subrounded to rounded of limestone and chert. Boulders are subrounded to rounded of limestone and chert. Boulders are up to 600mm in length. |
| | | | PLATE | 0.30 | | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.50-1.00 | | | | | |
| 1 | | | | | | | 37.64 | 1.50 | |
| | | | | | | | | | Very soft moist bluish grey slightly sandy gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded of limestone. Boulders are up to 250mm in length. |
| 2 | | | B 3 | 2.00-2.30 | | | 36.84 | 2.30 | |
| | | | | | | END | | | TP terminated at 2.30m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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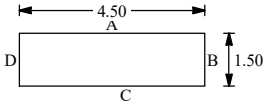
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP352 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,847.6 N 269,979.1 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 39.08m O.D. | | **DATE:** 11.2.21 |

**GROUNDWATER**

Water strikes: 1st: 0.90m Rose to after: 20min 0.80m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | VANE D 1 | 0.40<br>0.40-0.50 | 33mm vane 12 kN/m² | | | | Very soft dark orangish brown fibrous PEAT with tree trunk 4.00m in length.<br>H2 B2 F2 R1 W3 TV1 TH1 A2. |
| | | 1 | | | | | 38.18 | 0.90 | |
| | | | | | | | 38.08 | 1.00 | Damp grey slightly gravelly silty coarse SAND. Gravel is subangular to subrounded fine of limestone and sandstone. |
| 1 | | | B 2 | 1.00-1.20 | | | | | Damp grey very silty very sandy GRAVEL with high cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 900mm in length. |
| 2 | | | B 3 | 2.00-2.40 | | | | | |
| | | | | | | | 36.48 | 2.60 | |
| | | | | | | END | | | TP terminated at 2.60m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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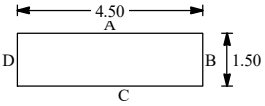
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TP353** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 203,900.6 N 269,892.0 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 39.82m O.D.** | **DATE: 10.2.21** |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION: 045-225**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 39.72 | 0.10 | Rushes over plastic dark blackish brown amorphous PEAT. H8 B2 F1 R0 W0 TV0 TH1 A0. |
| | | | D 1 | 0.10-0.20 | | | | | Stiff damp brownish grey slightly sandy silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| | | | B 2 | 0.10-0.40 | | | | | |
| | | | ANE | 0.30 | 33mm vane 12 kN/m² | | 39.42 | 0.40 | |
| | | | | | | | | | Stiff dark bluish grey silty very gravelly CLAY with high cobble content and high boulder content. Gravel is of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| 1 | | | B 3 | 1.00-1.50 | | | | | |
| 2 | | | | | | | | | |
| | | | B 4 | 2.50-3.00 | | | | | |
| 3 | | | | | | | 36.82 | 3.00 | |
| | | | | | | END | | | TP terminated at 3.00m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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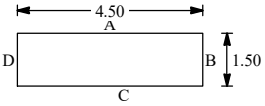
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP354 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,962.5 N 269,792.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.21m O.D. | **DATE:** 10.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Plastic dark blackish brown amorphous PEAT. H8 B2 F1 R0 W0 TV0 TH0 A0. |
| | | | | | | | 38.81 | 0.40 | |
| | | | D 1 | 0.40-0.50 | | | | | Very soft dark brown fibrous PEAT. H3 B1 F2 R1 W2 TV1 TH1 A1. |
| | | | VANE | 0.50 | 33mm vane 14 kN/m² | | | | |
| | | | VANE | 0.80 | H70 vane 69 kN/m² | | 38.31 | 0.90 | |
| 1 | | | B 2 | 1.00-1.20 | | | | | Stiff brownish grey slightly sandy gravelly organic silty CLAY with medium cobble content and many rootlets. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. |
| 2 | | | | | | | | | |
| | | | B 3 | 2.50-3.00 | | | | | |
| 3 | | | | | | | 36.11 | 3.10 | |
| | | | B 4 | 3.10-3.40 | | | | | Stiff brownish grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | | 35.81 | 3.40 | |
| | | | | | | END | | | TP terminated at 3.40m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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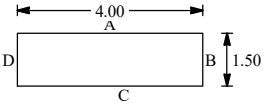
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP356 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,512.0 N 269,885.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 36.27m O.D. | **DATE:** 19.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 35.87 | 0.40 | Reeds and rushes over brownish black fibrous PEAT. H3 B3 F3 R2 W1 TV1 TH1 A1. |
| | | | D 1 | 0.50-0.60 | | | | | Very soft moist bluish grey organic laminated SILT many rootlets. Organic odour. |
| | | | B 2 | 0.60-0.90 | | | | | |
| 1 | | | | | | | | | |
| | | | B 3 | 1.50-2.00 | | | 34.07 | 2.20 | |
| 2 | | | | | | | | | |
| | | | | | | | | | Very soft moist grey slightly sandy slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse of limestone. |
| 3 | | | B 4 | 3.00-3.50 | | | 32.77 | 3.50 | |
| | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of surface water. TP backfilled with arisings.

**Scale:** 1:25

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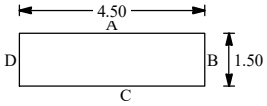
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP357 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,424.4 N 269,826.5 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 36.91m O.D. | | **DATE:** 19.2.21 |

**GROUNDWATER**

Water strikes: 1st: 2.30m Rose to after: 20min 2.22m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.50m to 2.40m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 36.71 | 0.20 | Plastic dark brownish black amorphous PEAT. H8 B1 F1 R0 W2 TV1 TH1 A1. |
| | | | D 1 | 0.40-0.50 | | | | | Soft damp grey organic silty CLAY some rootlets and some plant material. |
| | | | VANE | 0.50 | 33mm vane 22 kN/m² | | | | |
| | | | B 2 | 0.90-1.20 | | | | | |
| 1 | | | | | | | 35.41 | 1.50 | |
| | | | | | | | | | Very soft moist grey slightly sandy clayey SILT. Sand is fine to coarse. |
| 2 | | 1 | B 3 | 2.10-2.40 | | | 34.51 | 2.40 | |
| | | | | | | | | | Stiff brownish grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 4 | 2.90-3.20 | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | 32.41 | 4.50 | |
| | | | | | | END | | | TP terminated at 4.50m bgl on REs instruction. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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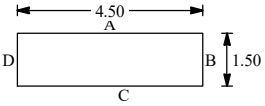
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP358 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,340.1 N 269,777.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.27m O.D. | **DATE:** 19.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.97 | 0.30 | Plastic dark brownish black amorphous PEAT. H8 B1 F1 R0 W0 TV0 TH0 A1. |
| | | | VANE D 1 | 0.40 0.40-0.50 | 33mm vane 15 kN/m² | | 37.57 | 0.70 | Very soft orangish greyish brown clayey fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A1. |
| 1 | | | B 2 | 0.70-1.00 | | | 36.47 | 1.80 | Soft damp grey slightly sandy gravelly silty CLAY with low cobble content. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. |
| 2 | | | B 3 | 1.80-2.10 | | | 35.87 | 2.40 | Stiff brownish grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | | | | END | | | TP terminated at 2.40m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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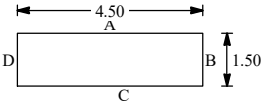
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP360 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 3 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,154.7 N 269,657.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.86m O.D. | **DATE:** 15.2.21 |

**GROUNDWATER**

Water strikes: 1st: 2.30m Rose to after: 20min 2.22m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE 1 | 0.50 | 33mm vane 8 kN/m² | | | | MADE GROUND: Firm dark blackish brown clayey amorphous PEAT with some plastic and some timber. |
| | | | D 1 | 0.50-0.60 | H70 vane 50 kN/m² | | | | |
| | | | VANE | 0.51 | Rem 10 kN/m² | | | | |
| 1 | | | | | | | | | |
| | | | VANE | 1.50 | 45 kN/m² Rem 6 kN/m² | | | | |
| | | | | | | | 37.86 | 2.00 | |
| 2 | | | B 2 | 2.00-2.30 | | | | | Very soft orangish brown fibrous PEAT. H2 B2 F3 R2 W1 TV1 TH1 A1. 2.00m: 12" concrete pipe running 090-270°. |
| | | 1 | VANE | 2.25 | H70 vane 86 kN/m² Rem 30 kN/m² | | | | |
| | | | | | | | 37.46 | 2.40 | |
| | | | B 3 | 2.40-2.70 | | | | | Grey organic silty SAND with many rootlets. Sand is fine. |
| | | | | | | | 36.96 | 2.90 | |
| 3 | | | | | | | | | Soft grey slightly gravelly silty CLAY with low cobble content and low boulder content. Gravel is subangular to subrounded coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 350mm in length. |
| 4 | | | B 4 | 4.00-4.50 | | | | | |
| | | | | | | | 35.36 | 4.50 | |
| | | | | | | END | | | TP terminated at 4.50m bgl on REs instruction. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.30m bgl from 12" concrete pipe. TP backfilled with arisings.

**Scale:** 1:25

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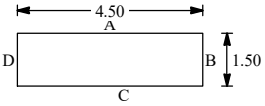
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP360 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 2 of 3 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,154.7 N 269,657.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.86m O.D. | **DATE:** 15.2.21 |

**GROUNDWATER**

Water strikes: 1st: 2.30m Rose to after: 20min 2.22m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | END LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |

**Remarks:** Ingress of water at 2.30m bgl from 12" concrete pipe. TP backfilled with arisings.

**Scale:** 1:25

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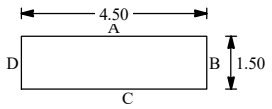
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP360 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 3 of 3 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,154.7 N 269,657.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.86m O.D. | **DATE:** 15.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 2.30m | 20min | 2.22m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 10 | | | | | | | | | |
| | | | | | H70 vane | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | | | | | | | | |
| 15 | | | | | | | | | |

**Remarks:** Ingress of water at 2.30m bgl from 12" concrete pipe. TP backfilled with arisings.

**Scale:** 1:25

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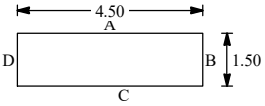
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP361 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,084.7 N 269,617.7 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 39.25m O.D. | | **DATE:** 10.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1 | 0.20-0.30 | | | 38.85 | 0.40 | Plastic dark brown amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A0. |
| | | | ATE<br>B 2<br>ANE | 0.40<br>0.40-0.70<br>0.50 | 33mm vane 9 kN/m² | | 36.75 | 2.50 | Soft damp grey slightly sandy silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| | | | B 3 | 2.50-2.80 | | | 35.85 | 3.40 | Very soft grey silty very gravelly CLAY with low cobble content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. |
| | | | | | | END | | | TP terminated at 3.40m bgl. Obstruction as boulders. |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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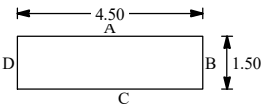
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP362 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,999.6 N 269,564.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.54m O.D. | **DATE:** 11.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F2 R2 W2 TV1 TH1 A1. |
| | | | D 1 | 0.20-0.30 | | | | | |
| | | | VANE | 0.40 | 33mm vane 9 kN/m² | | | | |
| | | | B 2 | 0.50-1.00 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 48 kN/m² | | 37.34 | 1.20 | |
| | | | B 3 | 1.20-1.50 | | | | | Very soft moist bluish grey slightly sandy SILT. |
| 2 | | | VANE | 2.00 | H70 vane 38 kN/m² | | | | |
| | | | D 4 | 2.50-3.00 | H70 vane 84 kN/m² | | | | |
| 3 | | | VANE | 3.00 | | END | 35.54 | 3.00 | TP terminated at 3.00m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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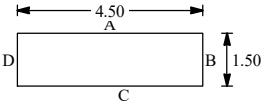
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT: Derryadd Wind Farm** | | **TRIALPIT: TP363** |
| **LOCATION: Derryadd, Co. Longford** | | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** | **Rig: Hyundai 140 LC9** |
| **ENGINEER: Bord na Mona** | **E 203,915.1 N 269,511.5** | **Rev: DRAFT** |
| **Ground level: 38.90m O.D.** | | **DATE: 11.2.21** |

**GROUNDWATER**

**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION: 090-270**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from base up.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft orangish reddish brown fibrous PEAT. H2 B2 F3 R1 W3 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | VANE | 0.40 | 33mm vane 11 kN/m² | | | | |
| | | | B 2 | 0.50-1.00 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 20 kN/m² Rem 10 kN/m² | | | | |
| | | | | | | | 37.20 | 1.70 | |
| | | | B 3 | 1.70-2.20 | | | | | Very soft bluish grey slightly gravelly slightly sandy silty CLAY with many rootlets and reeds. Gravel is subangular to subrounded fine to coarse of limestone. 1.71m: sand and gastropod shells at contact with peat. |
| 2 | | | VANE | 2.00 | H70 vane 29 kN/m² Rem 8 kN/m² | | | | |
| | | | | | | | 35.90 | 3.00 | |
| 3 | | | B 4 | 3.00-3.50 | | | | | Very soft bluish grey slightly gravelly slightly sandy silty CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded of limestone. Boulders are subrounded of limestone. Boulders are up to 450mm in length. |
| | | | | | | | 35.40 | 3.50 | |
| | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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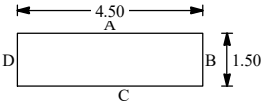
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP364 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,829.3 N 269,458.4 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 39.22m O.D. | | **DATE:** 11.2.21 |

**GROUNDWATER**

Water strikes: 1st: 1.00m Rose to after: 10min 1.00m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft orangish brown fibrous PEAT. H2 B2 F3 R3 W2 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | VANE | 0.40 | 33mm vane 10 kN/m² | | | | |
| | | | B 2 | 0.50-1.00 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 20 kN/m² Rem 4 kN/m² | | 37.82 | 1.40 | |
| | | | B 3 | 1.40-1.80 | | | | | Very soft moist grey gravelly organic silty CLAY with low cobble content and occasional shells and many rootlets. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded of limestone. |
| 2 | | | VANE | 2.00 | H70 vane 69 kN/m² Rem 45 kN/m² | | | | |
| | | | VANE | 2.20 | H70 vane 70 kN/m² Rem 40 kN/m² | | 36.22 | 3.00 | |
| 3 | | | B 4 | 3.50-4.00 | | | | | Very soft moist grey gravelly organic silty CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 4 | | | | | | END | 35.22 | 4.00 | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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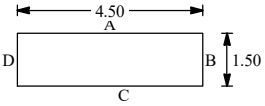
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP365 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,745.6 N 269,409.0 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 41.01m O.D. | | **DATE:** 11.2.21 |

**GROUNDWATER**

Water strikes: 1st: 1.90m Rose to after: 10min 1.90m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F2 R2 W2 TV1 TH1 A1. |
| | | | VANE D 1 | 0.70 0.70-0.80 | 33mm vane 10 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 50 kN/m² Rem 22 kN/m² | | | | |
| | | | B 2 | 1.20-1.50 | | | | | |
| | | 1.1 | | | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 54 kN/m² Rem 30 kN/m² | | 38.71 | 2.30 | |
| | | | B 3 | 2.30-2.60 | | | | | Soft moist bluish grey slightly sandy gravelly organic clayey SILT with high cobble content and low boulder content and many rootlets. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. 2.80m: rootlets absent. |
| | | | | | | | 38.01 | 3.00 | |
| 3 | | | B 4 | 3.00-3.50 | | | | | Stiff damp bluish grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| | | | | | | | 37.51 | 3.50 | |
| | | | | | | END | | | TP terminated at 3.50m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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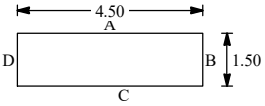
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TP366** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 203,647.5 N 269,440.5 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 39.49m O.D.** | **DATE: 11.2.21** |

**GROUNDWATER**

Water strikes: 1st: 0.90m Rose to after: 20min 0.60m
2nd:
3rd:

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.30m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H2 B2 F2 R3 W2 TV1 TH1 A1. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | 1 | VANE | 0.50 | 33mm vane 9 kN/m² | | | | |
| | | 1 | | | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 32 kN/m² Rem 12 kN/m² | | | | |
| | | | B 2 | 1.00-1.50 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 51 kN/m² Rem 25 kN/m² | | | | |
| | | | | | | | 37.19 | 2.30 | |
| | | | B 3 | 2.30-2.50 | | | | | Very soft moist grey organic silty CLAY with occasional gastropod shells and many rootlets and plant material and reeds. |
| | | | | | | | 36.49 | 3.00 | |
| 3 | | | VANE | 3.00 | H70 vane 25 kN/m² Rem 5 kN/m² | END | | | TP terminated at 3.00m bgl. Unable to progress TP - sidewall collapse and ingress of water. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.90m bgl. TP backfilled with arisings. H70 vane in DPTP366 at 4.00m bgl - 25KPa/4KPa.

**Scale:** 1:25

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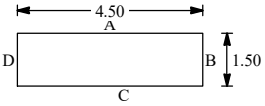
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP367 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,555.3 N 269,480.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.07m O.D. | **DATE:** 12.2.21 |

**GROUNDWATER**

Water strikes: 1st: 2.00m Rose to after: 10min 2.00m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F2 R3 W3 TV1 TH1 A1. |
| | | | VANE D 1 | 0.50 0.50-0.60 | 33mm vane 12 kN/m² | | | | |
| 1 | | | VANE B 2 | 1.00 1.00-1.50 | H70 vane 25 kN/m² Rem 3 kN/m² | | | | |
| 2 | | 1.1 | VANE | 2.00 | H70 vane 42 kN/m² Rem 10 kN/m² | | 37.27 | 2.80 | |
| | | | B 3 | 2.80-3.20 | | | | | Very soft moist greenish grey organic silty CLAY with occasional shell fragments and many rootlets and plant material. |
| 3 | | | VANE | 3.00 | H70 vane 28 kN/m² Rem 8 kN/m² | | 36.87 | 3.20 | |
| | | | B 4 | 3.40-3.60 | | | 36.47 | 3.60 | Very soft moist bluish grey silty CLAY. |
| | | | | | | END | | | TP terminated at 3.60m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.00m bgl. TP backfilled with arisings. H70 vane in DPTP367 at 4.00m bgl - 24KPa/5KPa.

**Scale:** 1:25

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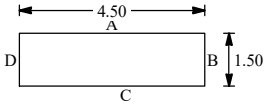
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP368 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,462.8 N 269,520.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.76m O.D. | **DATE:** 12.2.21 |

**GROUNDWATER**

Water strikes: 1st: 1.00m Rose to after: 20min 0.99m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 3.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F2 R3 W2 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | VANE | 0.40 | 33mm vane 12 kN/m² | | | | |
| 1 | | | VANE B 2 | 1.00 1.00-1.50 | H70 vane 70 kN/m² Rem 20 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 50 kN/m² Rem 10 kN/m² | | | | |
| | | | | | | | 37.76 | 3.00 | |
| 3 | | | VANE B 3 | 3.00 3.00-3.20 | H70 vane 60 kN/m² Rem 20 kN/m² | | | | Very soft moist bluish grey organic silty CLAY with some plant material and reeds and many rootlets. |
| | | | B 4 | 3.50-4.00 | | | | | |
| | | | | | | | 36.76 | 4.00 | |
| 4 | | | VANE | 4.00 | H70 vane 42 kN/m² Rem 10 kN/m² | END | | | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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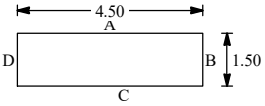
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP369 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,374.2 N 269,560.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.19m O.D. | **DATE:** 12.2.21 |

**GROUNDWATER**

Water strikes: 1st: 2.00m Rose to after: 20min 1.99m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.10m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H2 B2 F2 R2 W2 TV1 TH1 A1. |
| | | | VANE | 0.50 | 33mm vane 10 kN/m² | | | | |
| | | | D 1 | 0.50-0.60 | | | | | |
| | | | B 2 | 0.50-1.00 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 38 kN/m² Rem 8 kN/m² | | | | |
| 2 | | 1.1 | VANE | 2.00 | H70 vane 60 kN/m² Rem 25 kN/m² | | 38.09 | 2.10 | |
| | | | B 3 | 2.10-2.50 | | | | | Very soft moist bluish grey organic silty CLAY with some plant material and rootlets. |
| | | | VANE | 2.50 | H70 vane 60 kN/m² Rem 19 kN/m² | | | | |
| 3 | | | | | | | 36.89 | 3.30 | |
| | | | B 4 | 3.30-3.50 | | | | | Very soft moist bluish grey slightly sandy gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded of limestone. Boulders are up to 250mm in length. |
| | | | | | | END | 36.69 | 3.50 | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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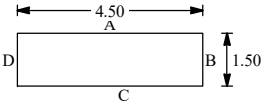
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TP370 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,278.5 N 269,599.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.51m O.D. | **DATE:** 12.2.21 |

**GROUNDWATER**

Water strikes: 1st: 2.60m Rose to after: 20min 2.58m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F2 R3 W2 TV1 TH1 A1. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | VANE | 0.50 | 33mm vane 12 kN/m² | | | | |
| | | | B 2 | 0.70-1.20 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 50 kN/m² Rem 5 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 44 kN/m² Rem 5 kN/m² | | | | |
| | | 1.1 | | | | | 38.91 | 2.60 | |
| | | | B 3 | 2.60-3.10 | | | | | Very soft moist bluish grey organic silty CLAY with some plant material and many rootlets. |
| 3 | | | | | | | 38.21 | 3.30 | |
| | | | B 4 | 3.40-3.80 | | | | | Soft grey slightly sandy silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | | | | | 37.71 | 3.80 | |
| | | | | | | END | | | TP terminated at 3.80m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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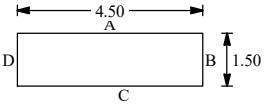
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP371 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,184.5 N 269,590.9 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 43.57m O.D. | | **DATE:** 12.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 3.20m | 20min | 3.19m |
| 2nd: | 3.70m | 20min | 3.62m |
| 3rd: | | | |

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from base up.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 43.47 | 0.10 | Spongy dark blackish brown amorphous PEAT. H7 B1 F1 R0 W0 TV1 TH1 A0. |
| | | | | | | | | | Very soft orangish brown fibrous PEAT. H2 B2 F3 R3 W1 TV1 TH1 A2. |
| | | | D 1 | 0.50-0.60 | | | | | |
| | | | VANE | 0.60 | 33mm vane 9 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 35 kN/m² | | | | |
| | | | B 2 | 1.00-1.50 | Rem 5 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 38 kN/m² Rem 10 kN/m² | | | | |
| | | | | | | | 41.07 | 2.50 | |
| | | | B 3 | 2.50-3.00 | | | | | Very soft dark brown fibrous PEAT. H3 B2 F2 R2 W3 TV1 TH1 A2. |
| 3 | | 1 | VANE | 3.00 | H70 vane 52 kN/m² Rem 19 kN/m² | | | | |
| | | 2 | | | | | 39.87 | 3.70 | |
| | | | B 4 | 3.70-4.00 | | | | | Very soft moist bluish grey slightly sandy slightly gravelly SILT with medium cobble content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. |
| 4 | | | | | | END | 39.57 | 4.00 | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.20m bgl. Ingress of water at 3.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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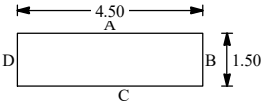
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TP372 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,102.6 N 269,575.9 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 44.61m O.D. | | **DATE:** 12.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.60m | 20min | 1.59m |
| 2nd: | 2.40m | 20min | 2.36m |
| 3rd: | | | |

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 44.01 | 0.60 | MADE GROUND: Plastic dark blackish brown slightly gravelly clayey amorphous PEAT with some plastic and wooden stakes up 500mm in length. Gravel is subangular to subrounded fine to coarse of quartz and limestone. |
| | | | VANE | 0.70 | 33mm vane 10 kN/m² | | 42.21 | 2.40 | Very soft orangish brown fibrous PEAT. H2 B2 F3 R3 W2 TV1 TH1 A1. |
| | | | D 1 | 0.90-1.00 | | | | | |
| 1 | | | B 2 | 1.00-1.50 | | | | | |
| | | 1 | | | | | | | |
| 2 | | | | | | | | | 2.00m to 2.40m: with 'bog oak'. |
| | | 2 | | | | | 41.41 | 3.20 | Soft moist light grey slightly sandy slightly gravelly organic SILT with low cobble content and some rootlets and wood up to 350mm in length. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. |
| | | | B 3 | 2.50-3.00 | | | | | |
| 3 | | | | | | | 40.81 | 3.80 | Soft moist light grey slightly sandy silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| | | | B 4 | 3.60-3.80 | | | | | |
| | | | | | | END | | | TP terminated at 3.80m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.60m bgl. Ingress of water at 2.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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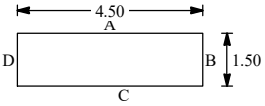
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPACPA |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,084.6 N 269,127.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.92m O.D. | **DATE:** 17.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 43.52 | 0.40 | MADE GROUND: Plastic brownish black slightly gravelly clayey amorphous PEAT with some plastic. |
| | | | | | | | 43.22 | 0.70 | Plastic brownish black amorphous PEAT. H8 B1 F1 R1 W0 TV1 TH1 A1. |
| | | | VANE D 1 | 0.80 0.80-0.90 | 33mm vane 16 kN/m² | | | | Veery soft orangish brown fibrous PEAT. H2 B2 F3 R2 W2 TV1 TH1 A2. |
| 1 | | | B 2 | 1.00-1.30 | | | | | |
| | | | VANE | 1.50 | H70 vane 40 kN/m² Rem 10 kN/m² | | | | |
| 2 | | | | | | | 41.82 | 2.10 | |
| | | | B 3 | 2.10-2.40 | | | | | Soft moist grey slightly sandy gravelly organic silty CLAY with low cobble content and many rootlets. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. |
| | | | VANE | 2.30 | H70 vane 60 kN/m² Rem 5 kN/m² | | | | |
| | | | | | | | 41.12 | 2.80 | |
| 3 | | | | | | | | | Soft moist light grey slightly sandy clayey very gravelly SILT with medium cobble content and low boulder content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 4 | 3.60-3.90 | | | | | |
| 4 | | | | | | | 39.92 | 4.00 | |
| | | | | | | END | | | TP terminated at 4.00m bgl. Obstruction as boulders. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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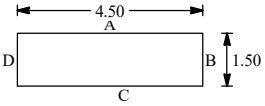
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPACPB |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,414.8 N 264,818.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 45.55m O.D. | **DATE:** 25.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 3.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 45.35 | 0.20 | Very soft dark brown fibrous PEAT. H3 B1 F3 R2 W2 TV1 TH1 A1. |
| | | | D 1<br>B 2<br>VANE | 0.40-0.50<br>0.40-0.70<br>0.50 | 33mm vane 16 kN/m² | | | | Very soft orangish brown fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A1. |
| 1 | | | VANE | 1.00 | H70 vane 24 kN/m² Rem 2 kN/m² | | 44.35 | 1.20 | |
| | | | B 3<br>D 4 | 1.50-1.80<br>1.80-1.90 | | | | | Spongy dark brown pseudo fibrous PEAT. H4 B2 F2 R1 W2 TV1 TH1 A2. |
| 2 | | | VANE | 2.00 | H70 vane 20 kN/m² Rem 6 kN/m² | | | | |
| 3 | | | VANE | 3.00 | H70 vane 44 kN/m² Rem 18 kN/m² | | 42.05 | 3.50 | |
| | | | B 5<br>D 6 | 3.50-3.80<br>3.80 | | | 41.35 | 4.20 | Soft damp grey silty very gravelly organic CLAY with medium cobble content and medium boulder content and some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 4 | | | | | | END | | | TP terminated at 4.20m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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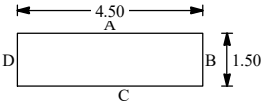
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPACPC |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,739.3 N 263,163.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 55.71m O.D. | **DATE:** 6.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft orangish brown fibrous PEAT. H3 B3 F3 R1 W2 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | 33mm vane 13 kN/m² | | | | |
| | | | VANE | 0.40 | | | | | |
| 1 | | | | | | | 54.41 | 1.30 | |
| | | | B 3 | 1.40-1.70 | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B3 F2 R1 W2 TV1 TH1 A1. |
| | | | D 4 | 1.70-1.80 | | | | | |
| | | | B 5 | 1.70-2.00 | | | | | |
| 2 | | | D 6 | 2.00-2.10 | | | 53.41 | 2.30 | |
| 3 | | | | | | | 52.61 | 3.10 | Very soft moist light greenish grey organic gravelly silty CLAY with low cobble content and low boulder content with some wood and some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 300mm in length. |
| | | | B 7 | 3.20-3.50 | | | | | Soft moist grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is angular to subangular fine to coarse of limestone. Cobbles are angular to subrounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 8 | 3.50-3.60 | | | 51.81 | 3.90 | |
| 4 | | | | | | END | | | TP terminated at 3.90m bgl. Obstruction as boulders. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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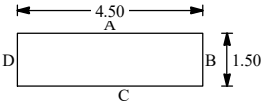
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPAR01 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,165.7 N 268,925.3 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 44.23m O.D. | | **DATE:** 3.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.50m | 20min | 1.50m |
| 2nd: | 1.80m | 20min | 1.79m |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Moss and saplings over very soft dark orangish brown clayey fibrous PEAT. H3 B1 F3 R2 W1 TV1 TH1 A0. |
| | | | VANE D 1 | 0.40 0.40-0.50 | 33mm vane 28 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 20 kN/m² Rem 2 kN/m² | | | | |
| | | 1 1 | B 2 | 1.50-1.70 | | | 42.73 | 1.50 | Very soft brownish orange fibrous PEAT. H1 B2 F3 R2 W2 TV1 TH1 A1. |
| | | 2 2 | D 3 | 1.70-1.80 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 34 kN/m² Rem 6 kN/m² | | | | |
| 3 | | | VANE | 3.00 | H70 vane 34 kN/m² Rem 6 kN/m² | | | | |
| | | | B 4 | 3.80-4.00 | | | 40.23 | 4.00 | |
| 4 | | | VANE D 5 | 4.00 4.00 | H70 vane 42 kN/m² Rem 10 kN/m² | END | | | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.50m bgl. Ingress of water at 1.80m bgl. TP backfilled with arisings. H70 vane in DPTPAR01 at 5.00m bgl - 54KPa/12KPa.

**Scale:** 1:25

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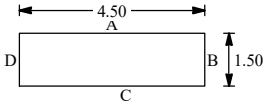
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPAR02 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,074.5 N 268,868.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.23m O.D. | **DATE:** 3.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 0.90m | 20min | 0.89m |
| 2nd: | 3.70m | 20min | 3.68m |
| 3rd: | | | |

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Briars and moss over fvery soft dark blackish brown clayey fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A1. |
| | | | VANE D 1 | 0.30 0.30-0.40 | 33mm vane 19 kN/m² | | | | |
| | | 1 | | | | | 42.23 | 1.00 | |
| 1 | | | VANE B 2 | 1.00 1.10-1.40 | H70 vane 80 kN/m² Rem 24 kN/m² | | | | Very soft orangish brown fibrous PEAT. H2 B2 F3 R2 W2 TV1 TH1 A2. |
| | | | D 3 | 1.40-1.50 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 62 kN/m² Rem 16 kN/m² | | | | |
| 3 | | | VANE | 3.00 | H70 vane 12 kN/m² Rem 2 kN/m² | | | | |
| | | 2 | | | | | | | |
| | | | B 4 | 3.80-4.10 | | | | | |
| 4 | | | ANE D 5 | 4.00 4.10 | H70 vane 10 kN/m² Rem 4 kN/m² | | 39.13 | 4.10 | |
| | | | | | | END | | | TP terminated at 4.10m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.90m bgl. Ingress of water at 3.70m bgl. TP backfilled with arisings. H70 vane in DPTPAR02 at 5.00m bgl - 36KPa/10KPa.

**Scale:** 1:25

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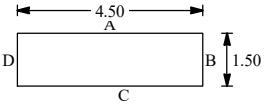
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPAR03 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,994.2 N 268,822.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.34m O.D. | **DATE:** 3.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 0.60m | 20min | 0.60m |
| 2nd: | 2.30m | 20min | 2.27m |
| 3rd: | | | |

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | MADE GROUND: Firm dark brownish black slightly gravelly fibrous CLAY with many tree roots. Gravel is angular to subangular fine to coarse of limestone. |
| | | 1 | D 1 | 0.40-0.50 | | | | | |
| | | | VANE | 0.60 | 33mm vane 14 kN/m² | | 43.74 | 0.60 | |
| | | | | | | | | | Very soft orangish brown fibrous PEAT. H1 B3 F3 R2 W2 TV1 TH1 A2. |
| 1 | | | | | | | | | |
| | | | B 2 | 1.40-1.70 | | | | | |
| | | | D 3 | 1.70-1.80 | | | | | |
| 2 | | 2 | | | | | | | |
| | | | B 4 | 2.40-2.60 | | | | | |
| | | | D 5 | 2.60 | | | | | |
| | | | | | | | 41.54 | 2.80 | |
| | | | | | | END | | | TP terminated at 2.80m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.60m bgl. Ingress of water at 2.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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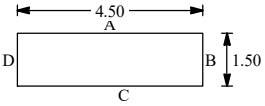
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPAR04 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,913.4 N 268,761.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.42m O.D. | **DATE:** 3.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.30m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 42.12 | 0.30 | MADE GROUND: Firm dark brown amorphous PEAT mixed with CLAY. |
| | | | D 1 | 0.40-0.50 | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W2 TV1 TH1 A2. |
| | | | VANE | 0.50 | 33mm vane 27 kN/m² | | | | |
| 1 | | | B 2 | 1.00-1.20 | | | | | |
| | | | D 3 | 1.20-1.30 | | | 40.52 | 1.90 | |
| 2 | | | | | | | | | Very soft dark brown fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A2. |
| | | | B 4 | 2.30-2.50 | | | | | |
| | | | D 5 | 2.50-2.60 | | | 39.82 | 2.60 | |
| | | | B 6 | 2.60-2.90 | | | | | Very soft moist grey organic laminated SILT with some plant material. |
| | | | D 7 | 2.90 | | | | | |
| 3 | | | | | | | 38.52 | 3.90 | |
| | | | | | | END | | | TP terminated at 3.90m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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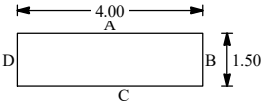
| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPAR09 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,555.8 N 268,995.5 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 45.75m O.D. | | **DATE:** 17.2.21 |

**GROUNDWATER**

Water strikes: 1st: 0.60m Rose to after: 20min 0.51m
2nd:
3rd:

**PIT DIRECTION:** 270-090
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 45.35 | 0.40 | Grass over plastic brownish black amorphous PEAT. H8 B1 F1 R0 W1 TV1 TH1 A1. |
| | | 1 | D 1 | 0.50-0.60 | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F3 R2 W2 TV1 TH1 A2. |
| | | | VANE | 0.60 | 33mm vane 14 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 60 kN/m² Rem 10 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 30 kN/m² Rem 5 kN/m² | | 43.35 | 2.40 | |
| | | | B 2 | 2.40-2.70 | | | 42.55 | 3.20 | Very soft light grey slightly sandy gravelly organic SILT with low cobble content and low boulder content. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 3 | | | B 3 | 3.70-4.00 | | | 41.75 | 4.00 | Firm damp light grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 4 | | | | | | END | | | TP terminated at 4.00m bgl on REs instruction. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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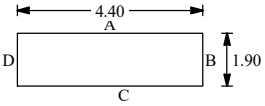
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPAR10 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,473.9 N 269,047.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 Bogmaster |
| | **Rev:** DRAFT |
| **Ground level:** 44.92m O.D. | **DATE:** 9.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: 2.00m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.90 * 4.40m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit moderately stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 44.72 | 0.20 | Plastic black amorphous PEAT. H8 B1 F0 R0 W0 TV1 TH1 A0. |
| 1 | | | VANE B 1 | 1.00 1.00-1.20 | H70 vane 20 kN/m² Rem 5 kN/m² | | | | Very soft brown fibrous PEAT. H2 B1 F2 R2 W1 TV1 TH1 A1. |
| | | | VANE | 1.50 | H70 vane 15 kN/m² Rem 5 kN/m² | | | | |
| 2 | | 1 | B 2 | 2.00-2.50 | | | 42.92 | 2.00 | Soft grey slightly sandy gravelly SILT with high cobble content and high boulder content. Sand is fine. Gravel is subrounded to subangular medium of limestone. Cobbles are rounded to subrounded of limestone. Boulders are subrounded to rounded of limestone. |
| 3 | | | B 3 | 3.00-3.40 | | | 41.52 | 3.40 | |
| | | | | | | END | | | TP terminated at 3.40m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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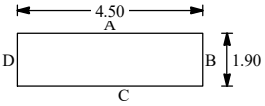
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPAR11 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,389.3 N 269,102.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 Bogmaster |
| | **Rev:** DRAFT |
| **Ground level:** 43.88m O.D. | **DATE:** 9.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.90 * 4.50m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit moderately stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 43.48 | 0.40 | Plastic blackish brown amorphous PEAT. H8 B1 F0 R0 W0 TV1 TH0 A0. |
| | | | PLATE | 0.40 | | | 43.28 | 0.60 | Firm grey sandy silty CLAY with medium cobble content. Sand is medium. Cobbles are rounded to subrounded of limestone. |
| 1 | | | B 1 | 1.00-1.20 | | | 40.98 | 2.90 | Very soft brown fibrous PEAT. H2 B1 F2 R2 W1 TV1 TH0 A1. |
| 3 | | | D 2 | 3.00-3.50 | | | 40.38 | 3.50 | Firm grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subrounded to subangular medium of limestone. Cobbles are rounded to subrounded of limestone. Boulders are subrounded to rounded of limestone. |
| | | | | | | END | | | TP terminated at 3.50m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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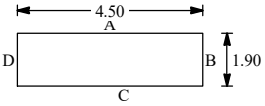
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPAR12 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,339.4 N 269,187.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 Bogmaster |
| | **Rev:** DRAFT |
| **Ground level:** 41.51m O.D. | **DATE:** 9.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: 3.10m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.90 * 4.50m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit moderately stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 41.11 | 0.40 | Plastic blackish brown amorphous PEAT. H8 B1 F0 R0 W0 TV1 TH0 A0. |
| | | | B 1 | 0.60-1.00 | | | | | Soft grey slightly sandy gravelly silty CLAY with high cobble content and low boulder content. Gravel is subrounded to subangular medium of limestone. Cobbles are rounded to subrounded of limestone. Boulders are subrounded to rounded of limestone. |
| | | | VANE | 0.70 | H70 vane 15 kN/m² Rem 5 kN/m² | | | | |
| 1 | | | | | | | | | |
| | | | D 2 | 1.80-2.00 | | | | | |
| 2 | | | | | | | | | |
| | | | B 3 | 2.50-3.00 | | | | | |
| 3 | | 1 | | | | | 38.41 | 3.10 | |
| | | | | | | END | | | TP terminated at 3.10m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.10m bgl. TP backfilled with arisings.

**Scale:** 1:25

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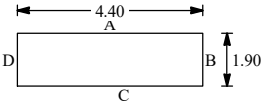
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPAR13 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,291.7 N 269,276.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 Bogmaster |
| | **Rev:** DRAFT |
| **Ground level:** 40.94m O.D. | **DATE:** 9.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 0.50m | | |
| 2nd: | 2.40m | 20min | 2.39m |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.90 * 4.40m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit moderately stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft brown fibrous PEAT. H2 B1 F2 R2 W1 TV1 TH0 A1. |
| | | 1 | B 1 | 0.50-1.00 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 14 kN/m² Rem 14 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 18 kN/m² Rem 5 kN/m² | | | | |
| | | 2 1 | | | | | 38.54 | 2.40 | |
| | | | B 2 | 2.50-3.00 | | | | | Firm grey gravelly silty CLAY with medium cobble content and high boulder content. Gravel is subrounded to subangular medium of limestone. Cobbles are rounded to subrounded of limestone. Boulders are subrounded to rounded of limestone. |
| 3 | | | | | | | 37.34 | 3.60 | |
| | | | | | | END | | | TP terminated at 3.60m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.50m bgl. Ingress of water at 2.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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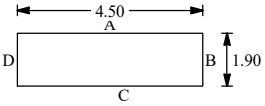
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPAR14 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,243.3 N 269,360.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.12m O.D. | **DATE:** 10.2.21 |

**GROUNDWATER**

Water strikes: 1st: 3.80m Rose to after: 5min 3.79m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.90 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Rushes and heather over plastic dark brown amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A0. |
| | | | B 1 | 0.30-0.40 | | | | | |
| | | | VANE | 0.50 | 33mm vane 12 kN/m² | | | | |
| | | | | | | | 39.12 | 1.00 | |
| 1 | | | VANE B 2 | 1.00 1.00-1.50 | H70 vane 26 kN/m² Rem 14 kN/m² | | | | Very soft orangish brown fibrous PEAT. H2 B1 F1 R1 W2 TV1 TH1 A1. |
| 2 | | | VANE | 2.00 | H70 vane 32 kN/m² Rem 28 kN/m² | | | | |
| | | | D 3 | 2.50-2.60 | | | 37.52 | 2.60 | |
| | | | | | | | | | Very soft moist grey slightly sandy clayey SILT. |
| 3 | | | VANE B 4 | 3.00 3.00-3.50 | H70 vane 35 kN/m² Rem 16 kN/m² | | | | |
| | | | | | | | 36.52 | 3.60 | |
| | | 1.1 | B 5 | 3.80-4.00 | | | | | Very soft moist grey slightly sandy gravelly silty CLAY with low cobble content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are rounded of limestone. |
| | | | | | | | 36.12 | 4.00 | |
| 4 | | | | | | END | | | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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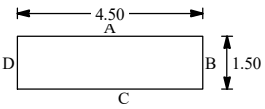
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPAR15 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,196.3 N 269,448.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.86m O.D. | **DATE:** 10.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1 | 0.00-0.10 | | | 37.76 | 0.10 | Plastic dark brown amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A0. |
| | | | VANE | 0.30 | 33mm vane 10 kN/m² | | 37.36 | 0.50 | Very soft brown fibrous PEAT. H2 F2 R1 W1 TV1 TH1 A1. |
| | | | B 2 | 0.50-1.00 | | | | | Very soft moist grey organic SILT with many rootlets. |
| | | | VANE | 0.60 | 33mm vane 10 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 22 kN/m² Rem 7 kN/m² | | 36.36 | 1.50 | |
| | | | B 3 | 1.50-2.00 | | | | | Very soft moist grey slightly gravelly silty CLAY. Gravel is subrounded fine to coarse of limestone. |
| 2 | | | VANE | 2.00 | H70 vane 38 kN/m² Rem 12 kN/m² | END | 35.86 | 2.00 | TP terminated at 2.00m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings. H70 vane in DPTPAR15 at 2.70m bgl - 50KPa/40KPa.

**Scale:** 1:25

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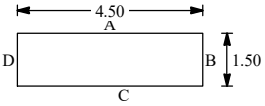
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPAR16 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,145.7 N 269,537.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.82m O.D. | **DATE:** 10.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.72 | 0.10 | Rushes over plastic dark brown amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A0. |
| | | | D 1 | 0.30-0.40 | | | | | Very soft dark brown fibrous PEAT. H3 F2 R2 W2 TV1 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 12 kN/m² | | | | |
| | | | | | | | 37.22 | 0.60 | |
| | | | B 2 | 0.60-0.80 | | | | | Very soft moist grey organic silty CLAY with many rootlets. |
| 1 | | | VANE | 1.00 | H70 vane 60 kN/m² Rem 45 kN/m² | | | | |
| | | | | | | | 36.32 | 1.50 | |
| | | | VANE | 1.50 | H70 vane 32 kN/m² Rem 10 kN/m² | | | | Very soft moist grey silty very gravelly CLAY. Gravel is subangular to subrounded fine to coarse of limestone. Boulder visible at base of pit. Boulder is subrounded. Boulder is 400mm in length. |
| 2 | | | B 3 | 2.20-2.70 | | | | | |
| 3 | | | | | | | 34.72 | 3.10 | |
| | | | | | | END | | | TP terminated at 2.00m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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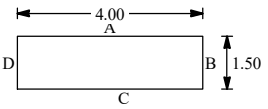
| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPAR17 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,725.2 N 269,038.7 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 44.18m O.D. | | **DATE:** 17.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 43.78 | 0.40 | MADE GROUND: Grass saplings and briars over plastic black gravelly amorphous PEAT with some plastic and some railway sleepers. |
| | | | D 1 | 0.60-0.70 | | | | | Very soft orangish brown fibrous PEAT. H3 B3 F3 R2 W2 TV1 TH1 A2. |
| | | | B 2 | 0.70-0.90 | | | | | |
| | | | VANE | 0.80 | 33mm vane 14 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 35 kN/m² Rem 5 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 44 kN/m² Rem 5 kN/m² | | | | |
| 3 | | | | | | | 40.38 | 3.80 | |
| | | | B 3 | 3.80-4.00 | | | 40.18 | 4.00 | Soft damp bluish grey slightly sandy clayey very gravelly SILT with low cobble content. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. |
| 4 | | | | | | END | | | TP terminated at 4.00m bgl. Maximum reach of excavator due to railway line. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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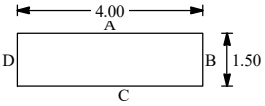
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPAR18 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,938.5 N 269,077.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.77m O.D. | **DATE:** 17.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 270-090
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | MADE GROUND: Grass and briars over plastic brownish black amorphous PEAT with some plastic and some broken concrete pipe. |
| | | | | | | | 43.17 | 0.60 | |
| | | | D 1 | 0.80-0.90 | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F3 R2 W2 TV1 TH1 A2. |
| 1 | | | VANE B 2 | 1.00 1.00-1.50 | H70 vane 40 kN/m² Rem 5 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 48 kN/m² Rem 5 kN/m² | | | | |
| 3 | | | VANE | 3.00 | H70 vane 40 kN/m² Rem 10 kN/m² | | | | |
| | | | VANE | 3.80 | H70 vane 62 kN/m² Rem 20 kN/m² | | | | |
| 4 | | | | | | | 39.57 | 4.20 | |
| | | | | | | END | | | TP terminated at 4.20m bgl. Maximum reach of excavator due to railway line. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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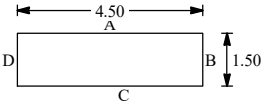
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPBPA01 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,781.0 N 268,752.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.92m O.D. | **DATE:** 8.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.00m Rose to after: 20min 1.99m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 42.62 | 0.30 | Plastic dark brownish black amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A1. |
| | | | D 1 | 0.40-0.50 | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A2. |
| | | | VANE | 0.50 | 33mm vane 13 kN/m² | | | | |
| | | | B 2 | 0.70-0.90 | | | | | |
| 1 | | | | | | | 41.82 | 1.10 | |
| | | | B 3 | 1.10-1.40 | | | | | Damp grey slightly sandy gravelly SILT with medium cobble content and medium boulder content. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 600mm in length. |
| | | | D 4 | 1.40-1.50 | | | | | |
| | | 1.1 | | | | | 40.92 | 2.00 | |
| 2 | | | | | | END | | | TP terminated at 2.00m bgl. Obstruction as possible rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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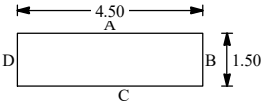
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPBPA02 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,856.3 N 268,713.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.04m O.D. | **DATE:** 8.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.30m Rose to after: 20min 1.90m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Grass and saplings over very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | VANE | 0.40 | 33mm vane 13 kN/m² | | | | |
| | | | B 2 | 0.50-0.70 | | | | | |
| | | | | | | | 41.24 | 0.80 | |
| | | | | | | | 41.14 | 0.90 | Very soft orangish brown fibrous PEAT. H3 B2 F3 R1 W3 TV1 TH1 A2. |
| | | | B 3 | 0.90-1.20 | | | | | Soft grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is angular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 500mm in length. |
| 1 | | | | | | | | | |
| | | | D 4 | 1.20-1.30 | | | | | |
| | | 1 | | | | | | | |
| 2 | | | | | | | | | |
| | | 1 | | | | | 39.74 | 2.30 | |
| | | | | | | END | | | TP terminated at 2.30m bgl. Obstruction as possible rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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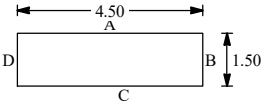
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPBPA03 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,889.2 N 268,622.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.61m O.D. | **DATE:** 8.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 42.21 | 0.40 | Grass and saplings over plastic dark brownish black clayey amorphous PEAT. H8 B2 F1 R0 W2 TV1 TH1 A1. |
| | | | D 1<br>B 2<br>VANE | 0.40-0.60<br>0.40-0.50<br>0.50 | 33mm vane 15 kN/m² | | 41.61 | 1.00 | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F3 R1 W3 TV1 TH1 A2. |
| 1 | | | B 3<br>D 4 | 1.00-1.30<br>1.30-1.40 | | | 40.61 | 2.00 | Soft damp grey slightly gravelly sandy SILT with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 350mm in length. |
| 2 | | | B 5 | 2.50-2.80 | | | 39.81 | 2.80 | Stiff damp grey slightly sandy gravelly SILT with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 6 | 2.80 | | END | | | TP terminated at 2.80m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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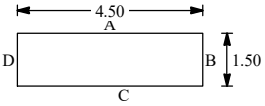
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPBPA04 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,853.8 N 268,543.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.82m O.D. | **DATE:** 8.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.40m Rose to after: 20min 1.80m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | | | | | 42.42 | 0.40 | Spongy dark blackish brown pseudo fibrous PEAT. H5 B1 F2 R1 W2 TV1 TH1 A1. |
| | | | VANE | 0.40 | 33mm vane 12 kN/m² | | | | |
| | | | D 1 | 0.40-0.60 | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W2 TV1 TH1 A1. |
| | | | B 2 | 0.70-1.00 | | | | | |
| 1 | | | | | | | 41.82 | 1.00 | |
| | | | D 3 | 1.00-1.10 | | | | | Soft moist grey slightly gravelly sandy clayey SILT with medium cobble content and medium boulder content. Sand is fine and medium. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 4 | 1.10-1.40 | | | | | |
| | | | D 5 | 1.40 | | | | | |
| | | 1 | | | | | 40.92 | 1.90 | |
| 2 | | | | | | | | | Moist grey clayey silty angular to subrounded fine to coarse limestone and sandstone GRAVEL with high cobble content and medium boulder content. Cobbles are angular to subrounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 450mm in length. |
| | | 1 | | | | | 40.42 | 2.40 | |
| | | | | | | END | | | TP terminated at 2.40m bgl. Obstruction as possible rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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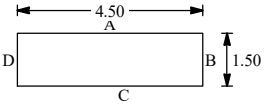
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPBPB01 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,283.4 N 266,445.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.03m O.D. | **DATE:** 18.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.60<br>0.40 | 33mm vane 16 kN/m² | | 43.33 | 0.70 | Spongy dark brown pseudo fibrous PEAT.<br>H4 B2 F3 R1 W2 TV1 TH1 A1. |
| | | | B 3<br>D 4<br>B 5 | 0.80-1.10<br>1.10-1.20<br>1.20-1.50 | | | 42.83<br>42.53 | 1.20<br>1.50 | Very soft moist dark grey gravelly silty CLAY with low cobble content and low boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length.<br>Damp grey silty clayey angular to subangular fine to coarse limestone GRAVEL with medium cobble content and medium boulder content. Cobbles are subangular to subrounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 350mm in length. |
| | | | | | | END | | | TP terminated at 1.50m bgl. Obstruction as rock. |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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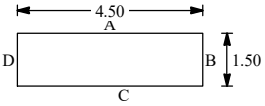
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPBPB02 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,225.9 N 266,432.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.08m O.D. | **DATE:** 18.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 41.88 | 0.20 | Spongy dark brownish black pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | B 1 | 0.30-0.60 | | | | | Soft moist dark grey slightly sandy organic clayey very gravelly SILT with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 350mm in length. |
| | | | D 2 | 0.60-0.70 | | | 41.38 | 0.70 | |
| | | | | | | END | | | TP terminated at 0.70m bgl. Obstruction as rock. |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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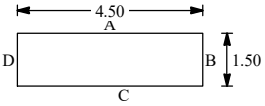
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPBPB03 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,299.3 N 266,365.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.76m O.D. | **DATE:** 18.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.70m to 1.70m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 43.56 | 0.20 | Grass and rushes over firm damp dark brown peaty CLAY. |
| | | | VANE<br>D 1<br>B 2 | 0.30<br>0.30-0.40<br>0.30-0.50 | 33mm vane 6 kN/m² | | 43.06 | 0.70 | Firm damp brownish grey slightly sandy silty very gravelly CLAY with medium cobble content and low boulder content and some plant material. Sand is fine. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| | | | B 3<br>D 4 | 0.70-0.90<br>0.90-1.00 | | | 42.06 | 1.70 | Damp grey clayey silty subrounded to rounded fine to coarse limestone GRAVEL with medium cobble content and medium boulder content. Sand is fine to coarse. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 1 | | | | | | | 40.96 | 2.80 | Damp dark grey very silty SAND and GRAVEL with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | B 5<br>D 6 | 1.80-2.10<br>2.10 | | | | | |
| | | | | | | END | | | TP terminated at 2.80m bgl. Obstruction as boulders |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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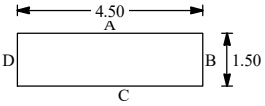
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPBPB04 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,221.7 N 266,318.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.11m O.D. | **DATE:** 18.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W2 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | 33mm vane 11 kN/m² | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | VANE | 0.40 | | | | | |
| 1 | | | | | | | 42.01 | 1.10 | |
| | | | B 3 | 1.10-1.40 | | | | | Moist grey very silty SAND and medium GRAVEL with medium cobble content and medium boulder content and some plant material. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 4 | 1.40-1.50 | | | | | |
| | | | | | | | 41.41 | 1.70 | |
| 2 | | | | | | | | | Firm damp grey slightly sandy gravelly SILT with low cobble content and low boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | B 5 | 2.30-2.60 | | | | | |
| | | | D 6 | 2.60-2.70 | | | | | |
| 3 | | | | | | | 39.51 | 3.60 | |
| | | | B 7 | 3.70-4.00 | | | | | Stiff damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 4 | | | D 8 | 4.00 | | END | 39.11 | 4.00 | TP terminated at 4.00m bgl on REs instruction. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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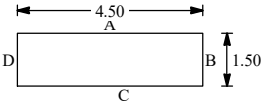
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPBPC01 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,308.7 N 265,967.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.22m O.D. | **DATE:** 17.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 43.07 | 0.15 | Grass over plastic dark blackish brown slightly gravelly clayey amorphous PEAT. Gravel is subangular to subrounded fine to coarse of limestone and quartz. H8 B1 F1 R0 W2 TV1 TH1 A0. |
| | | | D 1<br>B 2<br>VANE | 0.20-0.30<br>0.20-0.40<br>0.30 | 33mm vane 14 kN/m² | | 42.52 | 0.70 | Soft damp brownish grey slightly sandy gravelly silty CLAY with medium cobble content and low boulder content. Sand is fine. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 1 | | | B 3<br>D 4 | 1.40-1.70<br>1.70-1.80 | | | 41.12 | 2.10 | Soft moist light grey clayey very gravelly SILT with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | B 5 | 2.30-2.60 | | | 40.62 | 2.60 | Stiff grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | D 6 | 2.60 | | END | | | TP terminated at 2.60m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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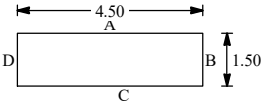
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPBPC02 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,355.7 N 265,884.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.12m O.D. | **DATE:** 17.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 43.02 | 0.10 | Firm damp dark brown gravelly peaty CLAY. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. |
| | | | ATE | 0.30 | | | | | Soft damp orangish grey slightly sandy gravelly SILT with medium cobble content and low boulder content and some wood material. Sand is fine. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| 1 | | | | | | | 42.12 | 1.00 | Soft moist light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 600mm in length. |
| | | | B 3 | 1.30-1.60 | | | | | |
| | | | D 4 | 1.60-1.70 | | | | | |
| 2 | | | | | | | 40.82 | 2.30 | Stiff grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| | | | B 5 | 2.50-2.80 | | | | | |
| | | | | | | | 40.32 | 2.80 | |
| | | | D 6 | 2.80 | | END | | | TP terminated at 2.80m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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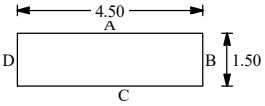
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPBPD01 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,820.1 N 266,358.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 46.48m O.D. | **DATE:** 18.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.30m Rose to after: 20min 1.28m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 46.38 | 0.10 | Moss and saplings over very soft dark brownish black clayey fibrous PEAT. H3 B1 F2 R1 W1 TV1 TH1 A1. |
| | | | D 1<br>B 2 | 0.30-0.40<br>0.30-0.50 | | | 45.88 | 0.60 | Firm damp dark brownish grey slightly sandy slightly gravelly SILT with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone . Boulders are up to 350mm in length. |
| 1 | | 1.1 | D 3<br>B 4 | 0.90-1.20<br>1.20 | | | 45.18 | 1.30 | Soft damp orangish greyish brown silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | END | | | TP terminated at 1.30m bgl. Obstruction as rock. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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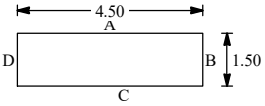
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPBPD02 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,869.9 N 266,224.6 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 47.12m O.D. | | **DATE:** 18.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.80m Rose to after: 20min 1.20m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 47.02 | 0.10 | Moss and saplings over very soft dark brownish black clayey fibrous PEAT. H3 B1 F3 R1 W1 TV1 TH1 A1. |
| | | | D 1<br>B 2 | 0.30-0.40<br>0.30-0.60 | | | 46.12 | 1.00 | Firm damp dark greyish brown silty very gravelly CLAY with medium cobble content and low boulder content with some rootlets. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone . Boulders are up to 400mm in length. |
| 1 | | 1 | B 3<br>D 4 | 1.50-1.80<br>1.80 | | | 45.22 | 1.90 | Soft damp light greyish brown silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are angular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 600mm in length. |
| 2 | | | | | | END | | | TP terminated at 1.90m bgl. Obstruction as rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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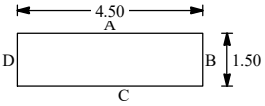
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPBPE01 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,887.4 N 266,096.1 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 48.15m O.D. | | **DATE:** 22.3.21 |

**GROUNDWATER**

Water strikes: 1st: 3.10m Rose to after: 20min 3.05m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1 | 0.30-0.40 | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B1 F2 R1 W2 TV1 TH1 A2. |
| | | | VANE | 0.40 | 33mm vane 19 kN/m² | | 47.55 | 0.60 | |
| | | | VANE | 0.70 | 33mm vane 24 kN/m² | | | | Soft moist brownish grey organic gravelly silty CLAY with low cobble content and some plant material and some wood. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. |
| | | | D 2 | 0.70-0.80 | | | | | |
| | | | B 3 | 0.70-1.00 | | | 47.15 | 1.00 | |
| 1 | | | B 5 | 1.10-1.40 | | | | | Moist grey very silty SAND and GRAVEL with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 4 | 1.40-1.50 | | | | | |
| 2 | | | | | | | | | |
| | | | B 6 | 2.80-3.10 | | | | | 2.70m to 3.10m: with high cobble content and high boulder content. Cobbles are angular to subangular of limestone. Boulders are angular to subangular of limestone. |
| 3 | | 1 | | | | | 45.05 | 3.10 | |
| | | | D 7 | 3.10 | | END | | | TP terminated at 3.10m bgl. Obstruction as possible rock. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.10m bgl. TP backfilled with arisings.

**Scale:** 1:25

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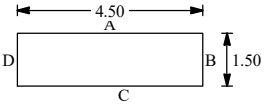
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPBPE02 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,954.8 N 266,027.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 48.28m O.D. | **DATE:** 22.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.70m Rose to after: 20min 2.00m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 48.18 | 0.10 | Grass rushes and saplings over dark brown peaty CLAY. |
| | | | B 2 | 0.10-0.30 | | | | | Firm damp light brownish grey gravelly silty CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | | | | | 47.58 | 0.70 | |
| | | | B 3 | 0.70-1.00 | | | | | Damp light orangish brown clayey silty subangular to rounded fine to coarse limestone GRAVEL with high cobble content and medium boulder content. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 1100mm in length. |
| 1 | | | | | | | | | |
| | | | | | | | | | 1.50m: with medium large boulder content. |
| 2 | | 1 | | | | | | | |
| | | 1 | | | | | 45.58 | 2.70 | |
| | | | | | | END | | | TP terminated at 2.70m bgl. Obstruction as possible rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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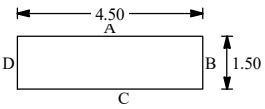
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPMMA01 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,775.3 N 269,451.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.72m O.D. | **DATE:** 11.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.50m | 10min | 1.50m |
| 2nd: | 2.00m | 10min | 2.00m |
| 3rd: | 2.60m | 10min | 2.59m |

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft orangish brown fibrous PEAT. H2 B2 F3 R3 W2 TV1 TH1 A1. |
| | | | D 1 | 0.20-0.30 | | | | | |
| | | | VANE | 0.30 | 33mm vane 12 kN/m² | | | | |
| | | | B 2 | 0.50-1.00 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 55 kN/m² Rem 32 kN/m² | | | | |
| | | 1 1 | VANE | 1.50 | H70 vane 50 kN/m² Rem 30 kN/m² | | | | |
| 2 | | 2 2 | | | | | | | |
| | | 3 3 | | | | | 37.12 | 2.60 | |
| | | | B 3 | 2.60-3.00 | | | | | Very soft moist grey slightly sandy organic silty CLAY with many rootlets and reeds. Sand is fine to coarse. 2.60m: sand and gastropod shells at contact with peat. |
| 3 | | | | | | | 36.72 | 3.00 | Very soft moist grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded of limestone. Boulders are subrounded of limestone. Boulders are up to 300mm in length. |
| | | | B 4 | 3.50 | | END | 36.22 | 3.50 | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.50m bgl. Ingress of water at 2.00m bgl. Ingress of water at 2.60m bgl. TP backfilled with arisings.

**Scale:** 1:25

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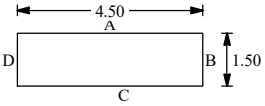
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TPMMA02** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates: E 203,763.2 N 269,421.8** |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 40.21m O.D.** | **DATE: 11.2.21** |

**GROUNDWATER**

Water strikes: 1st: 2.00m Rose to after: 20min 1.99m
2nd:
3rd:

**PIT DIRECTION: 180-360**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Vaery soft dark orangish brown fibrous PEAT. H2 B1 F2 R2 W2 TV1 TH1 A1. |
| | | | D 1 | 0.50-0.60 | | | | | |
| | | | VANE | 0.60 | 33mm vane 11 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 35 kN/m² Rem 10 kN/m² | | | | |
| | | | B 2 | 1.00-1.50 | | | | | |
| | | | VANE | 1.60 | H70 vane 40 kN/m² Rem 15 kN/m² | | 38.31 | 1.90 | |
| 2 | | 1.1 | B 3 | 2.00-2.30 | | | 37.41 | 2.80 | Bluish grey sandy very clayey GRAVEL with medium cobble content and low boulder content and many rootlets and occasional shell fragments. Sand is medium to coarse. Gravel is subangular to subrounded fine to coarse of limestone and chert. Cobbles are subrounded of limestone and chert. Boulders are subrounded to rounded of limestone and chert. Boulders are up to 300mm in length. |
| 3 | | | B 4 | 3.20-3.50 | | | | | Soft moist bluish grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 4 | | | B 5 | 4.00-4.20 | | | 36.01 | 4.20 | |
| | | | | | | END | | | TP terminated at 4.20m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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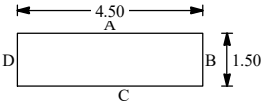
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPMMB01 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,746.2 N 266,135.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.17m O.D. | **DATE:** 15.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 0.50m | 20min | 0.49m |
| 2nd: | 1.90m | 20min | 1.80m |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1 | D 1<br>B 2<br>VANE | 0.40-0.50<br>0.40-0.50<br>0.50 | 33mm vane 17 kN/m² | | 43.37 | 0.80 | Very soft dark orangish brown fibrous PEAT.<br>H2 B2 F3 R2 W1 TV1 TH1 A2. |
| 1 | | 2 | VANE<br>B 3<br>D 4 | 1.00<br>1.50-1.70<br>1.70-1.80 | H70 vane 64 kN/m² Rem 12 kN/m² | | 42.27 | 1.90 | Spongy dark brown pseudo fibrous PEAT.<br>H4 B2 F2 R2 W3 TV1 TH1 A2. |
| 2 | | | B 5<br>VANE<br>D 6 | 1.90-2.20<br>2.00<br>2.20-2.30 | H70 vane 84 kN/m² Rem 30 kN/m² | | 41.27 | 2.90 | Very soft moist grey slightly sandy gravelly SILT with medium cobble content and low boulder content. Sand is fine. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 3 | | | B 7<br>D 8 | 3.40-3.70<br>3.70 | | END | 40.47 | 3.70 | Stiff damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length.<br>TP terminated at 3.70m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.50m bgl. Ingress of water at 1.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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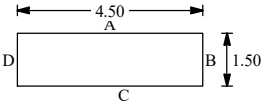
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPMMB02 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,750.1 N 266,160.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.76m O.D. | **DATE:** 15.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1 | 0.40-0.50 | | | 42.26 | 0.50 | Spongy dark brown pseudo fibrous PEAT. H4 B1 F2 R1 W3 TV1 TH1 A1. |
| | | | ATE<br>ANE<br>B 2 | 0.70<br>0.70<br>0.70-1.00 | 33mm vane 17 kN/m² | | | | Soft damp grey slightly sandy organic silty very gravelly CLAY with medium cobble content and low boulder content and some wood. Sand is fine. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 300mm in length. |
| 1 | | | D 3 | 1.00-1.10 | | | 41.46 | 1.30 | |
| 2 | | | B 4 | 2.10-2.40 | | | | | Firm moist grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 5 | 2.40-2.50 | | | | | |
| 3 | | | | | | | 39.76 | 3.00 | |
| | | | B 6 | 3.20-3.50 | | | | | Stiff grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | | | | | 39.26 | 3.50 | |
| | | | D 7 | 3.50 | | END | | | TP terminated at 3.50m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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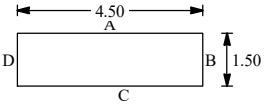
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPMMC01 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,665.1 N 263,350.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 51.32m O.D. | **DATE:** 6.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.40m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2 | 0.20-0.30<br>0.20-0.40 | | | 50.92 | 0.40 | Spongy dark brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W1 TV1 TH1 A1. |
| | | | ATE<br>B 3<br>D 4 | 0.40<br>0.40-0.70<br>0.70-0.80 | | | 49.92 | 1.40 | Soft damp grey slightly sandy clayey very gravelly SILT with medium cobble content and medium boulder content. Sand is fine. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 1 | | | | | | | | | |
| | | | B 5 | 2.00-2.30 | | | 49.02 | 2.30 | Soft moist light grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| 2 | | | D 6 | 2.30 | | END | | | TP terminated at 2.30m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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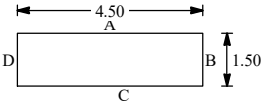
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPMMC02 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,686.1 N 263,331.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 51.30m O.D. | **DATE:** 6.4.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 0.80m | 20min | 0.70m |
| 2nd: | 2.20m | 20min | 1.50m |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE<br>D 1<br>B 2 | 0.20<br>0.20-0.30<br>0.20-0.50 | 33mm vane 8 kN/m² | | 50.50 | 0.80 | Spongy dark brown pseudo fibrous PEAT.<br>H6 B2 F2 R1 W2 TV1 TH1 A1. |
| | | 1 | B 3<br>D 4 | 0.80-1.10<br>1.10-1.20 | | | 50.00 | 1.30 | Very soft moist brownish grey organic silty very gravelly CLAY with medium cobble content and medium boulder content and some plant material. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 1 | | 2 | B 5<br>D 6 | 1.40-1.70<br>1.70-1.80 | | | 49.10 | 2.20 | Firm damp grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 350mm in length. |
| 2 | | | B 7 | 2.30-2.60 | | | 48.40 | 2.90 | Moist grey silty clayey angular to subangular fine to coarse sandstone and limestone GRAVEL with high cobble content and medium boulder content. Cobbles are angular to subangular of sandstone and limestone. Boulders are angular to subangular of sandstone and limestone. Boulders are up to 400mm in length. |
| 3 | | | | | | END | | | TP terminated at 2.90m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.80m bgl. Ingress of water at 2.20m bgl. TP backfilled with arisings.

**Scale:** 1:25

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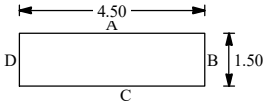
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPPSA01 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,158.2 N 271,074.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.04m O.D. | **DATE:** 1.3.21 |

**GROUNDWATER**

Water strikes:
1st: 0.50m Rose to after: 20min 0.49m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 36.64 | 0.40 | Grass briars and saplings over plastic dark brownish black amorphous PEAT. H8 B1 F1 R0 W1 TV1 TH1 A1. |
| | | 1.1 | D 1<br>VANE | 0.50-0.60<br>0.60 | 33mm vane 18 kN/m² | | 36.24 | 0.80 | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A2. |
| 1 | | | BR<br>B 2 | 0.80<br>0.80-1.10 | | | 35.74 | 1.30 | Firm moist dark grey sandy gravelly silty CLAY with low cobble content and low boulder content. Sand is medium. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subrounded of limestone and sandstone. Boulders are up to 400mm in length. |
| | | | B 3 | 1.30-1.60 | | | 35.44 | 1.60 | Stiff damp grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subrounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | END | | | TP terminated at 1.60m bgl. Obstruction as possible rock. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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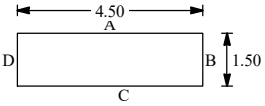
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPPSA02 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,108.1 N 271,164.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.31m O.D. | **DATE:** 1.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.30m Rose to after: 20min 2.05m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 36.81 | 0.50 | MADE GROUND: Grass and rushes over plastic dark blackish brown slightly gravelly clayey amorphous PEAT with low cobble content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. |
| | | | VANE D 1 | 0.70<br>0.70-0.80 | 33mm vane 15 kN/m² | | 35.91 | 1.40 | Very soft dark orangish brown fibrous PEAT.<br>H3 B2 F3 R1 W1 TV1 TH1 A2. |
| | | | B 2 | 1.40-1.70 | | | 35.01 | 2.30 | Soft moist grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 1500mm in length. |
| | | | | | | END | | | TP terminated at 2.30m bgl. Obstruction as boulders. |

**Remarks:** Ingress of water at 2.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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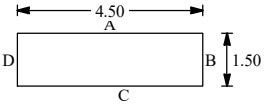
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPPSA03 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,054.5 N 271,249.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.27m O.D. | **DATE:** 16.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.90m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | VANE D 1 | 0.60 0.60 | 33mm vane 25 kN/m² | | 35.77 | 1.50 | MADE GROUND: Grass over very soft dark blackish brown slightly gravelly slightly clayey amorphous PEAT with some plastic and peat mixed with clay. |
| | | | | | | | 35.37 | 1.90 | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A2. |
| | | | B 2 | 2.10-2.40 | | | 33.87 | 3.40 | Very soft moist grey organic SILT with some plant material and reeds. |
| | | | B 3 | 3.60-3.90 | | | 33.37 | 3.90 | Firm damp brownish grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | | | | END | | | TP terminated at 3.90m bgl. Unable to progress TP - sidewall collapse. |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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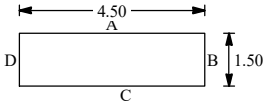
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPPSA04 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,002.7 N 271,334.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.13m O.D. | **DATE:** 16.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.10m | 20min | 1.00m |
| 2nd: | 2.20m | 20min | 2.09m |
| 3rd: | | | |

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.90m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE D 1 | 0.70<br>0.70-0.80 | 33mm vane 14 kN/m² | | 36.23 | 0.90 | MADE GROUND: Grass and rushes over dark brownish black gravelly clayey amorphous PEAT with low cobble content and low boulder content and peat mixed with clay. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 1 | | 1 | | | | | 35.33 | 1.80 | Very soft dark orangish brown fibrous PEAT.<br>H3 B2 F3 R2 W1 TV1 TH1. |
| 2 | | 2 | B 2 | 2.20-2.50 | | | 34.93 | 2.20 | Soft greenish grey organic laminated clayey SILT with some plant material, reeds and many rootlets. |
| | | | | | | | 34.13 | 3.00 | Very soft moist grey organic SILT.<br>Organic odour. |
| 3 | | | B 3 | 3.40-3.80 | | | 33.33 | 3.80 | Stiff brownish grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | | | | END | | | TP terminated at 3.80m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.10m bgl. Ingress of water at 2.20m bgl.TP backfilled with arisings.

**Scale:** 1:25

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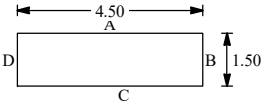
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPPSD01 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,543.7 N 270,670.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.63m O.D. | **DATE:** 23.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.40m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE D 1 | 0.30 0.30-0.40 | 33mm vane 12 kN/m² | | | | FVery soft dark brown fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A2. |
| | | | VANE | 0.50 | H70 vane 70 kN/m² Rem 10 kN/m² | | 36.83 | 0.80 | |
| | | | | | | | 36.63 | 1.00 | Very soft greyish brown organic peaty CLAY with some plant material reeds and some shell fragments. |
| 1 | | | B 2 | 1.00-1.30 | | | 36.23 | 1.40 | Firm damp grey sandy organic laminated SILT with some plant material and many shell fragments. |
| 2 | | | B 3 | 2.00-2.30 | | | | | Firm damp grey sandy SILT. Sand is fine. |
| 3 | | | B 4 | 3.40-3.70 | | | 33.93 | 3.70 | |
| | | | | | | END | | | TP terminated at 3.70m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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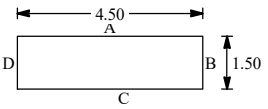
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPPSD02 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,634.5 N 270,699.4 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 37.94m O.D. | | **DATE:** 22.2.21 |

**GROUNDWATER**

Water strikes: 1st: 4.00m Rose to after: 20min 3.00m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.34 | 0.60 | MADE GROUND: Grass over spongy dark brownish black slightly clayey pseudo fibrous PEAT with some broken pipe. |
| | | | VANE D 1 | 0.60 0.60-0.70 | 33mm vane 20 kN/m² | | 36.14 | 1.80 | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A1. |
| 1 | | | VANE B 2 | 1.00 1.00-1.30 | H70 vane 70 kN/m² Rem 15 kN/m² | | | | |
| | | | VANE | 1.50 | H70 vane 60 kN/m² Rem 10 kN/m² | | | | |
| | | | B 3 | 1.80-2.10 | | | 35.44 | 2.50 | Very soft damp grey organic laminated silty CLAY with some plant material. |
| 2 | | | | | | | | | |
| 3 | | 1 | B 4 | 3.00-3.30 | | | 33.94 | 4.00 | Firm damp grey slightly sandy slightly gravelly SILT. Sand is fine. Possible boulders and stiff clay at base. |
| 4 | | 1 | | | | END | | | TP terminated at 4.00m bgl. Unable to progress TP - due to ingress of water. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 4.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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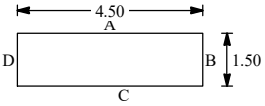
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TPPSE01** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 204,537.2 N 269,973.9 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 37.12m O.D.** | **DATE: 18.2.21** |

**GROUNDWATER**

Water strikes: 1st: 2.00m 2nd: 3rd: Rose to after: 20min g/l

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 36.72 | 0.40 | Rushes over plastic brownish black amorphous PEAT. H8 B2 F1 R1 W0 TV1 TH1 A1. |
| | | | D 1 | 0.50-0.60 | | | 36.42 | 0.70 | Very soft dark brown clayey fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A1. |
| | | | B 2 | 0.70-1.00 | | | | | Very soft damp grey organic SILT with many rootlets. |
| | | | VANE | 0.80 | 33mm vane 15 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 42 kN/m² Rem 2 kN/m² | | 35.82 | 1.30 | |
| | | | B 3 | 1.30-1.50 | | | 35.52 | 1.60 | Firm damp grey gravelly clayey SILT. Gravel is subrounded to rounded fine to coarse of limestone. |
| | | | | | | | | | Firm moist grey sandy SILT. Sand is fine.. |
| 2 | | 1 | VANE | 2.00 | H70 vane 69 kN/m² Rem 4 kN/m² | | | | |
| | | | B 4 | 2.00-2.30 | | | 34.82 | 2.30 | |
| | | | | | | END | | | TP terminated at 2.30m bgl. Unable to progress TP - sidewall collapse and ingress of water. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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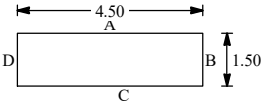
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TPPSE02** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 204,486.4 N 270,060.7 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 38.27m O.D.** | **DATE: 18.2.21** |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION: 180-360**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | VANE<br>D 1 | 0.60<br>0.60-0.70 | 33mm vane 14 kN/m² | | 37.47 | 0.80 | Spongy dark brownish black pseudo fibrous PEAT.<br>H5 B2 F2 R1 W1 TV1 TH1 A2. |
| | | | B 2<br>VANE<br>VANE | 0.80-1.20<br>0.90<br>1.00 | 33mm vane 14 kN/m²<br>H70 vane 32 kN/m²<br>Rem 8 kN/m² | | | | Very soft damp grey organic clayey SILT with many rootlets. |
| 1 | | | | | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 46 kN/m²<br>Rem 1 kN/m² | | 35.77 | 2.50 | |
| | | | B 3 | 2.50-2.80 | | | | | Very soft moist grey slightly sandy SILT. |
| | | | VANE | 2.90 | H70 vane 81 kN/m²<br>Rem 5 kN/m² | | 35.27 | 3.00 | |
| 3 | | | | | | END | | | TP terminated at 3.00m bgl. Unable to progress TP - sidewall collapse and ingress of water. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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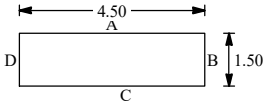
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPPSE03 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 **of** 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,433.1 N 270,145.4 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 38.25m O.D. | | **DATE:** 19.2.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 3.20m | 20min | 3.00m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 3.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.65 | 0.60 | MADE GROUND: Grass and briars over grey mottled brownish black clayey amorphous PEAT with some plastic and some timber. |
| | | | VANE<br>D 1<br>VANE | 0.90<br>0.90-1.00<br>1.00 | 33mm vane 18 kN/m²<br>H70 vane 76 kN/m²<br>Rem 10 kN/m² | | 36.45 | 1.80 | Spongy dark brownish black pseudo fibrous PEAT.<br>H6 B1 F2 R1 W1 TV1 TH1 A1. |
| 1 | | | | | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 53 kN/m²<br>Rem 4 kN/m² | | 35.85 | 2.40 | Very soft dark orangish brown fibrous PEAT.<br>H3 B2 F3 R1 W1 TV1 TH1 A2. |
| | | | B 2 | 2.40-2.70 | | | | | Soft damp grey organic laminated silty CLAY with some plant remnants and many rootlets. |
| 3 | | 1 | VANE | 3.00 | H70 vane 27 kN/m²<br>Rem 1 kN/m² | | 35.05 | 3.20 | |
| | | 1 | | | | | | | Very soft moist grey silty CLAY. |
| | | | B 3 | 3.50-4.00 | | | | | |
| 4 | | | VANE | 4.00 | H70 vane 82 kN/m²<br>Rem 7 kN/m² | **END** | 34.25 | 4.00 | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.20m bgl. TP backfilled with arisings.

**Scale:** 1:25

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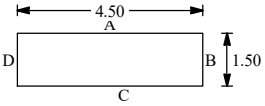
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPPSE04 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,385.2 N 270,228.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.82m O.D. | **DATE:** 19.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | MADE GROUND: Grass over brownish black clayey amorphous PEAT with some plastic. |
| | | | D 1 | 0.70-0.80 | | | | | |
| | | | VANE | 0.80 | 33mm vane 18 kN/m² | | 36.92 | 0.90 | |
| 1 | | | | | | | | | Very soft dark orangish brown clayey fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A1. |
| | | | | | | | 36.32 | 1.50 | |
| | | | B 2 | 1.50-2.00 | | | | | Soft damp grey slightly sandy organic laminated SILT with some rootlets. |
| 2 | | | | | | | 35.62 | 2.20 | |
| | | | | | | | | | Very soft moist grey SILT. |
| 3 | | | | | | | | | |
| | | | B 3 | 3.80-4.00 | | | | | |
| 4 | | | | | | | 33.82 | 4.00 | |
| | | | | | | END | | | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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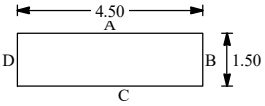
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPPSF01 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,231.6 N 268,885.8 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 40.86m O.D. | | **DATE:** 4.3.21 |

**GROUNDWATER**

Water strikes: 1st: 4.20m Rose to after: 20min 4.05m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | D 1 | 0.40-0.50 | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W2 TV1 TH1 A1. |
| | | | VANE | 0.50 | 33mm vane 10 kN/m² | | | | |
| | | | | | | | 39.96 | 0.90 | |
| | | | B 2 | 0.90-1.20 | | | | | Spongy dark brown pseudo fibrous PEAT. H5 B2 F2 R2 W1 TV1 TH1 A1. |
| 1 | | | VANE | 1.00 | H70 vane 54 kN/m² Rem 10 kN/m² | | | | |
| | | | D 3 | 1.20-1.30 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 32 kN/m² Rem 4 kN/m² | | 38.76 | 2.10 | |
| | | | B 4 | 2.10-2.40 | | | | | Soft damp grey slightly sandy organic laminated clayey SILT with some plant material. |
| | | | B 5 | 2.40-2.50 | | | | | |
| 3 | | | | | | | | | |
| | | | B 6 | 3.80-4.10 | | | | | |
| | | | D 7 | 3.80 | | | 36.96 | 3.90 | |
| 4 | | 1 | | | | | | | Very soft moist grey sandy clayey very gravelly SILT with medium cobble content and low boulder content. Sand is fine. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| | | | | | | | 36.36 | 4.50 | |
| | | | | | | END | | | TP terminated at 4.50m bgl on REs instruction. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 4.20m bgl. TP backfilled with arisings.

**Scale:** 1:25

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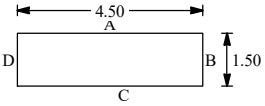
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPPSG01 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,031.6 N 268,463.7 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 40.28m O.D. | | **DATE:** 4.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 3.00m | 20min | 2.99m |
| 2nd: | 3.80m | 20min | 3.79m |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.30m to 3.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H5 B2 F2 R2 W1 TV1 TH1 A2. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | VANE | 0.50 | 33mm vane 16 kN/m² | | 39.68 | 0.60 | |
| | | | | | | | | | Very soft dark orangish brown clayey fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A2. |
| | | | | | | | 39.28 | 1.00 | |
| 1 | | | B 2 | 1.00-1.30 | H70 vane 62 kN/m² Rem 6 kN/m² | | | | Firm bluish grey organic laminated SILT with some plant material. |
| | | | D 3 | 1.30-1.40 | | | | | |
| 2 | | | | | | | 37.98 | 2.30 | |
| | | | B 4 | 2.30-2.60 | | | | | Very soft moist grey organic SILT. |
| | | | D 5 | 2.60-2.70 | | | | | |
| | | | | | | | 37.48 | 2.80 | |
| 3 | | 1 | B 6 | 3.00-3.30 | | | | | Soft moist grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | D 7 | 3.30 | | | | | |
| | | | | | | | 36.78 | 3.50 | |
| | | 2 | | | | | | | Stiff brownish grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | | 36.48 | 3.80 | |
| | | | | | | END | | | TP terminated at 3.80m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.00m bgl. Ingress of water at 3.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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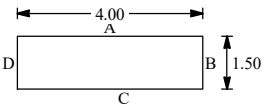
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPPSG02 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,963.5 N 268,389.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.39m O.D. | **DATE:** 4.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.10m 2nd: 3rd:
Rose to after: 20min 2.10m

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | MADE GROUND: Grass rushes and gorse over firm light orangish brown gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | | | | | 43.79 | 0.60 | Very soft dark orangish brown fibrous PEAT. H2 B2 F3 R1 W1 TV1 TH1 A1. |
| | | | VANE D 1 | 0.70 0.70-0.80 | 33mm vane 15 kN/m² | | | | |
| 1 | | | | | | | | | |
| | | | B 2 | 1.40-1.60 | | | | | |
| | | | D 3 | 1.60-1.70 | | | | | |
| 2 | | 1.1 | | | | | | | |
| | | | B 4 | 2.60-2.90 | | | | | |
| | | | D 5 | 2.90-3.00 | | | | | |
| 3 | | | | | | | 40.89 | 3.50 | |
| | | | B 6 | 3.50-3.80 | | | | | Spongy dark brown pseudo fibrous PEAT. H5 B2 F2 R2 W1 TV1 TH1 A1. |
| | | | | | | | 40.59 | 3.80 | |
| | | | D 7 | 3.80 | | END | | | TP terminated at 3.80m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.10m bgl. TP backfilled with arisings.

**Scale:** 1:25

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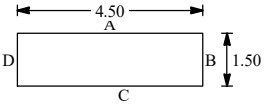
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT: Derryadd Wind Farm** | | **TRIALPIT: TPPSH01** |
| **LOCATION: Derryadd, Co. Longford** | | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** | **Rig: Hyundai 140 LC9** |
| **ENGINEER: Bord na Mona** | **E 205,750.5 N 266,964.2** | **Rev: DRAFT** |
| **Ground level: 41.67m O.D.** | | **DATE: 11.3.21** |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.30m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A1. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | 33mm vane 15 kN/m² | | | | |
| | | | VANE | 0.50 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 20 kN/m² Rem 2 kN/m² | | 40.37 | 1.30 | |
| | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B3 F2 R2 W1 TV1 TH1 A1. |
| 2 | | | VANE | 2.00 | H70 vane 32 kN/m² Rem 6 kN/m² | | | | |
| | | | B 3 | 2.20-2.50 | | | | | |
| | | | D 4 | 2.50-2.60 | | | | | |
| 3 | | | VANE | 3.00 | H70 vane 40 kN/m² Rem 12 kN/m² | | 38.47 | 3.20 | |
| | | | | | | | | | Soft damp grey organic laminated silty CLAY with some plant material. |
| | | | B 5 | 3.30-3.60 | | | 38.07 | 3.60 | |
| | | | D 6 | 3.60 | | END | | | TP terminated at 3.60m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings. H70 vane in DPTPPSH01 at 4.00m bgl - 70KPa/30KPa.

**Scale:** 1:25

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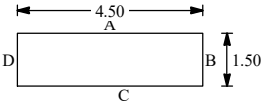
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPPSH02 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,650.9 N 266,947.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.80m O.D. | **DATE:** 11.3.21 |

**GROUNDWATER**

Water strikes: 1st: 0.70m 2nd: 3rd:
Rose to after: 20min 0.69m

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H2 B2 F3 R2 W1 TV1 TH1 A1. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | | | | | |
| | | | VANE | 0.50 | 33mm vane 12 kN/m² | | | | |
| | | 1.1 | | | | | | | |
| 1 | | | | | | | 40.10 | 1.70 | |
| | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H4 B2 F2 R2 W1 TV1 TH1 A2. |
| 2 | | | B 3 | 2.10-2.40 | | | | | |
| | | | D 4 | 2.40-2.50 | | | | | |
| 3 | | | | | | | 38.30 | 3.50 | |
| | | | B 5 | 3.50-3.80 | | | | | Soft damp grey organic laminated silty CLAY with some plant material. Organic odour. |
| | | | D 6 | 3.80-3.90 | | | 37.90 | 3.90 | |
| 4 | | | | | | END | | | TP terminated at 3.90m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 0.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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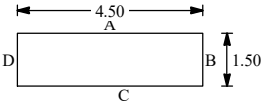
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TPPSH03** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 205,547.8 N 266,934.7 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 42.52m O.D.** | **DATE: 11.3.21** |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | MADE GROUND: Spongy dark brown fibrous PEAT with low cobble content and and some plastic. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. |
| | | | | | | | 41.92 | 0.60 | |
| | | | D 1 | 0.60-0.70 | | | | | Very soft dark orangish brown fibrous PEAT. H2 B2 F3 R2 W1 TV1 TH1 A1. |
| | | | B 2 | 0.60-0.90 | | | | | |
| | | | VANE | 0.70 | 33mm vane 13 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 36 kN/m² Rem 10 kN/m² | | | | |
| 2 | | | VANE | 2.00 | H70 vane 48 kN/m² Rem 22 kN/m² | | | | |
| | | | B 3 | 2.40-2.70 | | | | | |
| | | | D 4 | 2.70-2.80 | | | | | |
| | | | B 5 | 2.90-3.20 | | | | | |
| 3 | | | VANE | 3.00 | H70 vane 58 kN/m² Rem 24 kN/m² | | | | |
| | | | | | | | 39.32 | 3.20 | |
| | | | D 6 | 3.20 | | | | | Very soft grey silty organic very gravelly CLAY with medium cobble content and medium boulder content and some plant material. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. Organic odour. |
| | | | | | | | 39.02 | 3.50 | |
| | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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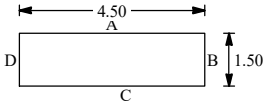
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPPSH04 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,464.7 N 266,918.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.41m O.D. | **DATE:** 11.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.30m Rose to after: 20min 1.30m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 42.01 | 0.40 | MADE GROUND: Firm dark brown gravelly clayey PEAT. |
| | | | D 1 | 0.50-0.60 | | | | | Very soft orangish brown fibrous PEAT. H2 B2 F3 R2 W1 TV1 TH1 A1. |
| | | | VANE | 0.60 | 33mm vane 19 kN/m² | | | | |
| | | | B 2 | 0.60-0.80 | | | | | |
| 1 | | | | | | | 41.11 | 1.30 | |
| | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H4 B2 F2 R1 W1 TV1 TH1 A1. |
| | | | B 3 | 1.90-2.20 | | | | | |
| 2 | | | D 4 | 2.20-2.30 | | | | | |
| | | | | | | | 39.41 | 3.00 | |
| 3 | | | | | | | | | Soft damp grey slightly gravelly organic laminated silty CLAY with some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Organic odour. |
| | | | B 5 | 3.40-3.70 | | | | | |
| | | | | | | | 38.71 | 3.70 | |
| | | | D 6 | 3.70 | | END | | | TP terminated at 3.70m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.10m bgl. TP backfilled with arisings.

**Scale:** 1:25

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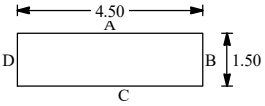
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPPSI01 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,804.0 N 266,958.7 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 43.36m O.D. | | **DATE:** 23.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.40m Rose to after: 20min 1.39m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.60<br>0.40 | 33mm vane 10 kN/m² | | 41.96 | 1.40 | Spongy dark orangish brown pseudo fibrous PEAT.<br>H4 B2 F2 R1 W2 TV1 TH1 A2. |
| 1 | | 1.1 | B 3<br>D 4 | 1.40-1.60<br>1.60-1.70 | | | 41.76 | 1.60 | Very soft damp brownish grey organic peaty silty CLAY with some gastropod shell fragments.<br>Organic odour. |
| 2 | | | B 5<br>D 6 | 2.00-2.30<br>2.30-2.40 | | | 40.86 | 2.50 | Firm damp bluish grey organic silty CLAY.<br>Organic odour. |
| 3 | | | B 7 | 3.70-4.00 | | | 39.36 | 4.00 | Stiff light grey slightly sandy gravelly SILT with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 4 | | | D 8 | 4.00 | | END | | | TP terminated at 4.00m bgl. Obstruction as boulders. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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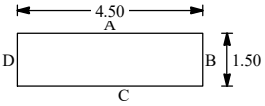
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPPSI02 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,878.3 N 267,025.9 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 43.98m O.D. | | **DATE:** 23.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.10m Rose to after: 20min 1.10m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W1 TV1 TH1 A2. |
| | | | VANE | 0.30 | 33mm vane 13 kN/m² | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| 1 | | | | | | | 42.88 | 1.10 | |
| | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H5 B2 F2 R2 W1 TV1 TH1 A2. |
| 2 | | | | | | | 41.78 | 2.20 | |
| | | | B 3 | 2.20-2.40 | | | | | Very soft damp greenish grey organic peaty CLAY with some gastropod shell fragments and some plant material. |
| | | | D 4 | 2.40-2.50 | | | | | |
| | | | | | | | 41.38 | 2.60 | |
| | | | | | | | | | Firm damp grey organic silty CLAY. |
| 3 | | | | | | | 40.88 | 3.10 | |
| | | | B 5 | 3.10-3.40 | | | | | Stiff damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 550mm in length. |
| | | | D 6 | 3.40-3.50 | | | | | |
| | | | B 7 | 3.70-4.00 | | | | | |
| 4 | | | | | | | 39.98 | 4.00 | |
| | | | | | | END | | | TP terminated at 4.00m bgl. Obstruction as boulders. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.10m bgl. TP backfilled with arisings.

**Scale:** 1:25

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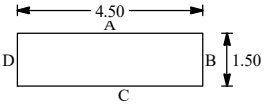
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPPSI03 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 **of** 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,953.7 N 267,090.8 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 43.94m O.D. | | **DATE:** 23.3.21 |

**GROUNDWATER**

Water strikes: 1st: 3.40m Rose to after: 20min 2.20m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.60<br>0.50 | 33mm vane 15 kN/m² | | 42.94 | 1.00 | Spongy dark orangish brown pseudo fibrous PEAT.<br>H4 B2 F2 R2 W2 TV1 TH1 A1. |
| 1 | | | VANE<br>B 3<br>D 4<br>VANE | 1.00<br>1.00-1.30<br>1.30-1.40<br>1.50 | H70 vane 36 kN/m² Rem 10 kN/m²<br>H70 vane 64 kN/m² Rem 22 kN/m² | | 41.24 | 2.70 | Very soft moist grey organic gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | B 5 | 2.70-3.00 | | | 40.54 | 3.40 | Firm damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| 3 | | | | | | END | | | TP terminated at 3.40m bgl. Obstruction as possible rock. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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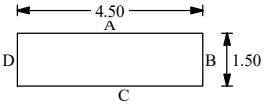
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPPSI04 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 **of** 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,026.0 N 267,154.8 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 44.66m O.D. | | **DATE:** 23.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.90m Rose to after: 20min 1.70m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 44.56 | 0.10 | Spongy dark brown pseudo fibrous PEAT. H5 B1 F2 R1 W2 TV1 TH1 A0. |
| | | | VANE<br>D 1<br>B 2 | 0.30<br>0.30-0.40<br>0.30-0.60 | 33mm vane 20 kN/m² | | 43.66 | 1.00 | Very soft damp orangish grey slightly sandy organic silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 1 | | 1 | B 3 | 1.60-1.90 | | | 42.76 | 1.90 | Very soft moist grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | 1 | D 4 | 1.90 | | END | | | TP terminated at 1.90m bgl. Obstruction as possible rock. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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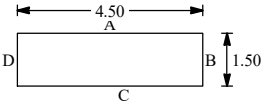
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPPSI05 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,104.6 N 267,222.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.97m O.D. | **DATE:** 23.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 43.87 | 0.10 | Grass and moss over soft damp dark blackish brown peaty CLAY with rootlets. |
| | | | B 2 | 0.10-0.30 | | | | | Firm damp grey organic silty CLAY with medium cobble content and low boulder content. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| | | | VANE | 0.20 | 33mm vane 24 kN/m² | | | | |
| | | | D 1 | 0.20-0.30 | | | 43.67 | 0.30 | Firm damp grey slightly sandy gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 600mm in length. |
| 1 | | | B 3 | 1.00-1.30 | | | | | |
| | | | D 4 | 1.30-1.40 | | | | | |
| | | | | | | | 42.07 | 1.90 | Very stiff dark grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | B 5 | 2.20-2.50 | | | | | |
| | | | D 6 | 2.50 | | | | | |
| | | | | | | | 40.97 | 3.00 | |
| 3 | | | | | | END | | | TP terminated at 3.00m bgl. Obstruction. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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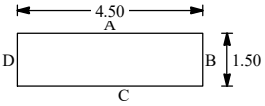
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPPSJ01 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,276.7 N 265,406.2 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 41.78m O.D. | | **DATE:** 16.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.50m | 20min | 1.49m |
| 2nd: | 2.70m | 20min | 2.68m |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.50<br>0.40 | 33mm vane 13 kN/m² | | 41.18 | 0.60 | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R2 W2 TV1 TH1 A1. |
| | | | B 3<br>D 4 | 0.60-0.90<br>0.90-1.00 | | | 40.18 | 1.60 | Soft damp grey organic gravelly silty CLAY with medium cobble content and medium boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 1 | | 1 | | | | | | | |
| 2 | | 2 | B 5 | 2.10-2.40 | | | 39.08 | 2.70 | Very soft moist light grey silty very gravelly CLAY with medium cobble content and low boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | | | | END | | | TP terminated at 2.70m bgl. Obstruction. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.50m bgl. Ingress of water at 2.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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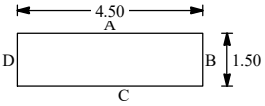
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPPSJ02 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,365.4 N 265,423.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 42.00m O.D. | **DATE:** 16.3.21 |

**GROUNDWATER**

Water strikes: 1st: 4.30m Rose to after: 20min 4.00m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 3.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | MADE GROUND: Spongy damp grey mottled dark brownish black clayey pseudo fibrous PEAT with some plastic. |
| | | | VANE | 0.40 | 33mm vane 18 kN/m² | | | | |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.60 | | | 41.40 | 0.60 | |
| | | | VANE | 0.70 | 33mm vane 13 kN/m² | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W2 TV1 TH1 A1. |
| | | | B 3 | 0.70-1.00 | | | | | |
| 1 | | | | | | | | | |
| | | | | | | | 40.00 | 2.00 | |
| 2 | | | B 4 | 2.00-2.30 | | | | | Very soft damp grey slightly sandy slightly gravelly organic silty CLAY with some plant material. Organic odour. |
| | | | D 5 | 2.30-2.40 | | | | | |
| | | | | | | | 39.00 | 3.00 | |
| 3 | | | B 6 | 3.10-3.40 | | | | | Stiff damp grey slightly gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 600mm in length. |
| | | | D 7 | 3.40-3.50 | | | | | |
| | | 1 | | | | | 38.00 | 4.00 | |
| 4 | | | | | | | | | Very soft moist light grey clayey very gravelly SILT with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | 1 | | | | | 37.70 | 4.30 | |
| | | | | | | END | | | TP terminated at 4.30m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 4.30m bgl. TP backfilled with arisings.

**Scale:** 1:25

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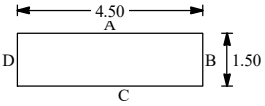
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPS277 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,332.3 N 268,710.0 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 39.30m O.D. | | **DATE:** 5.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 39.00 | 0.30 | Very soft dark brownish black clayey fibrous PEAT. H3 B1 F2 R2 W1 TV1 TH1 A0. |
| | | | | | | | 38.80 | 0.50 | Soft damp greyish brown organic peaty laminated silty CLAY with many plant material and many rootlets. |
| | | | VANE | 0.50 | H70 vane 63 kN/m² Rem 18 kN/m² | | | | Soft damp grey slightly gravelly slightly sandy organic laminated silty CLAY with low cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| | | | D 1 | 0.70-0.80 | | | | | |
| | | | B 2 | 0.70-1.00 | 33mm vane 14 kN/m² | | | | |
| | | | VANE | 0.80 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 37 kN/m² Rem 10 kN/m² | | 37.80 | 1.50 | |
| | | | B 3 | 1.80-2.20 | | | | | Very soft moist grey silty CLAY. |
| 2 | | | D 4 | 2.20 | | | | | |
| 3 | | | | | | | 35.80 | 3.50 | |
| | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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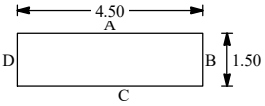
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPS278 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,250.4 N 268,650.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.30m O.D. | **DATE:** 5.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | | | | | 39.10 | 0.20 | Very soft dark orangish brown clayey fibrous PEAT. H3 B1 F3 R2 W1 TV1 TH1 A0. |
| | | | PLATE | 0.20 | | | | | Soft damp grey organic laminated silty CLAY with some plant material. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | ANE | 0.40 | 33mm vane 15 kN/m² | | | | |
| 1 | | | | | | | 37.70 | 1.60 | |
| | | | B 3 | 1.70-2.00 | | | | | Very soft moist grey slightly sandy slightly gravelly organic silty CLAY. |
| 2 | | | D 4 | 2.00-2.10 | | | | | |
| | | | | | | | 36.40 | 2.90 | |
| | | | B 5 | 2.90-3.20 | | | | | Soft moist light grey slightly sandy gravelly silty CLAY with low cobble content and low boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| 3 | | | D 6 | 3.20 | | | | | |
| | | | | | | | 35.30 | 4.00 | |
| 4 | | | | | | END | | | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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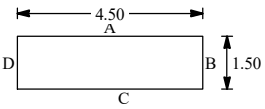
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPS279 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,202.1 N 268,558.0 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.89m O.D. | **DATE:** 4.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 39.49 | 0.40 | Very soft dark brownish black fibrous PEAT. H3 B1 F2 R2 W1 TV1 TH1 A0. |
| | | | VANE D 1 | 0.50 0.50-0.60 | 33mm vane 12 kN/m² | | 39.09 | 0.80 | Soft orangish greyish brown peaty CLAY with some plant material and some rootlets. |
| | | | B 2 | 0.80-1.00 | | | | | Soft damp grey organic laminated SILT with some plant material and some rootlets. |
| 1 | | | D 3 | 1.00-1.10 | | | 38.39 | 1.50 | |
| | | | B 4 | 1.50-1.80 | | | | | Very soft moist grey silty CLAY. |
| | | | D 5 | 1.80-1.90 | | | 37.39 | 2.50 | |
| 2 | | | | | | | | | |
| | | | B 6 | 2.70-3.00 | | | | | Firm damp grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | D 7 | 3.00-3.10 | | | 36.59 | 3.30 | |
| | | | B 8 | 3.30-3.60 | | | 36.29 | 3.60 | Stiff brownish grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 9 | 3.60 | | END | | | TP terminated at 3.60m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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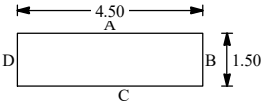
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPS280 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,116.5 N 268,511.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.26m O.D. | **DATE:** 4.3.21 |

**GROUNDWATER**

Water strikes: 1st: 3.50m Rose to after: 20min 3.49m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A2. |
| | | | VANE D 1 | 0.50 0.50-0.60 | 33mm vane 11 kN/m² | | 39.66 | 0.60 | |
| | | | VANE | 0.60 | H70 vane 48 kN/m² Rem 20 kN/m² | | 39.46 | 0.80 | FVery soft orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A2. |
| | | | B 2 | 0.80-1.10 | | | | | Very soft moist grey organic laminated silty CLAY with some plant material. |
| 1 | | | D 3 | 1.10-1.20 | | | 38.36 | 1.90 | |
| | | | B 4 | 1.90-2.20 | | | | | Very soft moist grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 1000mm in length. |
| 2 | | | D 5 | 2.20-2.30 | | | | | |
| 3 | | | | | | | 37.06 | 3.20 | |
| | | | B 6 | 3.20-3.50 | | | | | Stiff brownish grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | 1.1 | D 7 | 3.50 | | END | 36.76 | 3.50 | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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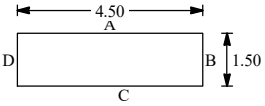
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPS282 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,057.7 N 268,550.7 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 40.20m O.D. | | **DATE:** 4.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.90m Rose to after: 20min 2.89m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.30m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W2 TV1 TH1 A2. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | VANE | 0.40 | 33mm vane 10 kN/m² | | | | |
| | | | | | | | 39.60 | 0.60 | |
| | | | | | | | 39.50 | 0.70 | Soft greyish brown organic peaty CLAY with some plant material. Organic odour. |
| | | | | | | | | | Very soft bluish grey organic silty CLAY with some plant material. Organic odour. |
| | | | ATE | 0.90 | | | | | |
| 1 | | | B 2 | 0.90-1.20 | | | | | |
| | | | ANE | 1.00 | H70 vane 68 kN/m² Rem 8 kN/m² | | | | |
| | | | B 3 | 1.20-1.30 | | | | | |
| 2 | | | | | | | 37.90 | 2.30 | |
| | | | D 4 | 2.30-2.60 | | | | | Very soft moist grey slightly sandy silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| | | | B 5 | 2.60 | | | | | |
| | | 1.1 | | | | | 37.30 | 2.90 | |
| 3 | | | | | | END | | | TP terminated at 2.90m bgl. Obstruction. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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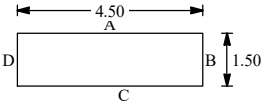
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPSSA01 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,114.9 N 268,681.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.31m O.D. | **DATE:** 4.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Grass over soft damp grey slightly sandy organic SILT with some plant material and some rootlets. |
| | | | BR | 0.30 | | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | | | | | 38.31 | 1.00 | |
| 1 | | | | | | | | | Very soft moist grey organic silty CLAY. |
| | | | | | | | 37.41 | 1.90 | |
| | | | B 3 | 1.90-2.20 | | | | | Very soft moist grey slightly sandy gravelly SILT with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | D 4 | 2.20-2.30 | | | | | |
| | | | | | | | 36.81 | 2.50 | |
| | | | | | | | | | Stiff brownish grey gravelly silty CLAY with low cobble content and low boulder content. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | B 5 | 3.00-3.20 | | | | | |
| | | | | | | | 36.11 | 3.20 | |
| | | | D 6 | 3.20 | | END | | | TP terminated at 3.20m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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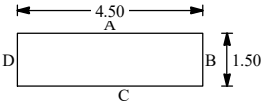
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPSSA02 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,087.8 N 268,654.6 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 39.44m O.D. | | **DATE:** 4.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.50m Rose to after: 20min 2.50m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.90m to 2.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 39.34 | 0.10 | Very soft dark brownish black fibrous PEAT. H2 B1 F2 R2 W2 TV1 TH1 A0. |
| | | | | | | | | | Firm damp grey organic laminated SILT with some rootlets and some plant material. |
| | | | VANE | 0.40 | 33mm vane 27 kN/m² | | | | |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | | | | | |
| | | | GATE | 0.60 | | | 38.74 | 0.70 | |
| | | | | | | | | | Very soft moist bluish grey organic silty CLAY. |
| 1 | | | B 3 | 1.10-1.40 | | | | | |
| | | | B 4 | 1.40-1.50 | | | | | |
| | | | | | | | 37.54 | 1.90 | |
| 2 | | | | | | | 37.24 | 2.20 | Very soft moist grey clayey very gravelly SILT with high cobble content and low boulder content. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | B 5 | 2.20-2.50 | | | | | Stiff brownish grey slightly sandy gravelly SILT with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 600mm in length. |
| | | 1.1 | | | | | 36.94 | 2.50 | |
| | | | D 6 | 2.50 | | END | | | TP terminated at 2.50m bgl. Obstruction. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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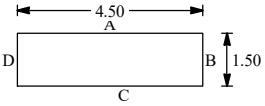
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPSSA03 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,064.5 N 268,639.1 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 39.54m O.D. | | **DATE:** 3.3.21 |

**GROUNDWATER**

Water strikes: 1st: 2.80m Rose to after: 20min 2.80m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1 | 0.10-0.20 | | | 39.39 | 0.15 | Very soft dark brownish black fibrous PEAT. H3 B1 F3 R2 W1 TV1 TH1 A1. |
| | | | ATE<br>ANE<br>B 2 | 0.30<br>0.30<br>0.30-0.60 | 33mm vane 21 kN/m² | | | | Very soft moist grey organic laminated silty CLAY with some plant material and many rootlets. |
| | | | D 3 | 0.60-0.70 | | | | | |
| 1 | | | | | | | | | |
| | | | | | | | 37.54 | 2.00 | |
| 2 | | | B 4 | 2.00-2.30 | | | | | Very soft moist grey silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | | | | | 37.04 | 2.50 | |
| | | | B 5 | 2.60-2.80 | | | | | Brownish grey silty clayey subrounded to rounded fine to coarse limestone GRAVEL with high cobble content and medium boulder content. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | | 36.74 | 2.80 | |
| | | | | | | END | | | TP terminated at 2.80m bgl. Obstruction. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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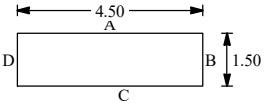
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPSSA04 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,019.8 N 268,626.4 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 40.97m O.D. | | **DATE:** 3.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 3.40m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 40.77 | 0.20 | Very soft dark brownish black fibrous PEAT. H3 B1 F3 R2 W1 TV1 TH1 A2. |
| | | | D 1 | 0.30-0.40 | | | | | Very soft dark orangish brown fibrous PEAT. H2 B2 F3 R1 W1 TV1 TH1 A2. |
| | | | VANE | 0.40 | 33mm vane 15 kN/m² | | 40.07 | 0.90 | |
| 1 | | | VANE | 1.00 | H70 vane 42 kN/m² | | | | Spongy dark brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A2. |
| | | | B 2 | 1.00-1.20 | Rem 2 kN/m² | | | | |
| | | | D 3 | 1.20-1.30 | | | 39.07 | 1.90 | |
| | | | B 4 | 1.90-2.20 | | | | | Very soft moist grey organic laminated silty CLAY with some plant material and some rootlets. |
| 2 | | | VANE | 2.00 | H70 vane 118 kN/m² Rem 28 kN/m² | | | | |
| | | | D 5 | 2.20-2.30 | | | 37.97 | 3.00 | |
| 3 | | | B 6 | 3.00-3.30 | | | 36.97 | 4.00 | Moist light grey sandy silty subangular to rounded fine to coarse limestone GRAVEL with medium cobble content and medium boulder content. Sand is fine. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 600mm in length. |
| 4 | | | | | | END | | | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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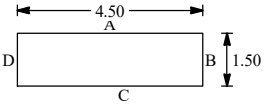
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPSSA05 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,102.3 N 268,599.5 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 39.44m O.D. | | **DATE:** 4.3.21 |

**GROUNDWATER**

Water strikes: 1st: 3.00m Rose to after: 20min 2.99m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 39.34 | 0.10 | Very soft dark brownish black clayey fibrous PEAT. |
| | | | ATE<br>ANE<br>D 1<br>B 2 | 0.40<br>0.40<br>0.40-0.50<br>0.40-0.70 | 33mm vane 30 kN/m² | | 38.44 | 1.00 | Very soft moist grey organic laminated silty CLAY with some plant material. |
| 1 | | | B 3<br>D 4 | 1.20-1.50<br>1.50-1.60 | | | 37.84 | 1.60 | Very soft moist grey silty CLAY. |
| 2 | | | B 5 | 2.10-2.40 | | | 37.34 | 2.10 | Very soft moist grey clayey very gravelly SILT with high cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | | | | | 36.44 | 3.00 | Stiff brownish grey slightly gravelly sandy silty CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 3 | | | | | | END | | | TP terminated at 3.00m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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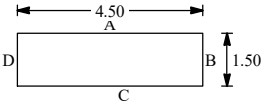
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPSSA06 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,158.8 N 268,601.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.34m O.D. | **DATE:** 4.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.20m to 2.10m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Grass and rushes over firm damp bluish grey organic laminated silty CLAY with some plant material and some rootlets. |
| | | | B 2 | 0.30-0.50 | | | | | |
| | | | BULK | 0.40 | 33mm vane 9 kN/m² | | | | |
| | | | VANE | 0.40 | | | | | |
| | | | D 1 | 0.50-0.60 | | | | | |
| 1 | | | | | | | 38.14 | 1.20 | |
| | | | B 3 | 1.20-1.50 | | | | | Moist light grey clayey silty subangular to subrounded fine to coarse limestone GRAVEL with high cobble content and medium boulder content. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 4 | 1.50-1.60 | | | | | |
| 2 | | | D 6 | 2.00 | | | 37.24 | 2.10 | |
| | | | B 5 | 2.10-2.40 | | | | | Stiff brownish grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 300mm in length. |
| | | | | | | | 36.94 | 2.40 | |
| | | | | | | END | | | TP terminated at 2.40m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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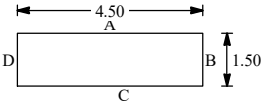
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT01 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,022.0 N 269,727.8 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.72m O.D. | **DATE:** 10.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 38.62 | 0.10 | Plastic dark blackish brown amorphous PEAT. H8 B1 F1 R0 W0 TV0 TH0 A0. |
| | | | D 1 | 0.40-0.60 | | | 38.02 | 0.70 | Very soft dark brown fibrous PEAT. H3 B2 F2 R1 W1 TV1 TH1 A1. |
| | | | VANE<br>VANE | 0.80<br>0.81 | 33mm vane 21 kN/m²<br>H70 vane 25 kN/m²<br>Rem 10 kN/m² | | | | Damp grey organic silty SAND with many rootlets. Sand is fine. |
| 1 | | | D 2 | 1.00-1.50 | | | 37.22 | 1.50 | |
| | | | B 3 | 1.50-2.00 | | | 36.72 | 2.00 | Very soft moist grey slightly gravelly slightly sandy SILT with some rootlets. |
| 2 | | | | | | | 36.32 | 2.40 | Stiff damp grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | | | | END | | | TP terminated at 2.40m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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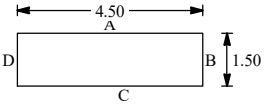
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT02 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 203,739.6 N 270,180.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.53m O.D. | **DATE:** 15.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.30m to 2.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 38.33 | 0.20 | Plastic dark blackish brown amorphous PEAT. H8 B1 F1 R1 W1 TV0 TH0 A0. |
| | | | VANE | 0.40 | 33mm vane 13 kN/m² | | | | Very soft dark brown fibrous PEAT. H3 B2 F2 R2 W2 TV1 TH1 A2. |
| | | | VANE | 0.50 | H70 vane 48 kN/m² | | | | |
| | | | D 1 | 0.60-0.70 | Rem 2 kN/m² | | 37.53 | 1.00 | |
| 1 | | | B 2 | 1.00-1.30 | | | 37.23 | 1.30 | Soft damp bluish grey slightly gravelly sandy SILT with with low cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. |
| | | | VANE | 1.50 | H70 vane 45 kN/m² Rem 6 kN/m² | | | | Firm damp bluish grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | | B 3 | 2.20-2.50 | | | 36.03 | 2.50 | |
| | | | B 4 | 2.60-2.80 | | | 35.73 | 2.80 | Stiff dark grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 500mm in length. |
| | | | | | | END | | | TP terminated at 2.80m bgl. Obstruction as boulders. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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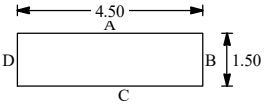
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT06 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,126.1 N 271,221.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 36.86m O.D. | **DATE:** 24.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H6 B1 F2 R1 W1 TV1 TH1 A1. |
| | | | | | | | 36.46 | 0.40 | |
| | | | D 1 | 0.40-0.50 | | | | | Very soft orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A2. |
| | | | VANE | 0.50 | 33mm vane 11 kN/m² | | | | |
| | | | VANE | 0.51 | H70 vane 43 kN/m² Rem 5 kN/m² | | | | |
| | | | | | | | 35.86 | 1.00 | |
| 1 | | | VANE | 1.00 | H70 vane 57 kN/m² Rem 18 kN/m² | | | | Very soft greyish brown organic fibrous peaty CLAY. |
| | | | | | | | 35.36 | 1.50 | |
| | | | VANE | 1.50 | H70 vane 52 kN/m² Rem 25 kN/m² | | | | Very soft moist grey organic SILT with some plant material and many rootlets. |
| | | | D 2 | 1.50-1.80 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 44 kN/m² Rem 9 kN/m² | | | | |
| | | | | | | | 33.86 | 3.00 | |
| 3 | | | B 3 | 3.00-3.30 | | | | | Firm grey sandy SILT. Sand is fine. |
| | | | | | | | 33.36 | 3.50 | |
| | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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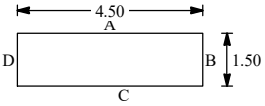
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT07 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,464.5 N 270,775.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 37.80m O.D. | **DATE:** 22.2.21 |

**GROUNDWATER**

Water strikes: 1st: 1.40m 2nd: 3rd:
Rose to after: 20min 0.60m

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.50 | 0.30 | Plastic black amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A0. |
| | | 1 | B 1 | 0.40-0.70 | | | 36.90 | 0.90 | Damp grey slightly gravelly silty fine SAND. |
| 1 | | | VANE | 1.00 | H70 vane 48 kN/m² Rem 0 kN/m² | | | | Damp orangish grey silty coarse SAND. |
| | | 1 | B 2 | 1.20-1.40 | | | 36.30 | 1.50 | |
| | | | | | | END | | | TP terminated at 1.50m bgl. Unable to progress TP - due to ingress of water. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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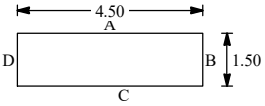
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT08 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,609.9 N 270,335.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 38.66m O.D. | **DATE:** 22.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Heather over brownish black slightly silty amorphous PEAT. H8 B2 F1 R0 W0 TV1 TH1 A0. |
| | | | VANE D 1 | 0.40<br>0.40-0.50 | 33mm vane 17 kN/m² | | 38.26 | 0.40 | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W1 TV1 TH1 A1. |
| | | | VANE B 2 | 0.80<br>0.90-1.00 | 33mm vane 12 kN/m² | | | | |
| 1 | | | VANE | 1.00 | H70 vane 62 kN/m² Rem 10 kN/m² | | 37.36 | 1.30 | |
| | | | VANE B 3 | 1.30<br>1.30-1.60 | H70 vane 82 kN/m² Rem 6 kN/m² | | 36.56 | 2.10 | Damp grey slightly silty fine to medium SAND. |
| 2 | | | | | | | 35.96 | 2.70 | Very soft moist grey slightly sandy silty CLAY. Sand is fine. |
| | | | B 4 | 2.70-3.00 | | | 35.16 | 3.50 | Firm damp grey sandy SILT. Sand is fine. |
| 3 | | | | | | END | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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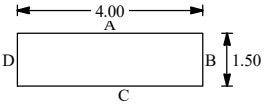
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT09 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 204,673.3 N 269,708.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.62m O.D. | **DATE:** 18.2.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.00m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 39.42 | 0.20 | MADE GROUND: Grass over grey mottled brownish black clayey amorphous PEAT with some plastic. |
| | | | VANE D 1 | 0.80 0.80-0.90 | 33mm vane 23 kN/m² | | | | Plastic brownish black amorphous PEAT. H8 B2 F1 R0 W0 TV1 TH1 A1. |
| 1 | | | VANE B 2 | 1.00 1.00-1.40 | H70 vane 72 kN/m² Rem 6 kN/m² | | 38.22 | 1.40 | |
| | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B2 F3 R2 W2 TV1 TH1 A1. 1.70m: top of concrete pipe. |
| 2 | | | VANE | 2.00 | H70 vane 58 kN/m² Rem 8 kN/m² | | 37.22 | 2.40 | |
| | | | B 3 VANE | 2.40-2.70 2.50 | H70 vane 78 kN/m² Rem 2 kN/m² | | 36.62 | 3.00 | Moist grey organic silty SAND with some plant material and some rootlets. |
| 3 | | | | | | | | | Very soft moist grey SILT. |
| 4 | | | B 4 | 3.90-4.20 | | | 35.42 | 4.20 | |
| | | | | | | END | | | TP terminated at 4.20m bgl. Maximum reach of excavator due to concrete pipe. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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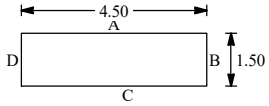
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPT11 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,058.6 N 268,278.5 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 43.84m O.D. | | **DATE:** 8.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.90m Rose to after: 20min 1.60m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 43.74 | 0.10 | Rushes and moss over plastic dark brownish black clayey amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A1. |
| | | | D 1<br>B 2 | 0.30-0.40<br>0.30-0.40 | | | 42.74 | 1.10 | Soft brownish grey slightly sandy gravelly organic SILT with high cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of sandstone and limestone. Cobbles are subrounded to rounded of sandstone and limestone. Boulders are subrounded to rounded of sandstone and limestone. Boulders are up to 350mm in length. |
| 1 | | | B 3<br>D 4 | 1.40-1.60<br>1.60-1.70 | | | 41.94 | 1.90 | Firm moist light grey slightly sandy clayey very gravelly SILT with medium cobble content and medium boulder content. Sand is fine. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 2 | | | | | | END | | | TP terminated at 1.90m bgl. Obstruction as rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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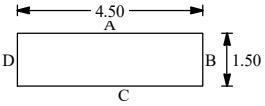
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT12 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,689.9 N 267,791.5 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.38m O.D. | **DATE:** 9.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.20m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W1 TV1 TH1 A2. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | B 2 | 0.40-0.70 | 33mm vane 8 kN/m² | | | | |
| | | | VANE | 0.50 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 48 kN/m² Rem 12 kN/m² | | 39.18 | 1.20 | |
| | | | B 3 | 1.20-1.50 | | | | | Soft damp grey organic silty CLAY with some plant material. Organic odour. |
| | | | D 4 | 1.50-1.60 | | | | | |
| 2 | | | VANE | 2.00 | H70 vane 72 kN/m² Rem 24 kN/m² | | 38.28 | 2.10 | |
| | | | B 5 | 2.30-2.60 | | | | | Very soft moist grey organic silty CLAY. Organic odour. |
| | | | D 6 | 2.60-2.70 | | | | | |
| 3 | | | | | | | 36.78 | 3.60 | |
| | | | B 7 | 3.60-3.90 | | | | | Stiff grey slightly sandy gravelly CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. |
| | | | D 8 | 3.90-4.00 | | | 36.38 | 4.00 | |
| 4 | | | | | | END | | | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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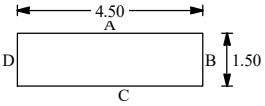
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT13 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,968.8 N 266,464.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 40.20m O.D. | **DATE:** 12.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W1 TV1 TH1 A1. |
| | | | B 2 | 0.20-0.50 | | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | VANE | 0.40 | 33mm vane 9 kN/m² | | | | |
| 1 | | | | | | | 39.00 | 1.20 | |
| | | | B 3 | 1.20-1.50 | | | | | Very soft damp grey organic laminated SILT with low cobble content and some plant material. Cobbles are subrounded of limestone. Organic odour. |
| | | | D 4 | 1.50-1.60 | | | | | |
| 2 | | | | | | | 38.20 | 2.00 | |
| | | | | | | | | | Very soft moist grey slightly gravelly silty CLAY. |
| | | | B 5 | 2.80-3.10 | | | | | |
| 3 | | | | | | | 37.10 | 3.10 | |
| | | | D 6 | 3.10 | | END | | | TP terminated at 3.10m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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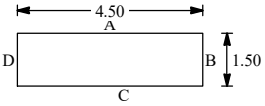
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT14 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,349.5 N 266,164.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.22m O.D. | **DATE:** 17.3.21 |

**GROUNDWATER**

Water strikes: 1st: 3.40m Rose to after: 20min 2.10m
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.50-0.60<br>0.50-0.80<br>0.60 | 33mm vane 13 kN/m² | | 42.02 | 1.20 | Grass and saplings over spongy dark orangish brown clayey pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| 1 | | | B 3<br>D 4 | 1.20-1.50<br>1.50-1.60 | | | 41.02 | 2.20 | Soft moist grey organic slightly sandy silty very gravelly CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| 2 | | 1 | B 5<br>D 6<br>B 7 | 2.30-2.60<br>2.60-2.70<br>3.00 | | | 39.82 | 3.40 | Stiff grey silty very gravelly CLAY with low cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length.<br>3.20m to 3.40m: with high cobble content and high boulder content. |
| 3 | | 1 | | | | END | | | TP terminated at 3.40m bgl. Obstruction as possible rock. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.40m bgl. TP backfilled with arisings.

**Scale:** 1:25

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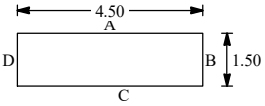
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT15 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 207,005.4 N 266,312.6 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 43.67m O.D. | **DATE:** 22.3.21 |

**GROUNDWATER**

Water strikes: 1st: 1.70m Rose to after: 20min 0.80m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | B 2 | 0.10-0.30 | | | | | Spongy dark brown pseudo fibrous PEAT. H5 B2 F1 R1 W2 TV1 TH1 A1. |
| | | | VANE | 0.20 | 33mm vane 14 kN/m² | | | | |
| | | | D 1 | 0.20-0.30 | | | 43.37 | 0.30 | |
| | | | VANE | 0.60 | 33mm vane 18 kN/m² | | | | Very soft damp bluish grey organic silty CLAY with some plant material and some wood. Organic odour. |
| | | 1 | UBR | 0.70 | | | | | |
| | | | B 3 | 0.70-0.90 | | | | | |
| | | | D 4 | 0.90-1.00 | | | | | |
| 1 | | | | | | | | | |
| | | | | | | | 41.97 | 1.70 | |
| | | | B 5 | 1.70-1.90 | | | | | Moist grey silty clayey angular to subangular fine to coarse limestone GRAVEL with high cobble content and medium boulder content. Cobbles are subangular to subrounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 1000mm in length. |
| | | | | | | | 41.77 | 1.90 | |
| | | | | | | END | | | TP terminated at 1.90m bgl. Obstruction as possible rock. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.70m bgl. TP backfilled with arisings.

**Scale:** 1:25

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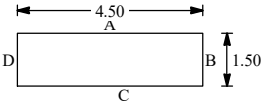
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT16 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,851.0 N 266,643.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.22m O.D. | **DATE:** 22.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 2.00m | 20min | 1.99m |
| 2nd: | 4.00m | 20min | 3.10m |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from g/l to 2.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.50<br>0.40 | 33mm vane 12 kN/m² | | 43.22 | 1.00 | Very soft dark orangish brown fibrous PEAT.<br>H3 B2 F3 R1 W2 TV1 TH1 A2. |
| 1 | | | VANE<br>B 3<br>D 4 | 1.00<br>1.30-1.50<br>1.50-1.60 | H70 vane 30 kN/m²<br>Rem 8 kN/m² | | 42.22 | 2.00 | Spongy dark brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W2 TV1 TH1 A2. |
| 2 | | 1 | VANE<br>B 5<br>D 6 | 2.00<br>2.00-2.30<br>2.30-2.40 | H70 vane 50 kN/m²<br>Rem 18 kN/m² | | 40.42 | 3.80 | Soft damp bluish grey organic slightly gravelly silty CLAY with medium cobble content and medium boulder content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length.<br>Organic odour. |
| 3 | | 2 | B 7 | 3.80-4.00 | | | 40.22 | 4.00 | Moist light grey silty clayey angular to subangular fine to coarse limestone GRAVEL with high cobble content and medium boulder content. Cobbles are angular to subangular of limestone. Boulders are angular to subangular of limestone. Boulders are up to 400mm in length. |
| 4 | | 2 | | | | END | | | TP terminated at 4.00m bgl. Obstruction as possible rock. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.00m bgl. Ingress of water at 4.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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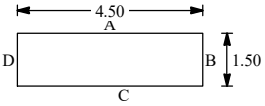
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT17 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,122.9 N 265,556.4 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.51m O.D. | **DATE:** 15.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.70m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.50<br>0.40 | 33mm vane 13 kN/m² | | 40.81 | 0.70 | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R1 W1 TV1 TH1 A1. |
| | | | VANE<br>B 3 | 0.70<br>0.70-1.00 | | | | | Soft damp grey slightly sandy gravelly organic SILT with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 350mm in length. |
| 1 | | | D 4 | 1.00-1.10 | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | 38.41 | 3.10 | |
| | | | B 5 | 3.30-3.60 | | | | | Very soft grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | | | | | 37.91 | 3.60 | |
| | | | D 6 | 3.60 | | END | | | TP terminated at 3.60m bgl. Unable to progress TP - sidewall collapse. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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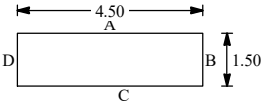
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT: Derryadd Wind Farm** | | **TRIALPIT: TPT18** |
| **LOCATION: Derryadd, Co. Longford** | | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** | **Rig: Hyundai 140 LC9** |
| **ENGINEER: Bord na Mona** | **E 208,017.5 N 264,524.8** | **Rev: DRAFT** |
| **Ground level: 53.65m O.D.** | | **DATE: 30.3.21** |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.50m | 20min | 1.40m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION: 000-180**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.00m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Grass and moss over very soft dark orangish brown fibrous PEAT. H3 B2 F3 R1 W2 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | 33mm vane 17 kN/m² | | | | |
| | | | VANE | 0.40 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 18 kN/m² Rem 4 kN/m² | | | | |
| | | 1 | | | | | 52.15 | 1.50 | |
| | | | B 3 | 1.50-1.80 | | | | | Very soft moist light brownish grey organic gravelly silty CLAY with medium cobble content and low boulder content and some plant material and some wood. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 350mm in length. |
| | | | D 4 | 1.80-1.90 | | | | | |
| | | | | | | | 51.65 | 2.00 | |
| 2 | | | VANE | 2.00 | H70 vane 30 kN/m² Rem 10 kN/m² | | | | Very soft moist light grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 500mm in length. |
| | | | B 5 | 2.00-2.30 | | | | | |
| | | | D 6 | 2.30-2.40 | | | | | |
| | | | VANE | 2.50 | H70 vane 88 kN/m² Rem 40 kN/m² | | | | |
| | | | | | | | 50.85 | 2.80 | |
| | | | | | | END | | | TP terminated at 2.80m bgl. Obstruction as possible rock. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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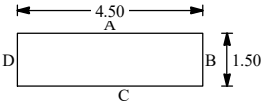
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPT19 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 208,330.1 N 264,332.3 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 49.64m O.D. | | **DATE:** 30.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 3.00m | 20min | 1.70m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.60m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | 33mm vane 14 kN/m² | | | | |
| | | | VANE | 0.40 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 28 kN/m² Rem 2 kN/m² | | 48.34 | 1.30 | |
| | | | B 3 | 1.30-1.60 | | | | | Very soft damp yellowish greyish green organic CLAY with some shell fragments. organic odour. |
| | | 1 | D 4 | 1.60-1.70 | | | 47.94 | 1.70 | |
| 2 | | | VANE | 2.00 | H70 vane 34 kN/m² Rem 8 kN/m² | | | | Soft damp grey gravelly silty CLAY with low cobble content and low boulder content and lenses of fine sand. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 5 | 2.10-2.40 | | | | | |
| | | | VANE D 6 | 2.40 2.40-2.50 | H70 vane 90 kN/m² Rem 50 kN/m² | | 47.04 | 2.60 | |
| | | | B 7 | 2.80-3.00 | | | | | Moist light grey silty clayey subangular to rounded fine to coarse limestone GRAVEL with high cobble content and medium boulder content. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| 3 | | 1 | | | | | 46.64 | 3.00 | |
| | | | | | | END | | | TP terminated at 3.00m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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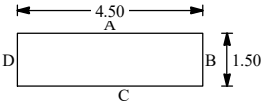
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT20 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,215.1 N 264,190.3 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 49.09m O.D. | **DATE:** 9.4.21 |

**GROUNDWATER**

Water strikes: 1st: 1.50m Rose to after: 20min 1.42m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.40-0.50<br>0.40-0.70<br>0.50 | 33mm vane 9 kN/m² | | 48.29 | 0.80 | Spongy dark brown pseudo fibrous PEAT.<br>H5 B1 F2 R1 W1 TV1 TH1 A1.<br><br>0.40m to 0.80m: with medium boulder content. Boulders are of limestone. Boulders are up to 1500mm in length. |
| 1 | | 1 | BR<br>B 3<br>D 4 | 0.90<br>0.90-1.20<br>1.20-1.30 | | | 47.59 | 1.50 | Moist greyish brown silty very gravelly CLAY with medium cobble content and medium boulder content and some plant material. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subangular to subrounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 500mm in length.<br>Organic odour. |
| 2 | | | B 5<br>D 6<br>B 7 | 1.60-1.90<br>1.90-2.00<br>2.40-2.70 | | | 46.39 | 2.70 | Firm damp grey slighty sandy very gravelly SILT with medium cobble content and medium boulder content. Sand is fine. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| 3 | | | D 8 | 2.70 | | END | | | TP terminated at 2.70m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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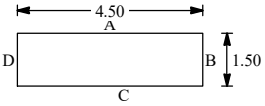
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT21 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,472.0 N 263,656.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 50.39m O.D. | **DATE:** 1.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.90m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE<br>D 1<br>B 2 | 0.30<br>0.30-0.50<br>0.30-0.60 | 33mm vane 9 kN/m² | | 49.49 | 0.90 | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R1 W2 TV1 TH1 A1. |
| 1 | | | B 3<br>D 4 | 0.90-1.20<br>1.20-1.30 | | | 48.89 | 1.50 | Soft damp grey organic gravelly silty CLAY with high cobble content and medium boulder content. Gravel is angular to subangular fine to coarse of limestone and sandstone. Cobbles are angular to subrounded of limestone and sandstone. Boulders are angular to subrounded of limestone and sandstone. Boulders are up to 400mm in length. |
| 2 | | | B 5<br>D 6 | 1.60-1.90<br>1.90-2.00 | | | 47.99 | 2.40 | Very soft moist light grey gravelly silty CLAY with medium cobble content and medium boulder content. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are angular to subrounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 800mm in length. |
| 3 | | | B 7 | 3.20-3.50 | | | 46.89 | 3.50 | Very soft moist light grey silty very gravelly CLAY with high cobble content and high boulder content. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are angular to rounded of limestone. Boulders are up to 550mm in length. |
| | | | | | | END | | | TP terminated at 3.50m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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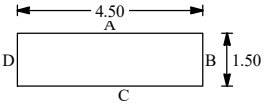
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT22 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,875.9 N 264,048.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 58.25m O.D. | **DATE:** 7.4.21 |

**GROUNDWATER**

Water strikes: 1st: 1.50m Rose to after: 20min 1.35m
2nd:
3rd:

**PIT DIRECTION:** 180-360
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.70m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark blackish brown fibrous PEAT. H3 B1 F3 R1 W1 TV1 TH1 A1. |
| | | | VANE | 0.50 | 33mm vane 23 kN/m² | | | | |
| | | | B 1 | 0.50-0.80 | | | | | |
| | | | D 2 | 0.80-0.90 | | | | | |
| 1 | | 1 | | | | | | | |
| | | 1 | | | | | 56.75 | 1.50 | |
| | | | B 3 | 1.50-1.80 | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B3 F3 R1 W2 TV1 TH1 A2. |
| | | | D 4 | 1.80-1.90 | | | 56.35 | 1.90 | |
| 2 | | | | | | | | | Very soft moist greenish grey gravelly silty CLAY with low cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. |
| | | | B 5 | 2.20-2.50 | | | | | |
| | | | D 6 | 2.50-2.60 | | | 55.55 | 2.70 | |
| 3 | | | | | | | | | Very soft moist grey silty very gravelly CLAY with medium cobble content and medium boulder content. Gravel is angular to subrounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 7 | 3.10-3.40 | | | | | |
| | | | D 8 | 3.40-3.50 | | | | | TP terminated at 3.50m bgl. Unable to progress TP - sidewall collapse. |
| | | | | | | | 54.35 | 3.90 | |
| 4 | | | | | | END | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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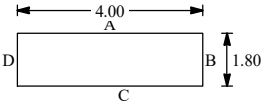
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT23 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,683.0 N 264,623.1 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 53.31m O.D. | **DATE:** 12.4.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 4.00m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.10m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 53.30 | 0.01 | Soft dark brown clayey PEAT. |
| | | | ATE | 0.30 | | | | | Soft light grey silty very sandy very gravelly CLAY with high cobble content. Sand is fine. Gravel is subrounded to subangular medium of limestone and sandstone. Cobbles are angular to subangular of limestone and sandstone. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | B 3 | 0.90-1.20 | | | 52.41 | 0.90 | |
| 1 | | | | | | | | | Soft grey slightly sandy silty gravelly CLAY with high cobble content and medium boulder content. Gravel is subrounded to subangular medium of limestone and sandstone. Cobbles are angular to subangular of limestone and sandstone. |
| | | | D 4 | 1.20-1.30 | | | | | |
| 2 | | | | | | | 51.21 | 2.10 | |
| | | | | | | END | | | TP terminated at 2.10m bgl. Unable to progress TP - sidewall collapse. |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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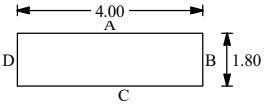
| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPT24 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 209,877.1 N 265,184.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 52.07m O.D. | **DATE:** 13.4.21 |

**GROUNDWATER**

Water strikes: 1st: 2.50m Rose to after: 20min 2.44m
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.80 * 4.00m
**LOGGED BY:** DK




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 2.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft light brown fibrous PEAT. H3 B2 F2 R3 W2. |
| | | | VANE | 0.30 | 33mm vane 13 kN/m² | | | | |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.50 | | | | | |
| 1 | | | VANE | 1.00 | H70 30 kN/m² Rem 2 kN/m² | | | | |
| | | | B 3 | 1.50-1.70 | | | | | |
| | | | D 4 | 1.70-1.80 | | | | | |
| 2 | | | VANE | 2.00 | H70 60 kN/m² Rem 12 kN/m² | | | | |
| | | 1 | | | | | 49.57 | 2.50 | |
| | | | B 5 | 2.50-2.70 | | | | | Soft light grey organic SILT with rootlets. |
| | | | | | | | 49.37 | 2.70 | |
| | | | VANE | 2.70 | H70 91 kN/m² Rem 31 kN/m² | | | | Soft grey silty CLAY with high boulder content. Boulders are rounded to subrounded of limestone. |
| | | | D 6 | 2.70-2.80 | | | | | |
| 3 | | | | | | | 48.87 | 3.20 | |
| | | | | | | END | | | TP terminated at 3.20m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 2.50m bgl. TP backfilled with arisings.

**Scale:** 1:25

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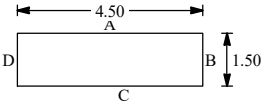
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT: Derryadd Wind Farm** | **TRIALPIT: TPTCCA** |
| **LOCATION: Derryadd, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 204,443.0 N 269,870.1 |
| **ENGINEER: Bord na Mona** | **Rig: Hyundai 140 LC9** |
| | **Rev: DRAFT** |
| **Ground level: 37.71m O.D.** | **DATE: 19.2.21** |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.00m | 20min | 0.99m |
| 2nd: | | | |
| 3rd: | | | |

**PIT DIRECTION: 180-360**
**PIT DIMENSION: 1.50 * 4.50m**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.50m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark orangish brown fibrous PEAT. H3 B3 F3 R2 W2 TV1 TH1 A2. |
| | | | D 1 | 0.40-0.50 | | | | | |
| | | | VANE | 0.50 | 33mm vane 13 kN/m² | | | | |
| 1 | | 1.1 | B 2 | 1.00-1.10 | | | | | |
| | | | | | | | 36.21 | 1.50 | |
| | | | B 3 | 1.50-1.80 | | | | | Very soft moist grey organic SILT with some rootlets. Organic odour. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| | | | B 4 | 3.50-4.00 | | | | | |
| 4 | | | | | | | | | |
| | | | | | | | 33.21 | 4.50 | |
| | | | | | | END | | | TP terminated at 4.50m bgl on REs instruction. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.00m bgl. TP backfilled with arisings.

**Scale:** 1:25

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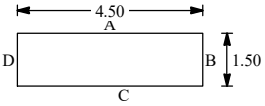
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPTCCB |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,256.3 N 268,700.2 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 39.20m O.D. | **DATE:** 5.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Very soft dark greyish brown clayey fibrous PEAT. H3 B1 F2 R2 W1 TV1 TH1 A1. |
| | | | | | | | 38.90 | 0.30 | |
| | | | D 1 | 0.30-0.40 | | | | | Soft damp grey organic laminated SILT with some plant material and some rootlets. |
| | | | B 2 | 0.30-0.60 | | | | | |
| | | | VANE | 0.40 | 33mm vane 14 kN/m² | | | | |
| | | | D 3 | 0.60-0.70 | | | | | |
| 1 | | | | | | | 38.10 | 1.10 | |
| | | | | | | | | | Very soft moist grey SILT. |
| | | | B 4 | 1.60-1.90 | | | | | |
| | | | D 5 | 1.90-2.00 | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | 35.70 | 3.50 | |
| | | | | | | | | | Very soft moist grey slightly gravelly clayey SILT with low cobble content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. |
| | | | B 6 | 3.70-4.00 | | | | | |
| | | | | | | | 35.20 | 4.00 | |
| 4 | | | D 7 | 4.00 | | END | | | TP terminated at 4.00m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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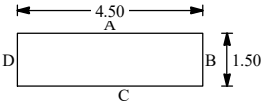
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPTCCC |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 205,492.3 N 268,716.7 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 44.35m O.D. | **DATE:** 8.3.21 |

**GROUNDWATER**

Water strikes: Rose to after:
1st: dry
2nd:
3rd:

**PIT DIRECTION:** 090-270
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 44.10 | 0.25 | Moss briars and saplings over plastic dark brownish black clayey amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH1 A0. |
| | | | ATE<br>D 1<br>B 2 | 0.30<br>0.30-0.40<br>0.30-0.60 | | | 43.05 | 1.30 | Firm damp light brownish grey gravelly silty CLAY with low cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to subrounded of limestone and sandstone. Boulders are subrounded of limestone and sandstone. Boulders are up to 350mm in length. |
| 1 | | | B 3 | 1.30-1.60 | | | 42.75 | 1.60 | Stiff damp light grey slightly gravelly sandy SILT with medium cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. |
| | | | D 4 | 1.60 | | END | | | TP terminated at 1.60m bgl. Obstruction as boulders. |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:25

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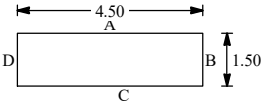
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPTCCD1 |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,093.8 N 265,191.9 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 41.43m O.D. | | **DATE:** 24.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 3.10m | 20min | 3.00m |
| 2nd: | 3.90m | 20min | 3.60m |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H5 B2 F2 R2 W1 TV1 TH1 A2. |
| | | | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.60 | 33mm vane 9 kN/m² | | | | |
| | | | VANE | 0.40 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 40 kN/m² Rem 8 kN/m² | | | | |
| | | | | | | | 40.03 | 1.40 | |
| | | | B 3 | 1.40-1.70 | | | | | Very soft damp light yellow organic silty CLAY with many gastropod shell fragments and much plant material. Organic odour. |
| | | | | | | | 39.73 | 1.70 | |
| | | | D 4 | 1.70-1.80 | | | | | Soft damp bluish grey organic SILT. Organic odour. |
| 2 | | | VANE | 2.00 | H70 vane 68 kN/m² Rem 10 kN/m² | | | | |
| | | | B 5 | 2.00-2.30 | | | | | |
| | | | D 6 | 2.30-2.40 | | | | | |
| 3 | | 1 | VANE | 3.00 | H70 vane 94 kN/m² Rem 50 kN/m² | | | | |
| | | | | | | | 38.33 | 3.10 | |
| | | | B 7 | 3.10-3.40 | | | | | Soft moist light grey slightly sandy gravelly SILT with medium cobble content and medium boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | D 8 | 3.40 | | | | | |
| | | 2 | | | | | | | |
| | | | | | | | 37.53 | 3.90 | |
| 4 | | | | | | END | | | TP terminated at 3.90m bgl. Unable to progress TP - sidewall collapse. |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.10m bgl. Ingress of water at 3.90m bgl. TP backfilled with arisings.

**Scale:** 1:25

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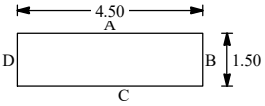
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **TRIALPIT:** TPTCCD2 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,160.1 N 265,194.9 |
| **ENGINEER:** Bord na Mona | **Rig:** Hyundai 140 LC9 |
| | **Rev:** DRAFT |
| **Ground level:** 41.40m O.D. | **DATE:** 24.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 1.70m | 20min | 1.80m |
| 2nd: | 3.10m | 20min | 1.20m |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | D 1<br>B 2<br>VANE | 0.30-0.40<br>0.30-0.60<br>0.40 | 33mm vane 9 kN/m² | | | | Spongy dark orangish brown pseudo fibrous PEAT.<br>H5 B2 F2 R1 W1 TV1 TH1 A1. |
| 1 | | 2 | VANE | 1.00 | H70 vane 42 kN/m² Rem 10 kN/m² | | | | |
| | | 1 | VANE | 1.50 | H70 vane 90 kN/m² Rem 40 kN/m² | | 39.70 | 1.70 | |
| 2 | | 1 | B 3<br>D 4 | 1.70-2.00<br>2.00-2.10 | | | 38.70 | 2.70 | Firm damp light grey organic gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. Boulders are subangular to rounded of limestone. Boulders are up to 1200mm in length. |
| 3 | | 2 | B 5 | 2.70-3.00 | | | 38.30 | 3.10 | Moist light grey silty clayey subangular to subrounded fine to coarse limestone GRAVEL with high cobble content and medium boulder content. Cobbles are subangular to subrounded of limestone. Boulders are subangular to subrounded of limestone. Boulders are up to 500mm in length. |
| | | | | | | END | | | TP terminated at 3.10m bgl. Unable to progress TP due to ingress of water. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 1.70m bgl. Ingress of water at 3.10m bgl. TP backfilled with arisings.

**Scale:** 1:25

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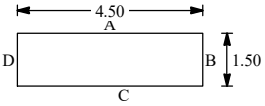
TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm | | **TRIALPIT:** TPTCCE |
| **LOCATION:** Derryadd, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 206,702.2 N 264,700.1 | **Rig:** Hyundai 140 LC9 |
| **ENGINEER:** Bord na Mona | | **Rev:** DRAFT |
| **Ground level:** 44.68m O.D. | | **DATE:** 25.3.21 |

**GROUNDWATER**

| Water strikes: | | Rose to after: | |
|---|---|---|---|
| 1st: | 0.50m | 20min | 0.49m |
| 2nd: | 1.90m | 20min | 1.80m |
| 3rd: | | | |

**PIT DIRECTION:** 000-180
**PIT DIMENSION:** 1.50 * 4.50m
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 3.50m to 3.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | In-situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F2 R2 W2 TV1 TH1 A1. |
| | | 1 | D 1 | 0.30-0.40 | | | | | |
| | | | B 2 | 0.30-0.50 | 33mm vane 23 kN/m² | | | | |
| | | | VANE | 0.40 | | | | | |
| 1 | | | VANE | 1.00 | H70 vane 24 kN/m² Rem 2 kN/m² | | | | |
| | | | | | | | 43.18 | 1.50 | |
| | | | VANE | 1.50 | H70 vane 42 kN/m² Rem 10 kN/m² | | | | Very soft moist bluish grey organic silty CLAY with some plant material. Organic odour. |
| | | | B 3 | 1.50-1.80 | | | | | |
| | | 2 | D 4 | 1.80-1.90 | | | | | |
| 2 | | | | | | | 42.38 | 2.30 | |
| | | | | | | | | | Soft moist grey silty very gravelly CLAY with high cobble content and medium boulder content. Gravel is subangular to subrounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. |
| | | | B 5 | 2.60-2.90 | | | | | |
| 3 | | | | | | | 41.18 | 3.50 | |
| | | | B 6 | 3.50-3.80 | | | | | Moist grey clayey silty subangular to rounded fine to coarse limestone GRAVEL with high cobble content and high boulder content. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. |
| | | | | | | | 40.88 | 3.80 | |
| | | | | | | END | | | TP terminated at 3.80m bgl. Obstruction as boulders. |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

**Remarks:** Ingress of water at 3.80m bgl. TP backfilled with arisings.

**Scale:** 1:25

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TRIAL PIT VANE & WL RISES DERRYADD WF TPS ALL FILE MAY 6 2021.GPJ IRISHDRL.GDT 6/9/21

# Appendix 4
# Dynamic Probe Records

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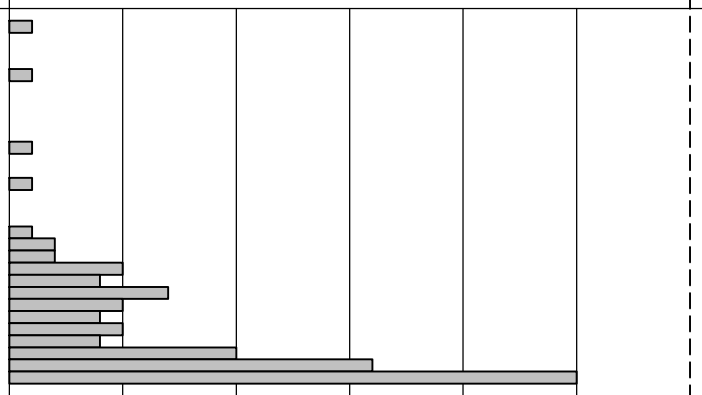
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP001** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-02-21<br>10-02-21 | 38.59 | E 204,045.7 N 269,699.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 0 1 0 0 1 | | | |
| | 0 0 0 1 2 | | | |
| 2 | 2 5 4 7 5 | | | |
| | 4 5 4 10 16 | | | |
| 3 | 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

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# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP002** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-02-21<br>15-02-21 | 38.67 | E 203,764.6 N 270,150.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 1 1 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 2 2 4 6 6 | | | |
| 3 | 9 8 20 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

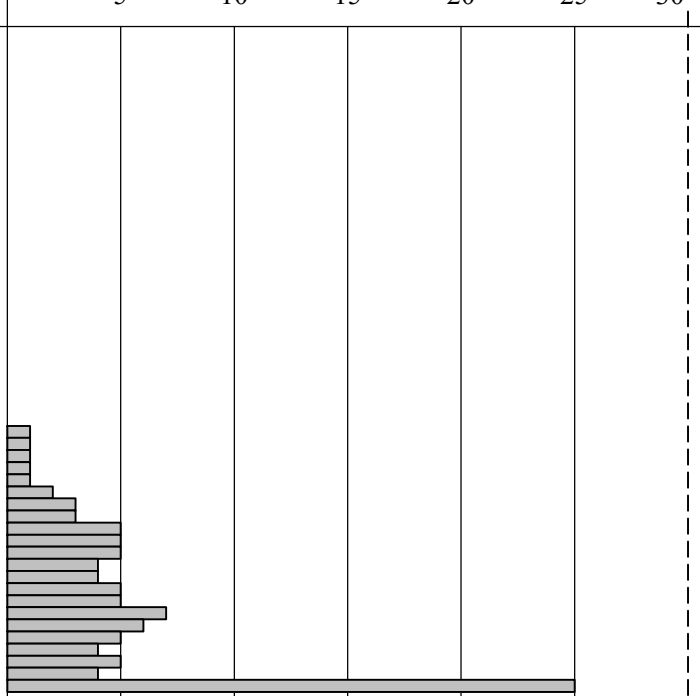
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP100** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-03-21<br>24-03-21 | 43.75 | E 205,937.8 N 264,759.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 0 0 0 0 | | | |
| | 0 0 0 1 1 | | | |
| 4 | 1 1 1 2 3 | | | |
| | 3 5 5 5 4 | | | |
| | 4 5 5 7 6 | | | |
| 5 | 5 4 5 4 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

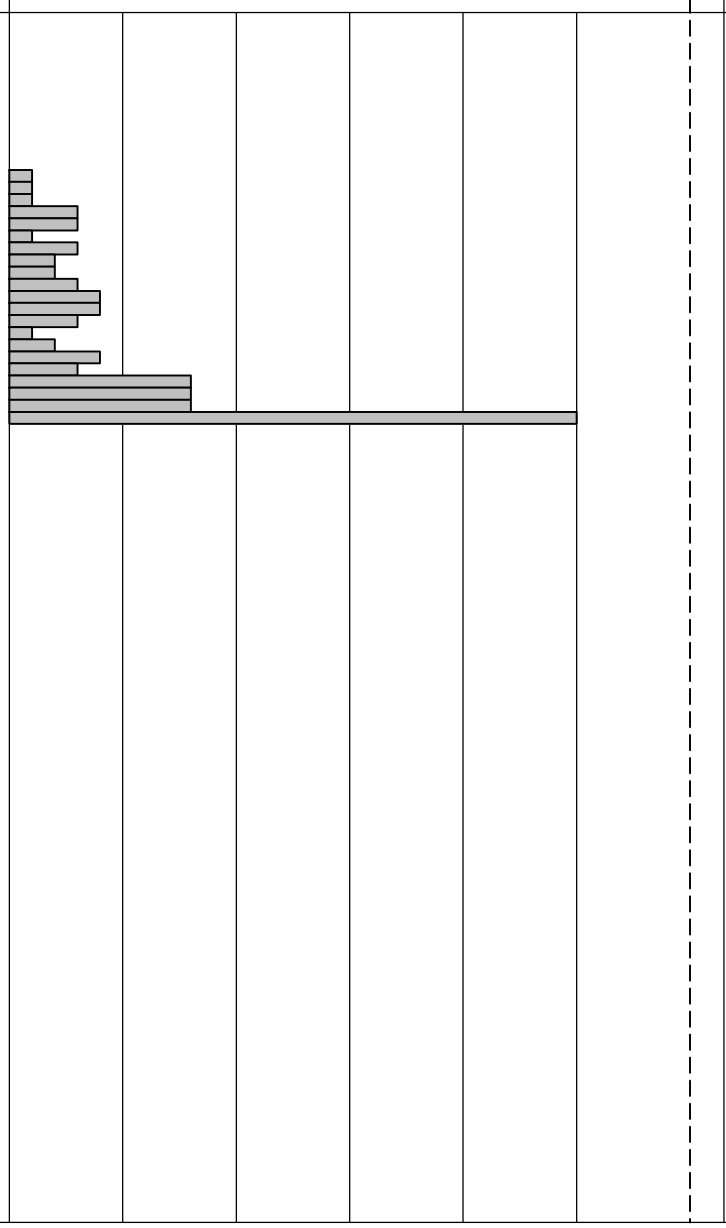
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP101** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-03-21<br>24-03-21 | 44.28 | E 205,999.2 N 264,813.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 1 1 | | | |
| 2 | 1 3 3 1 3<br>2 2 3 4 4<br>3 1 2 4 3 | | | |
| 3 | 8 8 8 25 | | | Refusal. 25 blows for 10mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

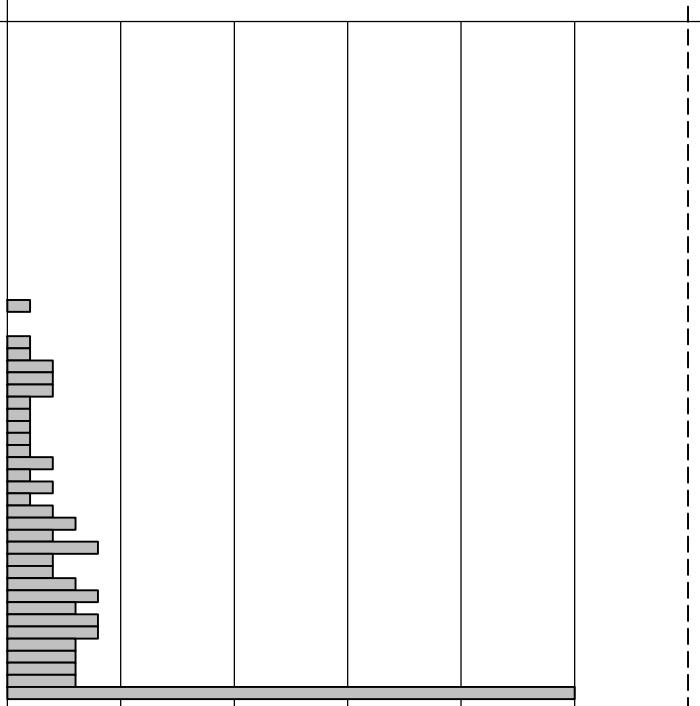
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP102** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-03-21<br>24-03-21 | 45.85 | E 206,089.7 N 264,859.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 1 0 | | | |
| | 0 1 1 2 2 | | | |
| 3 | 2 1 1 1 1 | | | |
| | 1 2 1 2 1 | | | |
| 4 | 2 3 2 4 2 | | | |
| | 2 3 4 3 4 | | | |
| 5 | 4 3 3 3 3 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

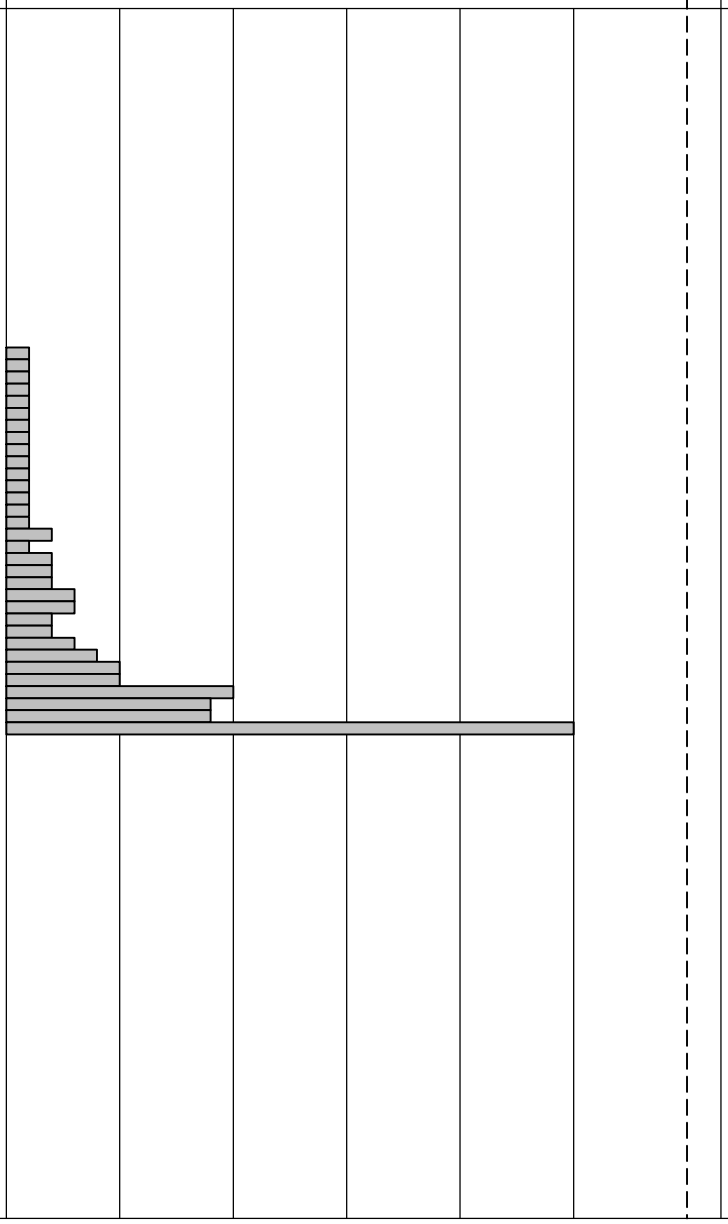
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP103** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-03-21<br>24-03-21 | 42.43 | E 206,235.1 N 264,937.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 1 1 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 4 | 1 1 1 1 1 | | | |
| | 2 2 2 3 3 | | | |
| 5 | 2 2 3 4 5 | | | |
| | 5 10 9 9 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

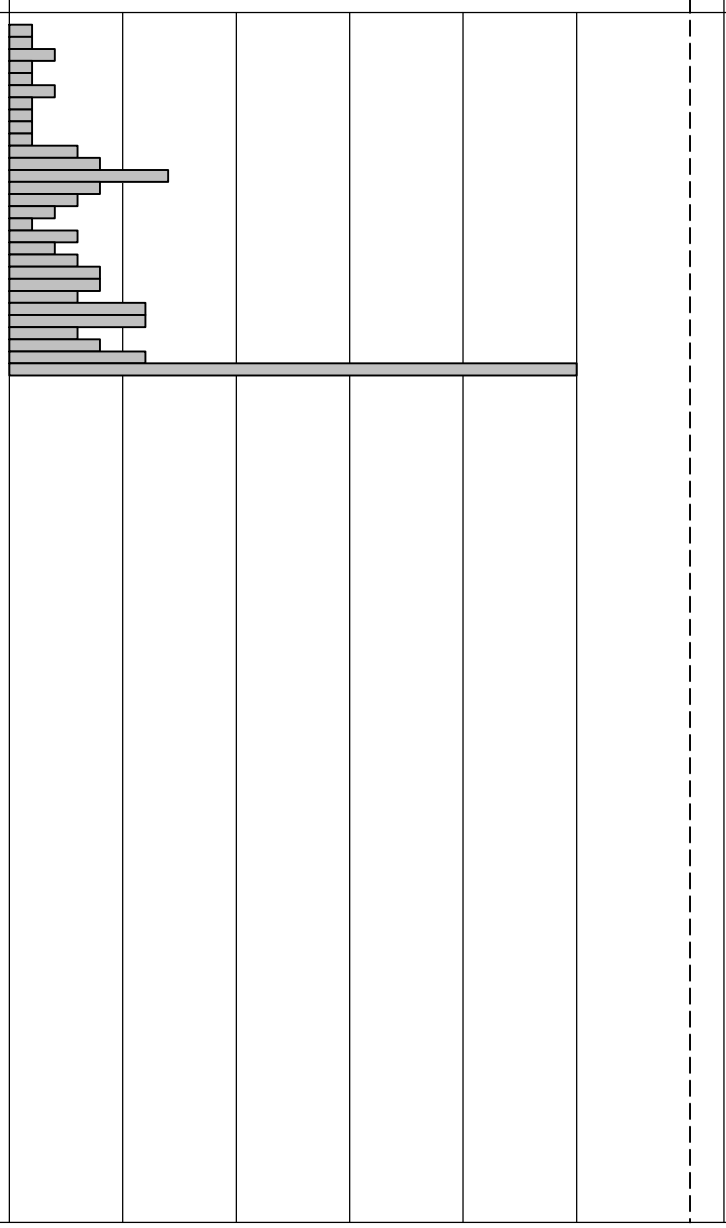
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP104** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-03-21<br>24-03-21 | 45.71 | E 206,186.5 N 264,873.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 1 2 1 | | | |
| | 1 2 1 1 1 | | | |
| 1 | 1 3 4 7 4 | | | |
| | 3 2 1 3 2 | | | |
| 2 | 3 4 4 3 6 | | | |
| | 6 3 4 6 25 | | | |
| 3 | | | | Refusal. 25 blows for 20mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP105** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 43.56 | E 206,287.0 N 264,845.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 4 | 0 0 2 2 1 | | | Refusal. 25 blows for 0mm. |
| | 25 | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | GENERAL REMARKS |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | DP terminated at 4.00m bgl. |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP106** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 45.44 | E 206,369.3 N 264,807.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 0 0 0 0 | | | |
| | 0 2 2 2 3 | | | |
| 4 | 3 2 6 3 2 | | | |
| | 2 2 4 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP107** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 45.17 | E 206,472.2 N 264,779.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 2 7 7 7 | | | |
| | 7 7 3 2 2 | | | |
| 4 | 2 2 2 3 3 | | | |
| | 4 6 6 7 4 | | | |
| 5 | 13 13 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP108** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 45.11 | E 206,669.0 N 264,757.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 1 2 2 | | | |
| | 2 2 3 2 25 | | | |
| 3 | | | | Refusal. 25 blows for 10mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

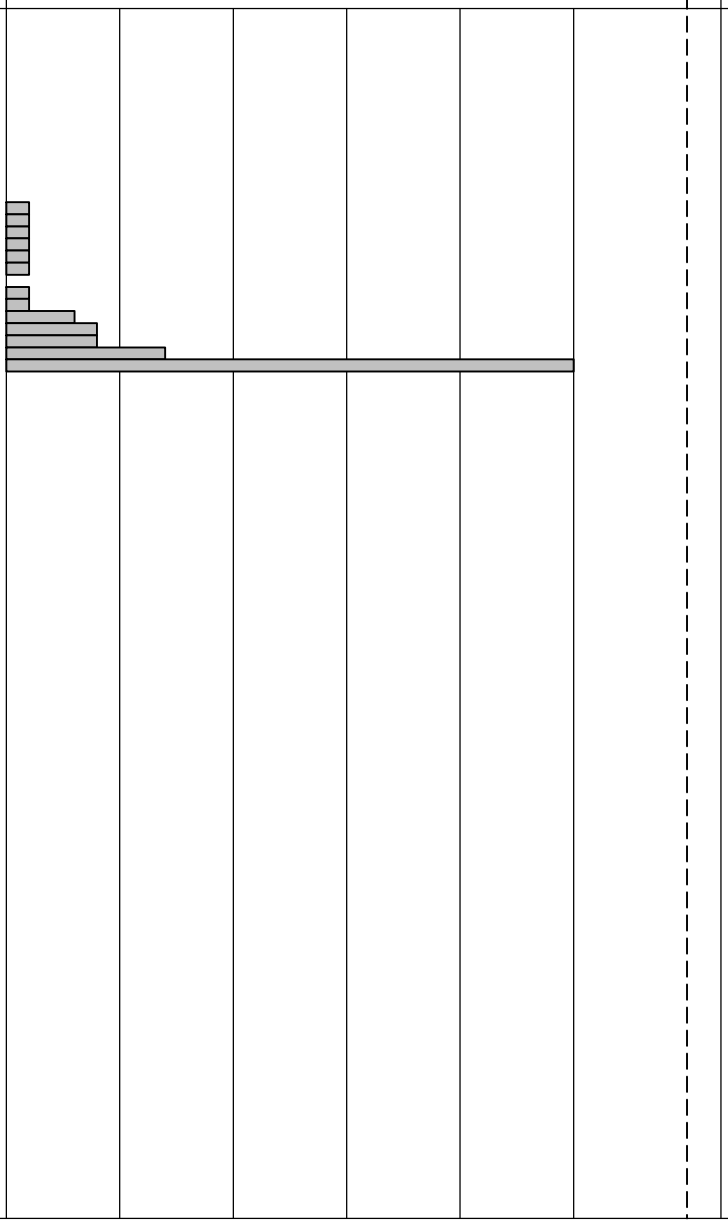
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP109** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 44.19 | E 206,747.1 N 264,697.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 1 1 1 1 | | | |
| 2 | 1 1 0 1 1 | | | |
| | 3 4 4 7 25 | | | Refusal. 25 blows for 50mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP110** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 44.00 | E 206,828.0 N 264,634.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 3 3 4 2 | | | |
| 2 | 1 1 2 4 5 | | | |
| | 2 2 3 2 1 | | | |
| 3 | 2 3 3 5 2 | | | |
| | 2 4 4 5 5 | | | |
| 4 | 6 7 25 | | | Refusal. 25 blows for 50mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP111** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 43.55 | E 206,903.9 N 264,571.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 2 1 1 3 2 | | | |
| 3 | 3 4 6 4 6 | | | |
| | 6 4 6 25 | | | Refusal. 25 blows for 50mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 3.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP112** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-03-21<br>26-03-21 | 44.29 | E 206,980.0 N 264,508.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 5 2<br>2 4 3 2 4<br>7 7 7 8 10<br>7 9 9 11 15<br>18 25 | 5 10 15 20 25 30 | | Refusal. 25 blows for 40mm. |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

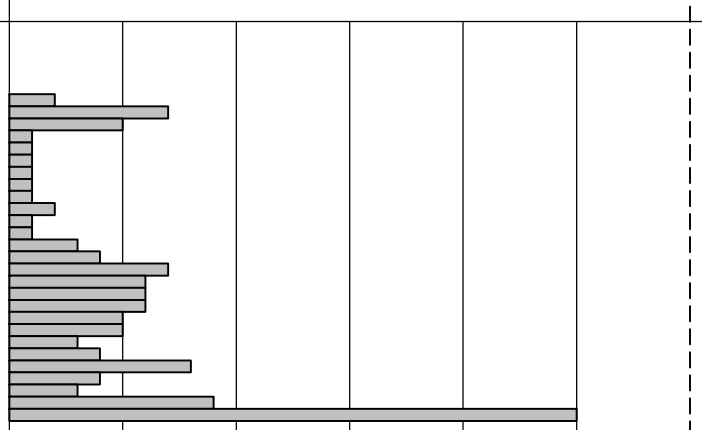
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP113** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-03-21<br>26-03-21 | 45.28 | E 207,060.1 N 264,444.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 2 7 5 1 | | | |
| 1 | 1 1 1 1 1 | | | |
| | 2 1 1 3 4 | | | |
| 2 | 7 6 6 6 5 | | | |
| | 5 3 4 8 4 | | | |
| 3 | 3 9 25 | | | Refusal. 25 blows for 50mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

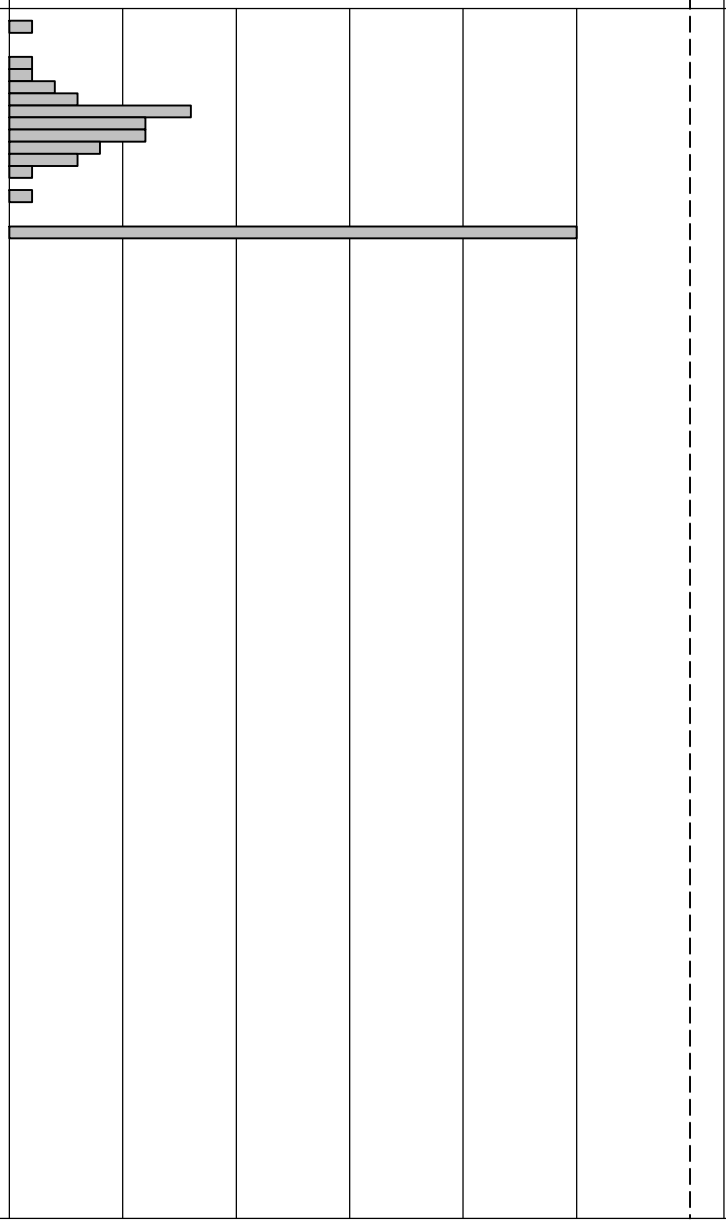
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP114** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-03-21<br>26-03-21 | 47.25 | E 207,133.7 N 264,388.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 1 | | | |
| | 1 2 3 8 6 | | | |
| 1 | 6 4 3 1 0 | | | |
| | 1 0 0 25 | | | Refusal. 25 blows for 60mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP115** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-03-21<br>26-03-21 | 48.12 | E 207,218.4 N 264,319.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 1 1 1 | | | |
| | 0 1 1 1 25 | | | |
| 1 | | | | Refusal. 25 blows for 60mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 0.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP116** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-03-21<br>26-03-21 | 50.88 | E 207,297.2 N 264,254.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>1 0 1 3 5 | | | |
| 2 | 18 17 25 | | | Refusal. 25 blows for 10mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

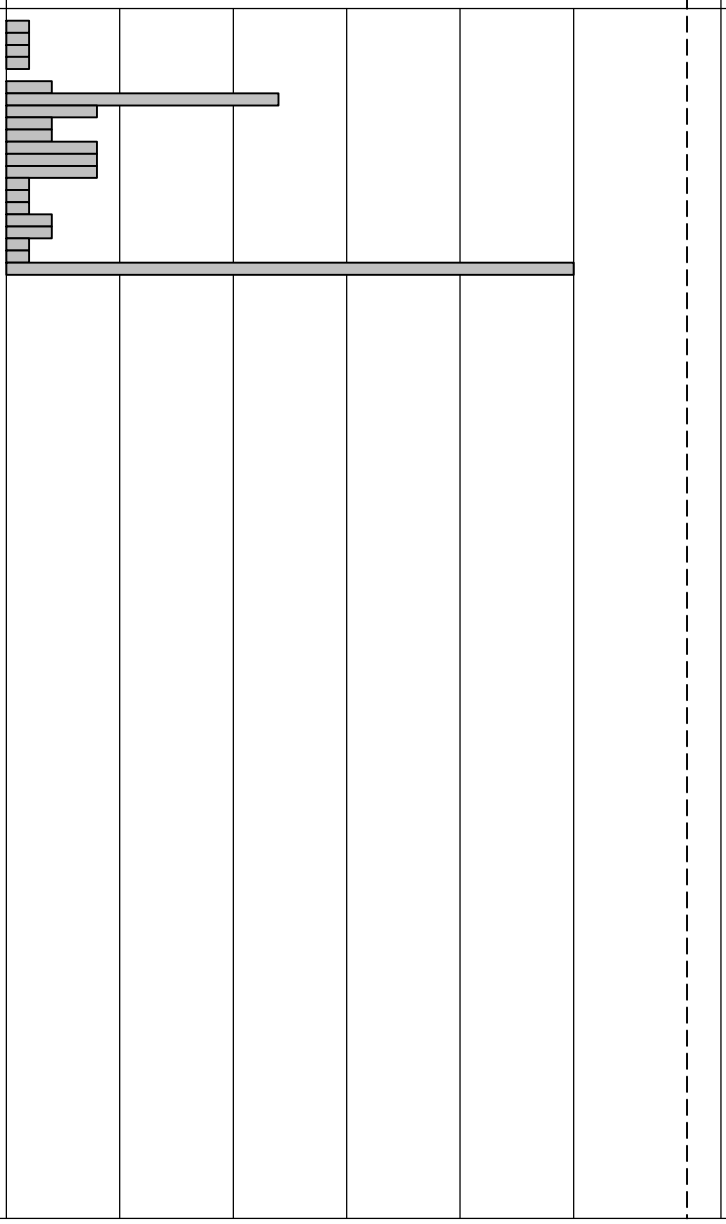
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP117R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-03-21<br>26-03-21 | 52.43 | E 207,391.6 N 264,233.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 1 1 1 | | | |
| | 0 2 12 4 2 | | | |
| 1 | 2 4 4 4 1 | | | |
| | 1 1 2 2 1 | | | |
| 2 | 1 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

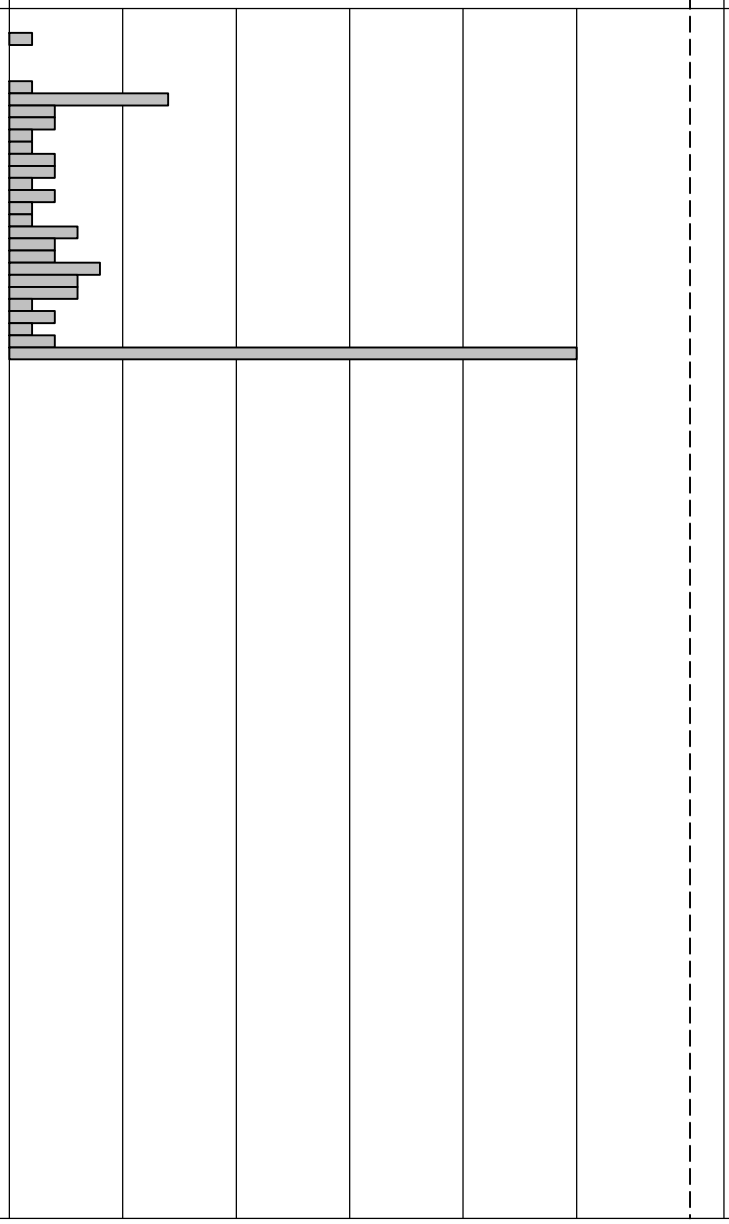
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP118R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-03-21<br>26-03-21 | 52.93 | E 207,489.5 N 264,214.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 1 0 0 | | | |
| | 0 1 7 2 2 | | | |
| 1 | 1 1 2 2 1 | | | |
| | 2 1 1 3 2 | | | |
| 2 | 2 4 3 3 1 | | | |
| | 2 1 2 25 | | | |
| 3 | | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

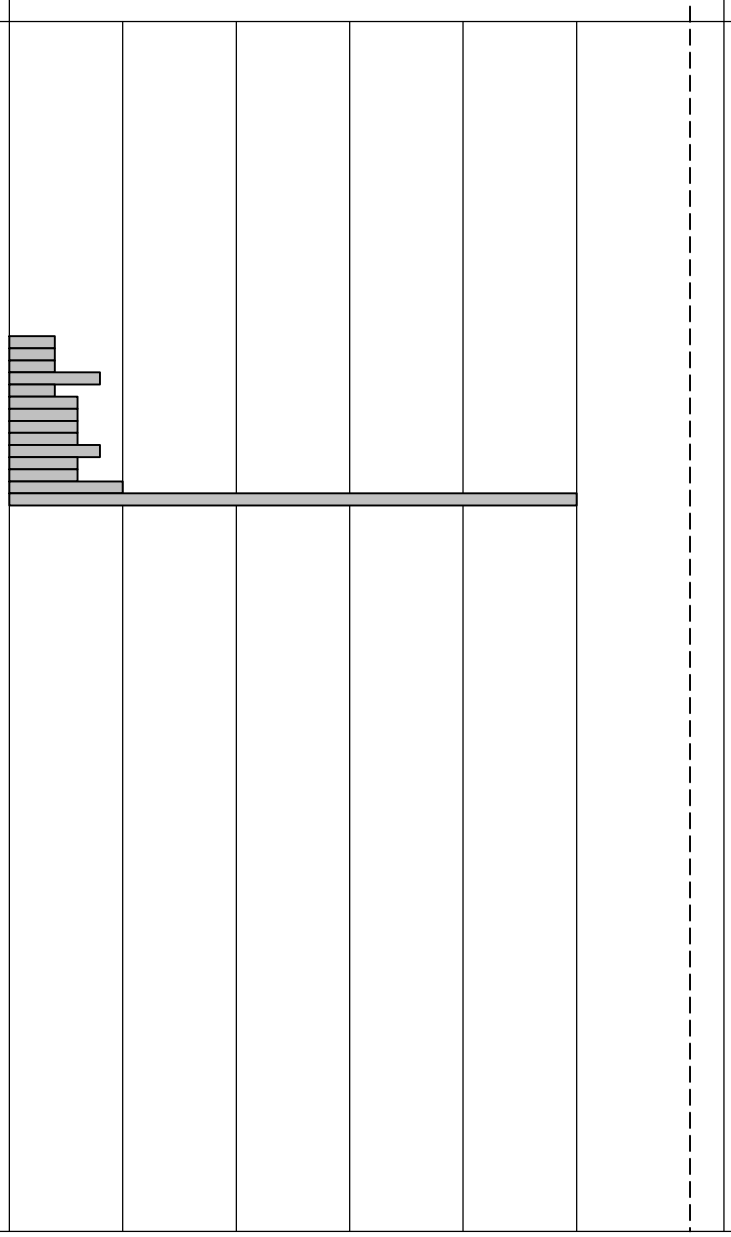
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP119R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 52.76 | E 207,589.3 N 264,195.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 2 2 2 4 | | | |
| 3 | 2 3 3 3 3 | | | |
| | 4 3 3 5 25 | | | Refusal. 25 blows for 50mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP120R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 53.40 | E 207,688.6 N 264,178.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 1 2 2 2 | | | |
| 2 | 2 1 1 1 3 | | | |
| | 2 2 2 3 2 | | | |
| 3 | 3 1 2 1 3 | | | |
| | 2 2 3 2 5 | | | |
| 4 | 5 8 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 4.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP121R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 53.52 | E 207,778.7 N 264,141.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 1 0 1 0 | | | |
| | 1 2 2 2 1 | | | |
| 4 | 1 4 2 1 2 | | | |
| | 3 5 25 | | | Refusal. 25 blows for 60mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

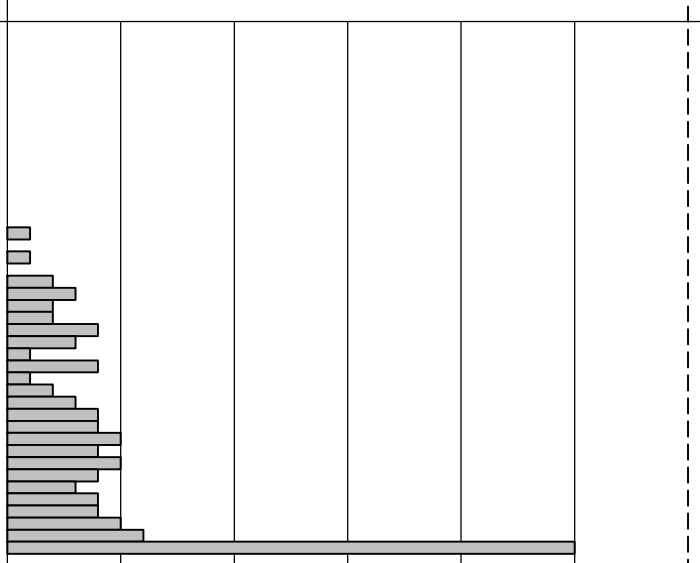
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP123** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 53.87 | E 207,869.5 N 264,099.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 1 0 1 | | | |
| 2 | 0 2 3 2 2 | | | |
| | 4 3 1 4 1 | | | |
| 3 | 2 3 4 4 5 | | | |
| | 4 5 4 3 4 | | | |
| 4 | 4 5 6 25 | | | Refusal. 25 blows for 20mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP124** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 52.93 | E 207,959.4 N 264,142.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 1 1 1 1 2 | | | |
| | 3 3 3 3 1 | | | |
| 4 | 3 7 10 25 3 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP125** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 51.96 | E 208,011.3 N 264,229.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Remarks |
|---|---|---|
| | 0 0 0 0 0 | |
| | 0 0 0 0 0 | |
| 1 | 0 0 0 0 0 | |
| | 0 2 1 1 1 | |
| 2 | 0 1 2 2 5 | |
| | 3 4 3 2 2 | |
| 3 | 2 4 3 5 4 | |
| | 5 4 8 5 5 | |
| 4 | 3 4 6 6 25 | Refusal. 25 blows for 40mm. |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

Torque (Nm)

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

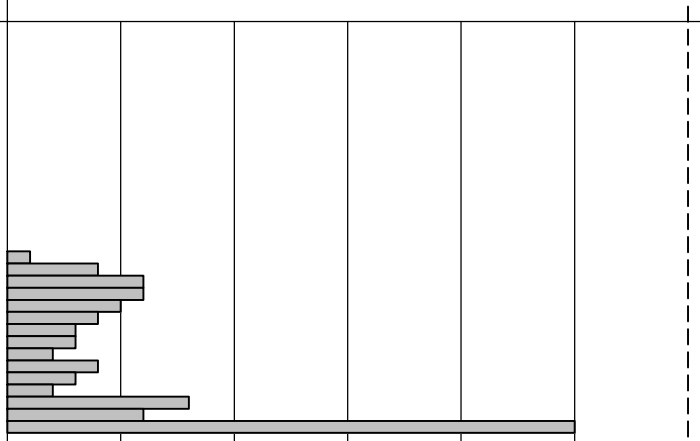
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP126** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 29-03-21<br>29-03-21 | 51.88 | E 208,061.5 N 264,309.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 1 | | | |
| 2 | 4 6 6 5 4<br>3 3 2 4 3 | | | |
| 3 | 2 8 6 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP127** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 52.14 | E 208,118.8 N 264,401.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 3 0 0 | | | |
| | 2 1 12 13 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP128** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 53.48 | E 208,093.9 N 264,504.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 1 | | | |
| 2 | 2 2 2 1 2<br>1 10 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

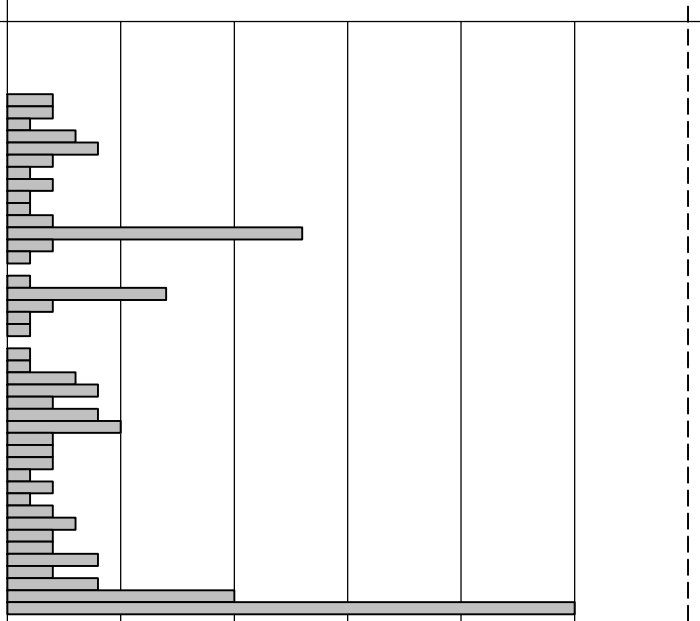
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP129** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 54.24 | E 208,009.6 N 264,546.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 2 2 1 3 | | | |
| 1 | 4 2 1 2 1 | | | |
| | 1 2 13 2 1 | | | |
| 2 | 0 1 7 2 1 | | | |
| | 1 0 1 1 3 | | | |
| 3 | 4 2 4 5 2 | | | |
| | 2 2 1 2 1 | | | |
| 4 | 2 3 2 2 4 | | | |
| | 2 4 10 25 | | | Refusal. 25 blows for 10mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.80m bgl. Lead rod sheared off in hole.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

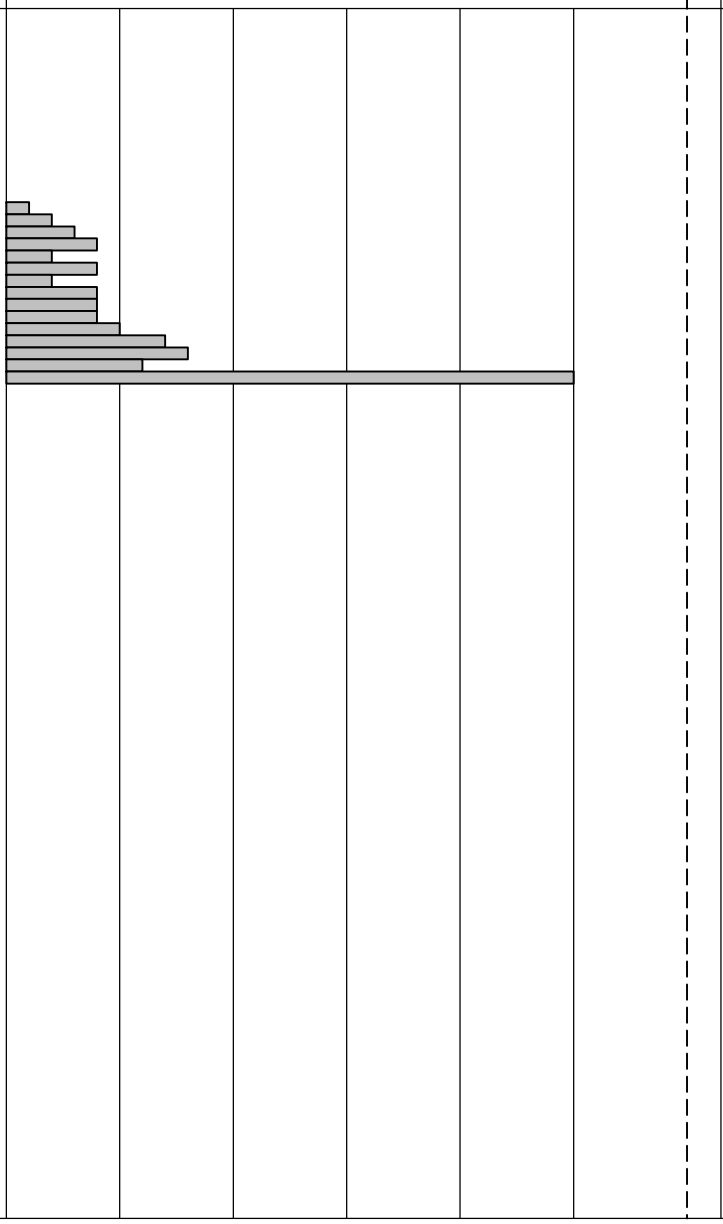
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP130** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 53.64 | E 207,923.1 N 264,600.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 1 2 3 4 | | | |
| 2 | 2 4 2 4 4 | | | |
| | 4 5 7 8 6 | | | |
| 3 | 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

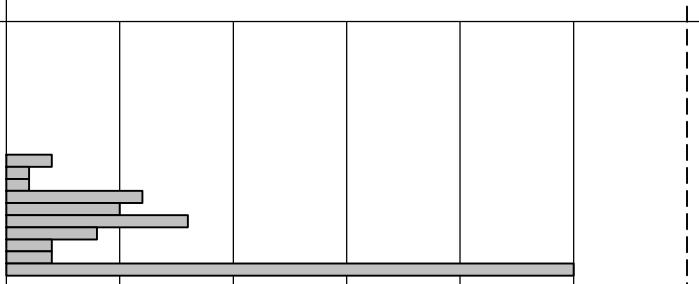
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP131** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 50.24 | E 208,212.8 N 264,421.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 2 1 1 6 | | | |
| | 5 8 4 2 2 | | | |
| 2 | 25 | | | Refusal. 25 blows for 80mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

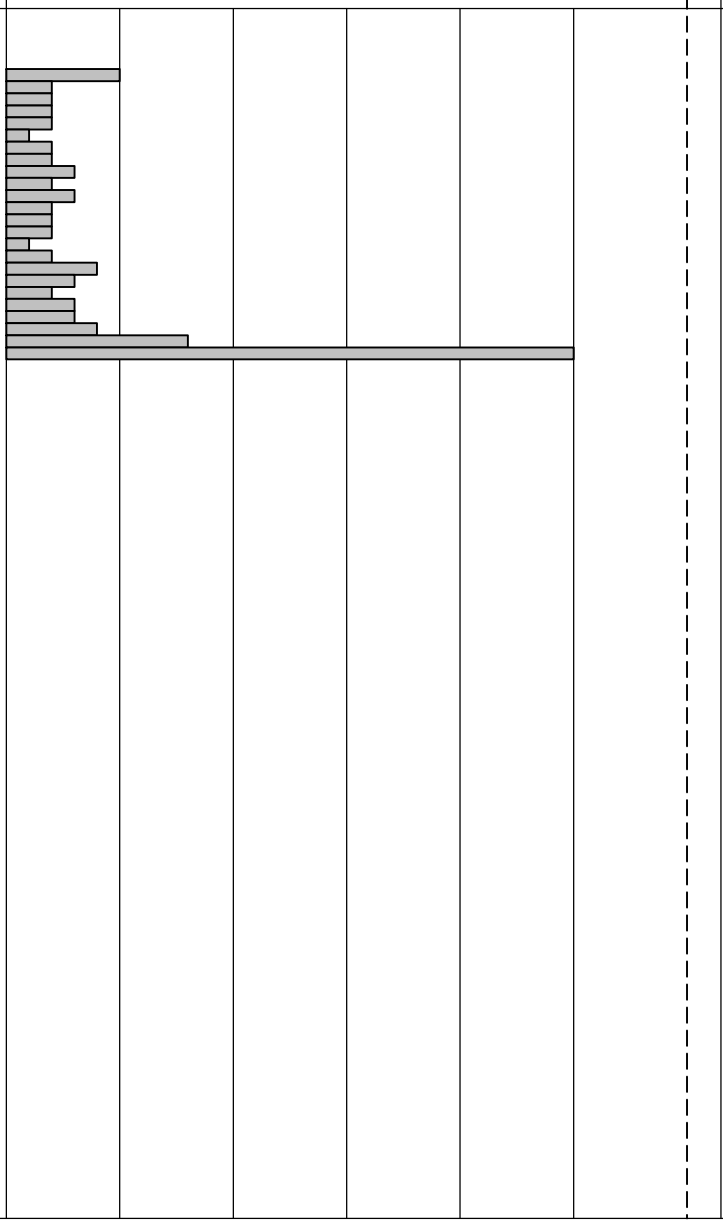
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP132** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 49.78 | E 208,299.1 N 264,366.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 5 2 2 2 2 | | | |
| 1 | 1 2 2 3 2 | | | |
| | 3 2 2 2 1 | | | |
| 2 | 2 4 3 2 3 | | | |
| | 3 4 8 25 | | | |
| 3 | | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

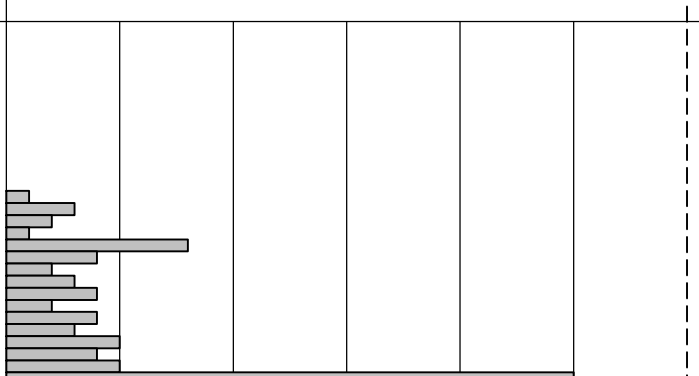
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP134** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 31-03-21<br>31-03-21 | 50.10 | E 208,468.4 N 264,262.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 3 2 1 8 1 | | | |
| 2 | 2 3 4 2 4 | | | |
| | 3 5 4 5 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

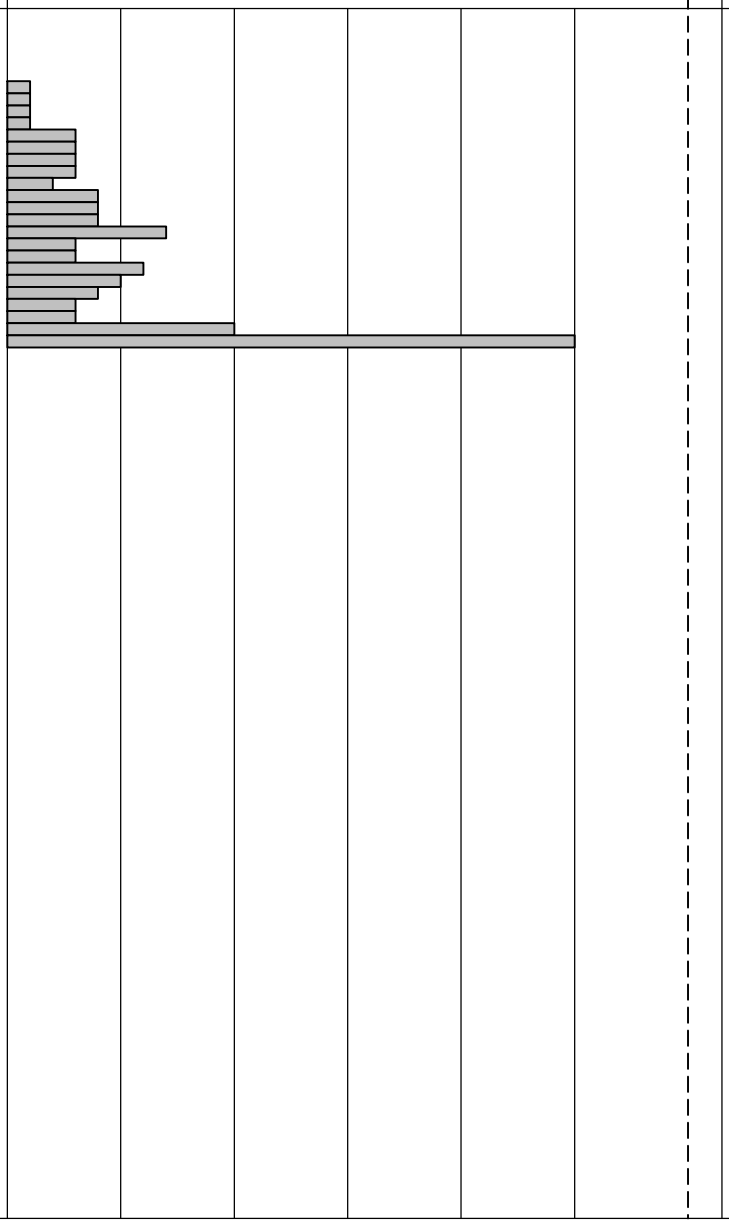
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP135** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 31-03-21<br>31-03-21 | 48.51 | E 208,545.6 N 264,212.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0<br>0 1 1 1 1<br>3 3 3 3 2<br>4 4 4 7 3<br>3 6 5 4 3<br>3 10 25 | | | Refusal. 25 blows for 10mm. |




| | | | |
|---|---|---|---|
| Hammer Wt (kg) | 50 | | GENERAL REMARKS |
| Hammer Drop (mm) | 500 | | DP terminated at 2.70m bgl. |
| Cone Dia (mm) | 40 | | |
| Cone Type | | | |
| Damper | | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

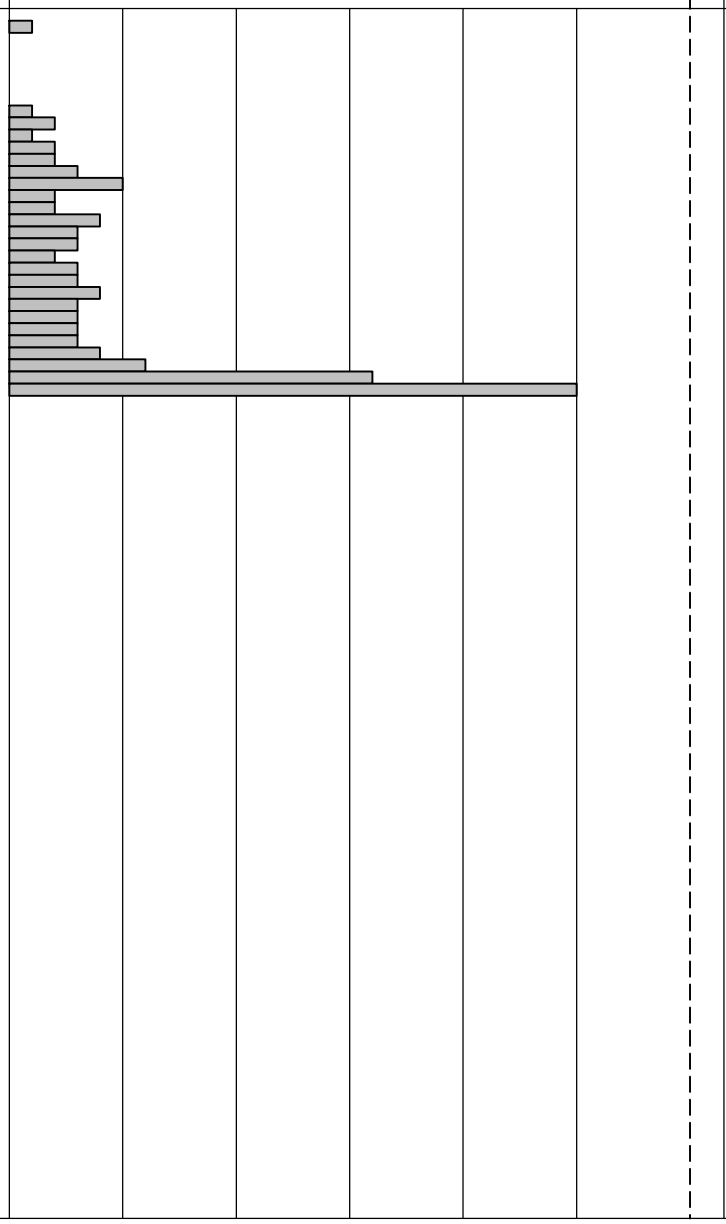
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP136** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 31-03-21<br>31-03-21 | 49.22 | E 208,652.9 N 264,177.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 1 2 | | | |
| 1 | 1 2 2 3 5 | | | |
| | 2 2 4 3 3 | | | |
| 2 | 2 3 3 4 3 | | | |
| | 3 3 3 4 6 | | | |
| 3 | 16 25 | | | Refusal. 25 blows for 10mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

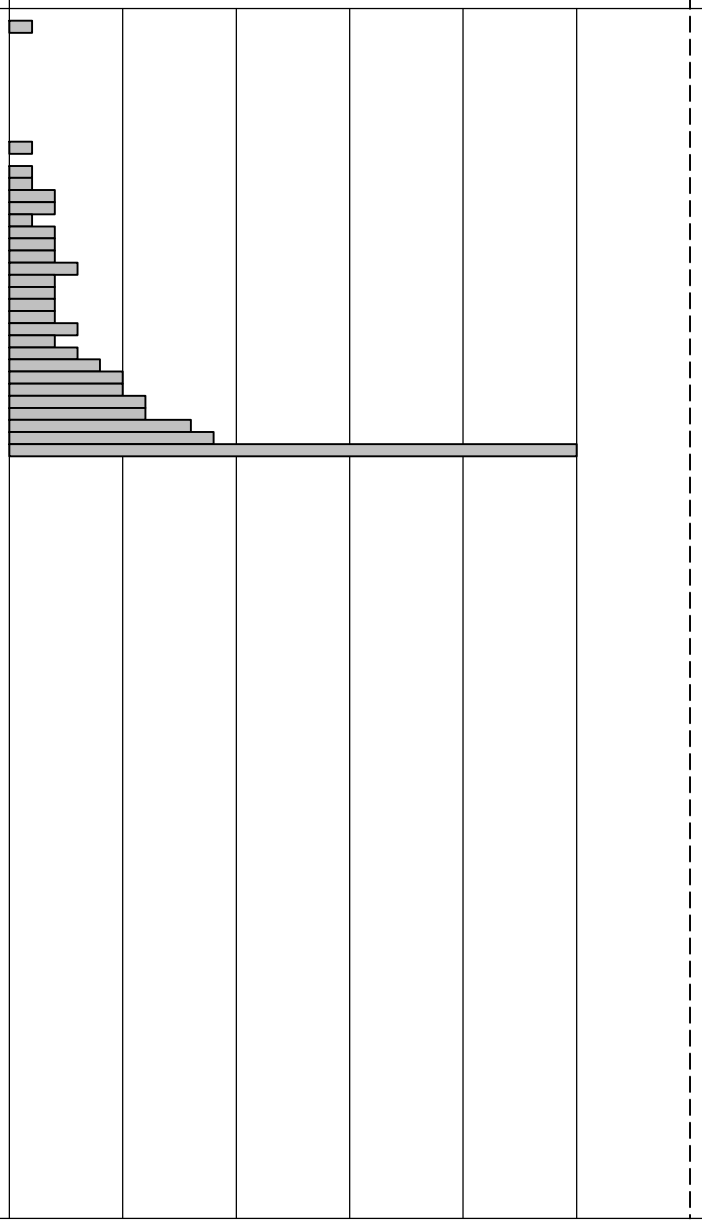
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP137** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 31-03-21<br>31-03-21 | 48.70 | E 208,740.3 N 264,154.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 1 1 | | | |
| | 2 2 1 2 2 | | | |
| 2 | 2 3 2 2 2 | | | |
| | 2 3 2 3 4 | | | |
| 3 | 5 5 6 6 8 | | | |
| | 9 25 | | | Refusal. 25 blows for 10mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP138** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 31-03-21<br>31-03-21 | 49.02 | E 208,839.1 N 264,127.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 1 2 3 4 6 | | | |
| 3 | 6 3 3 25 | | | Refusal. 25 blows for 50mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 2.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

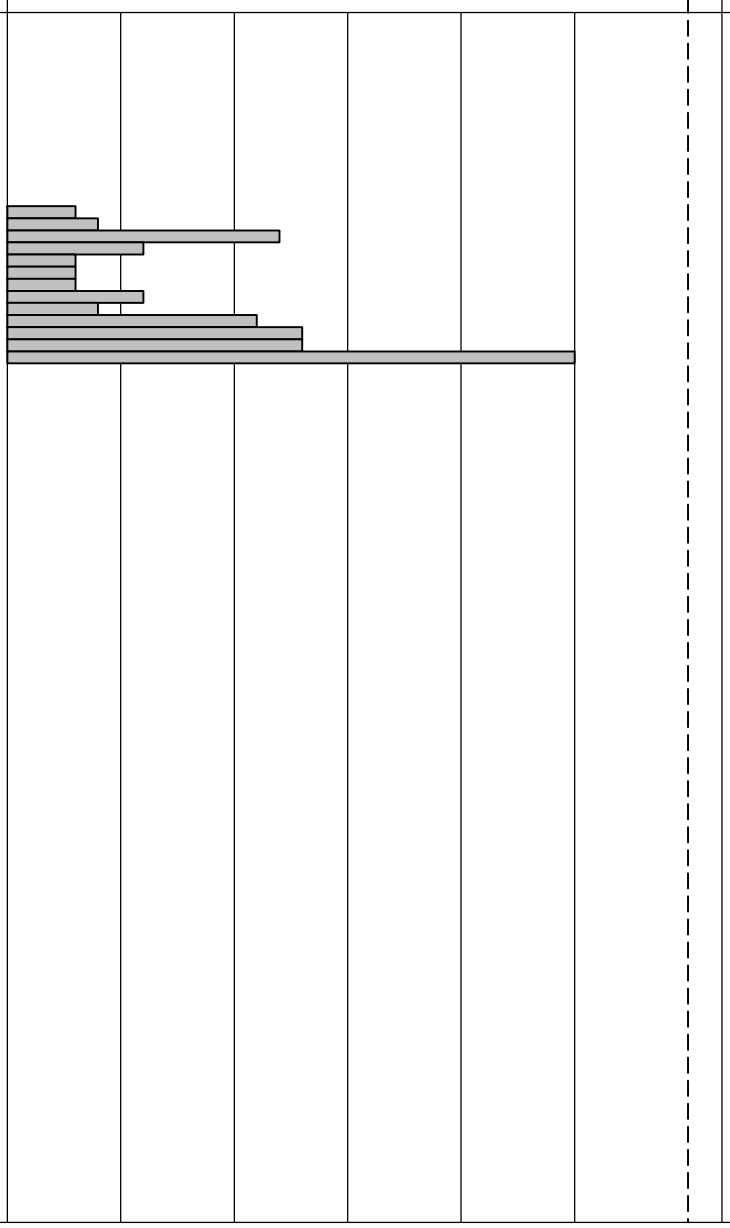
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP139** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 31-03-21<br>31-03-21 | 48.87 | E 208,941.4 N 264,110.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 3 4 12 6 | | | |
| 2 | 3 3 3 6 4 | | | |
| | 11 13 13 25 | | | |
| 3 | | | | Refusal. 25 blows for 10mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

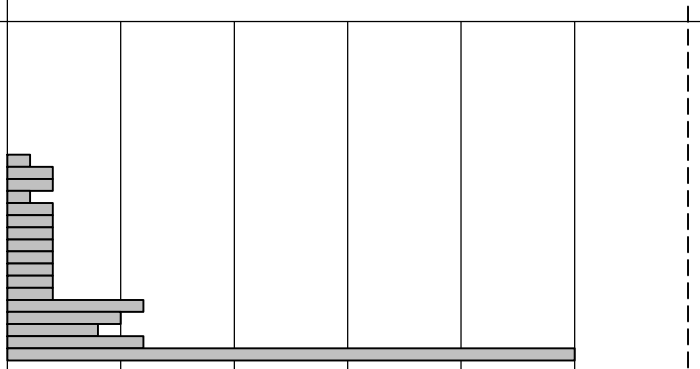
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP140** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 31-03-21<br>31-03-21 | 48.67 | E 209,038.4 N 264,135.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 2 2 1 | | | |
| | 2 2 2 2 2 | | | |
| 2 | 2 2 2 6 5 | | | |
| | 4 6 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

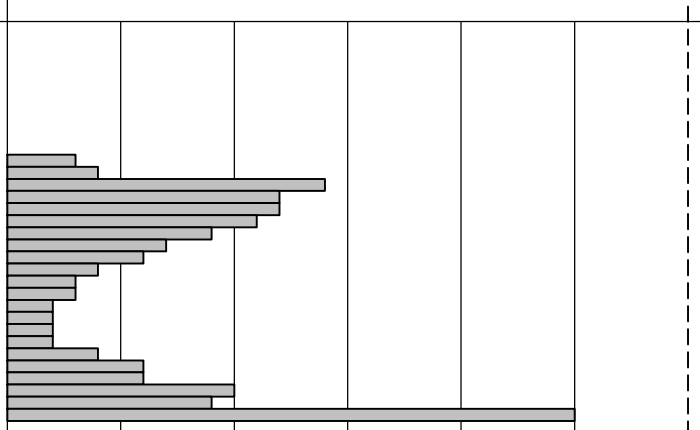
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP141** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 49.75 | E 209,132.7 N 264,172.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 3 4 14 12 | | | |
| | 12 11 9 7 6 | | | |
| 2 | 4 3 3 2 2 | | | |
| | 2 2 4 6 6 | | | |
| 3 | 10 9 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

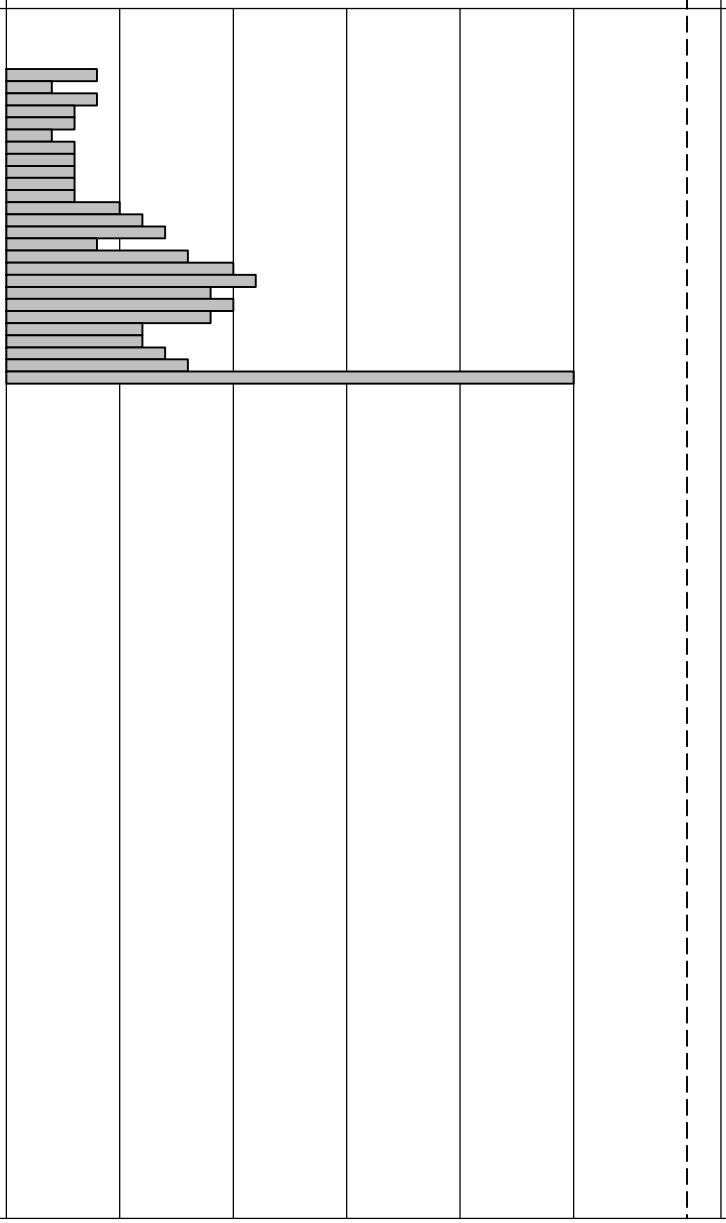
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP142** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-04-21<br>09-04-21 | 48.93 | E 209,195.2 N 264,198.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 4 2 4 3 3 | | | |
| 1 | 2 3 3 3 3 | | | |
| | 3 5 6 7 4 | | | |
| 2 | 8 10 11 9 10 | | | |
| | 9 6 6 7 8 | | | |
| 3 | 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP143** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-04-21<br>09-04-21 | 49.82 | E 209,282.8 N 264,235.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 4 0 9 | | | |
| 2 | 7 7 8 12 8<br>8 7 7 7 7<br>7 7 4 190 25 | 190 | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

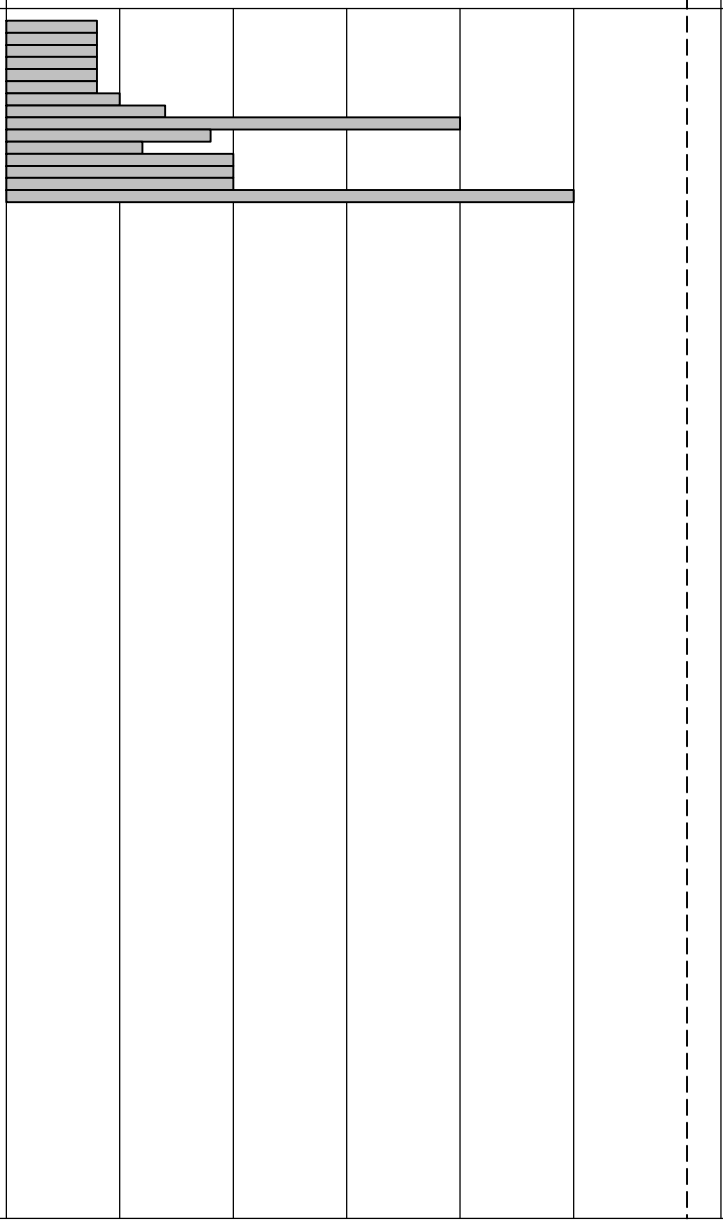
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP144** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-04-21<br>09-04-21 | 48.78 | E 209,379.2 N 264,273.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 4 4 4 4 4 4 5 7 20 9 6 10 10 10 25 | 5 10 15 20 25 30 | | Refusal. 25 blows for 0mm. |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

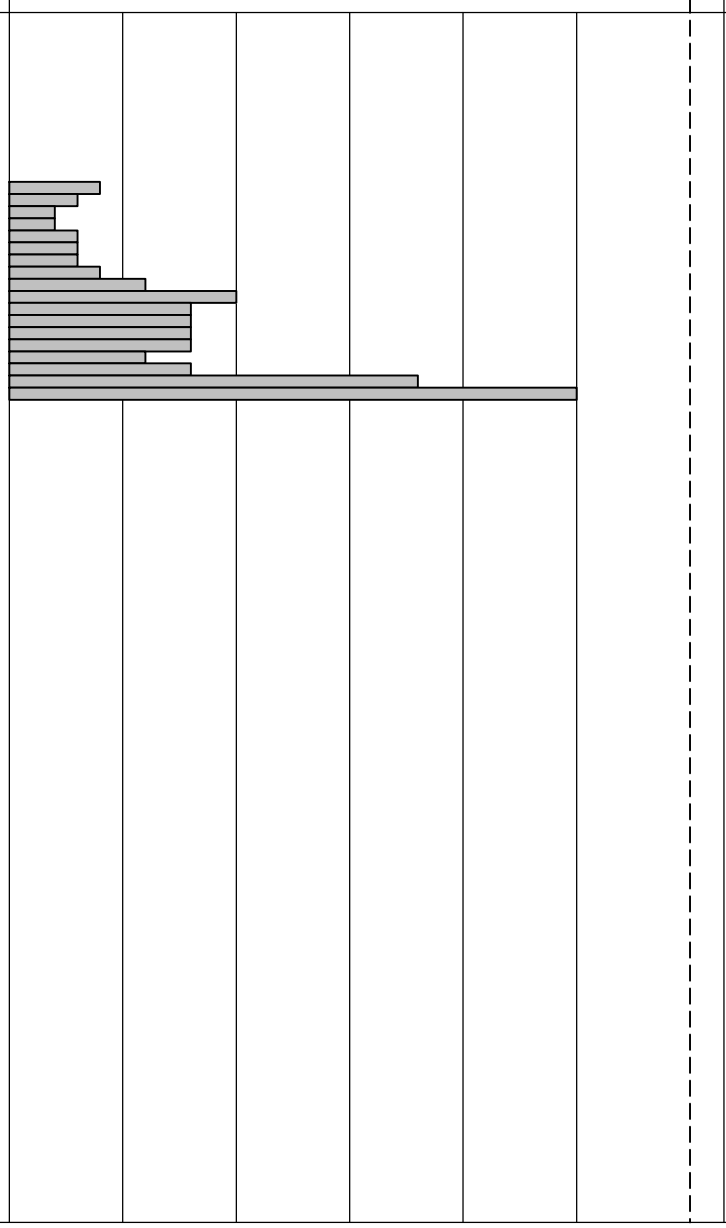
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP145** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 50.08 | E 209,472.7 N 264,307.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 3 2 2 3 4 | | | |
| 2 | 3 4 6 10 3 | | | |
| | 8 8 8 6 8 | | | |
| 3 | 18 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

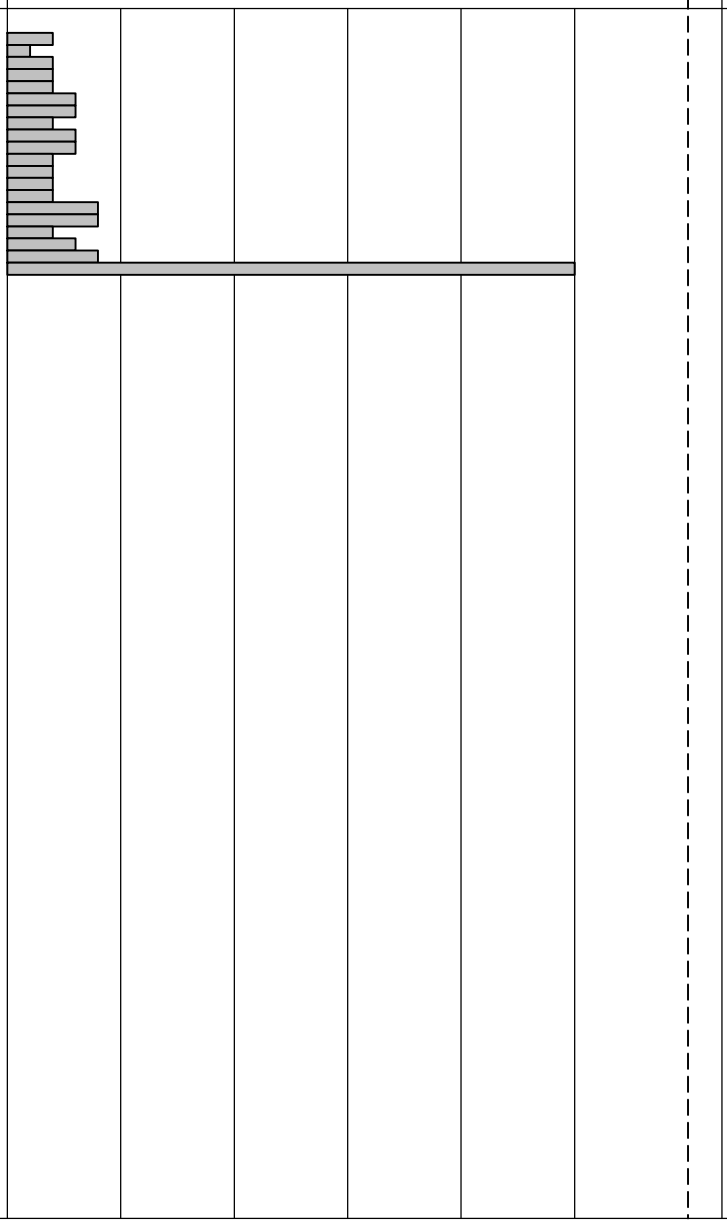
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP146** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 52.62 | E 209,566.5 N 264,350.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 2 1 2 | | | |
| | 2 2 3 3 2 | | | |
| 1 | 3 3 2 2 2 | | | |
| | 2 4 4 2 3 | | | |
| 2 | 4 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

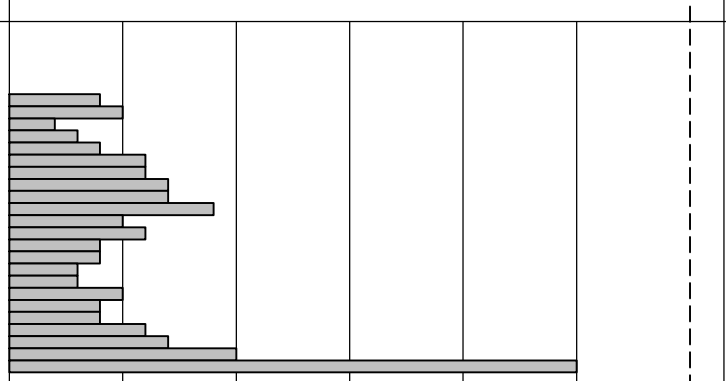
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP147** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 56.42 | E 209,662.5 N 264,371.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 4 5 2 3 | | | |
| 1 | 4 6 6 7 7 | | | |
| | 9 5 6 4 4 | | | |
| 2 | 3 3 5 4 4 | | | |
| | 6 7 10 25 | | | |
| 3 | | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

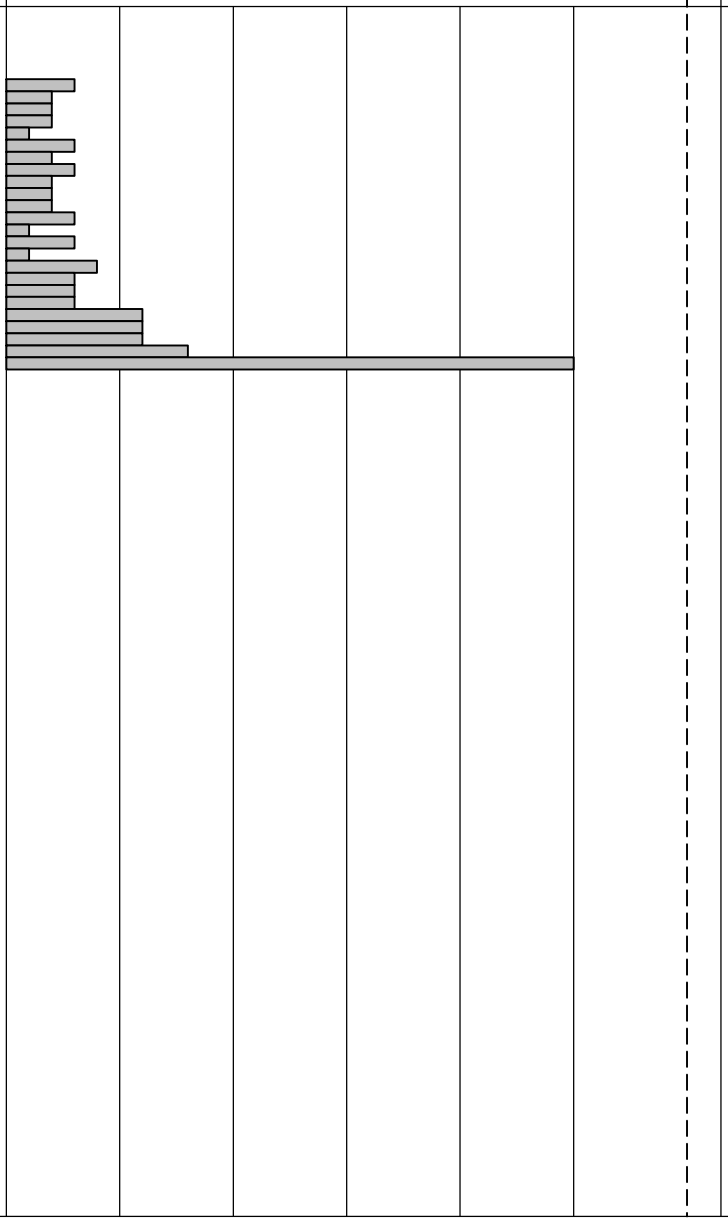
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP148** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 57.43 | E 209,762.1 N 264,393.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 3 2 2 2 | | | |
| 1 | 1 3 2 3 2 | | | |
| | 2 2 3 1 3 | | | |
| 2 | 1 4 3 3 3 | | | |
| | 6 6 6 8 25 | | | |
| 3 | | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

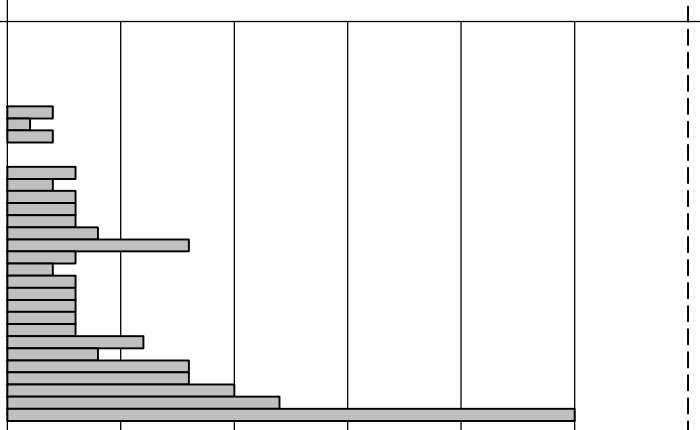
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP149** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 57.56 | E 209,857.5 N 264,410.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 2 1 2 | | | |
| 1 | 0 0 3 2 3 | | | |
| | 3 3 4 8 3 | | | |
| 2 | 2 3 3 3 3 | | | |
| | 3 6 4 8 8 | | | |
| 3 | 10 12 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP150** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 54.78 | E 209,954.4 N 264,398.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 1 1 1 1 | | | |
| 1 | 1 2 2 2 4 | | | |
| | 4 2 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP151** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 55.05 | E 209,979.6 N 264,304.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 1 1 2 | | | |
| 1 | 2 2 4 4 4 | | | |
| | 6 25 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 1.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

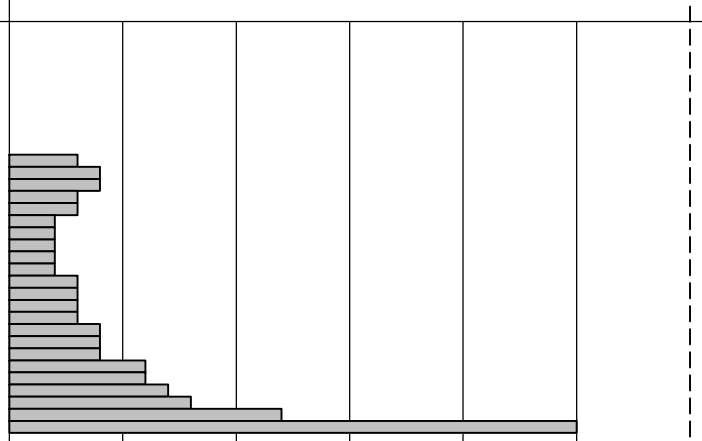
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP152** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-04-21<br>07-04-21 | 56.44 | E 209,997.0 N 264,199.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 3 4 4 3 | | | |
| | 3 2 2 2 2 | | | |
| 2 | 2 3 3 3 3 | | | |
| | 4 4 4 6 6 | | | |
| 3 | 7 8 12 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

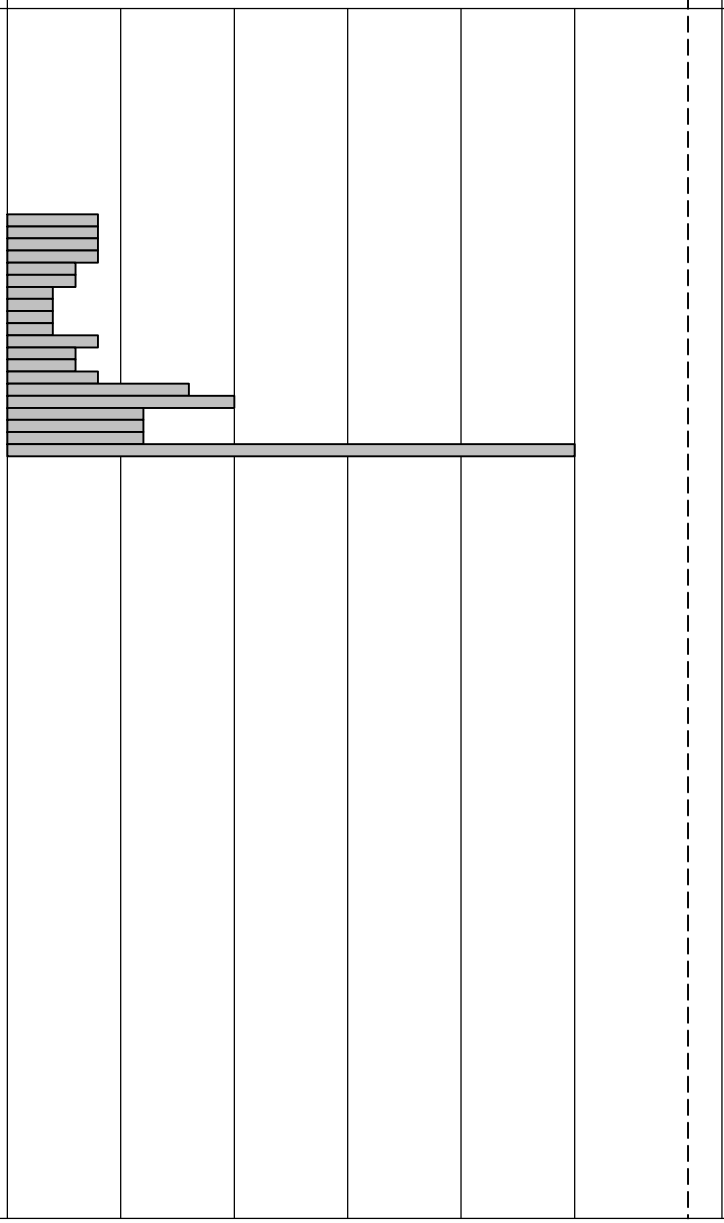
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP153** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-04-21<br>07-04-21 | 55.72 | E 209,969.9 N 264,105.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 4 4 4 | | | |
| 2 | 4 3 3 2 2<br>2 2 4 3 3 | | | |
| 3 | 4 8 10 6 6<br>6 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP154** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-04-21<br>07-04-21 | 58.58 | E 209,893.9 N 264,038.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 0 5 5 5 4<br>6 3 4 6 4 | | | |
| 3 | 4 6 6 6 6<br>6 6 6 7 25 | | | |
| 4 | | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

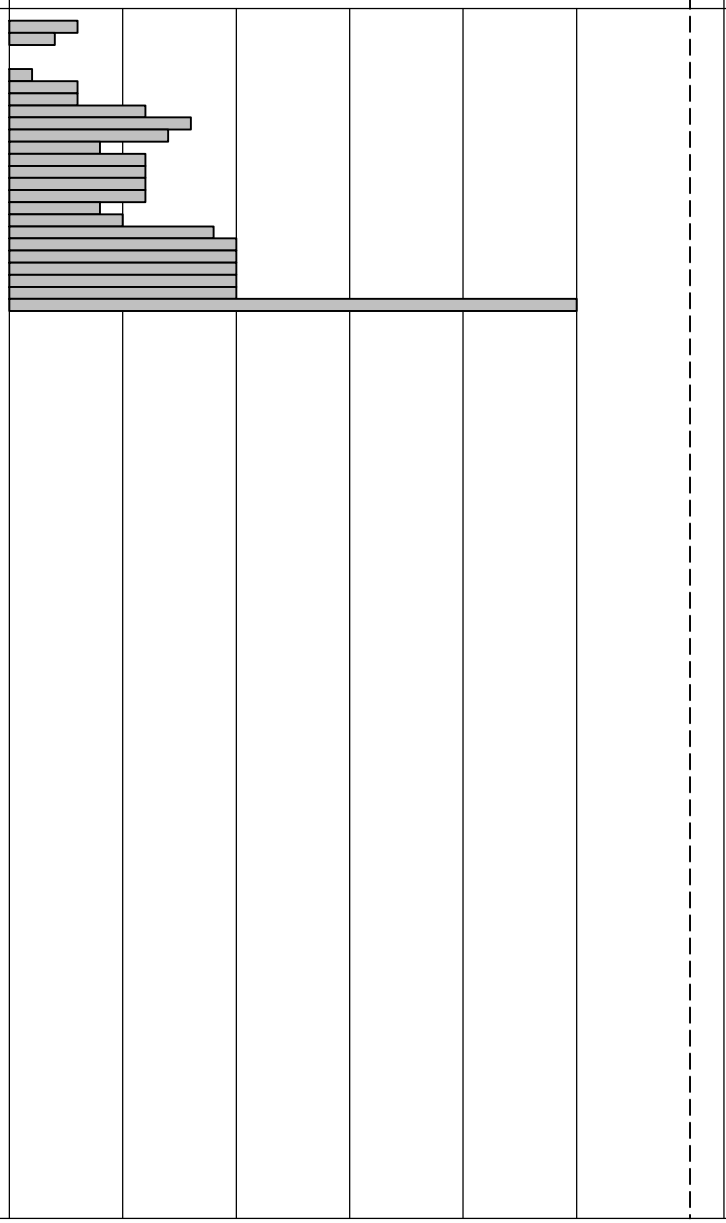
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP155** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-04-21<br>07-04-21 | 57.99 | E 209,822.1 N 263,971.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 3 2 0 0 | | | |
| | 1 3 3 6 8 | | | |
| 1 | 7 4 6 6 6 | | | |
| | 6 4 5 9 10 | | | |
| 2 | 10 10 10 10 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

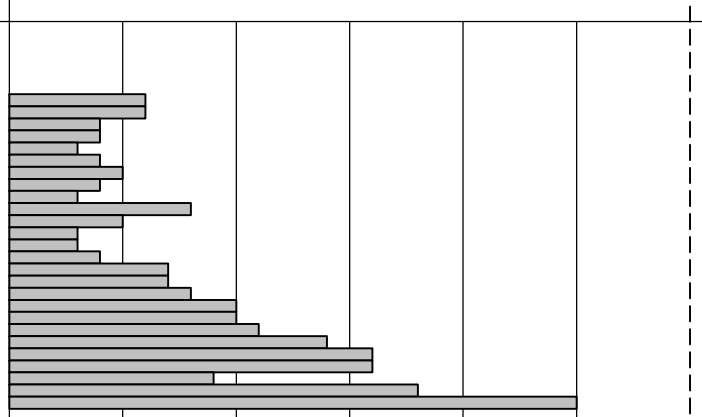
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP156** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-04-21<br>07-04-21 | 53.74 | E 209,748.7 N 263,909.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 6 6 4 4 | | | |
| 1 | 3 4 5 4 3 | | | |
| | 8 5 3 3 4 | | | |
| 2 | 7 7 8 10 10 | | | |
| | 11 14 16 16 9 | | | |
| 3 | 18 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

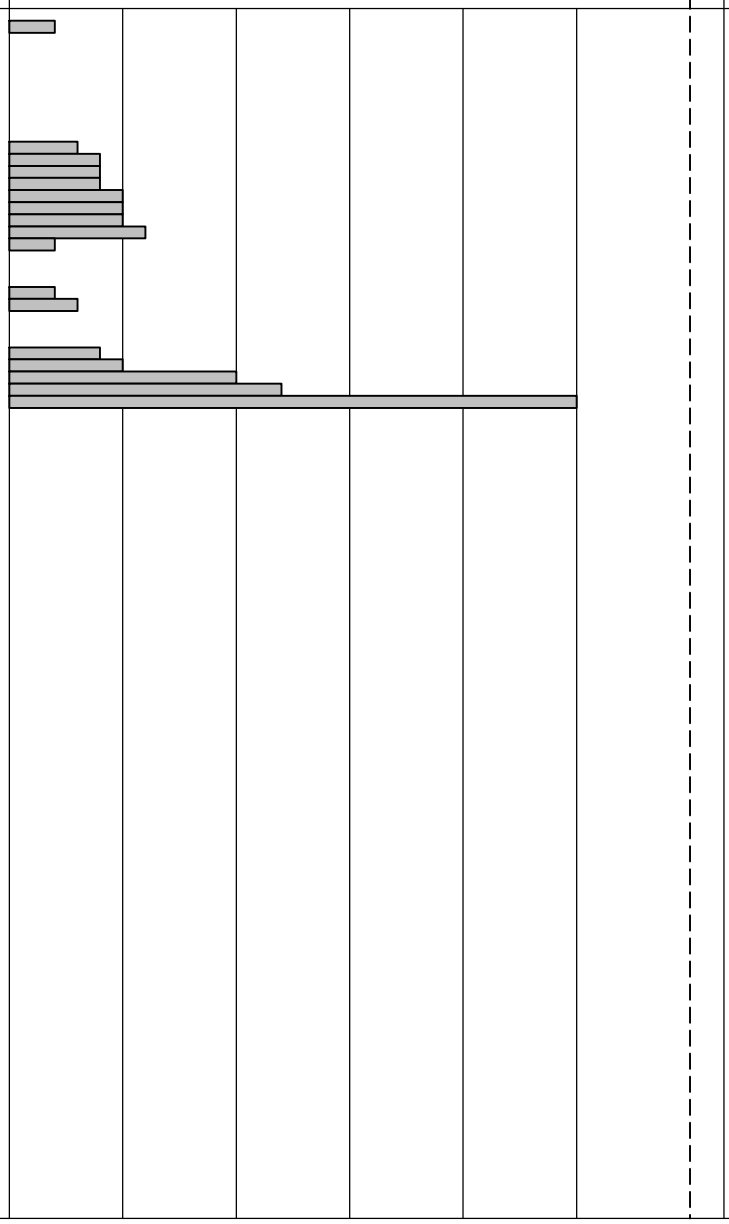
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP157** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-04-21<br>07-04-21 | 50.42 | E 209,668.7 N 263,844.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 2 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 3 4 4 4 | | | |
| | 5 5 5 6 2 | | | |
| 2 | 0 0 0 2 3 | | | |
| | 0 0 0 4 5 | | | |
| 3 | 10 12 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

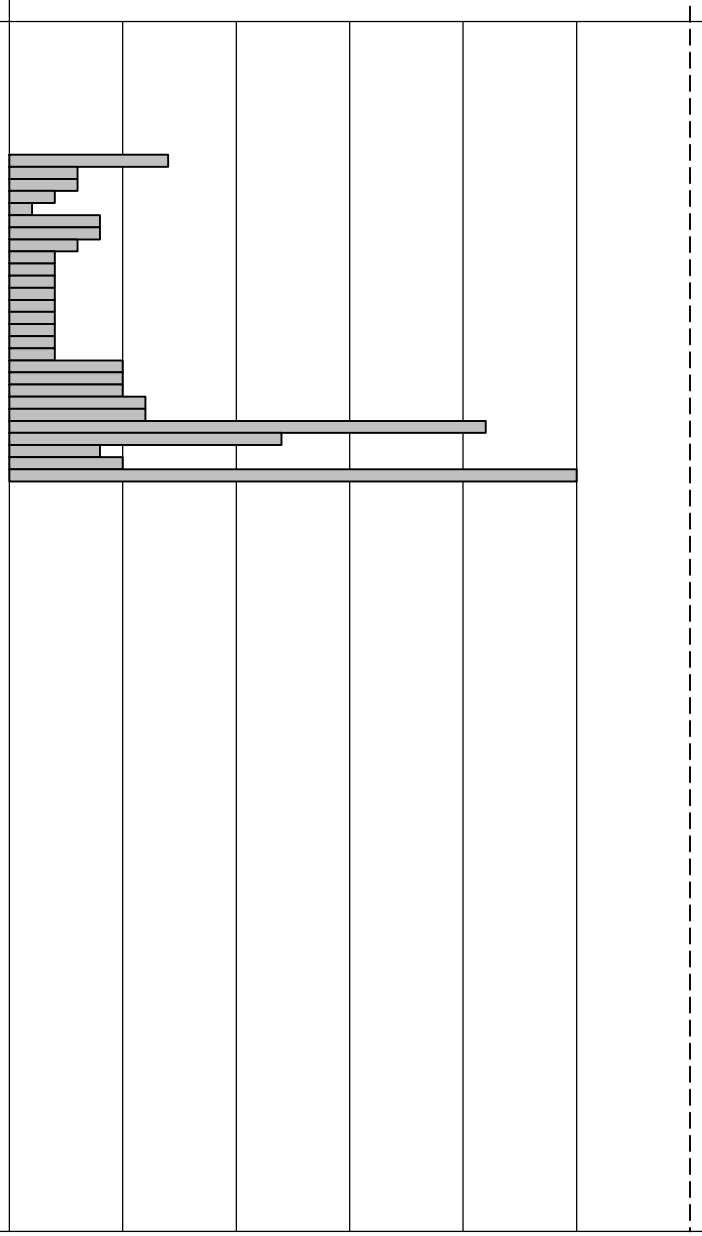
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP158** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-04-21<br>07-04-21 | 49.66 | E 209,590.9 N 263,779.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 7 3 3 2 | | | |
| | 1 4 4 3 2 | | | |
| 2 | 2 2 2 2 2 | | | |
| | 2 2 2 5 5 | | | |
| 3 | 5 6 6 21 12 | | | |
| | 4 5 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

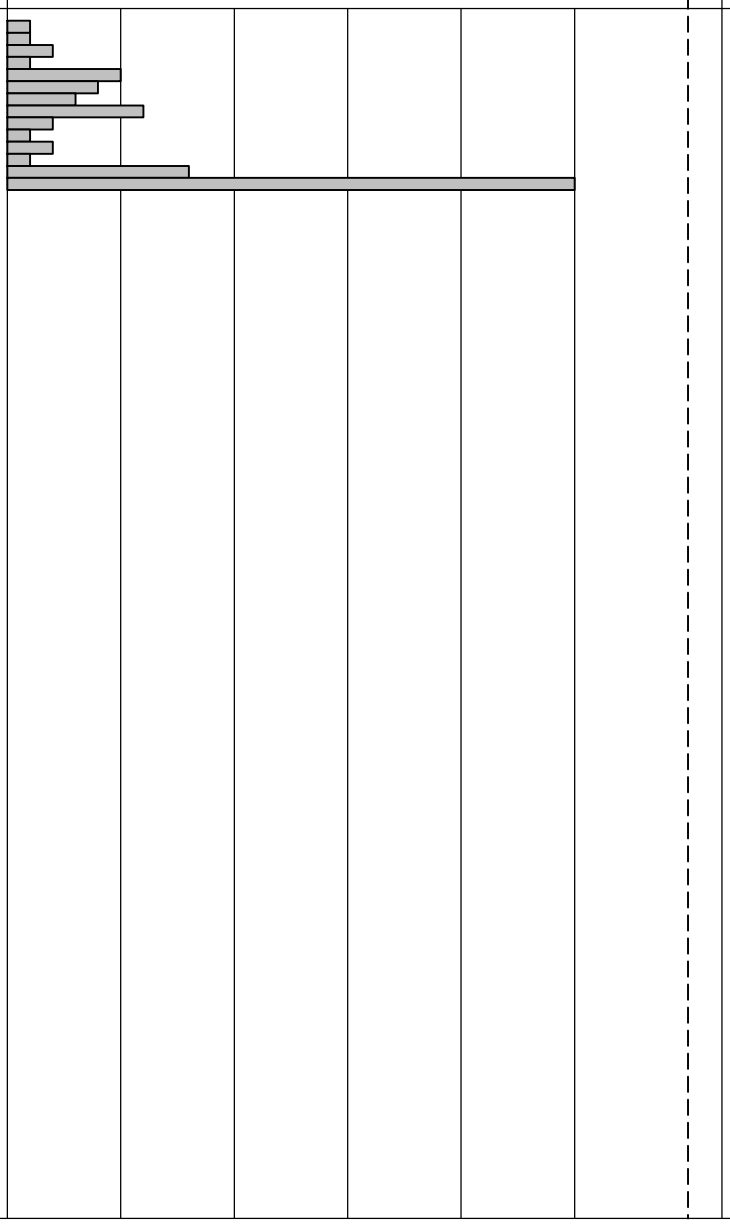
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP159** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 51.29 | E 209,630.5 N 263,686.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 1 2 1 | | | |
| | 5 4 3 6 2 | | | |
| 1 | 1 2 1 8 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP160** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 51.03 | E 209,646.7 N 263,586.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 1 1 | | | |
| 1 | 1 2 3 2 1 | | | |
| | 1 16 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 1.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

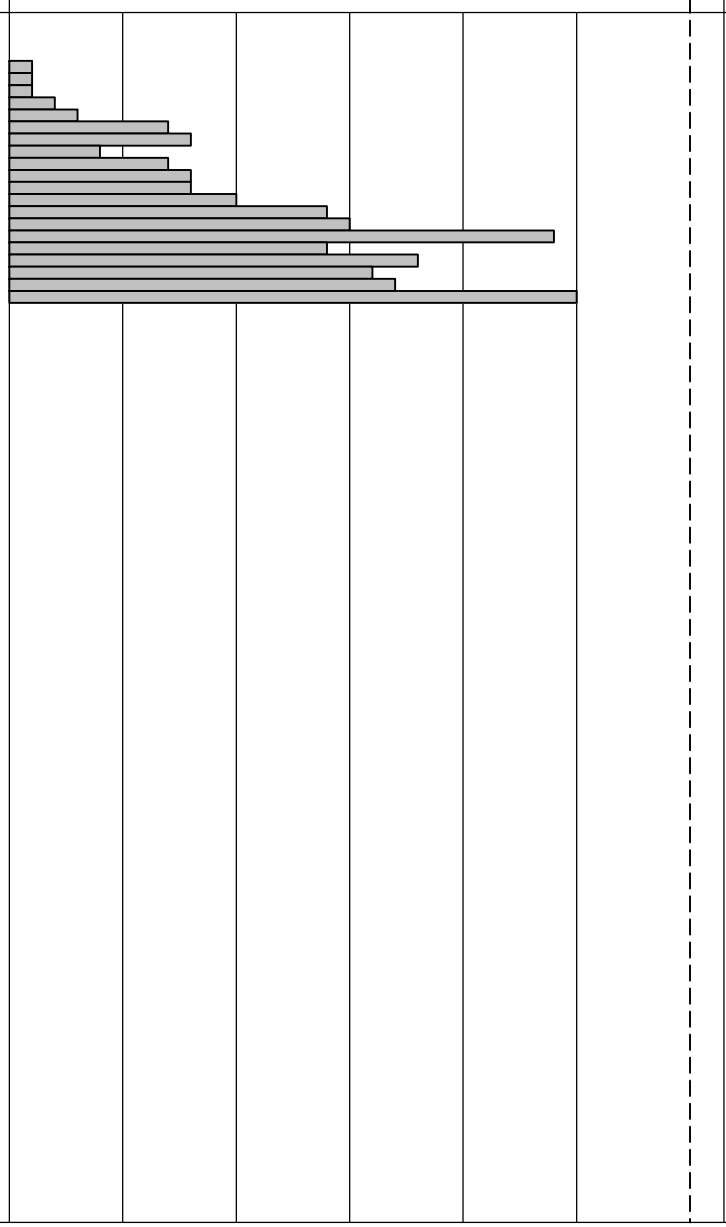
Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP161** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 50.74 | E 209,663.9 N 263,488.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 1<br>1 1 2 3 7<br>8 4 7 8 8<br>10 14 15 24 14<br>18 16 17 25 |  | | Refusal. 25 blows for 0mm. |



| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP162** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 50.97 | E 209,681.2 N 263,393.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 3 4 | | | |
| | 9 10 11 12 25 | | | |
| 1 | | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 0.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

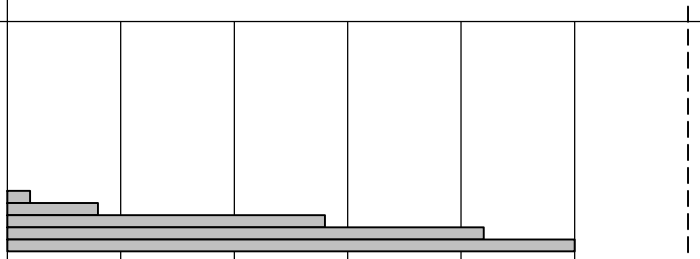
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP163** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 52.53 | E 209,696.0 N 263,293.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 1<br>4 14 21 25 | 5 10 15 20 25 30 | | Refusal. 25 blows for 0mm. |



| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP164** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 54.15 | E 209,713.5 N 263,194.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 4 4 9 7 17 25 | | | Refusal. 25 blows for 0mm. |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 0.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP165** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 50.75 | E 209,516.3 N 263,711.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 1 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 2 2 3 25 | | | Refusal. 25 blows for 50mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 2.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

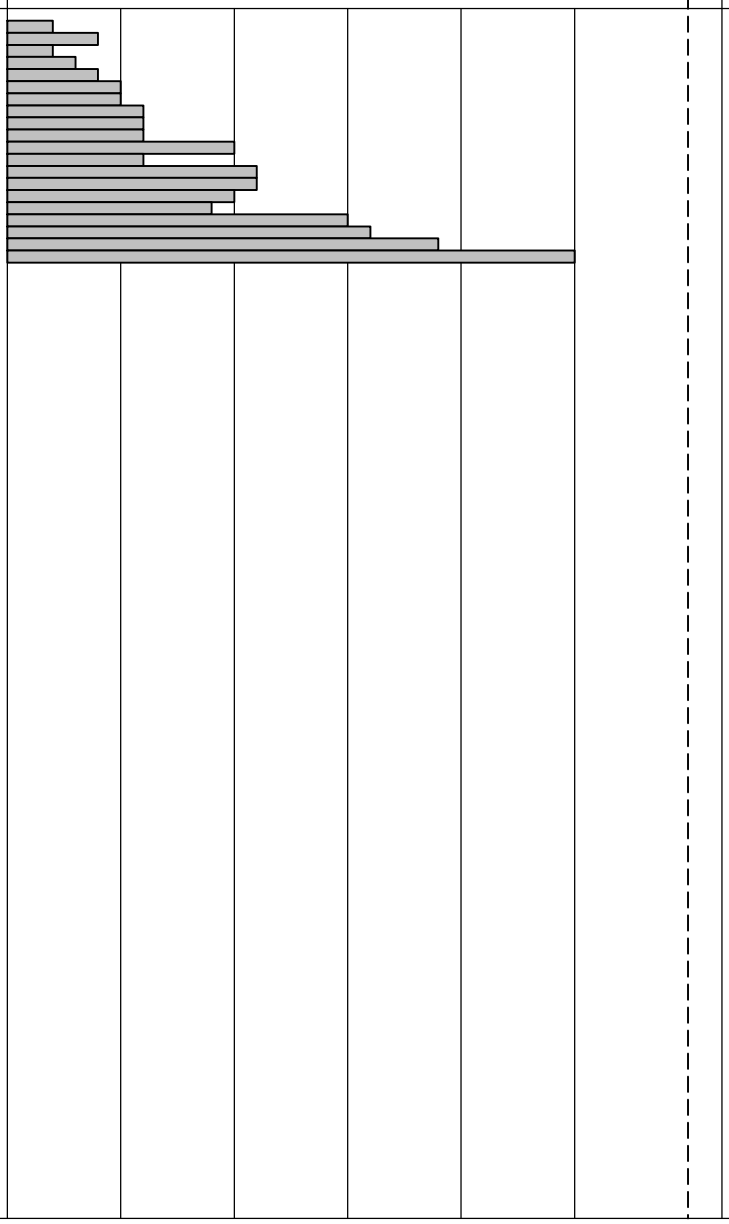
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP167** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 51.76 | E 209,359.9 N 263,577.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 2 4 2 3<br>4 5 5 6 6<br>6 10 6 11 11<br>10 9 15 16 19<br>25 | 5 10 15 20 25 30 | | Refusal. 25 blows for 50mm. |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 2.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

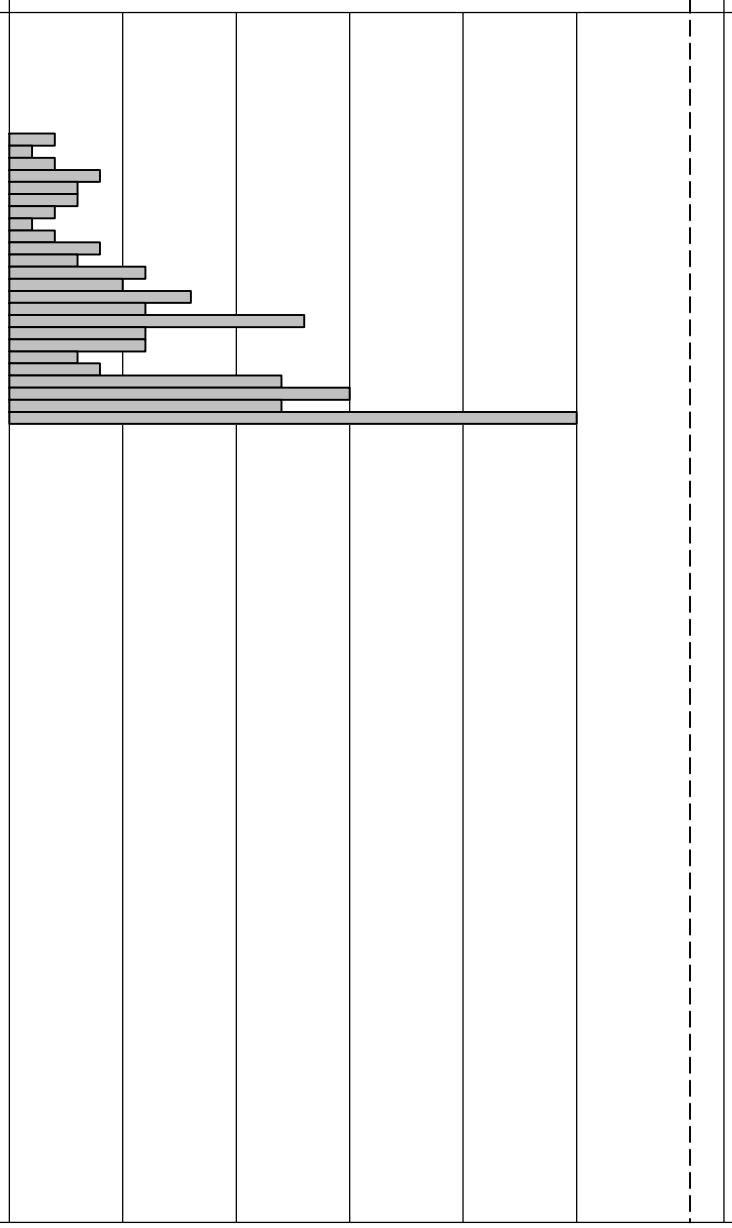
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP168** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 51.34 | E 209,267.9 N 263,609.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 2 1 2 4 3 | | | |
| | 3 2 1 2 4 | | | |
| 2 | 3 6 5 8 6 | | | |
| | 13 6 6 3 4 | | | |
| 3 | 12 15 12 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

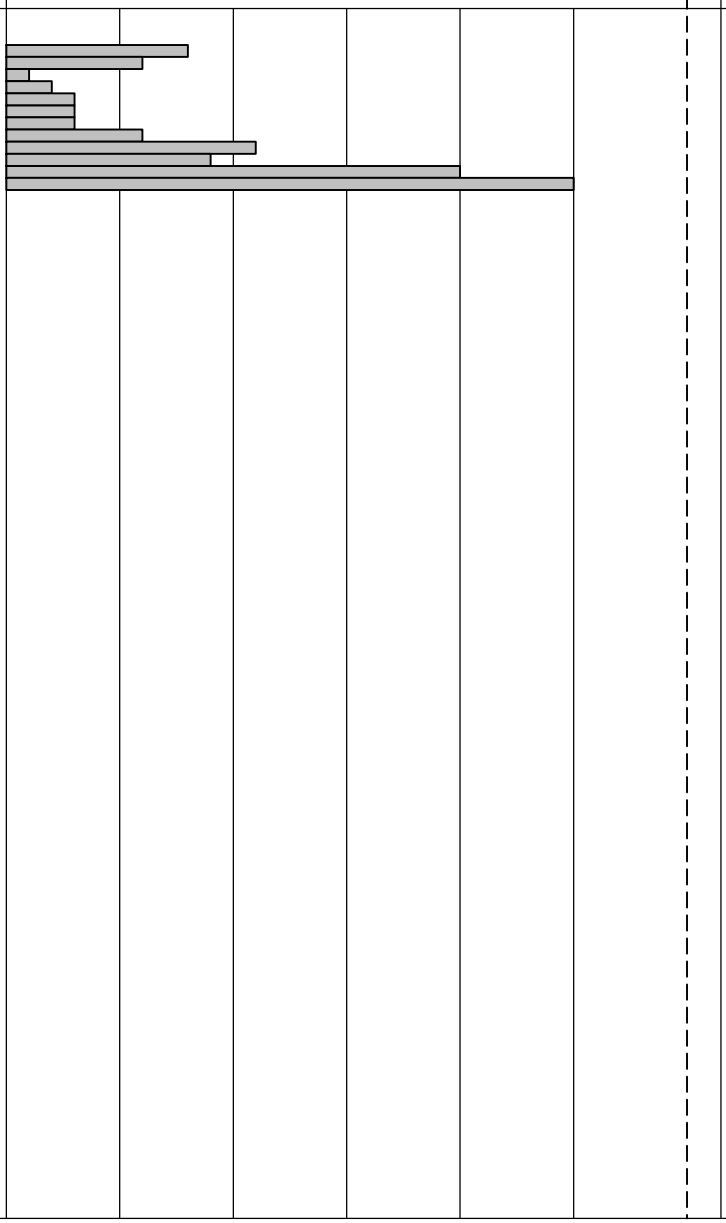
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP169** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 51.47 | E 209,214.0 N 263,692.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 8 6 | | | |
| | 1 2 3 3 3 | | | |
| 1 | 6 11 9 20 25 | | | Refusal. 25 blows for 10mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

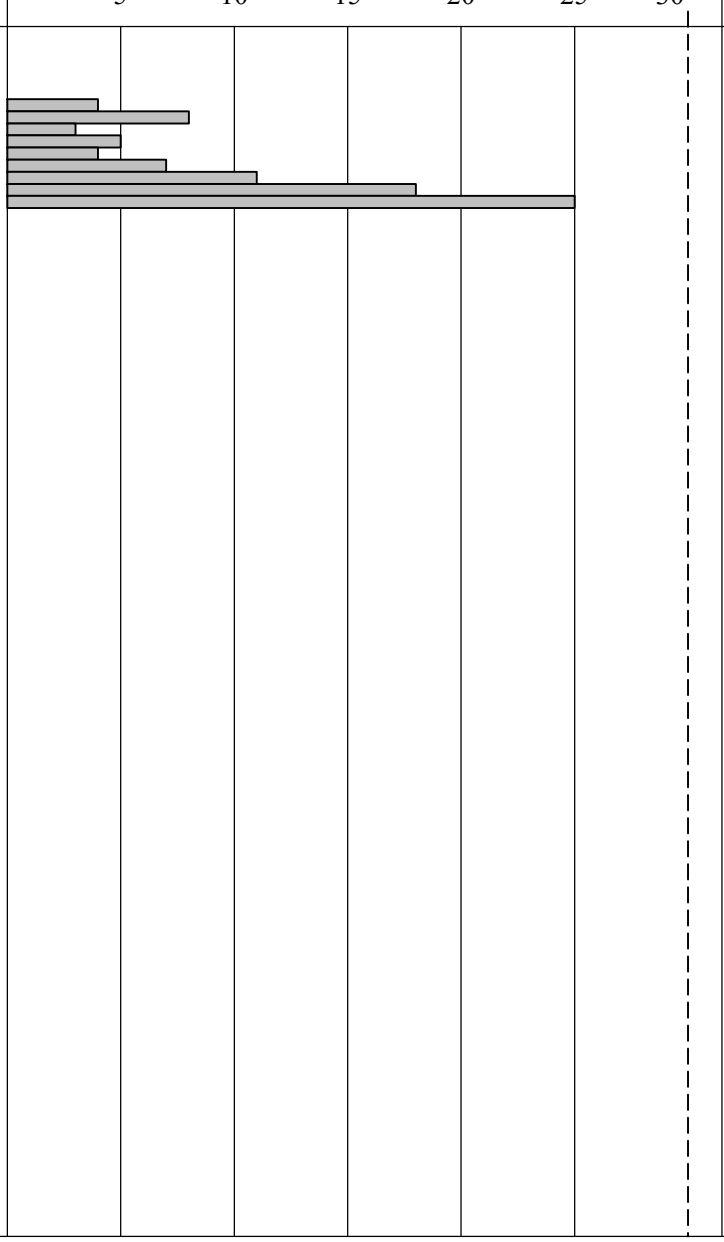
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP170** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 50.58 | E 209,157.6 N 263,781.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 4 8 3 5 | | | |
| 1 | 4 7 11 18 25 | | | Refusal. 25 blows for 20mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP171** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 50.67 | E 209,108.9 N 263,862.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 2 0 1 3 25 | | | |
| 1 | | | | Refusal. 25 blows for 20mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 0.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP172** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 50.76 | E 209,056.5 N 263,946.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 1 | | | |
| | 0 2 2 5 2 | | | |
| 1 | 13 7 20 25 | | | Refusal. 25 blows for 20mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP173** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 31-03-21<br>31-03-21 | 49.57 | E 208,985.1 N 264,030.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 0 1 0 0 0 | | | |
| 4 | 0 6 7 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

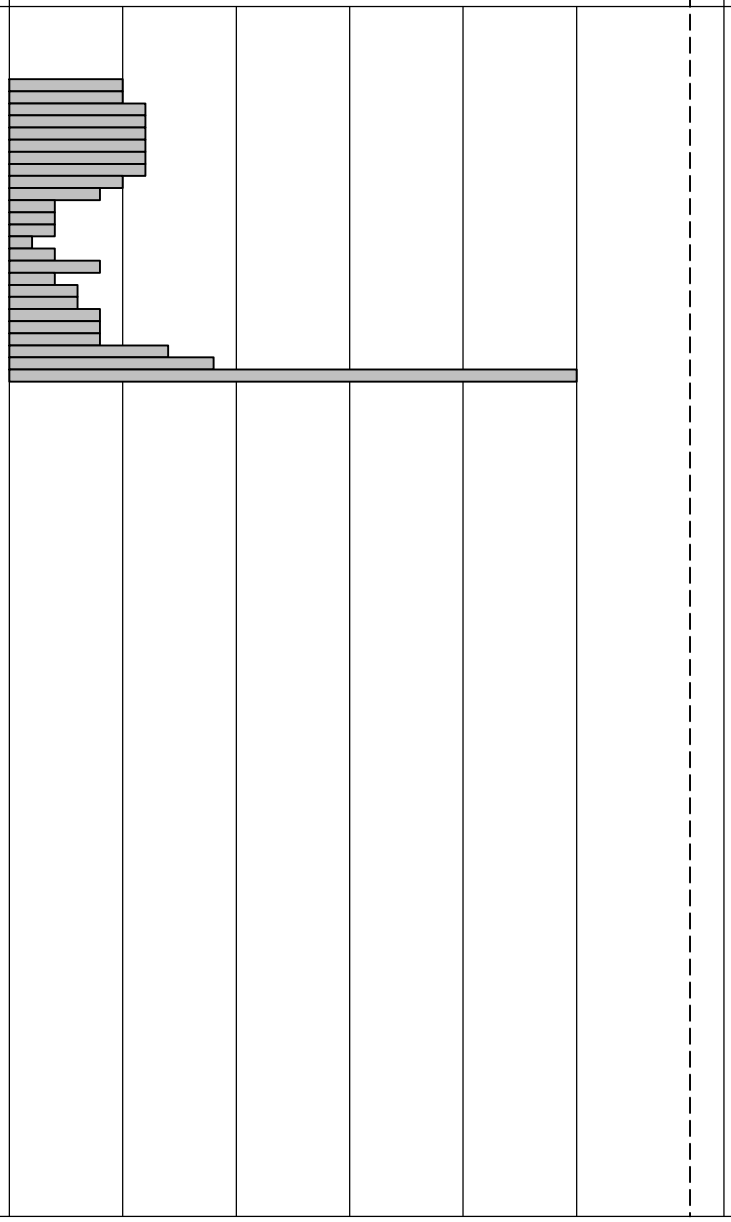
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP174** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-04-21<br>08-04-21 | 55.71 | E 209,618.6 N 264,431.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 5 5 6 6 | | | |
| 1 | 6 6 6 6 5 | | | |
| | 4 2 2 2 1 | | | |
| 2 | 2 4 2 3 3 | | | |
| | 4 4 4 7 9 | | | |
| 3 | 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

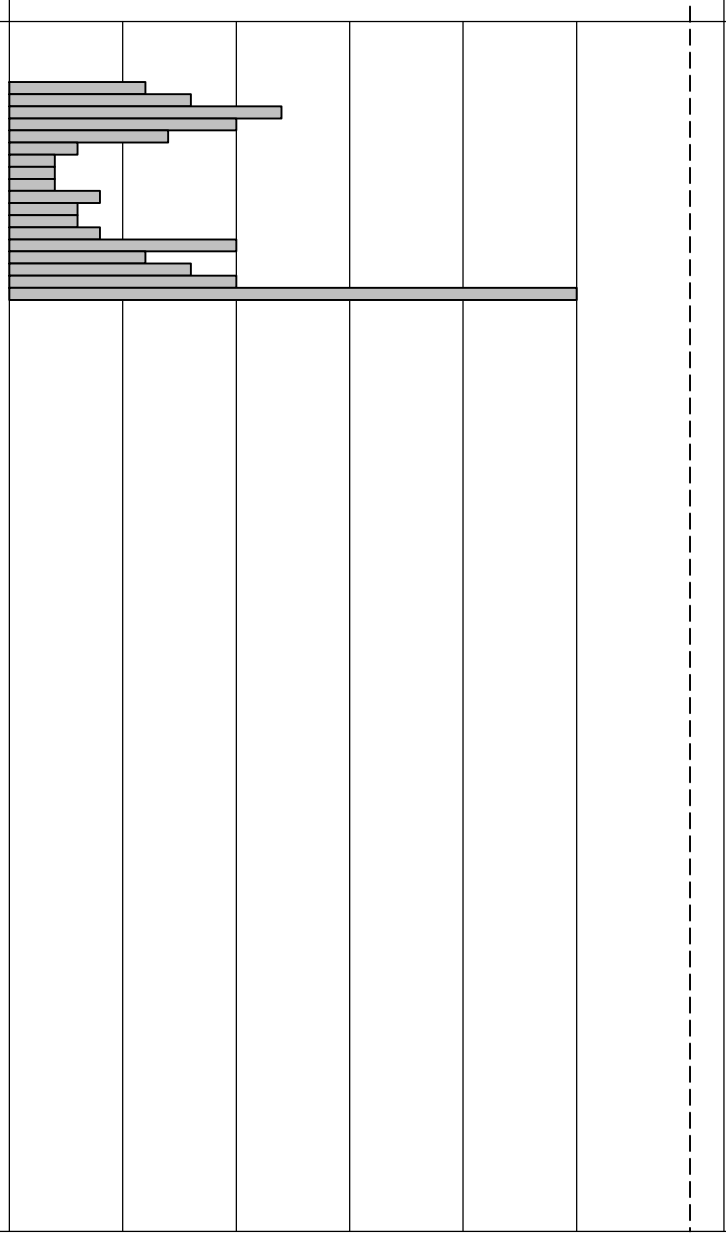
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP175** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-04-21<br>09-04-21 | 56.32 | E 209,650.7 N 264,526.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 6 8 12 10 7 | | | |
| 1 | 3 2 2 2 4 | | | |
| | 3 3 4 10 6 | | | |
| 2 | 8 10 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

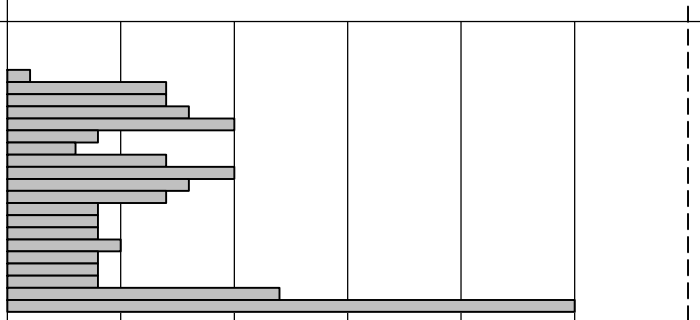
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP176** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-04-21<br>09-04-21 | 53.37 | E 209,688.9 N 264,606.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 1 | | | |
| | 7 7 8 10 4 | | | |
| 1 | 3 7 10 8 7 | | | |
| | 4 4 4 5 4 | | | |
| 2 | 4 4 12 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

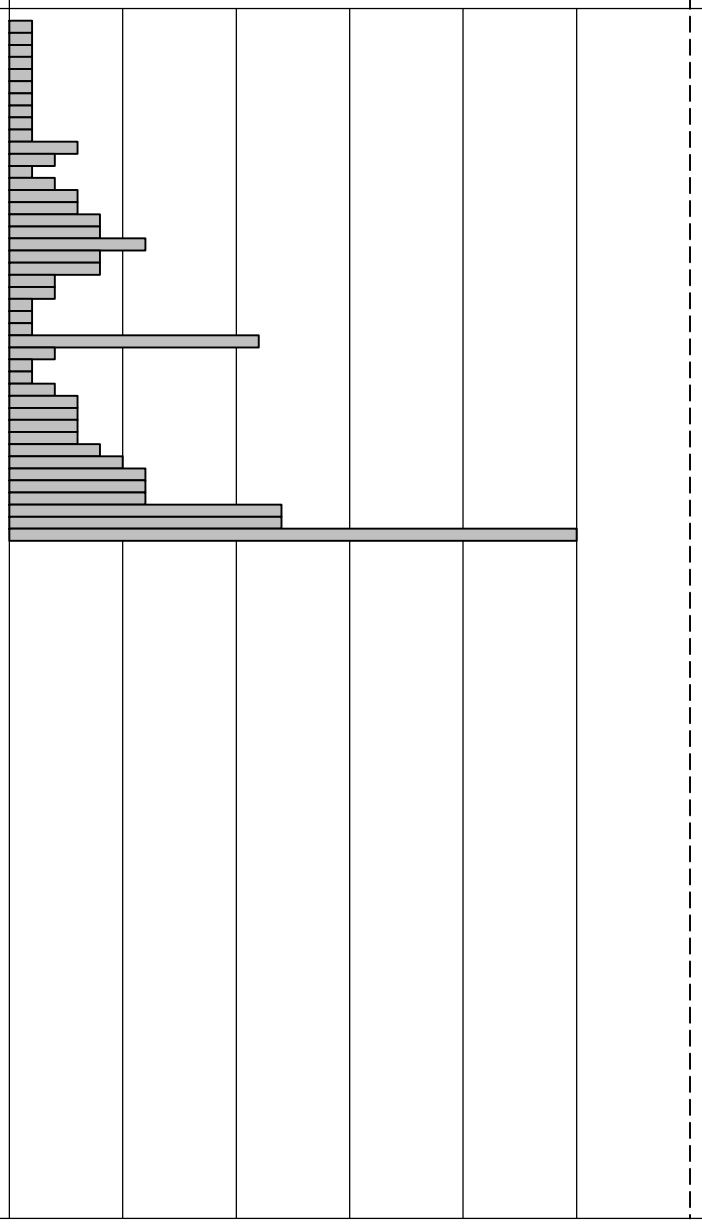
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP177** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-04-21<br>12-04-21 | 52.78 | E 209,711.3 N 264,719.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 1 | 1 3 2 1 2 | | | |
| | 3 3 4 4 6 | | | |
| 2 | 4 4 2 2 1 | | | |
| | 1 1 11 2 1 | | | |
| 3 | 1 2 3 3 3 | | | |
| | 3 4 5 6 6 | | | |
| 4 | 6 12 12 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

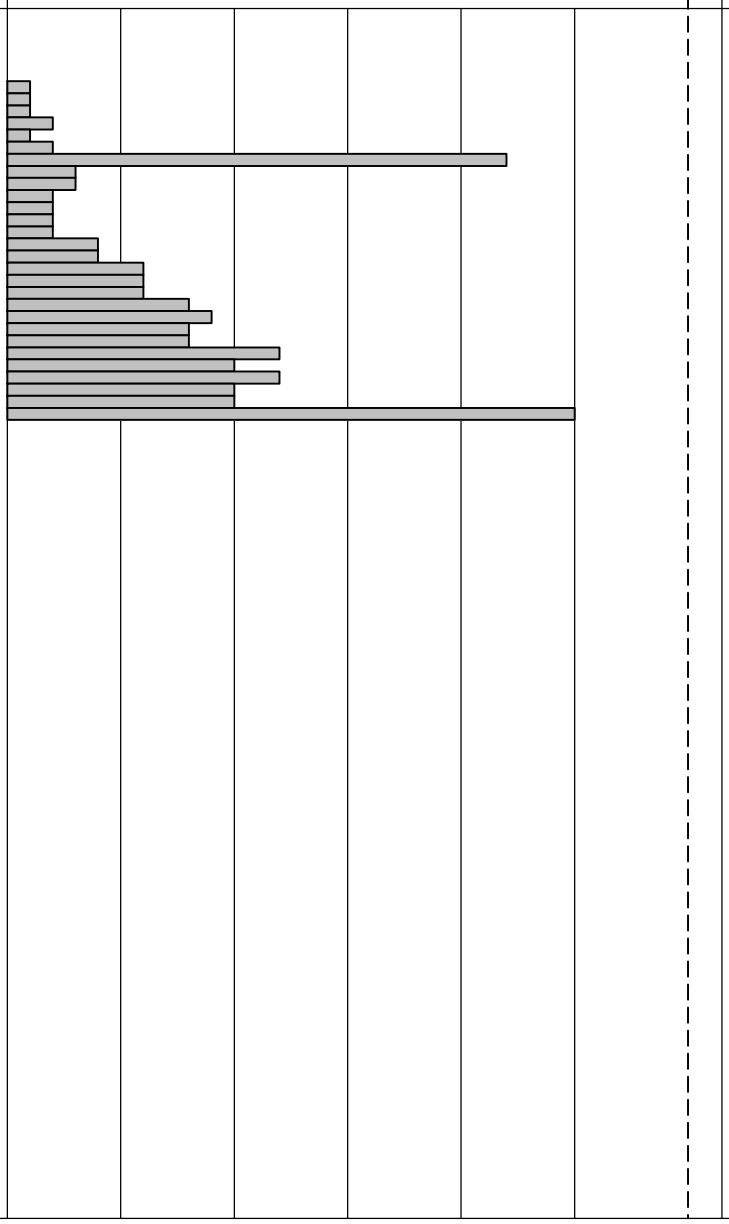
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP178** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-04-21<br>12-04-21 | 53.56 | E 209,742.9 N 264,814.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 1 1 1 2 | | | |
| 1 | 1 2 22 3 3 | | | |
| | 2 2 2 2 4 | | | |
| 2 | 4 6 6 6 8 | | | |
| | 9 8 8 12 10 | | | |
| 3 | 12 10 10 25 | | | Refusal. 25 blows for 10mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP179** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-04-21<br>13-04-21 | 54.58 | E 209,773.8 N 264,908.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 1 0 0 | | | |
| | 0 0 1 4 13 | | | |
| 1 | 12 12 15 25 | | | Refusal. 25 blows for 10mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP180** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-04-21<br>13-04-21 | 53.66 | E 209,801.8 N 265,002.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 0 1 0 0 0 | | | |
| 2 | 0 1 1 4 5 | | | |
| | 5 7 8 10 9 | | | |
| 3 | 13 13 25 | | | Refusal. 25 blows for 10mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | | |
|---|---|---|---|
| Hammer Wt (kg) | 50 | | GENERAL REMARKS |
| Hammer Drop (mm) | 500 | | DP terminated at 3.20m bgl. |
| Cone Dia (mm) | 40 | | |
| Cone Type | | | |
| Damper | | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP181** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-04-21<br>13-04-21 | 52.39 | E 209,832.9 N 265,098.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 0 4 2 4 8<br>25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

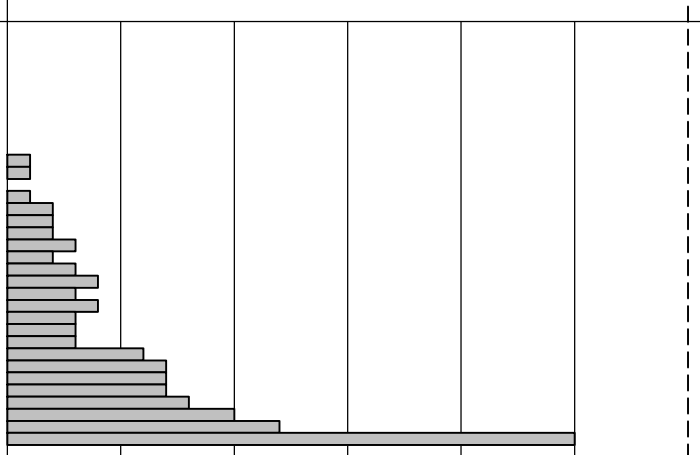
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP182** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-04-21<br>13-04-21 | 52.14 | E 209,864.8 N 265,195.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 1 1 0 1 | | | |
| 2 | 2 2 2 3 2<br>3 4 3 4 3<br>3 3 6 7 7 | | | |
| 3 | 7 8 10 12 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

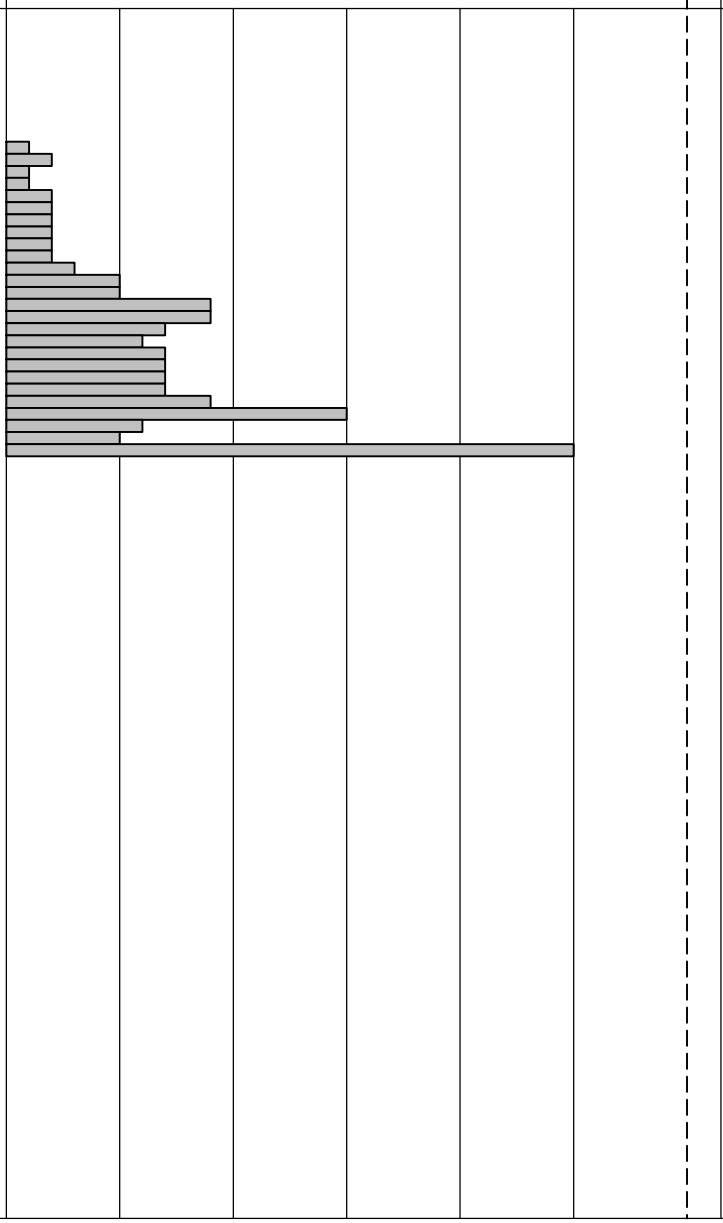
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP183** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-04-21<br>13-04-21 | 52.46 | E 209,895.9 N 265,289.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 2 1 1 | | | |
| | 2 2 2 2 2 | | | |
| 2 | 2 3 5 5 9 | | | |
| | 9 7 6 7 7 | | | |
| 3 | 7 7 9 15 6 | | | |
| | 5 25 | | | Refusal. 25 blows for 20mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

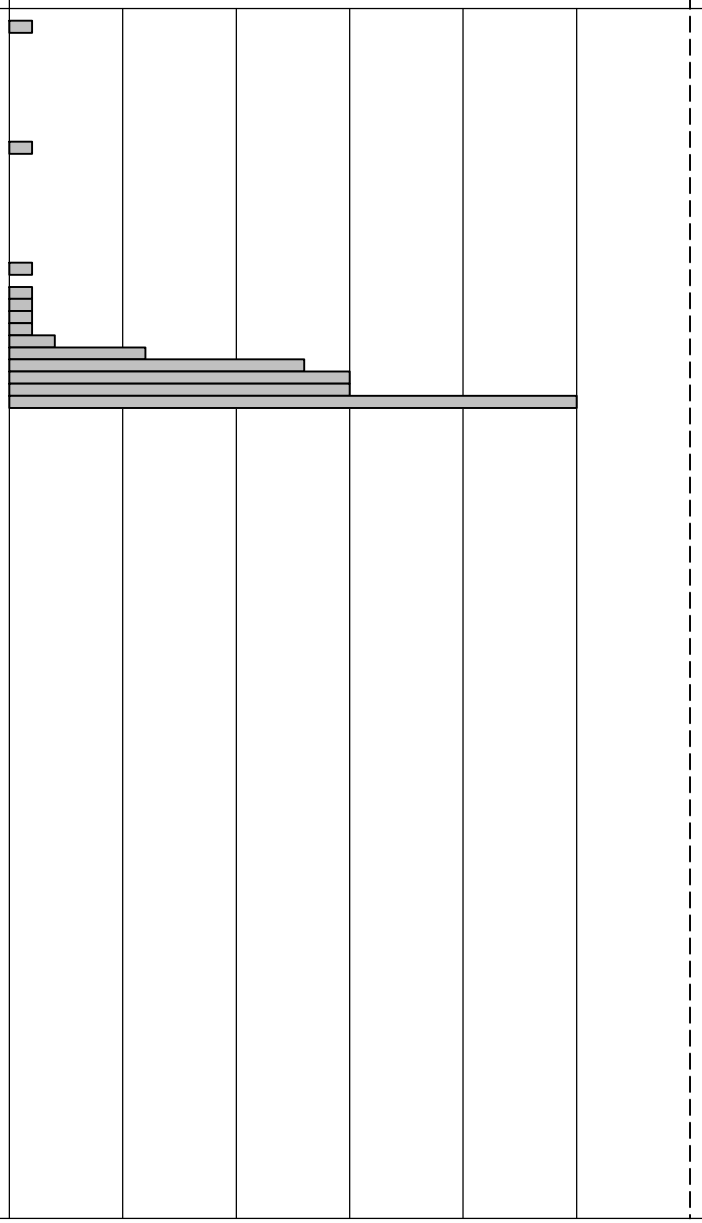
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP184** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 14-04-21<br>14-04-21 | 52.56 | E 209,991.8 N 265,291.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 0 1 1 | | | |
| | 1 1 2 6 13 | | | |
| 3 | 15 15 25 | | | Refusal. 25 blows for 10mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 3.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP185R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-04-21<br>13-04-21 | 53.46 | E 209,925.1 N 265,386.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 4 8 | | | |
| 2 | 25 | | | Refusal. 25 blows for 30mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

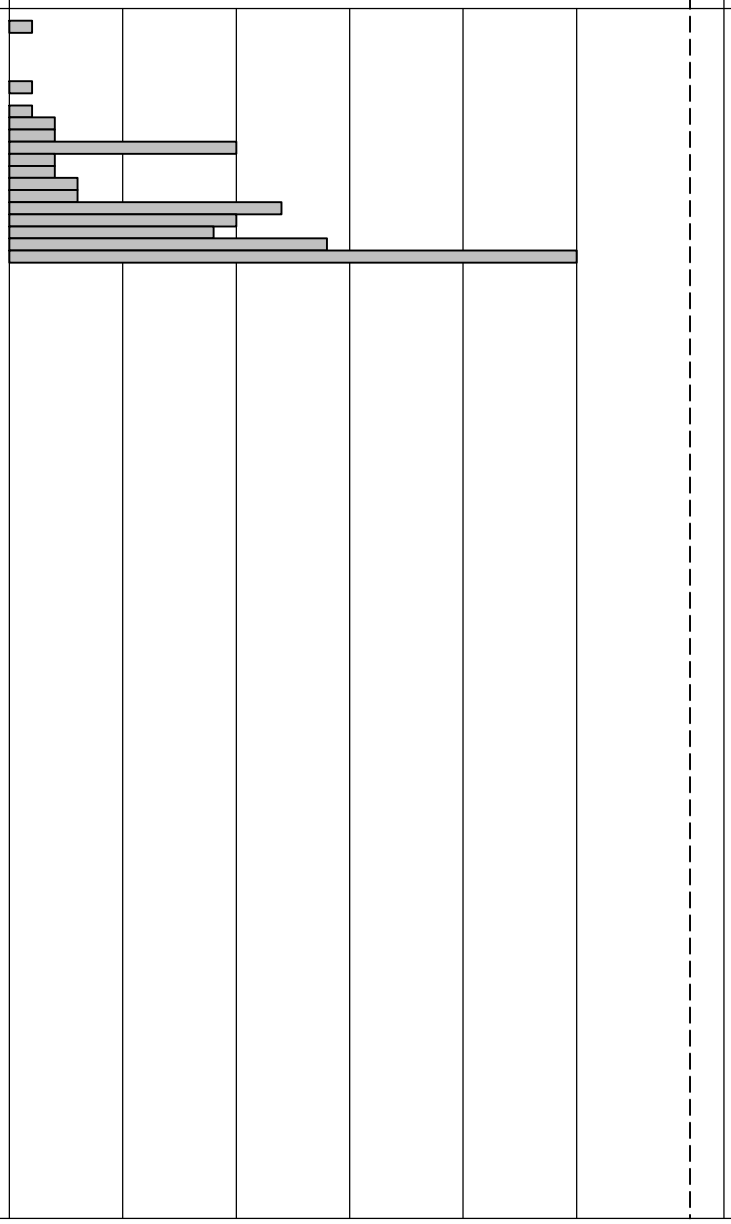
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP186** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-04-21<br>13-04-21 | 52.26 | E 209,943.4 N 265,482.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0<br>0 1 0 1 2<br>2 10 2 2 3<br>3 12 10 9 14<br>25 | | | Refusal. 25 blows for 30mm. |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

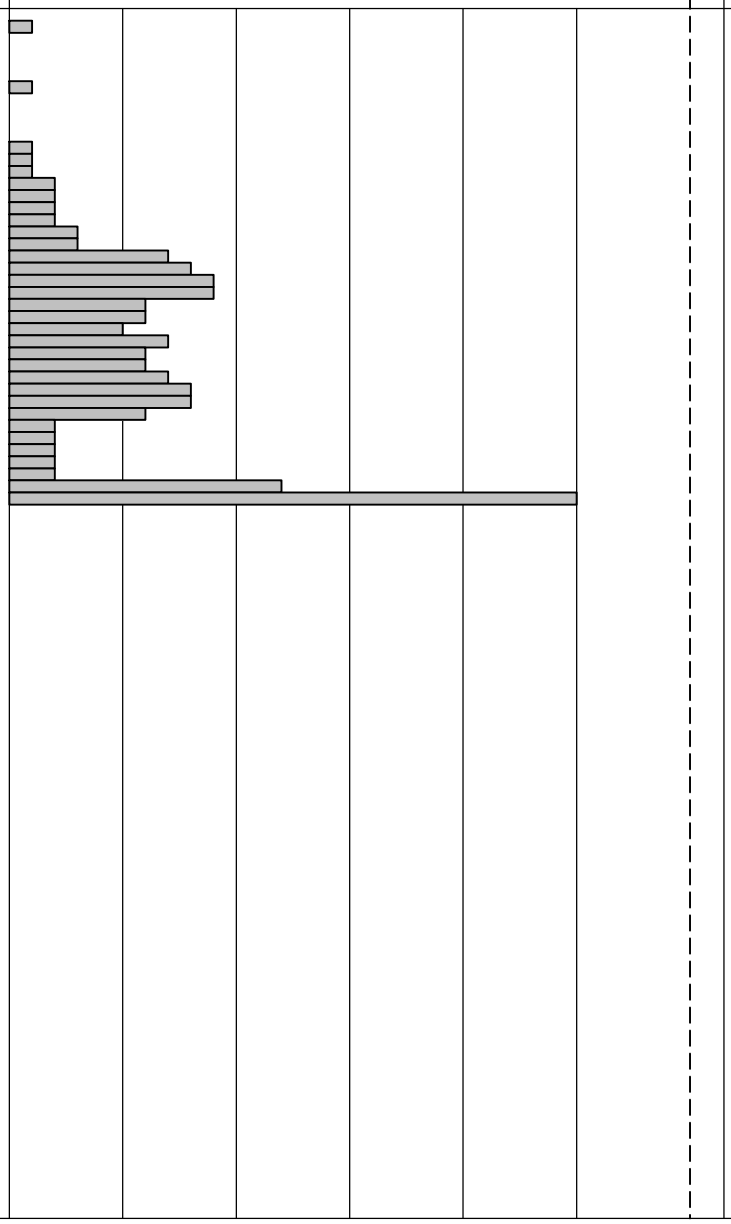
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP187** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 14-04-21<br>14-04-21 | 53.23 | E 209,915.2 N 265,578.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 1 0 0 0 | | | |
| 1 | 0 1 1 1 2 | | | |
| | 2 2 2 3 3 | | | |
| 2 | 7 8 9 9 6 | | | |
| | 6 5 7 6 6 | | | |
| 3 | 7 8 8 6 2 | | | |
| | 2 2 2 2 12 | | | |
| 4 | 25 | | | Refusal. 25 blows for 10mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

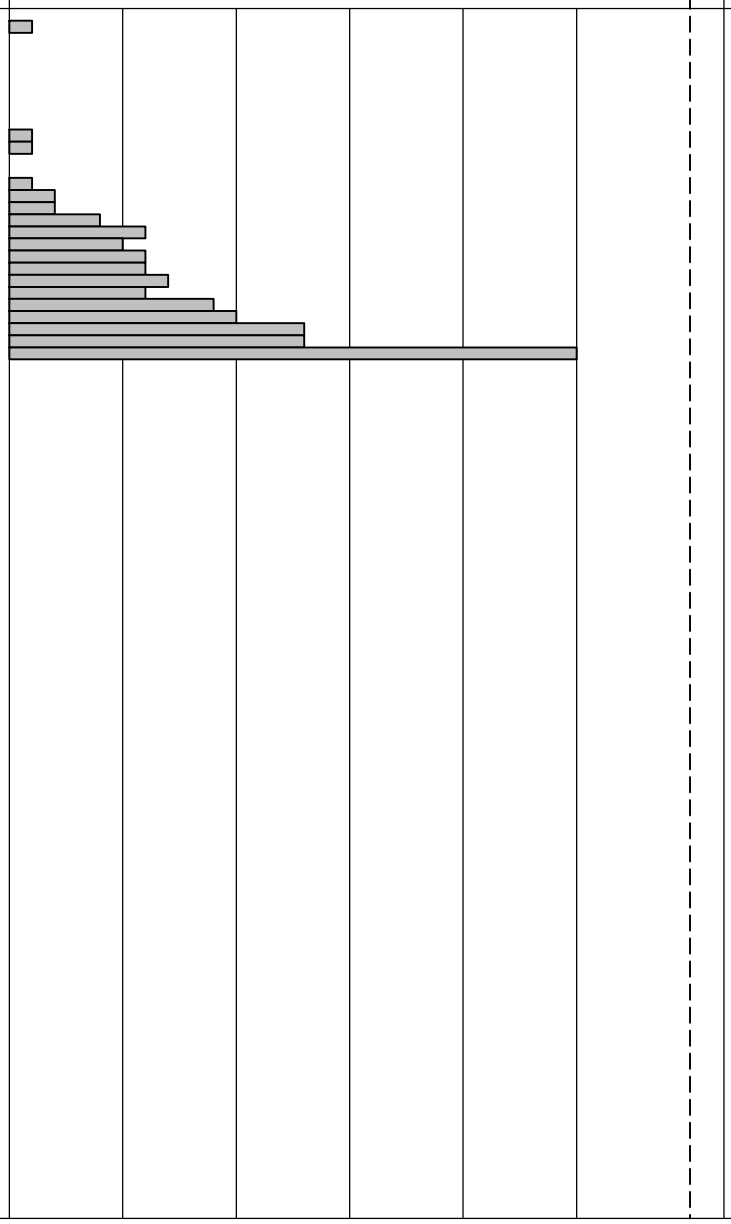
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP188** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 14-04-21<br>14-04-21 | 54.02 | E 209,889.6 N 265,676.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0<br>0 0 0 0 0<br>1 1 0 0 1<br>2 2 4 6 5<br>6 6 7 6 9<br>10 13 13 25 | | | Refusal. 25 blows for 10mm. |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP189R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 14-04-21<br>14-04-21 | 54.07 | E 209,860.3 N 265,774.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 1 1 | | | |
| | 1 2 6 25 | | | Refusal. 25 blows for 35mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

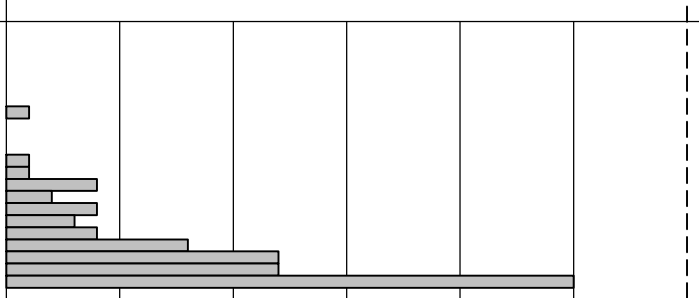
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP190R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 14-04-21<br>14-04-21 | 54.43 | E 209,834.0 N 265,870.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 1 0 0 | | | |
| 1 | 0 1 1 4 2 | | | |
| | 4 3 4 8 12 | | | |
| 2 | 12 25 | | | Refusal. 25 blows for 10mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP191R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-04-21<br>15-04-21 | 54.79 | E 209,821.4 N 265,971.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 1 | | | |
| | 0 1 0 0 0 | | | |
| 1 | 0 1 1 1 1 | | | |
| | 1 2 2 1 1 | | | |
| 2 | 2 10 10 19 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP192R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-04-21<br>15-04-21 | 53.95 | E 209,811.0 N 266,069.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 1 1 1 | | | |
| | 0 0 0 0 1 | | | |
| 1 | 0 1 0 0 1 | | | |
| | 1 0 0 0 1 | | | |
| 2 | 2 2 2 2 3 | | | |
| | 2 3 3 3 9 | | | |
| 3 | 10 18 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP193R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-04-21<br>16-04-21 | 53.67 | E 209,792.7 N 266,165.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 1 2<br>1 2 2 4 4<br>4 8 8 10 10<br>16 16 20 25 | | | Refusal. 25 blows for 10mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

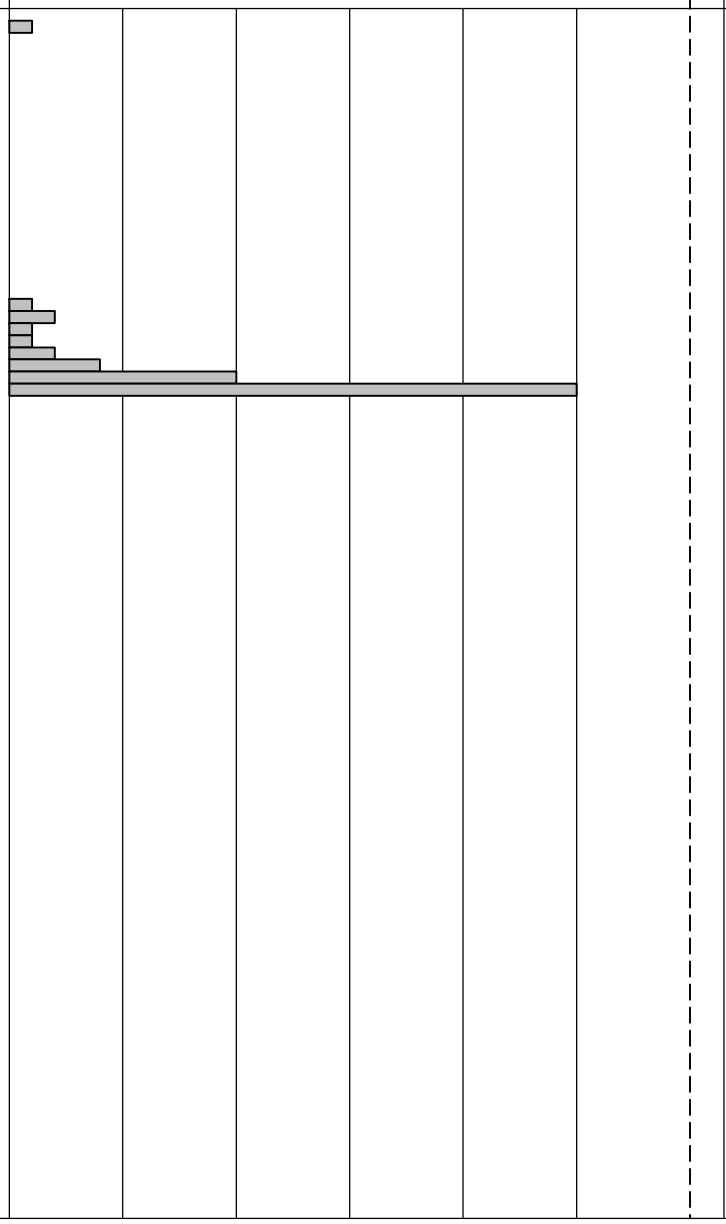
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP194R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-04-21<br>16-04-21 | 53.78 | E 209,777.8 N 266,263.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 2 1 1 2 1 | | | |
| 3 | 10 25 4 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

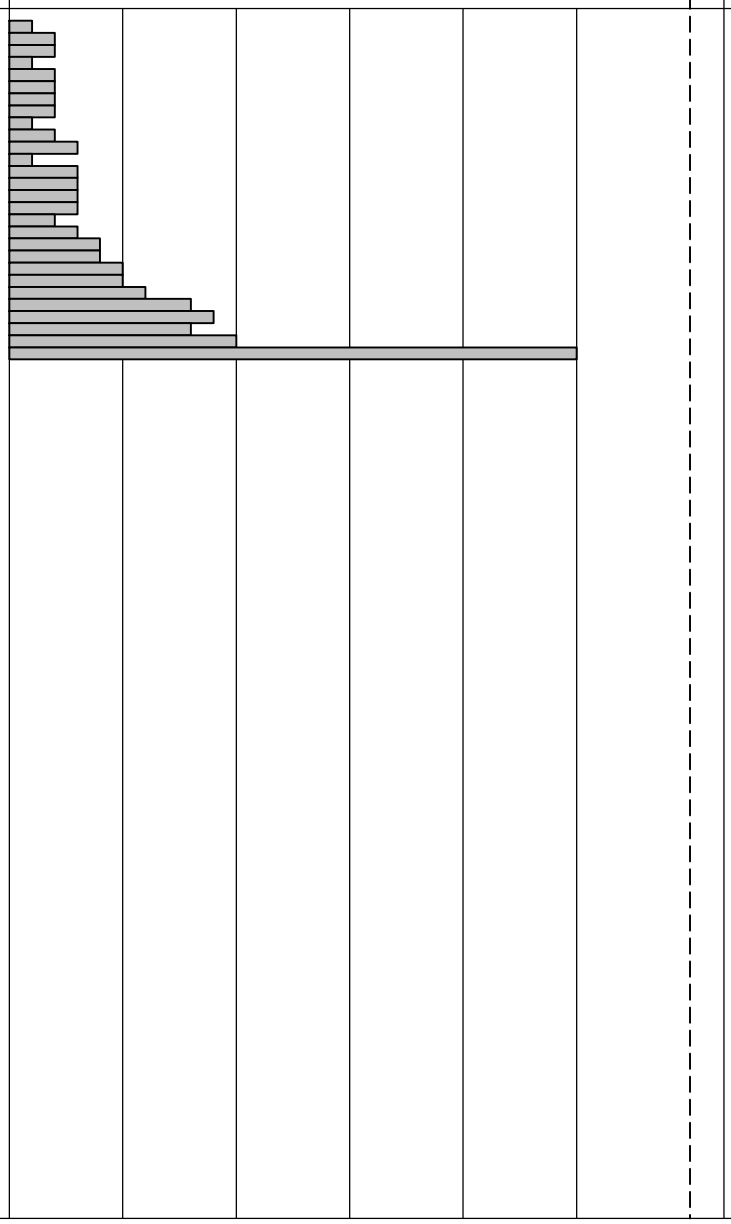
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP195R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-04-21<br>16-04-21 | 53.74 | E 209,762.1 N 266,363.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 2 2 1 | | | |
| | 2 2 2 2 1 | | | |
| 1 | 2 3 1 3 3 | | | |
| | 3 3 2 3 4 | | | |
| 2 | 4 5 5 6 8 | | | |
| | 9 8 10 25 | | | |
| 3 | | | | Refusal. 25 blows for 40mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP196R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 19-04-21<br>19-04-21 | 53.63 | E 209,746.1 N 266,460.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 2 5 2 6 14 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

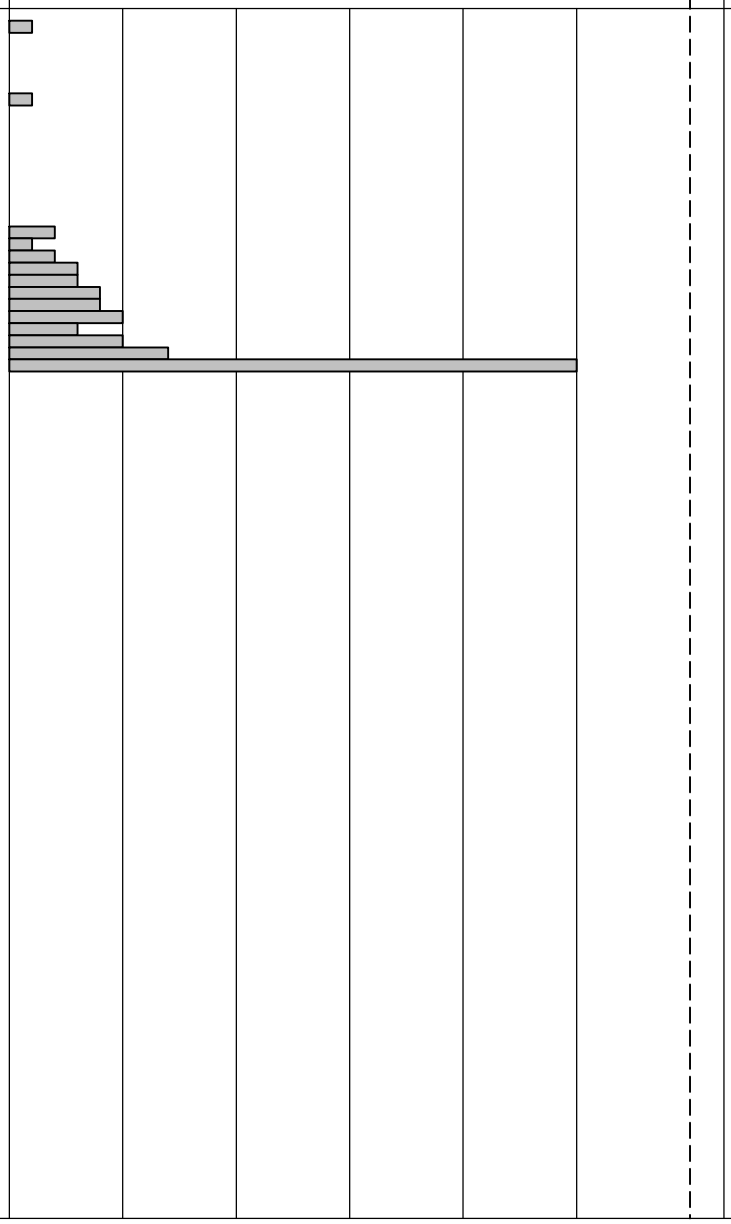
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP197R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 19-04-21<br>19-04-21 | 52.20 | E 209,729.0 N 266,558.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 1 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 2 1 | | | |
| 2 | 2 3 3 4 4 | | | |
| | 5 3 5 7 25 | | | |
| 3 | | | | Refusal. 25 blows for 20mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

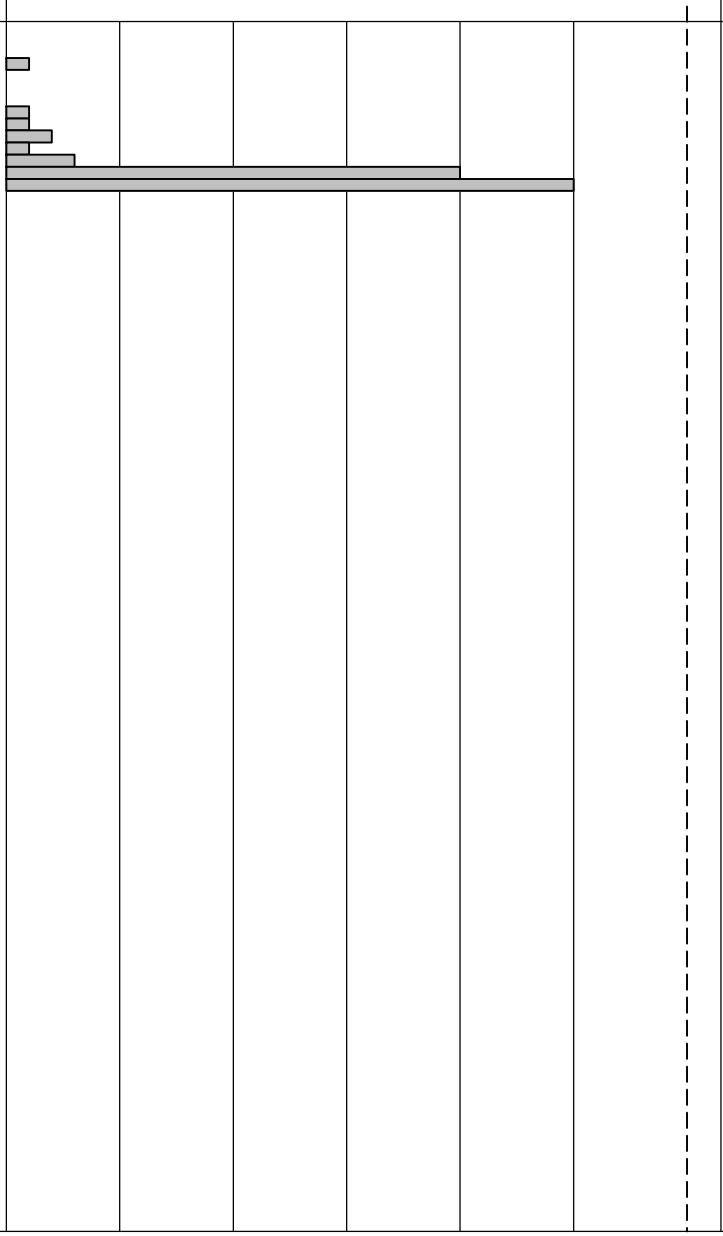
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP198** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 19-04-21<br>19-04-21 | 50.53 | E 209,699.8 N 266,658.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 1 0 | | | |
| | 0 0 1 1 2 | | | |
| 1 | 1 3 20 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

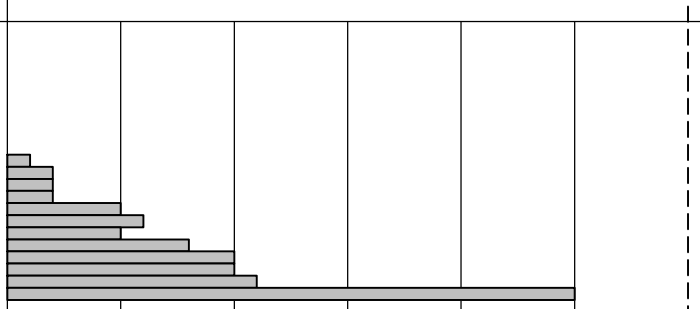
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP199** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 19-04-21<br>19-04-21 | 51.13 | E 209,634.5 N 266,736.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 2 2 2 | | | |
| | 5 6 5 8 10 | | | |
| 2 | 10 11 25 | | | Refusal. 25 blows for 10mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

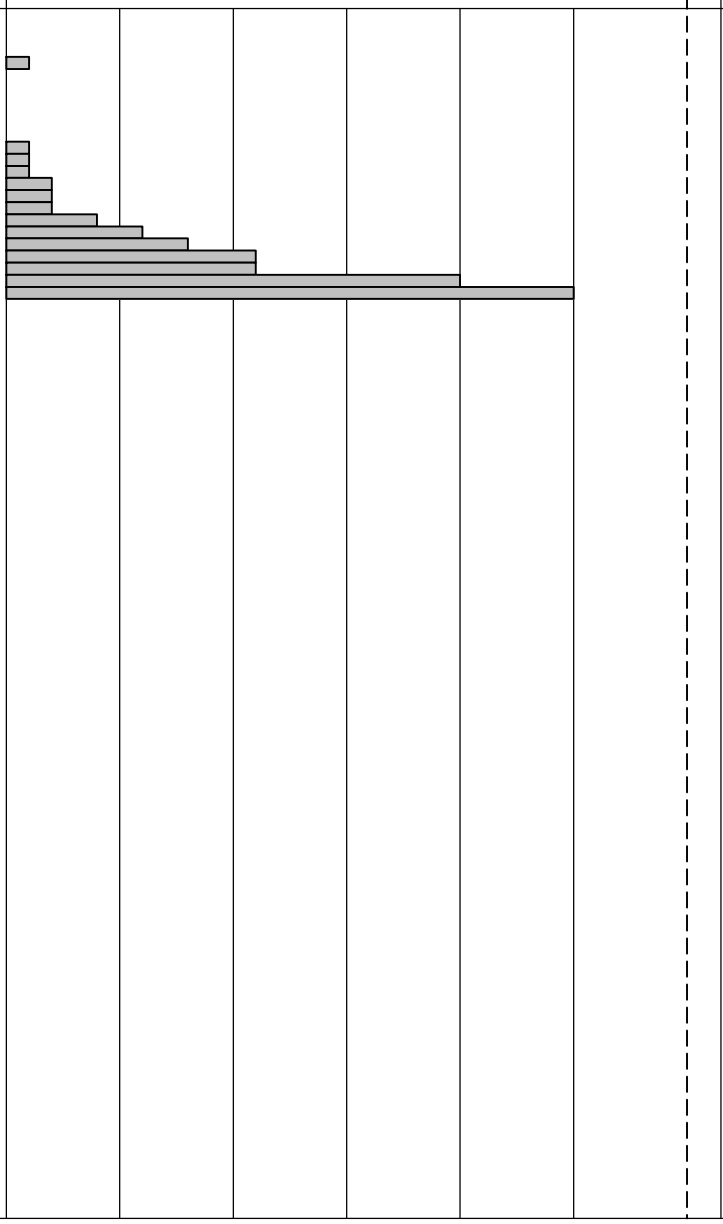
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP200** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 19-04-21<br>19-04-21 | 51.04 | E 209,548.3 N 266,787.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 1 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 1 1 2 | | | |
| | 2 2 4 6 8 | | | |
| 2 | 11 11 20 25 | | | Refusal. 25 blows for 10mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP206** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 43.39 | E 206,279.5 N 264,946.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 2 3 1 1 | | | |
| 3 | 2 1 2 2 3 | | | |
| | 3 3 2 5 3 | | | |
| 4 | 3 3 3 4 6 | | | |
| | 6 8 8 8 9 | | | |
| 5 | 15 25 | | | Refusal. 25 blows for 20mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

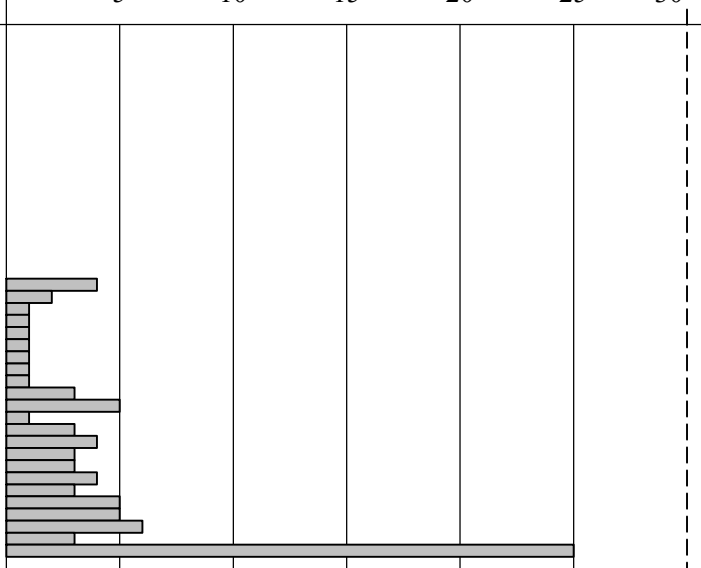
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP207** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-03-21<br>24-03-21 | 42.50 | E 206,265.5 N 265,046.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 0 4 2 1 1<br>1 1 1 1 1 | | | |
| 3 | 3 5 1 3 4<br>3 3 4 3 5 | | | |
| 4 | 5 6 3 25 | | | Refusal. 25 blows for 50mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP209** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-03-21<br>24-03-21 | 43.76 | E 206,203.1 N 265,231.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 1 3 2 2 4 | | | |
| | 2 3 3 3 2 | | | |
| 4 | 5 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP210** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-03-21<br>15-03-21 | 42.11 | E 206,182.6 N 265,333.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 3 2 1 | | | |
| 2 | 1 1 1 1 1<br>1 1 1 1 2 | | | |
| 3 | 1 2 2 2 3<br>2 3 3 3 5<br>25 | | | Refusal. 25 blows for 60mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

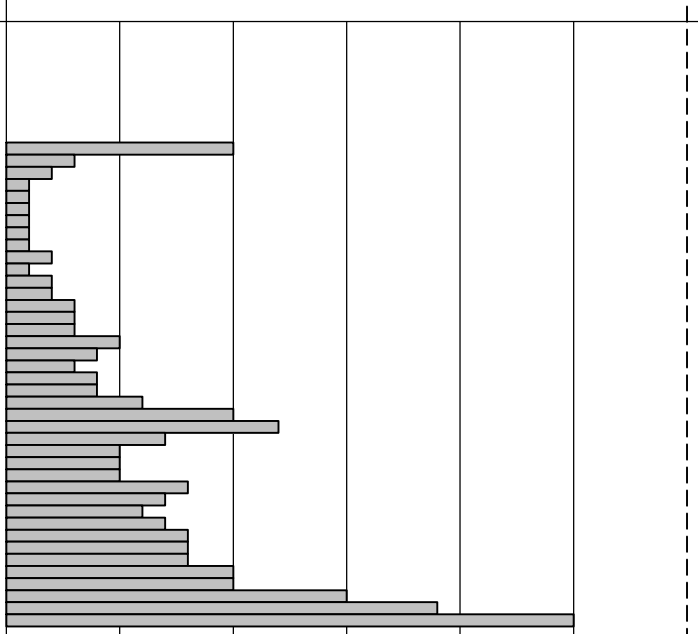
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP211** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-03-21<br>15-03-21 | 41.58 | E 206,159.1 N 265,430.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 10 3 2 1 1 | | | |
| | 1 1 1 1 2 | | | |
| 2 | 1 2 2 3 3 | | | |
| | 3 5 4 3 4 | | | |
| 3 | 4 6 10 12 7 | | | |
| | 5 5 5 8 7 | | | |
| 4 | 6 7 8 8 8 | | | |
| | 10 10 15 19 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

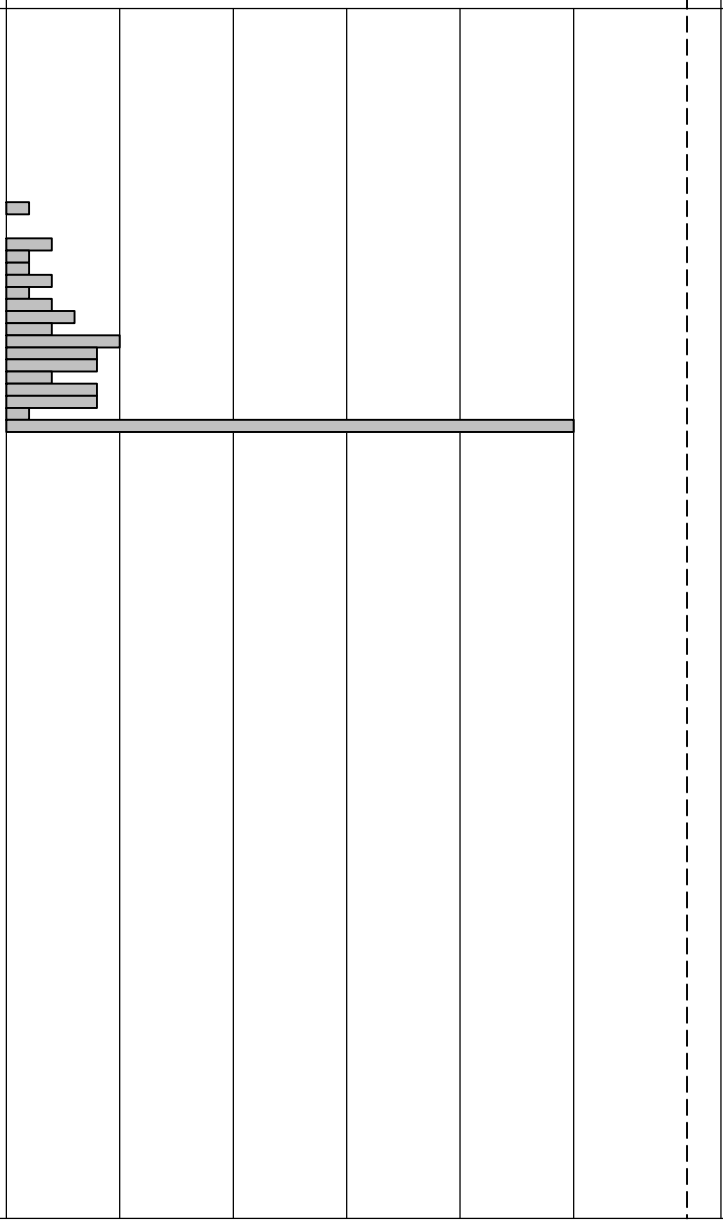
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP212** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-03-21<br>15-03-21 | 41.23 | E 206,140.7 N 265,527.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 0 1 0 0 2<br>1 1 2 1 2<br>3 2 5 4 4 | | | |
| 3 | 2 4 4 1 25 | | | Refusal. 25 blows for 50mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

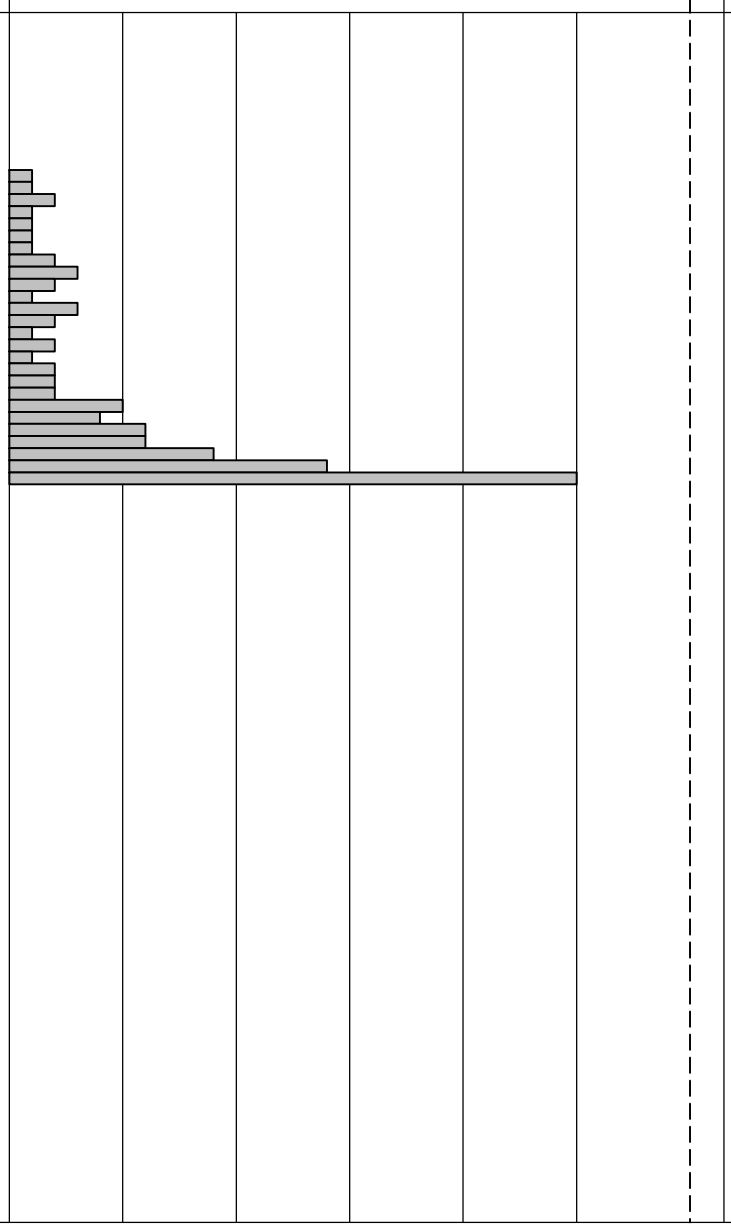
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP213** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-03-21<br>16-03-21 | 41.28 | E 206,126.5 N 265,627.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 1 1 | | | |
| 2 | 2 1 1 1 1<br>2 3 2 1 3 | | | |
| 3 | 2 1 2 1 2<br>2 2 5 4 6 | | | |
| 4 | 6 9 14 25 | | | Refusal. 25 blows for 50mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

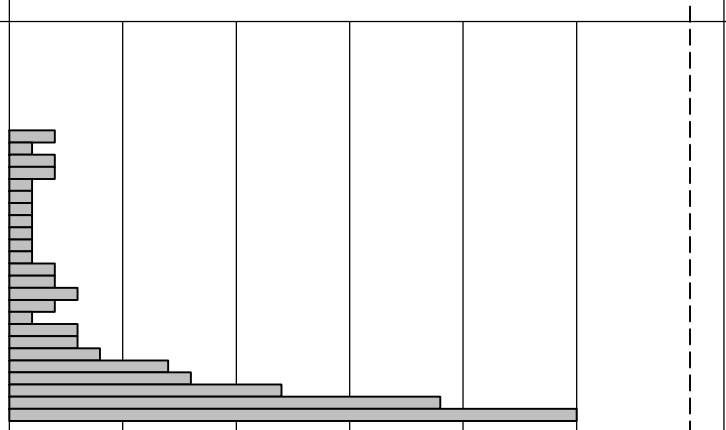
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP214** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-03-21<br>16-03-21 | 41.68 | E 206,104.7 N 265,724.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 2 | | | |
| 1 | 1 2 2 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 2 | 2 2 3 2 1 | | | |
| | 3 3 4 7 8 | | | |
| 3 | 12 19 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

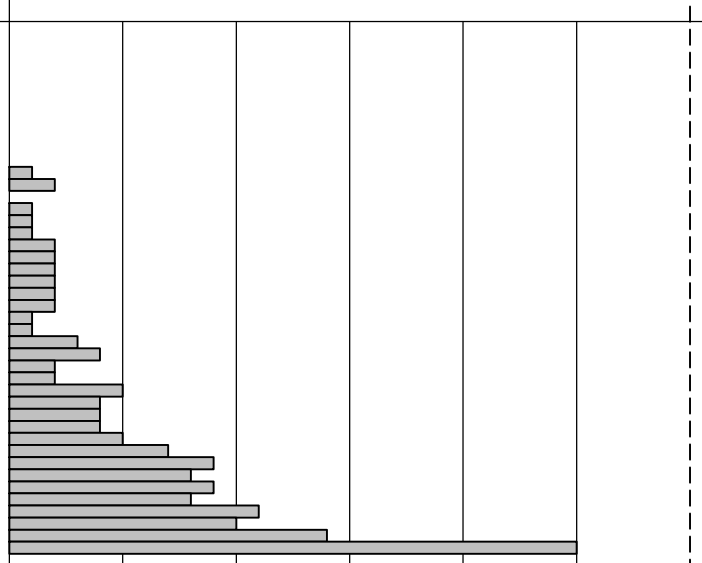
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP215** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-03-21<br>16-03-21 | 41.36 | E 206,086.5 N 265,824.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 1 2 0 | | | |
| 2 | 1 1 1 2 2<br>2 2 2 2 1<br>1 3 4 2 2 | | | |
| 3 | 5 4 4 4 5<br>7 9 8 9 8<br>11 10 14 25 | | | Refusal. 25 blows for 10mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP216** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-03-21<br>16-03-21 | 41.18 | E 206,063.3 N 265,921.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 1 1 0 0 0<br>1 1 1 3 2 | | | |
| 3 | 3 2 2 1 2<br>1 5 3 1 1 | | | |
| 4 | 6 4 3 3 3<br>5 8 5 5 12<br>25 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP217** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-03-21<br>16-03-21 | 40.91 | E 206,045.6 N 266,019.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 1 | | | |
| 2 | 0 0 1 0 0<br>1 1 1 3 3<br>1 1 1 2 3 | | | |
| 3 | 4 5 5 5 4<br>5 8 17 25 | | | |
| 4 | | | | Refusal. 25 blows for 50mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP218** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-03-21<br>12-03-21 | 40.45 | E 206,021.5 N 266,116.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 1 2 1 2 1 | | | |
| | 3 4 3 3 3 | | | |
| 4 | 4 9 9 4 2 | | | |
| | 2 2 25 | | | Refusal. 25 blows for 80mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP218R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-03-21<br>17-03-21 | 43.06 | E 206,318.6 N 266,148.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 2 1 1 1 | | | |
| 2 | 2 1 1 6 3 | | | |
| | 2 2 2 3 2 | | | |
| 3 | 3 4 4 8 5 | | | |
| | 7 8 10 12 10 | | | |
| 4 | 10 25 | | | Refusal. 25 blows for 70mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP219** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-03-21<br>12-03-21 | 41.00 | E 205,923.4 N 266,139.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 1 1 0 0 1 | | | |
| 3 | 1 0 0 0 1 | | | |
| | 0 0 1 2 18 | | | |
| 4 | 8 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP220** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-03-21<br>15-03-21 | 42.79 | E 205,826.9 N 266,137.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 1 0 1 | | | |
| 2 | 1 2 2 2 3 | | | |
| | 3 4 3 11 4 | | | |
| 3 | 4 5 7 6 5 | | | |
| | 4 5 5 5 5 | | | |
| 4 | 7 8 9 10 12 | | | |
| | 16 19 25 | | | |
| 5 | | | | Refusal. 25 blows for 30mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 4.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

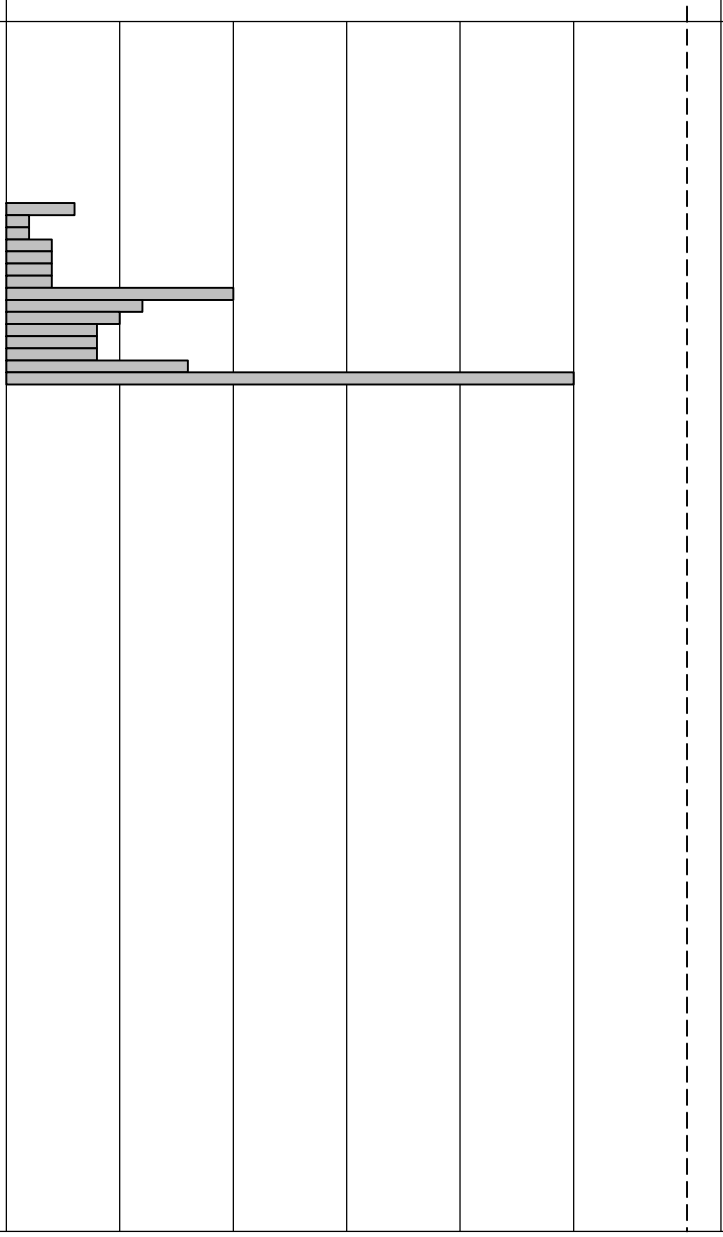
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP221** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-03-21<br>15-03-21 | 42.86 | E 205,772.5 N 266,142.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 3 1 1 2 2 | | | |
| 2 | 2 2 10 6 5 | | | |
| | 4 4 4 8 25 | | | |
| 3 | | | | Refusal. 25 blows for 50mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP222** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-03-21<br>16-03-21 | 40.83 | E 206,117.7 N 266,143.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 1 0 0 | | | |
| | 0 0 0 0 1 | | | |
| 3 | 1 1 3 6 15 | | | |
| | 8 8 7 25 | | | |
| 4 | | | | Refusal. 25 blows for 10mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP223** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-03-21<br>17-03-21 | 40.90 | E 206,219.9 N 266,147.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 4 4 | | | |
| | 2 1 1 2 6 | | | |
| 2 | 5 7 8 10 25 | | | Refusal. 25 blows for 50mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 2.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP224** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-03-21<br>17-03-21 | 41.28 | E 206,261.3 N 266,056.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 25 | | | |
| 1 | | | | Refusal. 25 blows for 50mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 0.90m bgl. Moved and set up at DP TP224A.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

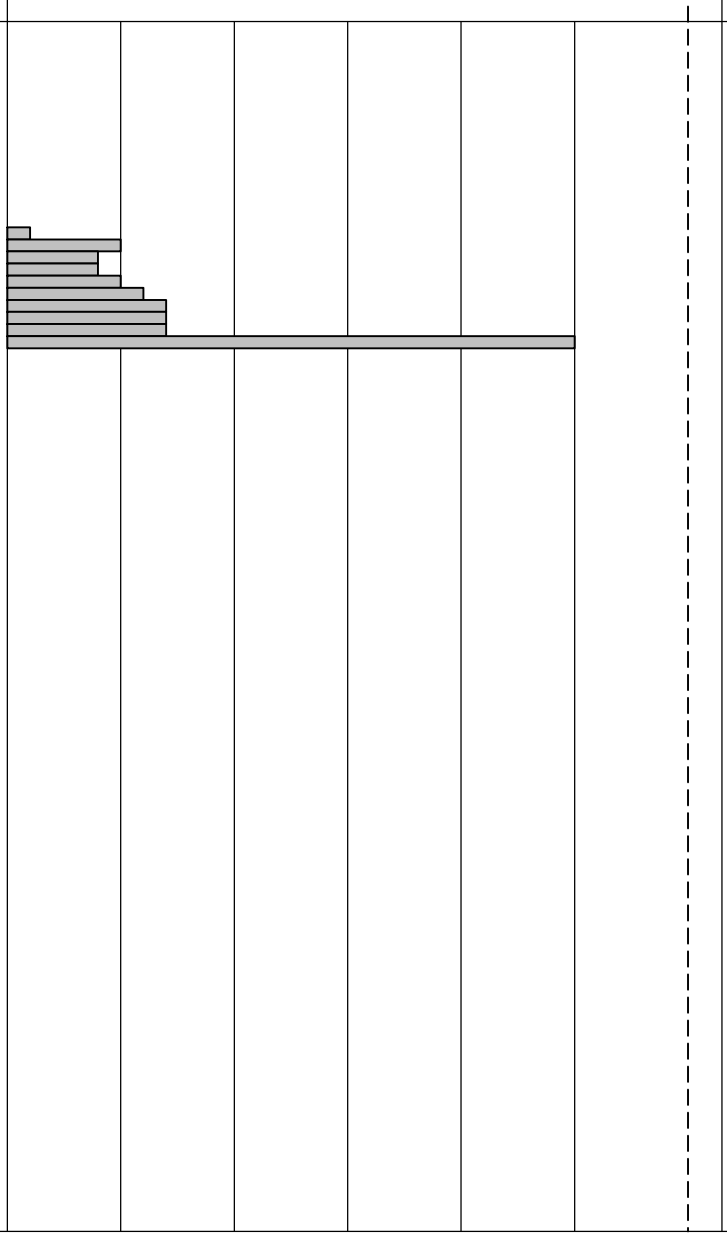
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP224A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-03-21<br>17-03-21 | 41.28 | E 206,261.0 N 266,056.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 1 5 4 | | | |
| 2 | 4 5 6 7 7 | | | |
| | 7 25 | | | Refusal. 25 blows for 10mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP225** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-03-21<br>17-03-21 | 44.11 | E 206,421.1 N 266,155.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0<br>2 2 3 5 1 | | | |
| 3 | 6 4 4 7 6<br>25 | | | Refusal. 25 blows for 50mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

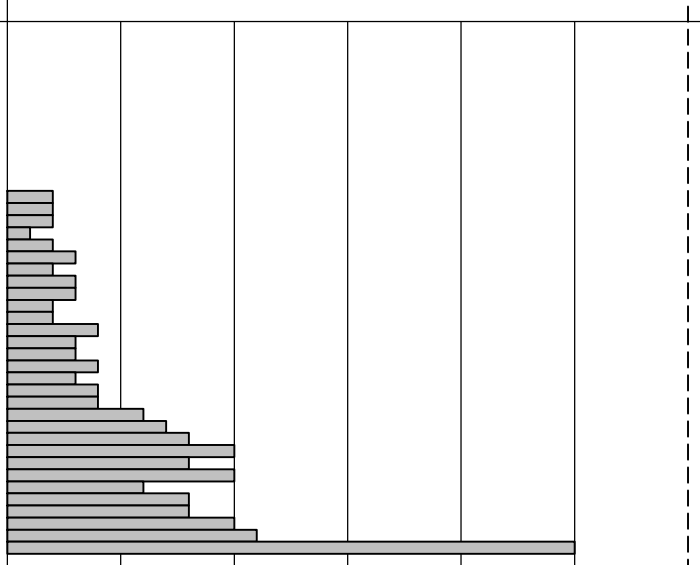
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP226** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-03-21<br>17-03-21 | 45.48 | E 206,521.2 N 266,153.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 2 | | | |
| 2 | 2 2 1 2 3<br>2 3 3 2 2 | | | |
| 3 | 4 3 3 4 3<br>4 4 6 7 8 | | | |
| 4 | 10 8 10 6 8<br>8 10 11 25 | | | Refusal. 25 blows for 20mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP227** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-03-21<br>18-03-21 | 48.03 | E 206,615.1 N 266,151.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 5 2 | | | |
| 2 | 1 3 4 3 1<br>2 6 1 2 4 | | | |
| 3 | 2 1 25 | | | Refusal. 25 blows for 20mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

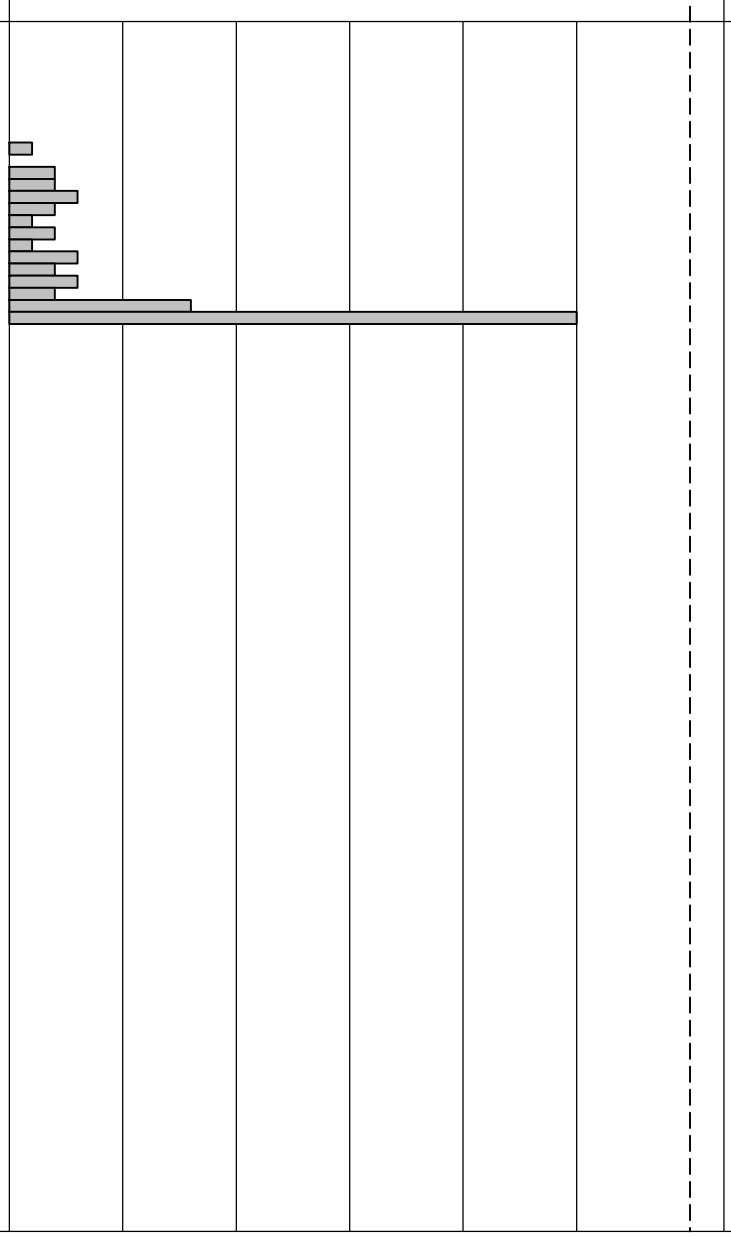
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP229** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-03-21<br>18-03-21 | 48.93 | E 206,806.0 N 266,161.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 1 0 2 2 3 | | | |
| | 2 1 2 1 3 | | | |
| 2 | 2 3 2 8 25 | | | Refusal. 25 blows for 20mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

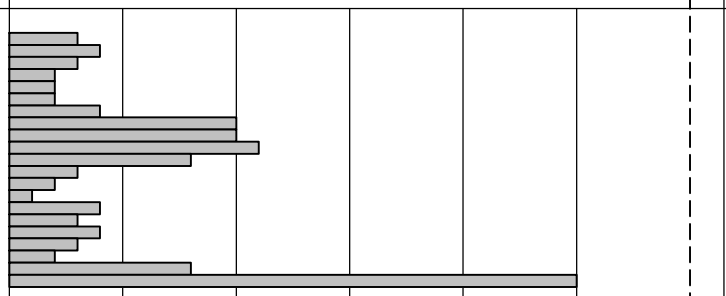
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP231** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 44.50 | E 207,021.1 N 266,187.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 3 4 3<br>2 2 2 4 10<br>10 11 8 3 2<br>1 4 3 4 3<br>2 8 25 | 5 10 15 20 25 30 | | Refusal. 25 blows for 80mm. |



| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP233** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 43.60 | E 206,995.5 N 266,374.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 1 7 5 | | | |
| 2 | 4 1 1 1 1<br>1 1 1 1 25 | | | |
| 3 | | | | Refusal. 25 blows for 90mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

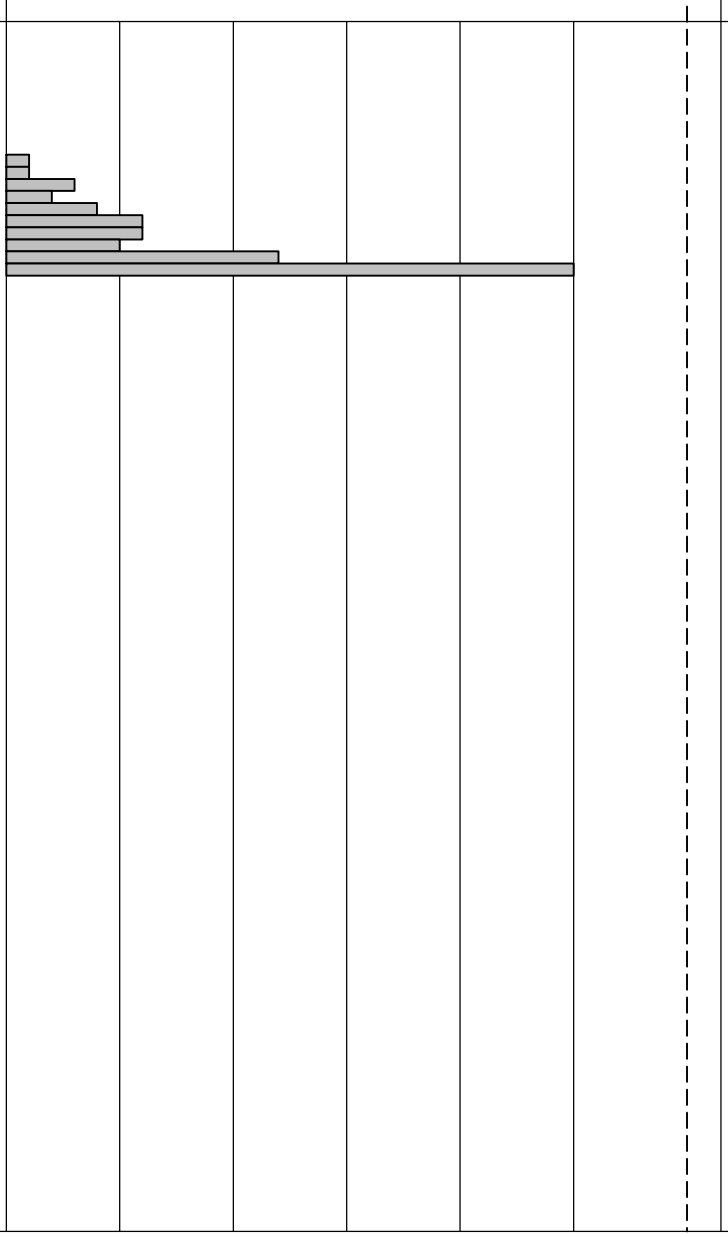
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP234** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 43.49 | E 206,954.1 N 266,464.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 1 3 2 | | | |
| | 4 6 6 5 12 | | | |
| 2 | 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP235** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 43.25 | E 206,911.0 N 266,557.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>1 0 0 0 0<br>0 0 0 2 2 | | | |
| 2 | 1 3 2 3 2<br>3 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP236** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 43.95 | E 206,866.5 N 266,647.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 0 0 2 1 2<br>1 1 4 2 5 | | | |
| 3 | 3 2 3 3 4<br>5 10 8 25 | | | Refusal. 25 blows for 90mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP237** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 44.12 | E 206,825.6 N 266,738.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 3 1 3 3 4 | | | |
| | 6 4 4 5 25 | | | Refusal. 25 blows for 50mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 3.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

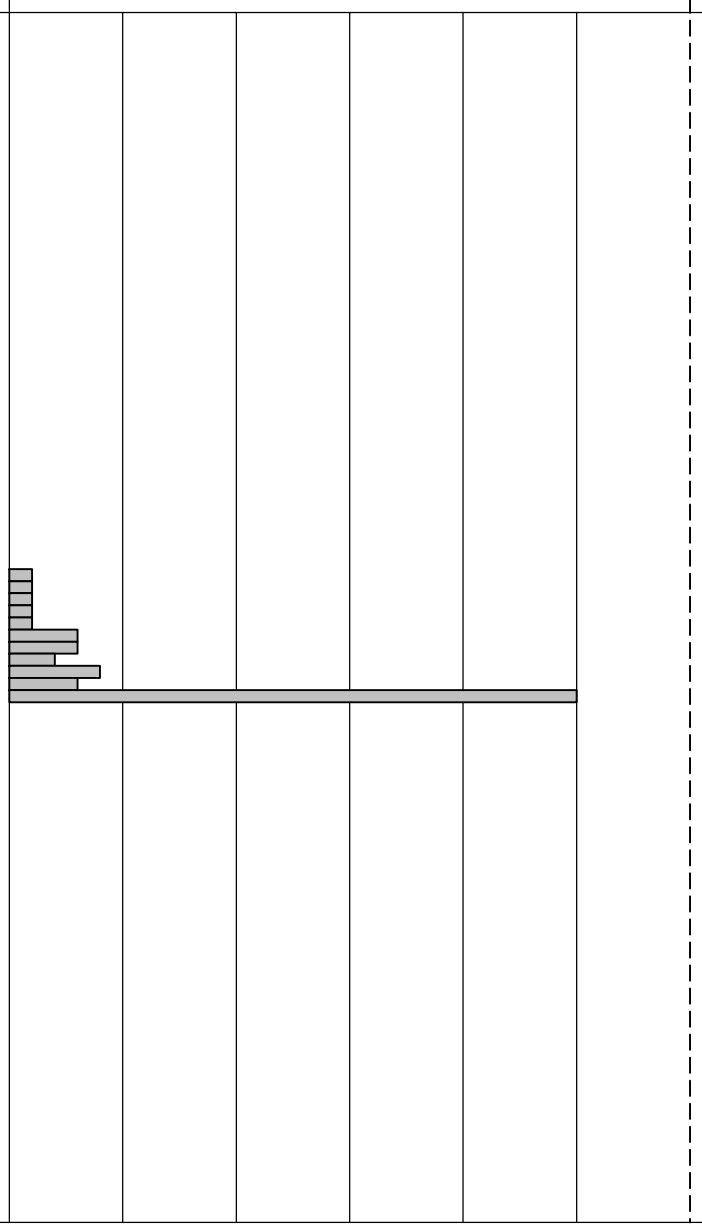
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP238** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-03-21<br>23-03-21 | 43.63 | E 206,890.0 N 266,815.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 4 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 5 | 0 1 1 1 1 | | | |
| | 1 3 3 2 4 | | | |
| | 3 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

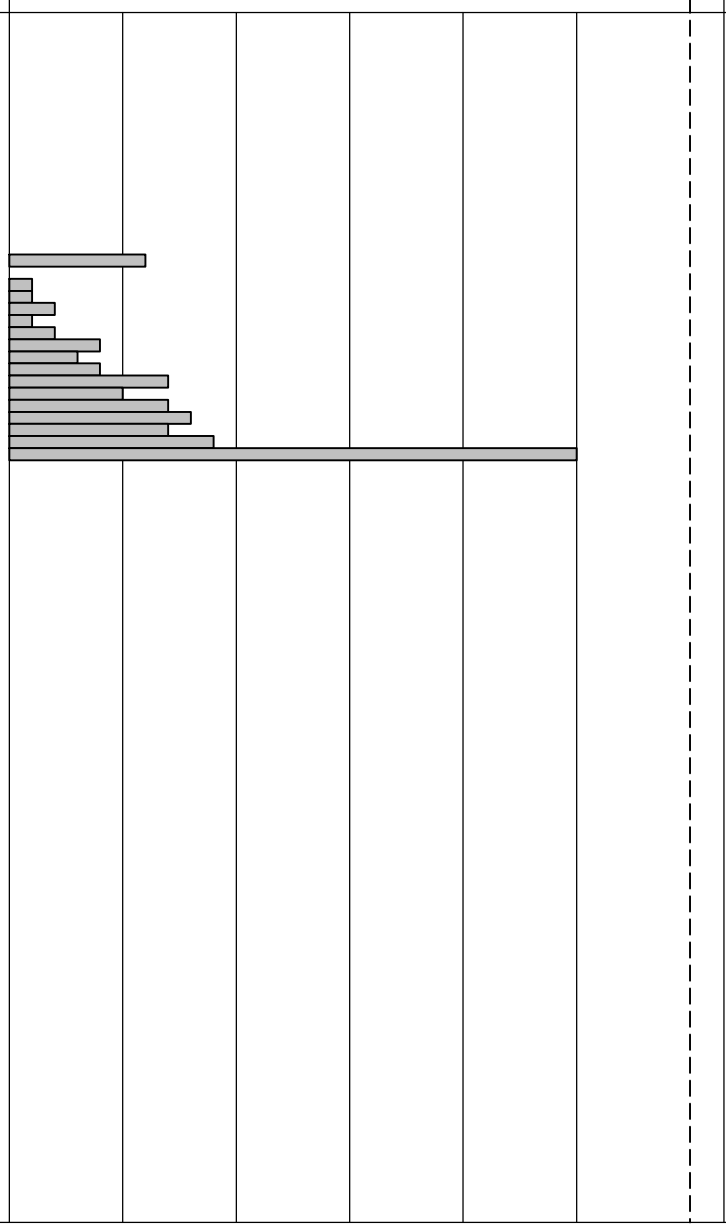
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP239** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-03-21<br>23-03-21 | 43.80 | E 206,782.4 N 266,828.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 6 0 1 1 2<br>1 2 4 3 4 | | | |
| 3 | 7 5 7 8 7<br>9 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

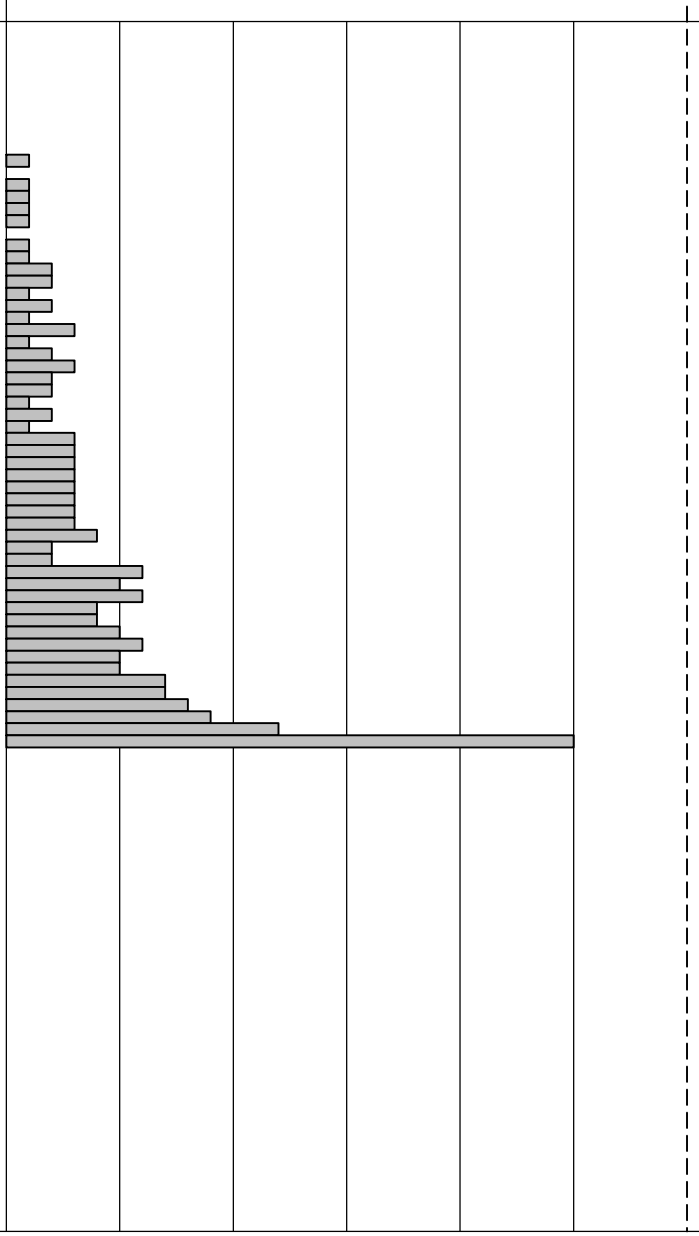
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP240** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-03-21<br>23-03-21 | 44.30 | E 206,748.0 N 266,911.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 1 0 1 1<br>1 1 0 1 1 | | | |
| 2 | 2 2 1 2 1<br>3 1 2 3 2 | | | |
| 3 | 2 1 2 1 3<br>3 3 3 3 3 | | | |
| 4 | 3 3 4 2 2<br>6 5 6 4 4 | | | |
| 5 | 5 6 5 5 7<br>7 8 9 12 25 | | | |
| 6 | | | | Refusal. 25 blows for 80mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

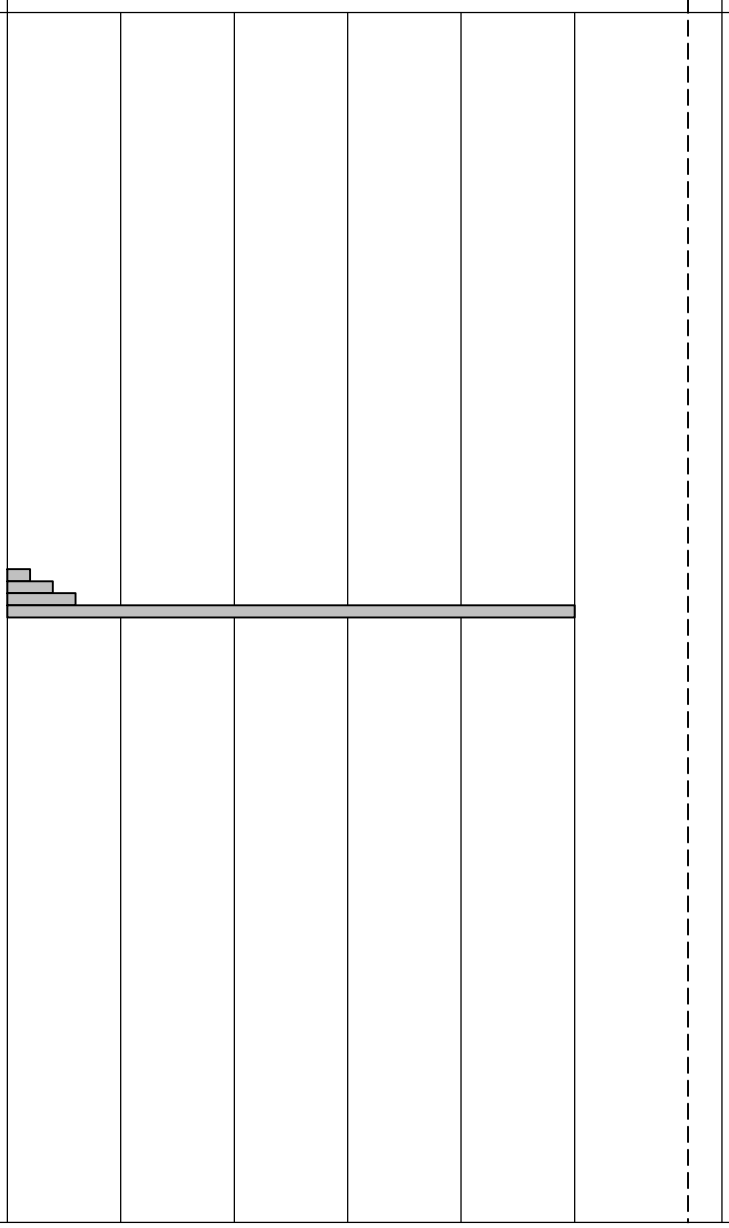
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP241** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-03-21<br>12-03-21 | 40.30 | E 205,999.6 N 266,215.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| 3 | 0 0 0 0 0 | | | |
| 4 | 0 0 0 0 0 | | | |
| 5 | 0 1 2 3 25 | | | Refusal. 25 blows for 50mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

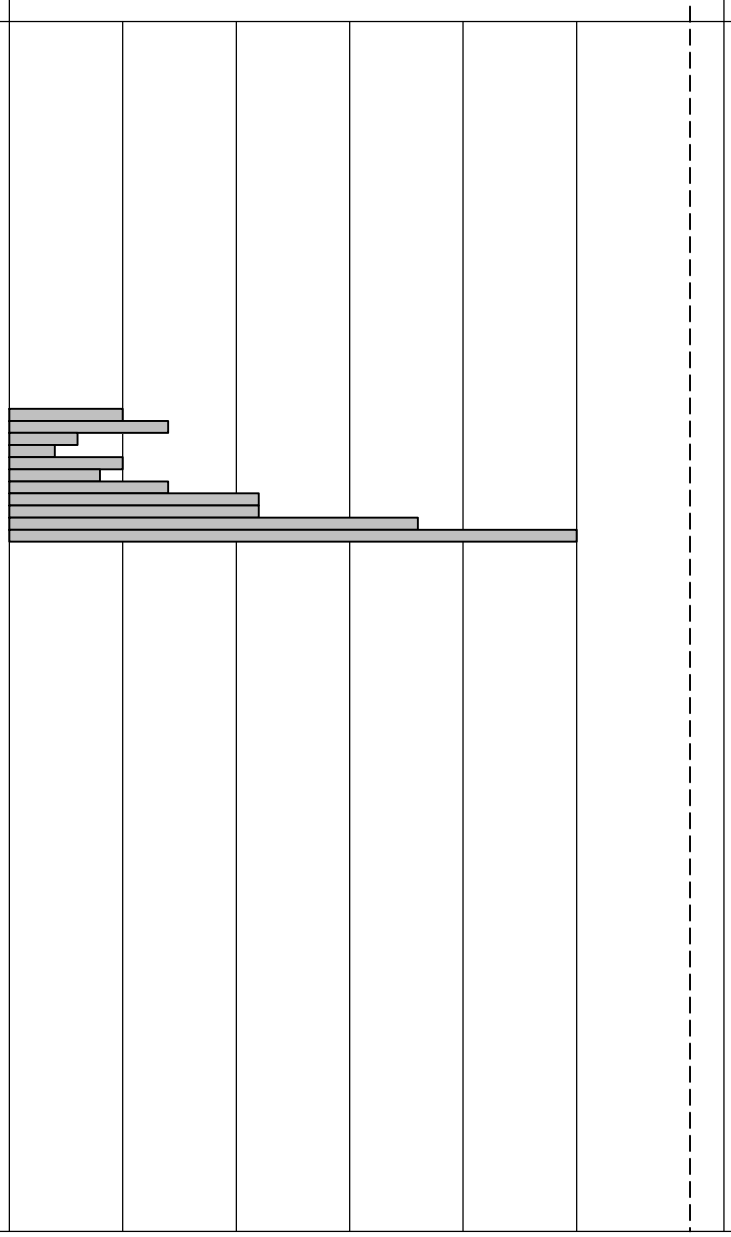
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP242** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-03-21<br>12-03-21 | 39.98 | E 205,982.3 N 266,313.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 0 5 7 3 | | | |
| | 2 5 4 7 11 | | | |
| 4 | 11 18 25 | | | Refusal. 25 blows for 10mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP243** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-03-21<br>12-03-21 | 39.93 | E 205,966.9 N 266,411.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 0 0 0 0 | | | |
| | 1 2 2 2 1 | | | |
| 4 | 2 2 2 3 2 | | | |
| | 2 3 4 3 3 | | | |
| 5 | 4 7 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP245** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-03-21<br>11-03-21 | 39.84 | E 205,928.5 N 266,607.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 1 | | | |
| | 1 0 0 1 0 | | | |
| 2 | 1 1 1 2 2 | | | |
| | 2 6 6 8 25 | | | |
| 3 | | | | Refusal. 25 blows for 60mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

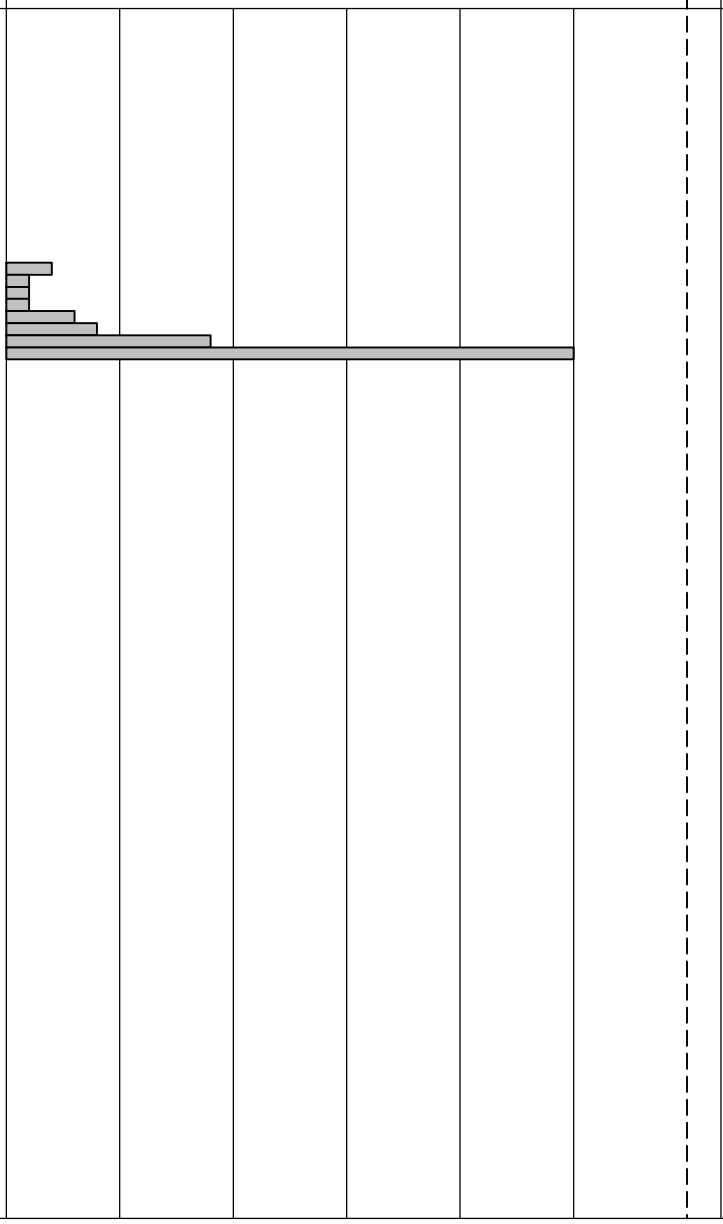
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP246** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-03-21<br>11-03-21 | 39.95 | E 205,899.1 N 266,707.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 2 1 1 1 | | | |
| | 3 4 9 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP247** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-03-21<br>11-03-21 | 40.00 | E 205,855.0 N 266,794.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 1 1 | | | |
| 2 | 1 2 3 3 5<br>9 4 6 6 4 | | | |
| 3 | 5 5 6 5 4<br>3 4 4 6 3 | | | |
| 4 | 3 4 4 25 | | | Refusal. 25 blows for 20mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 4.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP248** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-03-21<br>11-03-21 | 40.40 | E 205,818.6 N 266,888.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 12 13 2 1 1 | | | |
| 3 | 1 1 2 1 2 | | | |
| | 3 3 3 3 2 | | | |
| 4 | 25 | | | Refusal. 25 blows for 50mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 4.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP249R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-03-21<br>10-03-21 | 43.15 | E 205,781.0 N 266,979.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 4 | 0 0 0 0 0 | | | |
| | 0 2 3 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP250** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-03-21<br>10-03-21 | 40.83 | E 205,759.4 N 267,078.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP251** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-03-21<br>10-03-21 | 41.18 | E 205,738.4 N 267,174.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 1 2 0 | | | |
| 2 | 1 1 2 1 2 | | | |
| | 1 2 2 3 25 | | | |
| 3 | | | | Refusal. 25 blows for 50mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP252** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-03-21<br>10-03-21 | 41.29 | E 205,718.8 N 267,274.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 2 3 3 | | | |
| 2 | 1 1 1 1 2<br>1 2 2 1 2<br>2 3 2 3 3 | | | |
| 3 | 2 3 3 5 8<br>3 3 3 3 4<br>3 3 4 3 3 | | | |
| 4 | 4 4 6 5 7<br>6 7 8 8 8<br>25 | | | Refusal. 25 blows for 60mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP253** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-03-21<br>10-03-21 | 41.71 | E 205,695.9 N 267,368.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 1 2 5 25 | | | Refusal. 25 blows for 20mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP254** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-03-21<br>10-03-21 | 42.05 | E 205,676.0 N 267,470.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 3 | | | |
| 1 | 2 3 1 1 2 | | | |
| | 1 1 1 2 2 | | | |
| 2 | 2 1 3 4 1 | | | |
| | 3 2 2 2 3 | | | |
| 3 | 2 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP255** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-03-21<br>10-03-21 | 41.78 | E 205,659.2 N 267,567.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 1 1 1 1<br>1 1 1 1 1<br>1 1 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

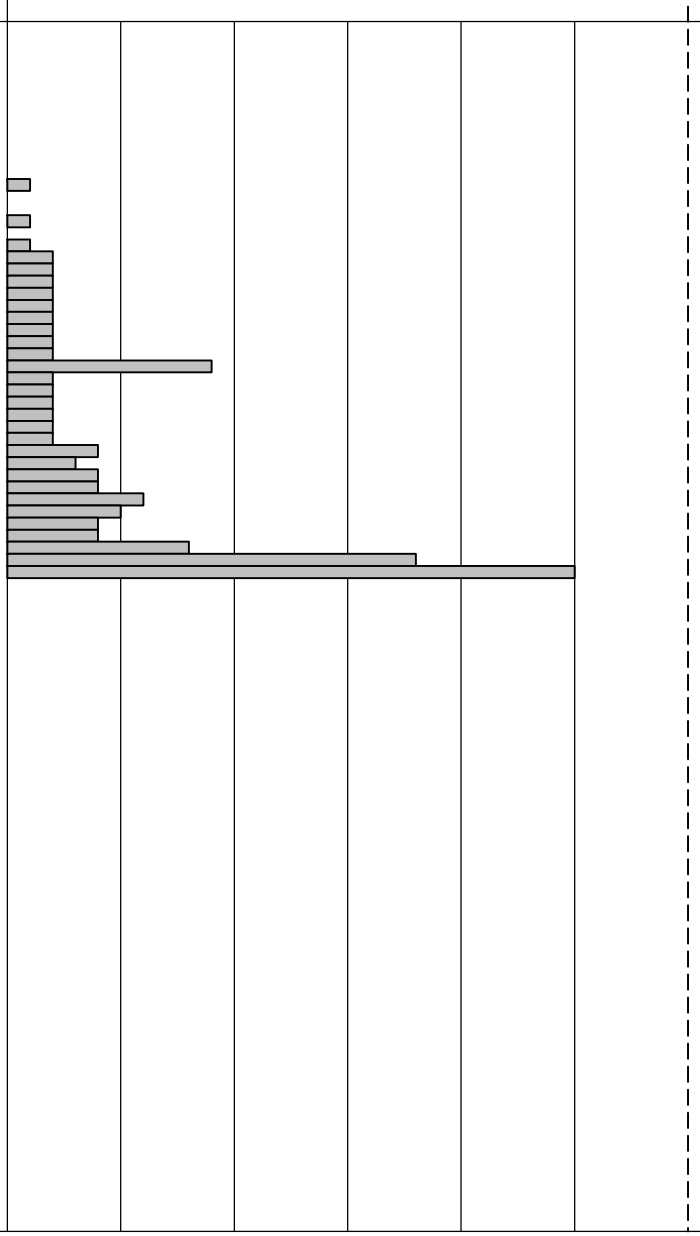
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP256** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-03-21<br>09-03-21 | 41.24 | E 205,663.0 N 267,658.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 1 0 | | | |
| | 0 1 0 1 2 | | | |
| 2 | 2 2 2 2 2 | | | |
| | 2 2 2 9 2 | | | |
| 3 | 2 2 2 2 2 | | | |
| | 4 3 4 4 6 | | | |
| 4 | 5 4 4 8 18 | | | |
| | 25 | | | Refusal. 25 blows for 50mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

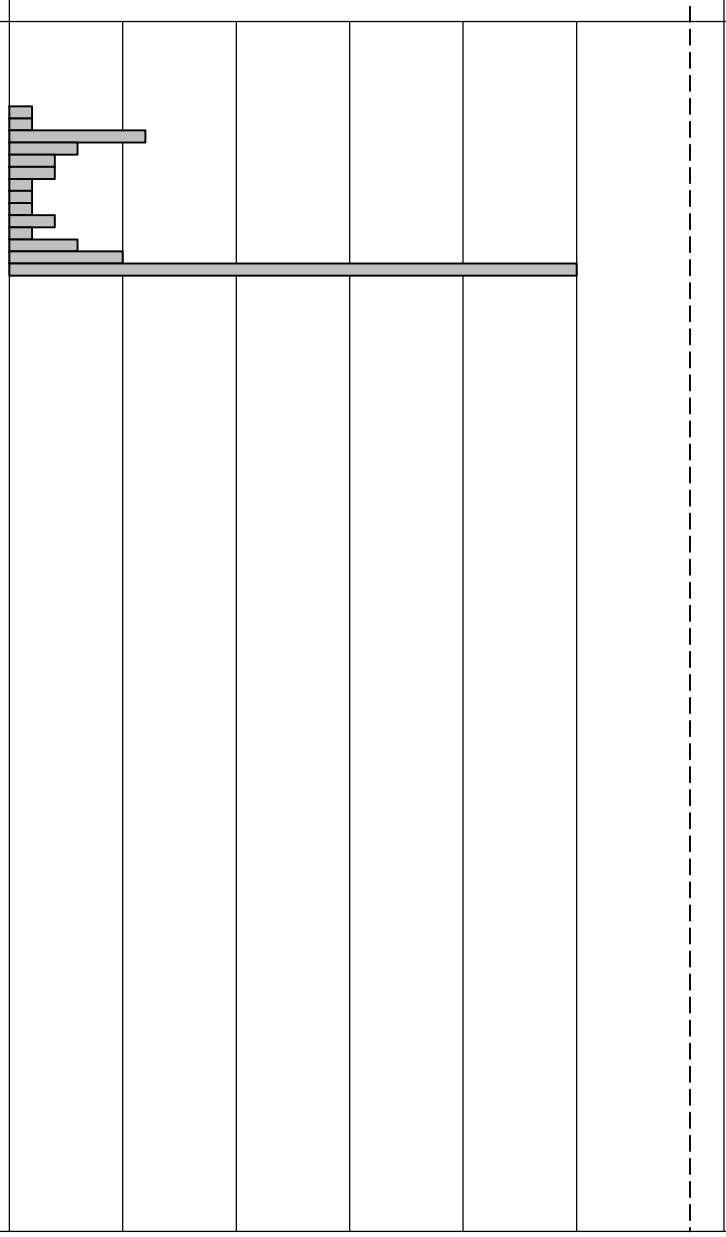
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP258** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-03-21<br>09-03-21 | 41.43 | E 205,686.0 N 267,861.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 1 1 6 | | | |
| 1 | 3 2 2 1 1 | | | |
| | 1 2 1 3 5 | | | |
| 2 | 25 | | | Refusal. 25 blows for 90mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP265** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-03-21<br>09-03-21 | 43.62 | E 205,954.3 N 268,334.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 1 18 22 25 | | | Refusal. 25 blows for 0mm. |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 0.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

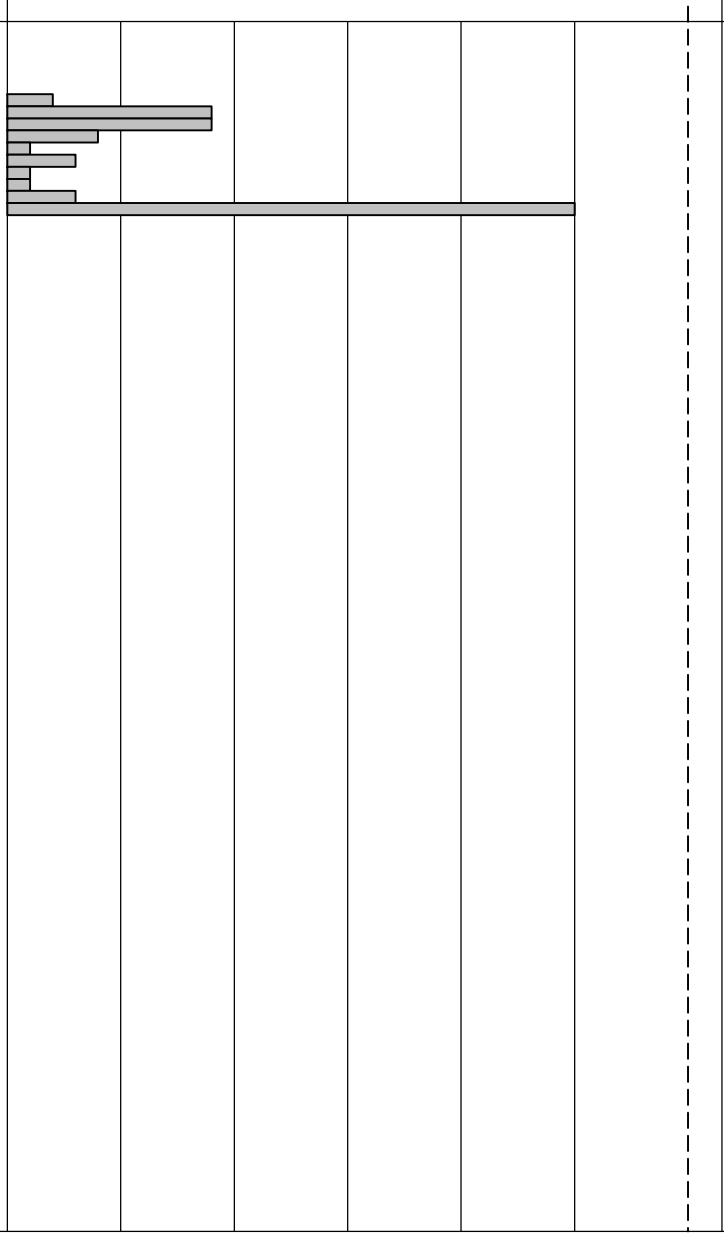
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP266** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-03-21<br>08-03-21 | 43.74 | E 206,043.6 N 268,305.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 2 9 9 4 | | | |
| 1 | 1 3 1 1 3 | | | |
| | 25 | | | Refusal. 25 blows for 50mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

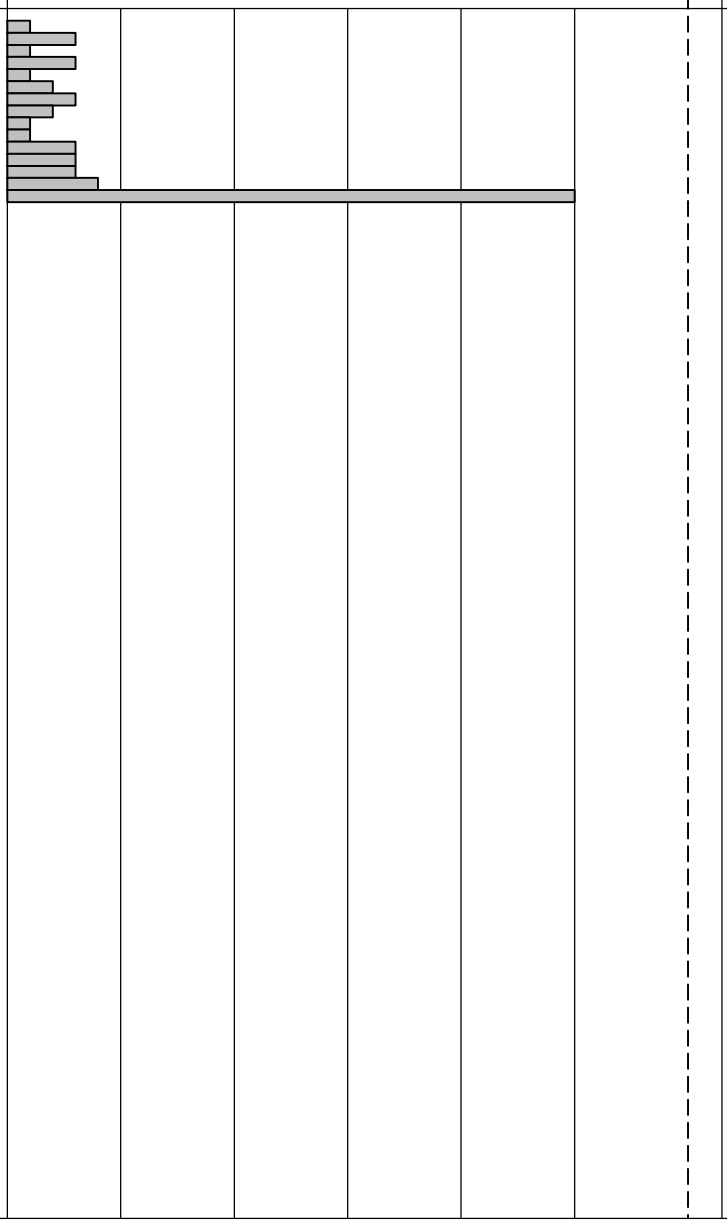
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP267** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-03-21<br>09-03-21 | 42.53 | E 206,144.5 N 268,277.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 3 1 3 | | | |
| | 1 2 3 2 1 | | | |
| 1 | 1 3 3 3 4 | | | |
| | 25 | | | Refusal. 25 blows for 30mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP268** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-03-21<br>09-03-21 | 42.48 | E 206,232.0 N 268,346.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 1 0 0<br>25 | | | Refusal. 25 blows for 0mm. |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 0.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

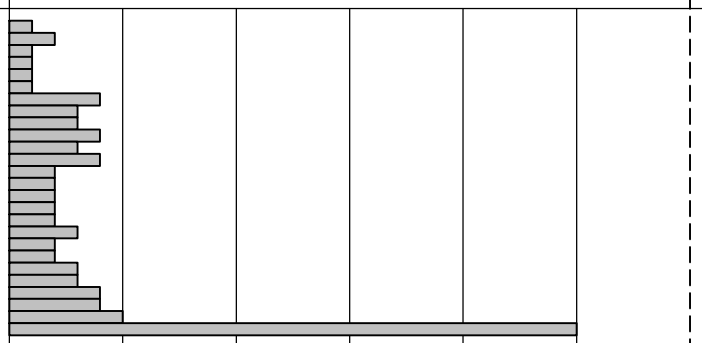
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP269** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-03-21<br>09-03-21 | 43.28 | E 206,236.9 N 268,247.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 2 1 1 | | | |
| | 1 1 4 3 3 | | | |
| 1 | 4 3 4 2 2 | | | |
| | 2 2 2 3 2 | | | |
| 2 | 2 3 3 4 4 | | | |
| | 5 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP270** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-03-21<br>09-03-21 | 43.54 | E 206,335.7 N 268,217.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 1 2 3 6 4<br>4 4 3 5 7 | | | |
| 3 | 5 9 25 | | | Refusal. 25 blows for 60mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP275** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-03-21<br>08-03-21 | 45.30 | E 205,506.7 N 268,683.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 1 1 1 2 | | | |
| 1 | 2 3 5 4 3 | | | |
| | 4 9 6 5 4 | | | |
| 2 | 4 6 9 5 8 | | | |
| | 8 9 25 | | | |
| 3 | | | | Refusal. 25 blows for 60mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

GENERAL REMARKS

DP terminated at 2.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP276** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 05-03-21<br>05-03-21 | 42.08 | E 205,429.7 N 268,733.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 3 9 18 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP277** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 05-03-21<br>05-03-21 | 39.69 | E 205,359.3 N 268,804.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 1 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 1 | | | |
| 3 | 1 1 1 1 1 | | | |
| | 1 12 18 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 3.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP278** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 05-03-21<br>05-03-21 | 39.40 | E 205,288.8 N 268,875.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 0 0 1 3 | | | |
| | 3 12 17 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP279R** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 05-03-21<br>05-03-21 | 43.30 | E 205,219.4 N 268,944.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 0 0 0 0 | | | |
| | 1 1 1 1 1 | | | |
| 5 | 1 2 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 6 | 1 1 2 9 21 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | GENERAL REMARKS |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | DP terminated at 6.50m bgl. |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP280** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 05-03-21<br>05-03-21 | 44.27 | E 205,142.5 N 269,017.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 0 0 0 0 | | | |
| | 1 1 1 1 1 | | | |
| 5 | 1 2 3 3 3 | | | |
| | 3 3 4 14 18 | | | |
| 6 | 20 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 6.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP281** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-02-21<br>17-02-21 | 45.05 | E 205,086.0 N 269,097.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 1 1 11 18 | | | |
| 1 | 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.00m bgl. Moved and set up at DPTP 281A.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP281A** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-02-21<br>17-02-21 | 45.10 | E 205,086.5 N 269,097.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 1 1 1 1 | | | |
| | 1 1 1 2 2 | | | |
| 4 | 2 4 6 7 7 | | | |
| | 10 9 10 10 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

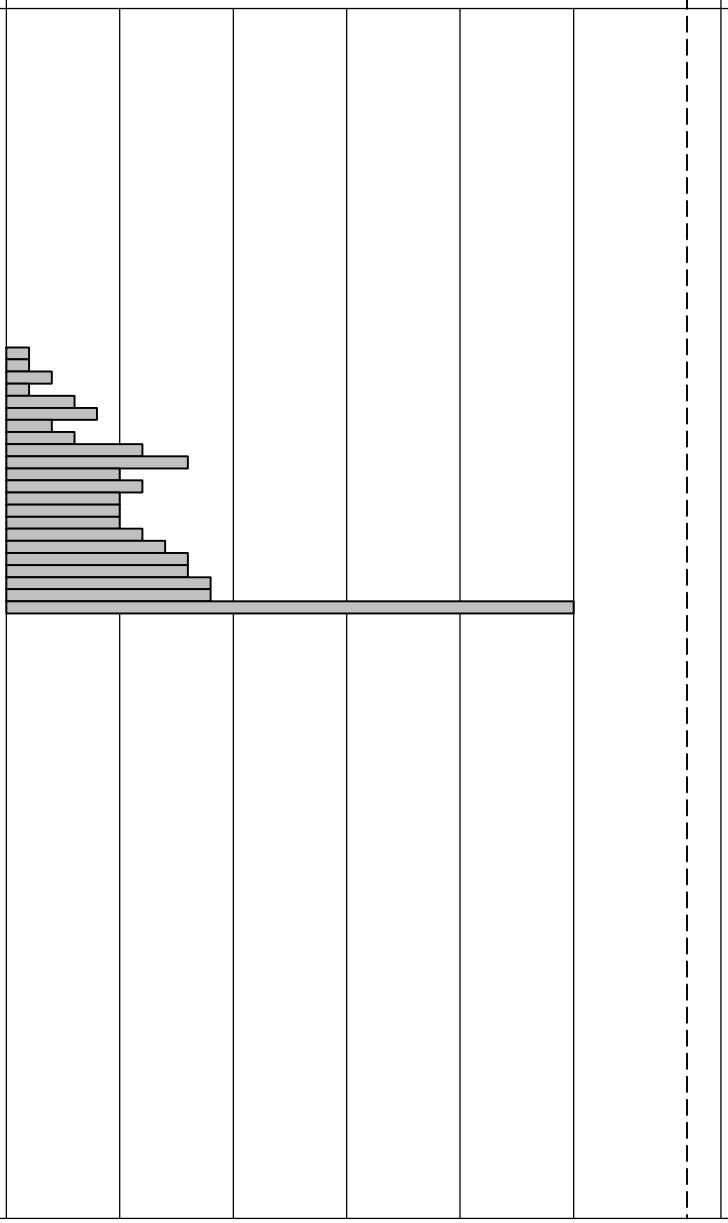
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP282** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-02-21<br>17-02-21 | 41.60 | E 205,006.1 N 269,162.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 2 1 3 4 2 | | | |
| | 3 6 8 5 6 | | | |
| 4 | 5 5 5 6 7 | | | |
| | 8 8 9 9 25 | | | Refusal. 25 blows for 50mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP283** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-02-21<br>17-02-21 | 40.72 | E 204,944.8 N 269,239.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 1 1 1 1 | | | |
| 2 | 1 2 1 2 2 | | | |
| | 2 3 4 13 25 | | | |
| 3 | | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: PMcG | Logged By: PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

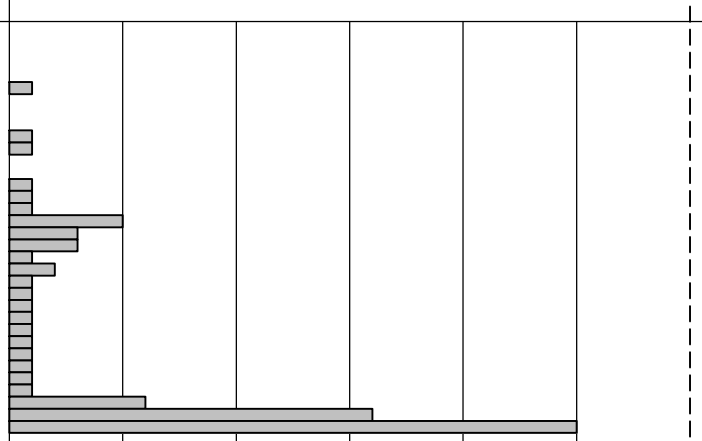
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP284** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-02-21<br>17-02-21 | 38.99 | E 204,899.3 N 269,325.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 1 | | | |
| 1 | 1 0 0 1 1 | | | |
| | 1 5 3 3 1 | | | |
| 2 | 2 1 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 3 | 1 6 16 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

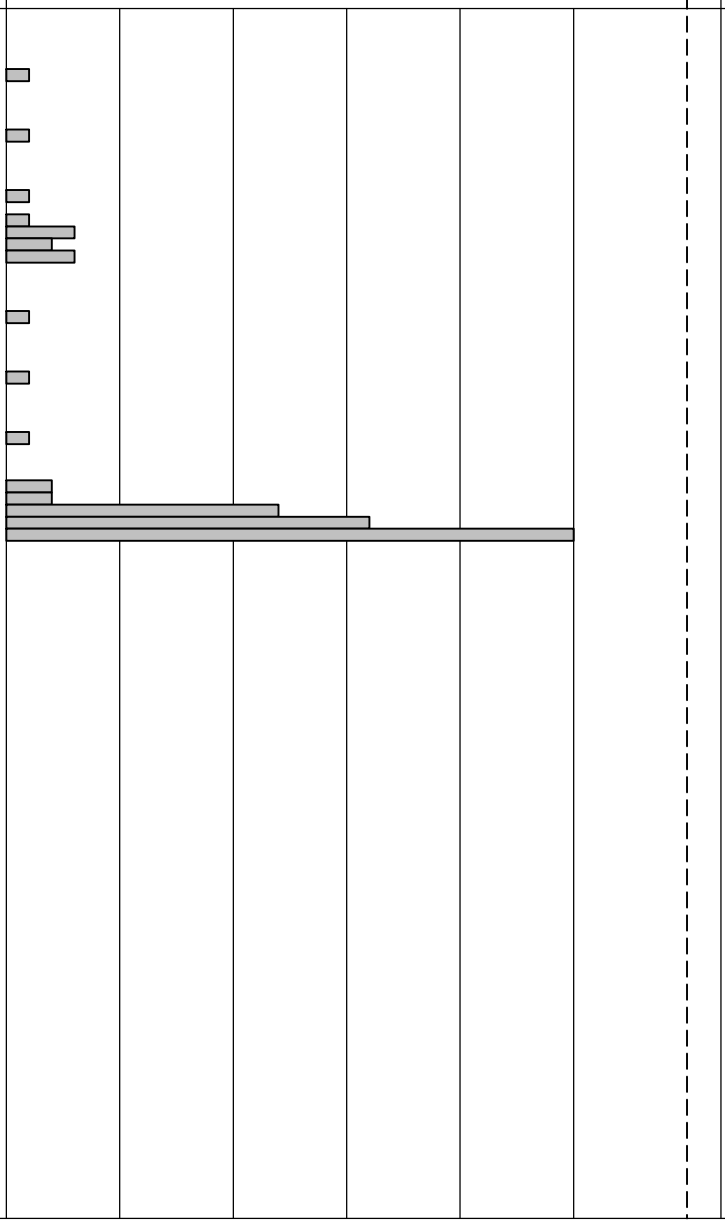
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP285** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-02-21<br>17-02-21 | 38.37 | E 204,847.9 N 269,416.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 1 3 2 | | | |
| 2 | 3 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 2 12 16 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP286** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-02-21<br>17-02-21 | 39.67 | E 204,791.5 N 269,487.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 1 3 3 22 | | | Refusal. 25 blows for 0mm. |
| | 25 | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP287** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-02-21<br>18-02-21 | 38.27 | E 204,750.3 N 269,584.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 1 1 1 | | | |
| 2 | 2 4 2 2 2 | | | |
| | 2 2 1 2 2 | | | |
| 3 | 2 1 1 1 1 | | | |
| | 1 1 2 2 2 | | | |
| 4 | 2 2 1 1 2 | | | |
| | 2 3 5 4 3 | | | |
| 5 | 3 2 2 8 9 | | | |
| | 9 15 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

5 10 15 20 25 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP288** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-02-21<br>18-02-21 | 38.85 | E 204,702.9 N 269,677.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 1 2 2 1 | | | |
| | 2 2 2 2 2 | | | |
| 3 | 2 3 5 5 4 | | | |
| | 4 4 4 4 3 | | | |
| 4 | 9 15 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP289** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-02-21<br>18-02-21 | 37.77 | E 204,656.1 N 269,763.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 1 1 1 2 | | | |
| 1 | 3 3 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 2 | 1 1 0 0 0 | | | |
| | 1 0 1 1 1 | | | |
| 3 | 1 4 3 8 2 | | | |
| | 2 3 4 2 2 | | | |
| 4 | 2 2 2 2 2 | | | |
| | 2 2 2 2 2 | | | |
| 5 | 2 4 16 20 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP290** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-02-21<br>18-02-21 | 37.24 | E 204,604.1 N 269,851.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 1 1 2 2 | | | |
| | 2 1 1 1 1 | | | |
| 4 | 1 1 1 1 1 | | | |
| | 1 1 2 2 2 | | | |
| 5 | 2 2 3 4 6 | | | |
| | 7 6 16 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP291** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-02-21<br>22-02-21 | 36.95 | E 204,595.5 N 269,951.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 1 2 | | | |
| | 2 1 1 3 2 | | | |
| 3 | 2 2 2 2 3 | | | |
| | 2 2 1 1 1 | | | |
| 4 | 1 3 2 2 2 | | | |
| | 2 2 2 2 3 | | | |
| 5 | 3 3 4 2 3 | | | |
| | 3 4 4 4 4 | | | |
| 6 | 10 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | | |
|---|---|---|---|
| Hammer Wt (kg) | 50 | | GENERAL REMARKS |
| Hammer Drop (mm) | 500 | | DP terminated at 6.10m bgl. |
| Cone Dia (mm) | 40 | | |
| Cone Type | | | |
| Damper | | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP292** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-02-21<br>22-02-21 | 38.05 | E 204,620.3 N 270,040.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 1 2 3 2 | | | |
| | 2 1 2 2 2 | | | |
| 4 | 2 2 2 2 2 | | | |
| | 2 2 2 2 2 | | | |
| 5 | 9 12 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 4.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP293** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-02-21<br>22-02-21 | 37.23 | E 204,652.8 N 270,139.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 1 1 1 2 | | | |
| | 3 3 3 3 4 | | | |
| 4 | 3 7 13 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP294** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-02-21<br>22-02-21 | 37.90 | E 204,628.1 N 270,230.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 1 1 1 4 | | | |
| | 7 10 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 3.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP295** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-02-21<br>22-02-21 | 38.87 | E 204,600.3 N 270,330.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 1 3 3 | | | |
| | 3 9 18 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP297** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-02-21<br>22-02-21 | 38.16 | E 204,533.7 N 270,515.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 1 1 2 2 | | | |
| 1 | 2 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 2 | | | |
| | 1 3 4 3 3 | | | |
| 3 | 3 2 2 3 3 | | | |
| | 3 2 2 2 3 | | | |
| 4 | 3 3 3 3 4 | | | |
| | 5 6 16 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram scale: 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: PMcG | Logged By: PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP298** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-02-21<br>22-02-21 | 37.18 | E 204,502.7 N 270,607.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 1 | | | |
| | 2 1 1 2 2 | | | |
| 1 | 2 2 2 3 2 | | | |
| | 2 2 3 3 3 | | | |
| 2 | 2 3 3 3 2 | | | |
| | 2 3 3 2 2 | | | |
| 3 | 2 2 2 2 2 | | | |
| | 2 2 1 1 1 | | | |
| 4 | 1 1 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 5 | 1 2 1 1 1 | | | |
| | 3 3 3 3 4 | | | |
| 6 | 7 16 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 6.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: PMcG | Logged By: PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP299** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-02-21<br>22-02-21 | 37.52 | E 204,468.3 N 270,709.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 2 2 2 2 | | | |
| | 2 1 1 1 1 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 3 2 2 2 | | | |
| | 2 3 5 5 5 | | | |
| 5 | 5 3 3 3 3 | | | |
| | 3 3 3 3 3 | | | |
| 6 | 3 6 10 21 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | | |
|---|---|---|---|
| Hammer Wt (kg) | 50 | | GENERAL REMARKS |
| Hammer Drop (mm) | 500 | | DP terminated at 6.40m bgl. |
| Cone Dia (mm) | 40 | | |
| Cone Type | | | |
| Damper | | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP301** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-02-21<br>22-02-21 | 38.48 | E 204,406.5 N 270,897.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 1 1 | | | |
| 4 | 1 1 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 5 | 1 1 1 1 1 | | | |
| | 1 2 2 2 1 | | | |
| 6 | 1 2 3 6 11 | | | |
| | 15 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 6.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP302** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-02-21<br>24-02-21 | 37.50 | E 204,373.4 N 270,991.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 3 | 1 2 2 2 2 | | | |
| | 1 1 1 1 1 | | | |
| 4 | 1 1 1 1 1 | | | |
| | 9 16 23 25 6 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram scale: 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: PMcG | Logged By: PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP303** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-02-21<br>24-02-21 | 36.93 | E 204,340.4 N 271,084.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 1 1 1 1 | | | |
| 2 | 1 2 1 2 2 | | | |
| | 3 2 2 3 2 | | | |
| 3 | 3 3 3 3 3 | | | |
| | 3 2 3 2 2 | | | |
| 4 | 3 2 2 2 2 | | | |
| | 2 2 2 2 2 | | | |
| 5 | 2 2 2 2 1 | | | |
| | 1 1 1 2 2 | | | |
| 6 | 2 4 12 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 6.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

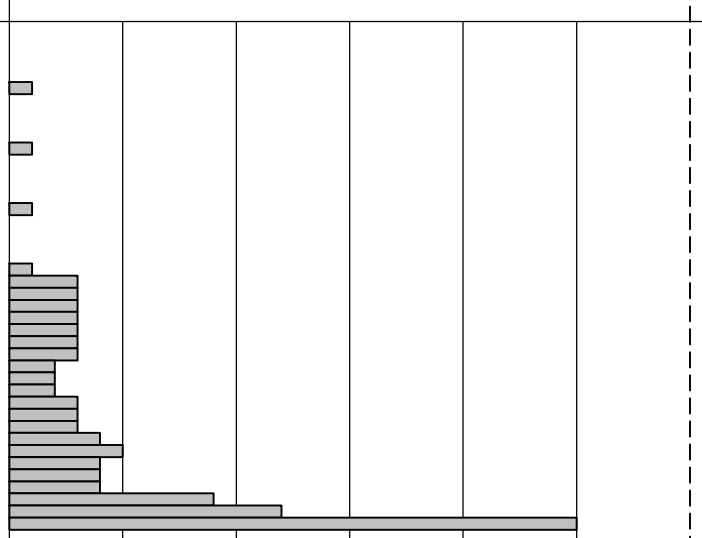
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP304** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-02-21<br>24-02-21 | 36.94 | E 204,309.3 N 271,178.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 3 3 3 3 | | | |
| | 3 3 3 2 2 | | | |
| 3 | 2 3 3 3 4 | | | |
| | 5 4 4 4 9 | | | |
| 4 | 12 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP305** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-02-21<br>24-02-21 | 37.24 | E 204,281.1 N 271,275.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 2 2 2 2 | | | |
| | 2 2 2 2 3 | | | |
| 4 | 3 3 3 3 3 | | | |
| | 3 2 2 2 2 | | | |
| 5 | 3 2 2 2 2 | | | |
| | 2 2 2 2 1 | | | |
| 6 | 1 1 1 1 1 | | | |
| | 6 12 17 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | | GENERAL REMARKS |
|---|---|---|---|
| Hammer Wt (kg) | 50 | | DP terminated at 6.30m bgl. |
| Hammer Drop (mm) | 500 | | |
| Cone Dia (mm) | 40 | | |
| Cone Type | | | |
| Damper | | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP306** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-02-21<br>24-02-21 | 36.64 | E 204,184.3 N 271,257.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 1 1 1 1 | | | |
| 2 | 1 2 2 2 2 | | | |
| | 2 2 2 2 2 | | | |
| 3 | 2 3 3 3 6 | | | |
| | 8 15 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP308** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-02-21<br>24-02-21 | 38.82 | E 203,961.7 N 271,284.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 1 | 1 2 2 9 12 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

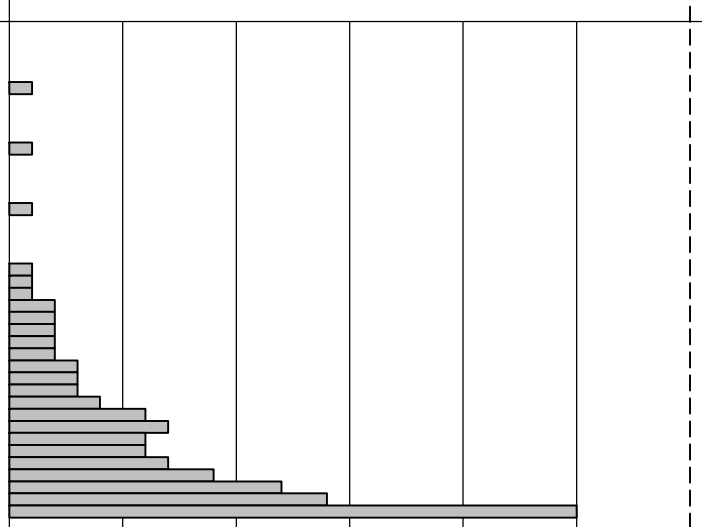
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP310** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-02-21<br>25-02-21 | 38.51 | E 203,893.9 N 271,159.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 1 1 2 2 | | | |
| | 2 2 2 3 3 | | | |
| 3 | 3 4 6 7 6 | | | |
| | 6 7 9 12 14 | | | |
| 4 | 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP311** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-02-21<br>25-02-21 | 37.45 | E 204,240.2 N 271,369.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 1 1 | | | |
| | 1 2 2 2 2 | | | |
| 3 | 2 3 3 4 3 | | | |
| | 3 2 2 2 2 | | | |
| 4 | 2 2 3 3 3 | | | |
| | 3 4 4 6 6 | | | |
| 5 | 6 7 9 17 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: PMcG | Logged By: PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP312** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-02-21<br>24-02-21 | 37.05 | E 204,192.6 N 271,453.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 2 2 3 2 | | | |
| | 2 2 2 2 2 | | | |
| 3 | 2 2 2 2 2 | | | |
| | 2 2 2 1 1 | | | |
| 4 | 1 2 2 2 2 | | | |
| | 2 2 2 2 2 | | | |
| 5 | 2 2 2 2 3 | | | |
| | 3 4 9 8 16 | | | |
| 6 | 21 26 | | | Refusal. 26 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 6.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

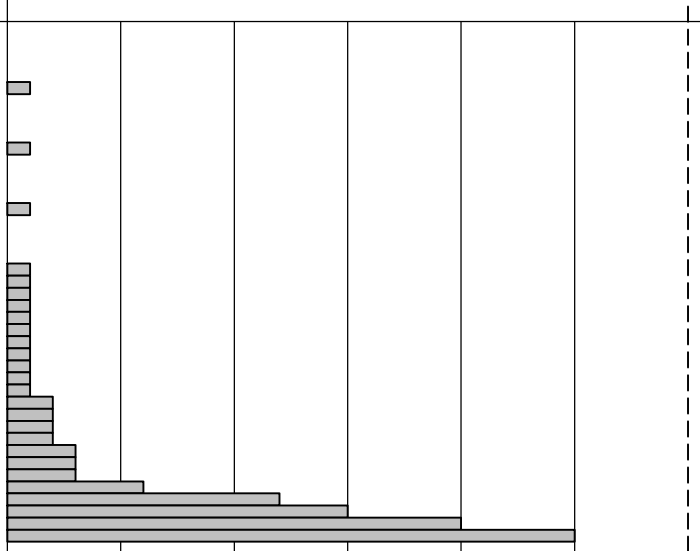
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP313** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-02-21<br>24-02-21 | 36.71 | E 204,144.5 N 271,546.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 1 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 3 | 1 2 2 2 2 | | | |
| | 3 3 3 6 12 | | | |
| 4 | 15 20 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

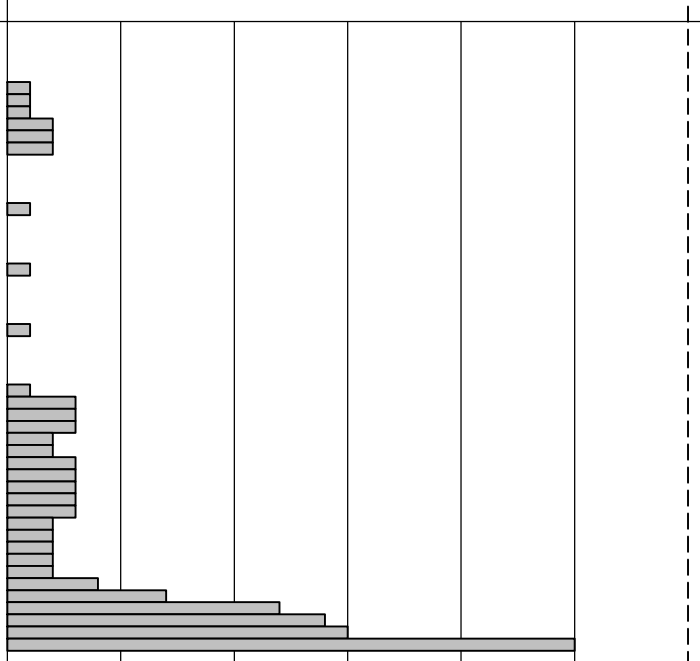
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP314** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-02-21<br>24-02-21 | 37.69 | E 204,084.3 N 271,620.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>1 1 1 2 2<br>2 0 0 0 0 | | | |
| 2 | 1 0 0 0 0<br>1 0 0 0 0<br>1 0 0 0 0 | | | |
| 3 | 1 3 3 3 2<br>2 3 3 3 3<br>3 2 2 2 2 | | | |
| 4 | 2 4 7 12 14<br>15 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP315** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-02-21<br>24-02-21 | 36.73 | E 204,053.9 N 271,716.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 1 1 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 1 | 1 2 2 2 2 | | | |
| | 2 2 2 2 2 | | | |
| 2 | 2 1 1 1 2 | | | |
| | 3 0 0 0 0 | | | |
| 3 | 0 3 4 10 15 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: PMcG | Logged By: PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP317** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-02-21<br>25-02-21 | 38.68 | E 204,140.6 N 271,889.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 5 | 1 0 0 0 0 | | | |
| | 1 1 1 1 1 | | | |
| 6 | 2 3 10 14 16 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | GENERAL REMARKS |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | DP terminated at 6.50m bgl. |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP318** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-02-21<br>25-02-21 | 39.74 | E 204,114.8 N 271,978.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 5 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 6 | 1 1 2 2 2 | | | |
| | 2 3 4 4 4 | | | |
| 7 | 4 8 12 14 25 | | | Refusal. 25 blows for 0mm. |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 7.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP319** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-02-21<br>25-02-21 | 41.25 | E 204,089.1 N 272,082.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 5 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 6 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 7 | 1 0 0 0 0 | | | |
| | 1 1 1 1 1 | | | |
| 8 | 1 6 15 25 | | | Refusal. 25 blows for 0mm. |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 8.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP320** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-02-21<br>25-02-21 | 40.35 | E 204,071.9 N 272,180.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 5 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 6 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 7 | 1 3 3 1 1 | | | |
| | 2 2 6 10 25 | | | Refusal. 25 blows for 0mm. |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 7.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP321** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-02-21<br>25-02-21 | 40.04 | E 204,118.2 N 272,244.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 5 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 6 | 1 0 0 0 0 | | | |
| | 1 2 2 2 2 | | | |
| 7 | 1 3 3 2 2 | | | |
| | 2 3 4 5 5 | | | |
| 8 | 21 | | | Refusal. 21 blows for 0mm. |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 8.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

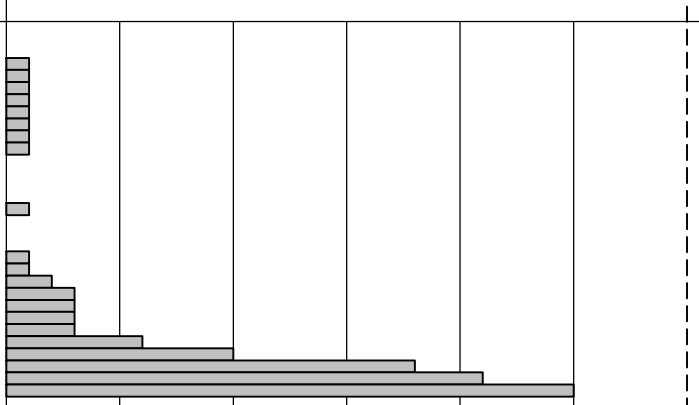
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP322** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-02-21<br>24-02-21 | 38.24 | E 203,953.1 N 271,744.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 1 | | | |
| 2 | 1 2 3 3 3 | | | |
| | 3 6 10 18 21 | | | |
| 3 | 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP326** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-02-21<br>26-02-21 | 40.42 | E 203,579.5 N 271,596.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 1 1 | | | |
| | 1 1 6 9 15 | | | |
| 2 | 18 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

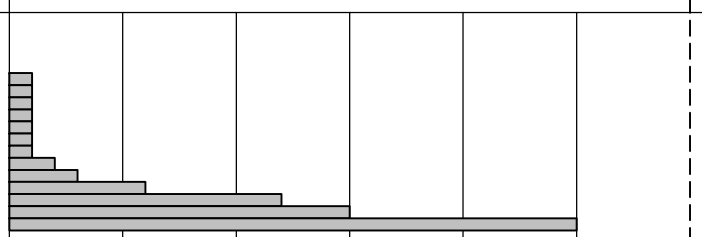
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP327** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-02-21<br>26-02-21 | 41.29 | E 203,494.0 N 271,574.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 1 1 1 1 | | | |
| 1 | 1 1 2 3 6 | | | |
| | 12 15 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP329** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-03-21<br>01-03-21 | 38.40 | E 203,295.2 N 271,476.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 1 2 2 2 | | | |
| 1 | 9 14 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

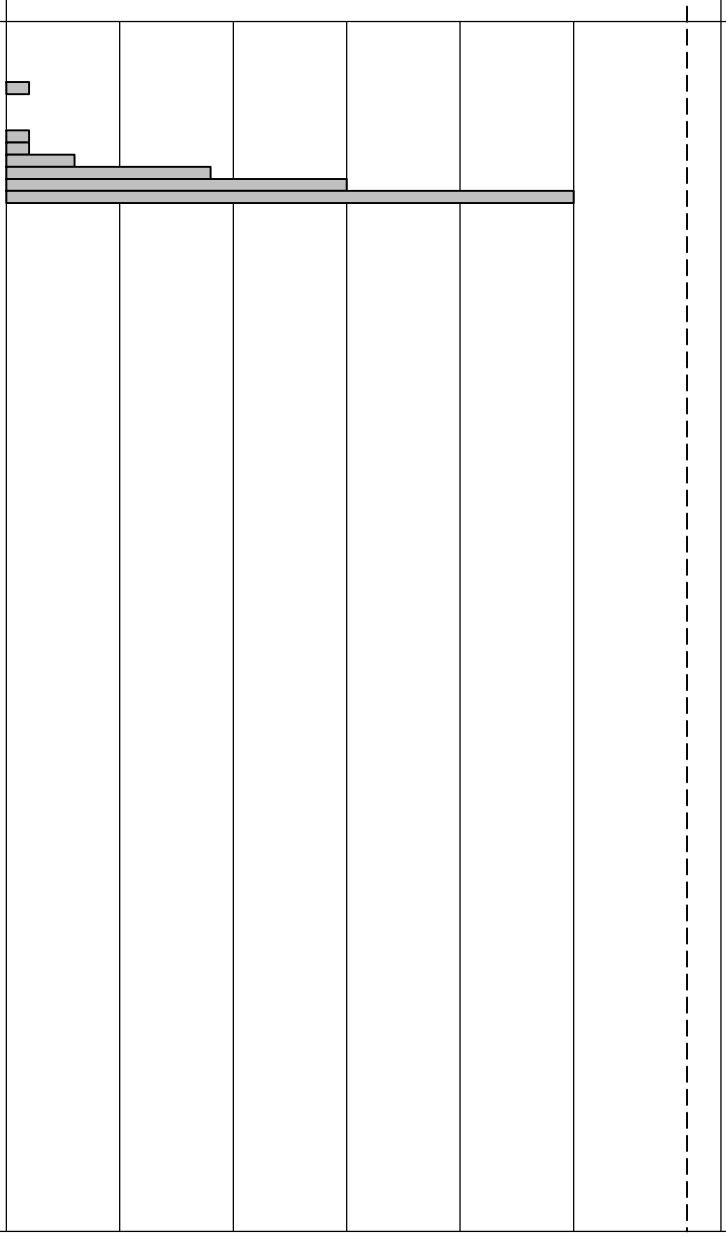
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP330** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-02-21<br>26-02-21 | 36.14 | E 203,270.6 N 271,379.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 1 | | | |
| 1 | 1 3 9 15 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

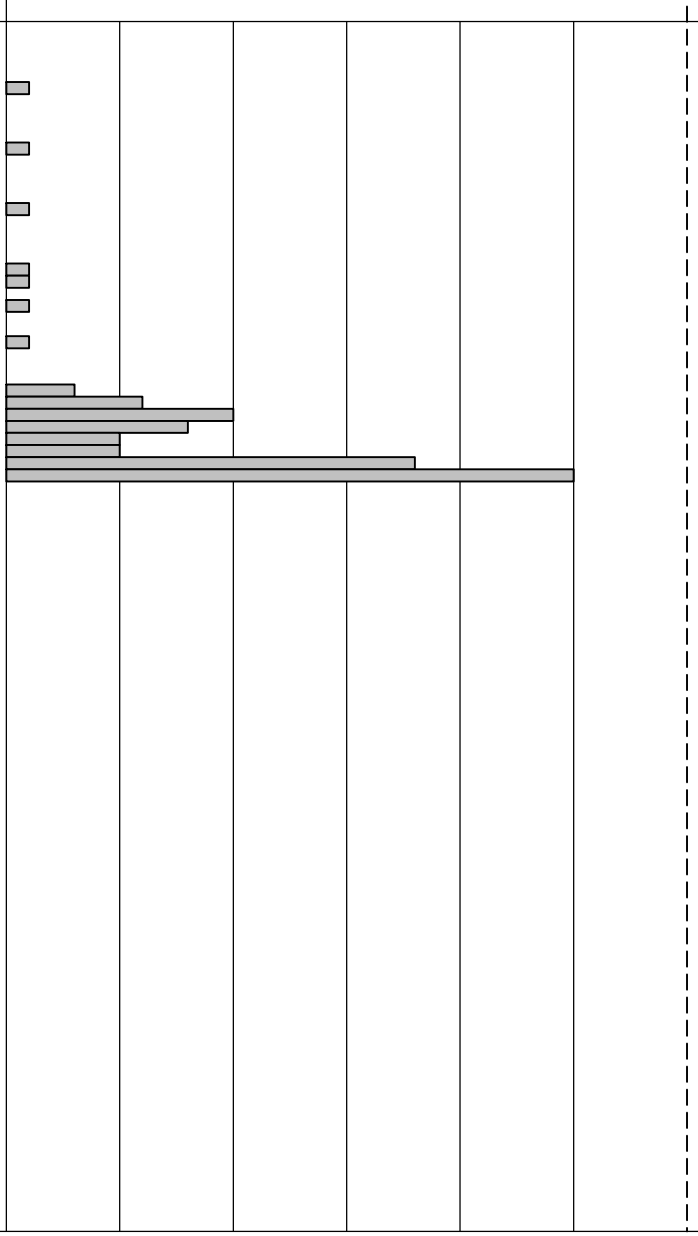
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP331** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 37.49 | E 203,250.5 N 271,297.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 1 0 1 0 | | | |
| | 0 1 0 0 0 | | | |
| 3 | 3 6 10 8 5 | | | |
| | 5 18 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP332** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 36.54 | E 203,221.2 N 271,191.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 1 1 1 18 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP334** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 37.50 | E 203,222.4 N 270,993.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 1 1 | | | |
| | 1 1 1 1 6 | | | |
| 2 | 18 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

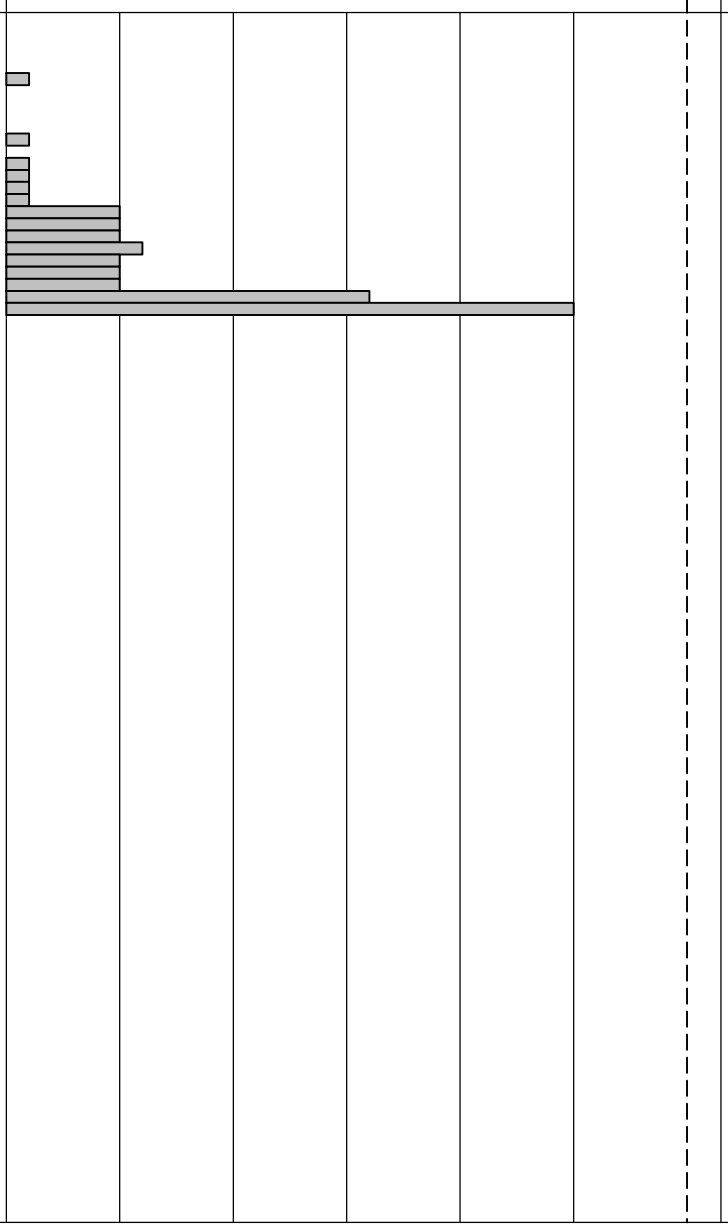
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP335** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 37.13 | E 203,281.7 N 270,913.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 1 1 1 | | | |
| | 1 5 5 5 6 | | | |
| 2 | 5 5 5 16 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

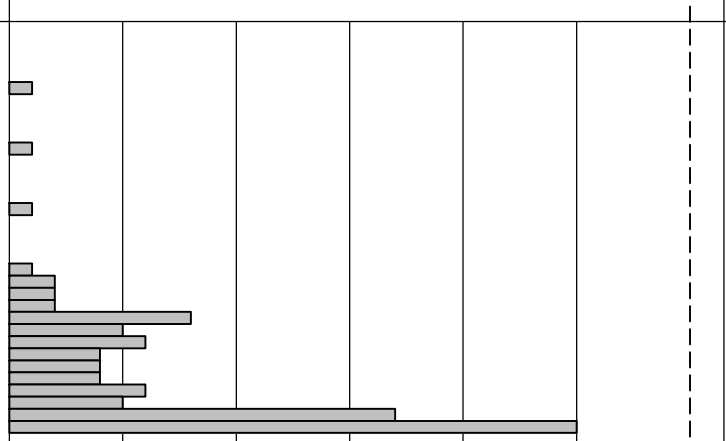
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP336** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 37.41 | E 203,325.1 N 270,832.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 2 2 2 8 | | | |
| | 5 6 4 4 4 | | | |
| 3 | 6 5 17 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

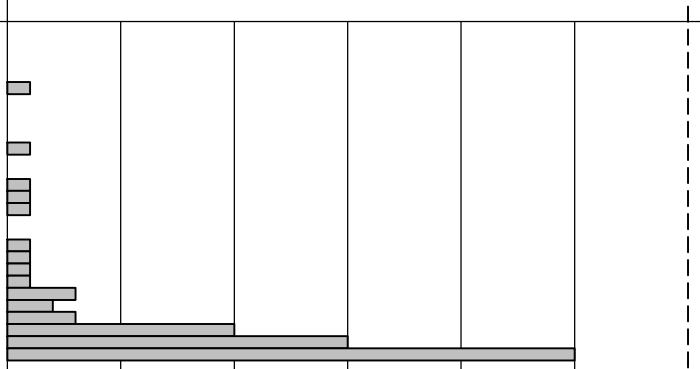
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP337** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 36.94 | E 203,380.2 N 270,735.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 1 1 | | | |
| | 1 0 0 1 1 | | | |
| 2 | 1 1 3 2 3 | | | |
| | 10 15 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

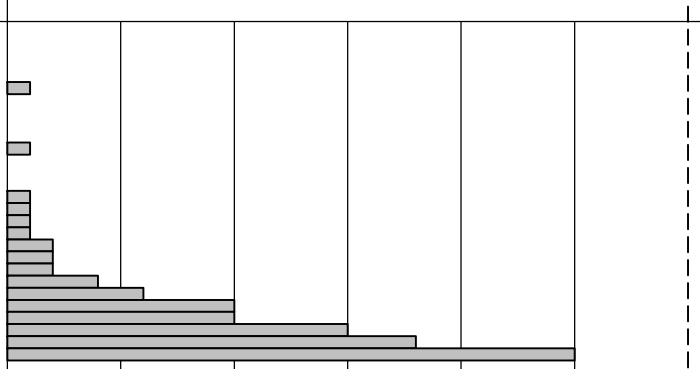
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP338** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-03-21<br>01-03-21 | 37.20 | E 203,428.4 N 270,658.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 1 | | | |
| | 1 1 1 2 2 | | | |
| 2 | 2 4 6 10 10 | | | |
| | 15 18 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP339** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 38.31 | E 203,544.5 N 270,642.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 2 | 1 1 1 1 1 | | | |
| | 1 1 3 3 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

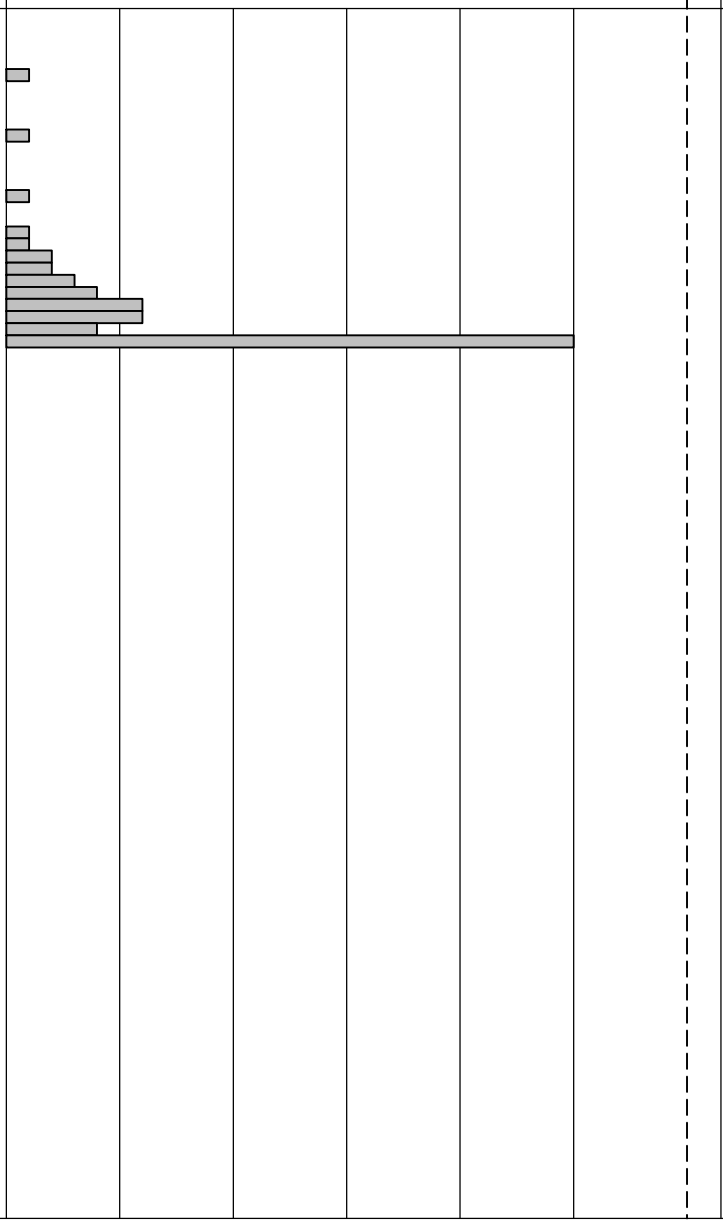
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP341** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-02-21<br>26-02-21 | 43.85 | E 203,715.2 N 270,750.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| | 1 0 0 1 1 | | | |
| 2 | 2 2 3 4 6 | | | |
| | 6 4 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

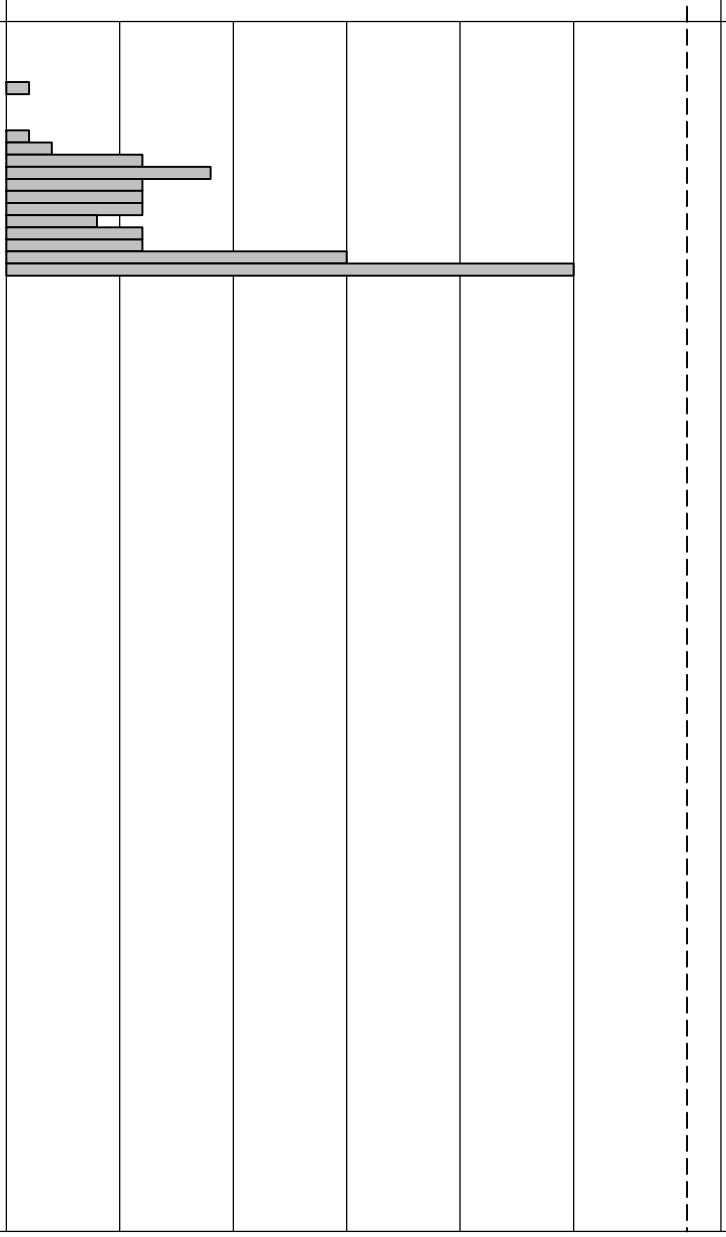
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP342** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 26-02-21<br>26-02-21 | 42.42 | E 203,774.9 N 270,686.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 1 | | | |
| 1 | 2 6 9 6 6 | | | |
| | 6 4 6 6 15 | | | |
| 2 | 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: PMcG | Logged By: PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP343** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-02-21<br>25-02-21 | 44.36 | E 203,799.4 N 270,807.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 1 1 1 1 | | | |
| | 2 4 4 3 5 | | | |
| 3 | 4 6 12 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

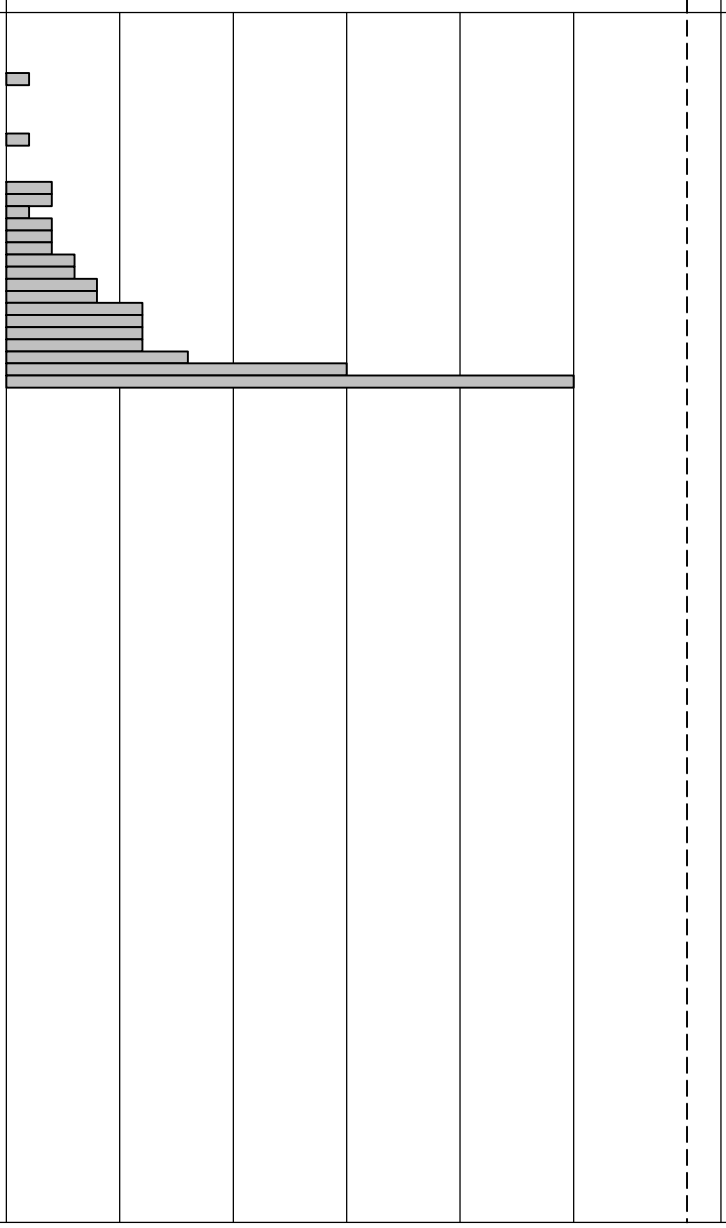
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP344** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-02-21<br>25-02-21 | 41.58 | E 203,872.9 N 270,845.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 2 | | | |
| | 2 1 2 2 2 | | | |
| 2 | 3 3 4 4 6 | | | |
| | 6 6 6 8 15 | | | |
| 3 | 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP345** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-02-21<br>15-02-21 | 37.42 | E 203,476.7 N 270,573.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 1 2 | | | |
| 2 | 2 2 1 2 2 | | | |
| | 2 2 3 4 8 | | | |
| 3 | 19 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP346** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-02-21<br>15-02-21 | 37.56 | E 203,532.4 N 270,495.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 1 1 1 2 | | | |
| | 3 2 2 1 2 | | | |
| 4 | 1 5 4 4 4 | | | |
| | 4 5 15 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: PMcG | Logged By: PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP347** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-02-21<br>15-02-21 | 37.50 | E 203,584.3 N 270,401.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 1 1 1 1 | | | |
| | 2 2 3 6 9 | | | |
| 5 | 10 19 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | GENERAL REMARKS |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | DP terminated at 5.20m bgl. |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP348** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-02-21<br>15-02-21 | 37.76 | E 203,645.4 N 270,321.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 1 1 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 1 1 | | | |
| 4 | 1 1 3 4 4 | | | Refusal. 25 blows for 0mm. |
| | 12 19 25 | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: PMcG | Logged By: PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP349** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-03-21<br>01-03-21 | 38.06 | E 203,694.3 N 270,233.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 1 1 1 1 0 | | | |
| | 1 3 6 7 6 | | | |
| 3 | 10 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

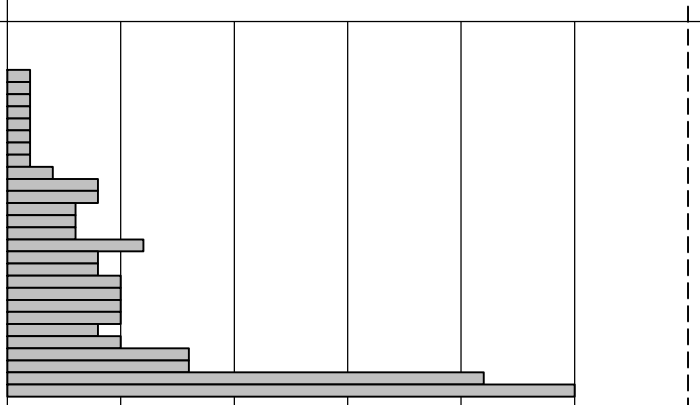
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP351** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-02-21<br>15-02-21 | 39.14 | E 203,794.9 N 270,062.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 1 | | | |
| | 1 1 1 1 1 | | | |
| 1 | 1 1 2 4 4 | | | |
| | 3 3 3 6 4 | | | |
| 2 | 4 5 5 5 5 | | | |
| | 4 5 8 8 21 | | | |
| 3 | 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

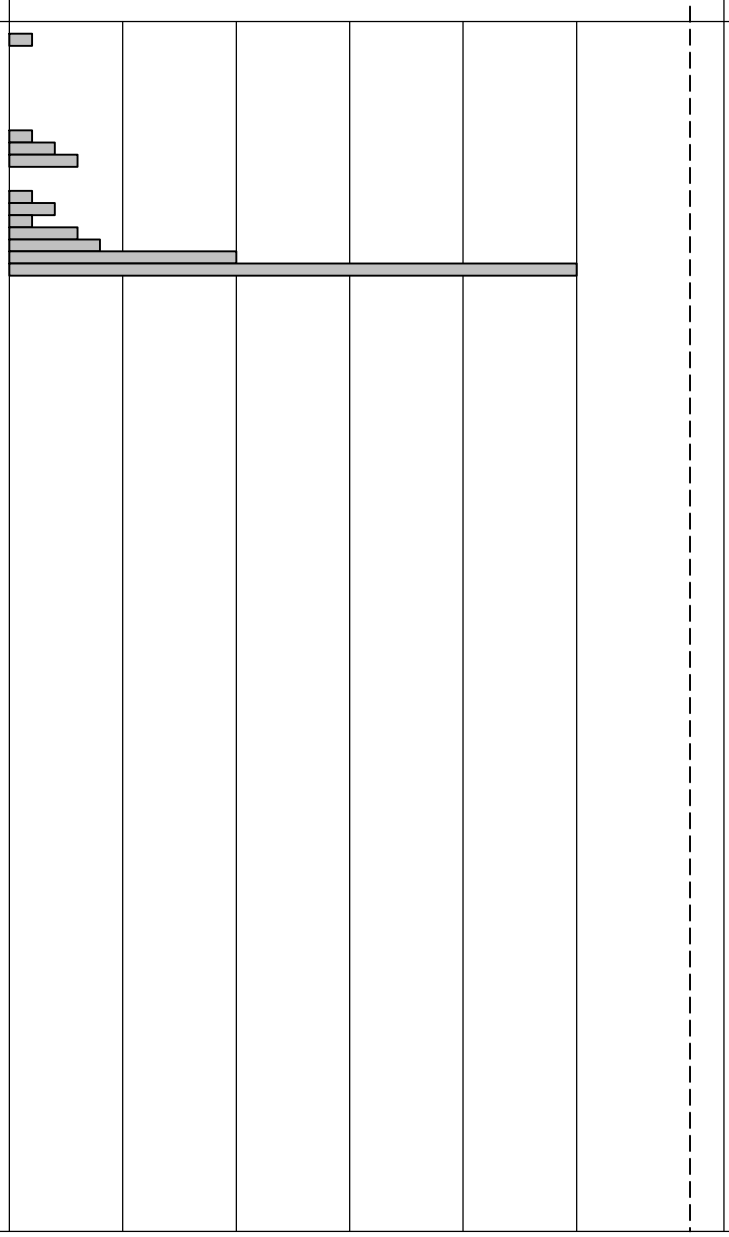
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP352** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-02-21<br>11-02-21 | 39.08 | E 203,847.6 N 269,979.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 1 | | | |
| 1 | 2 3 0 0 1 | | | |
| | 2 1 3 4 10 | | | |
| 2 | 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

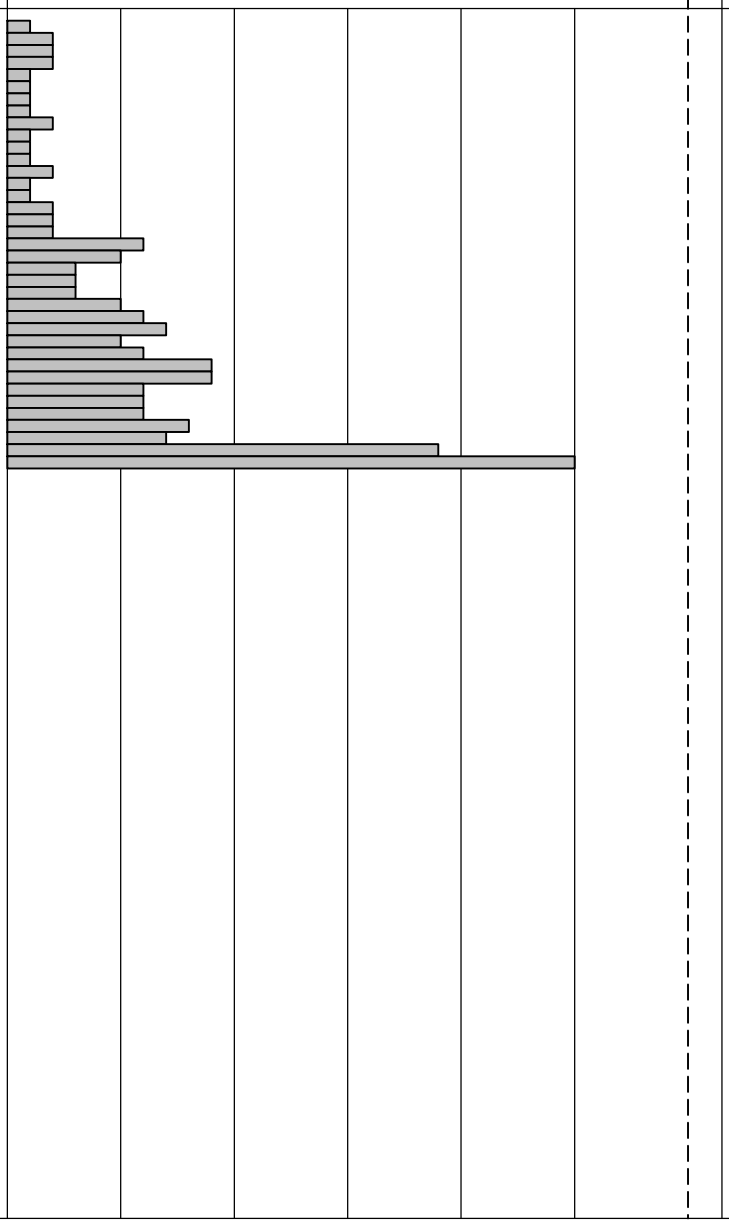
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP353** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-02-21<br>10-02-21 | 39.82 | E 203,900.6 N 269,892.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 2 2 2 | | | |
| | 1 1 1 1 2 | | | |
| 1 | 1 1 1 2 1 | | | |
| | 1 2 2 2 6 | | | |
| 2 | 5 3 3 3 5 | | | |
| | 6 7 5 6 9 | | | |
| 3 | 9 6 6 6 8 | | | |
| | 7 19 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP354** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-02-21<br>10-02-21 | 39.21 | E 203,962.5 N 269,792.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 1 1 1 1 | | | |
| 1 | 0 1 0 1 1 | | | |
| | 1 1 1 2 2 | | | |
| 2 | 1 2 1 2 1 | | | |
| | 2 1 2 2 2 | | | |
| 3 | 3 6 10 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP356** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 19-02-21<br>19-02-21 | 36.27 | E 204,512.0 N 269,885.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 6 20 | | | Refusal. 25 blows for 0mm. |
| | 20 18 25 | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 3.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

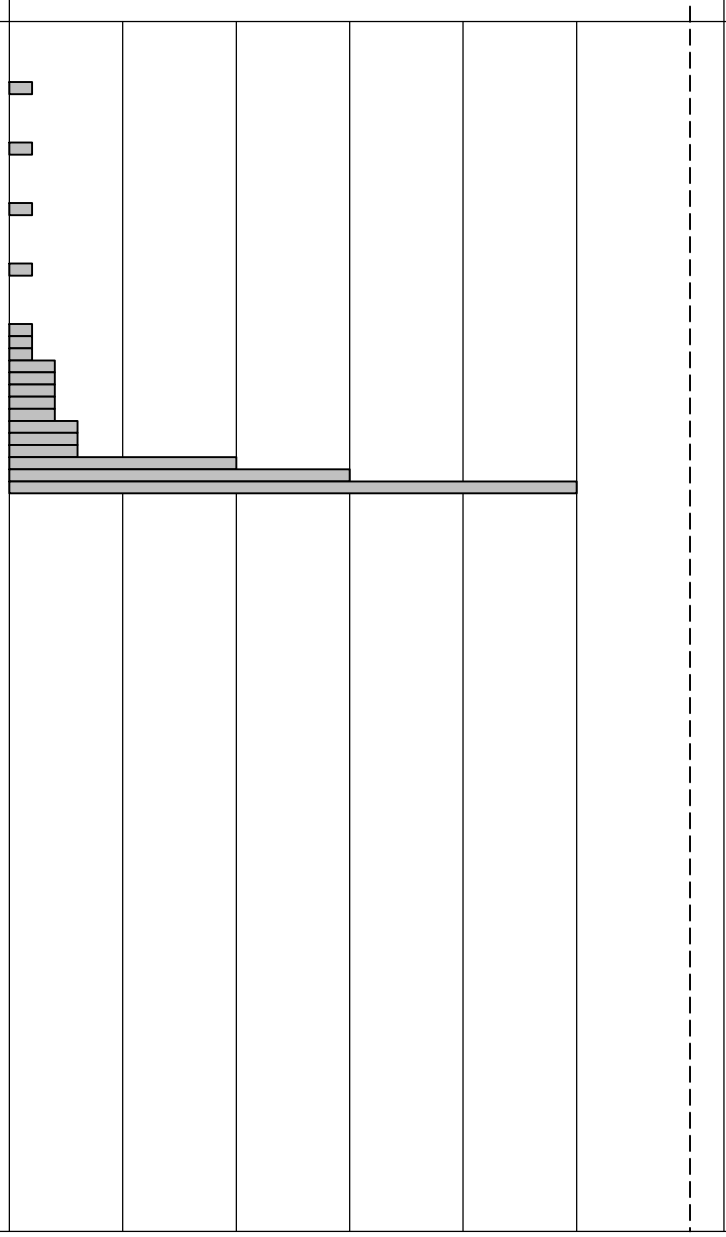
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP357** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 19-02-21<br>19-02-21 | 36.91 | E 204,424.4 N 269,826.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>1 0 0 0 0<br>1 0 0 0 0<br>1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0<br>1 0 0 0 0 | | | |
| 3 | 1 1 1 2 2<br>2 2 2 3 3<br>3 10 15 25 | | | |
| 4 | | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP358** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 19-02-21<br>19-02-21 | 38.27 | E 204,340.1 N 269,777.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 8 12 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP360** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-02-21<br>15-02-21 | 39.86 | E 204,154.7 N 269,657.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 1 | | | |
| 4 | 0 0 0 0 1 | | | |
| | 1 2 2 4 4 | | | |
| 5 | 4 4 11 8 17 | | | |
| | 25 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

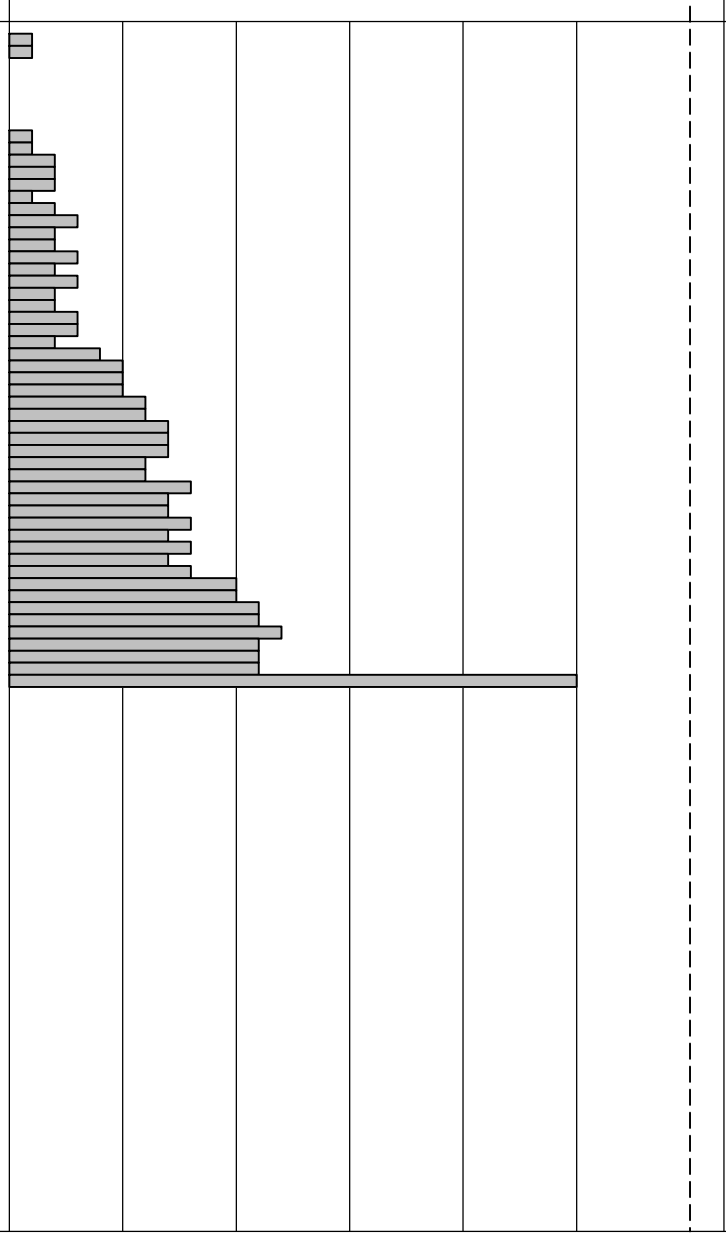
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP361** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-02-21<br>10-02-21 | 39.25 | E 204,084.7 N 269,617.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 1 0 0 | | | |
| | 0 0 0 0 1 | | | |
| 1 | 1 2 2 2 1 | | | |
| | 2 3 2 2 3 | | | |
| 2 | 2 3 2 2 3 | | | |
| | 3 2 4 5 5 | | | |
| 3 | 5 6 6 7 7 | | | |
| | 7 6 6 8 7 | | | |
| 4 | 7 8 7 8 7 | | | |
| | 8 10 10 11 11 | | | |
| 5 | 12 11 11 11 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP362** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-02-21<br>11-02-21 | 38.54 | E 203,999.6 N 269,564.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 0 0 0 | | | |
| | 0 1 0 0 1 | | | |
| 3 | 0 1 0 0 1 | | | |
| | 1 4 4 5 11 | | | |
| 4 | 8 7 7 11 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | GENERAL REMARKS |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | DP terminated at 4.40m bgl. |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP363** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-02-21<br>11-02-21 | 38.90 | E 203,915.1 N 269,511.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 0 0 0 | | | |
| | 0 1 0 0 0 | | | |
| 3 | 0 9 13 4 3 | | | |
| | 2 2 2 2 2 | | | |
| 4 | 2 2 4 3 5 | | | |
| | 5 5 5 5 6 | | | |
| 5 | 5 5 5 6 6 | | | |
| | 6 7 6 5 6 | | | |
| 6 | 6 17 9 9 9 | | | |
| | 7 18 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | | |
|---|---|---|---|
| Hammer Wt (kg) | 50 | | GENERAL REMARKS |
| Hammer Drop (mm) | 500 | | DP terminated at 6.70m bgl. |
| Cone Dia (mm) | 40 | | |
| Cone Type | | | |
| Damper | | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP364** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-02-21<br>11-02-21 | 39.22 | E 203,829.3 N 269,458.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 1 1 0 0 0 | | | |
| | 0 1 1 1 1 | | | |
| 4 | 1 1 1 1 0 | | | |
| | 10 3 2 13 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP365** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-02-21<br>11-02-21 | 41.01 | E 203,745.6 N 269,409.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 0 1 1 | | | |
| | 2 2 1 3 2 | | | |
| 3 | 2 2 4 3 4 | | | |
| | 3 3 3 3 3 | | | |
| 4 | 3 4 3 3 4 | | | |
| | 4 5 5 5 4 | | | |
| 5 | 4 4 4 5 4 | | | |
| | 4 4 4 4 4 | | | |
| 6 | 4 4 5 5 5 | | | |
| | 5 6 6 6 6 | | | |
| 7 | 6 7 6 8 6 | | | |
| | 7 7 8 7 7 | | | |
| 8 | 16 25 | | | Refusal. 25 blows for 0mm. |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 8.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: PMcG | Logged By: PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP366** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 39.49 | E 203,647.5 N 269,440.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 4 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 5 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 6 | 0 1 0 0 0 | | | |
| | 3 3 2 2 2 | | | |
| 7 | 2 3 4 5 5 | | | |
| | 5 7 6 6 25 | | | |
| 8 | | | | Refusal. 25 blows for 0mm. |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 7.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP367** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 40.07 | E 203,555.3 N 269,480.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 4 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 5 | 0 1 0 0 0 | | | |
| | 0 0 0 1 1 | | | |
| 6 | 0 1 2 2 2 | | | |
| | 2 2 2 2 2 | | | |
| 7 | 3 3 4 4 4 | | | |
| | 4 4 4 5 4 | | | |
| 8 | 5 5 4 5 5 | | | |
| | 4 14 25 | | | Refusal. 25 blows for 0mm. |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 8.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP368** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 40.76 | E 203,462.8 N 269,520.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 4 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 5 | 0 1 0 0 0 | | | |
| | 0 0 0 0 4 | | | |
| 6 | 9 2 7 14 17 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 6.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP369** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 40.19 | E 203,374.2 N 269,560.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 1 0 0 1 | | | |
| | 0 0 1 0 1 | | | |
| 4 | 2 1 7 10 14 | | | |
| | 13 9 15 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP370** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 41.51 | E 203,278.5 N 269,599.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 1 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 0 0 0 | | | |
| | 0 1 0 0 0 | | | |
| 3 | 0 1 0 1 1 | | | |
| | 0 1 1 1 1 | | | |
| 4 | 1 2 1 2 8 | | | |
| | 16 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

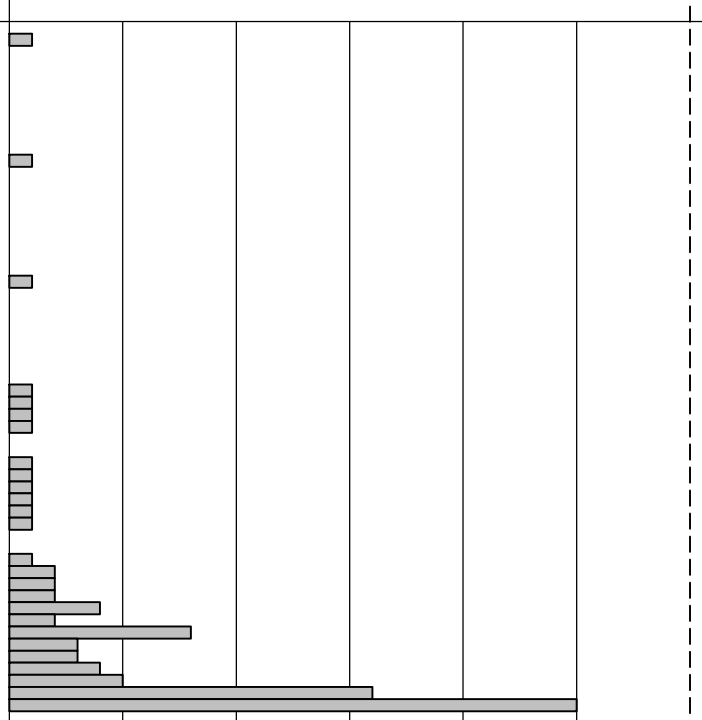
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP371** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-02-21<br>12-02-21 | 43.57 | E 203,184.5 N 269,590.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 1 0 0 0<br>0 0 0 0 0<br>0 1 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 0 1 0 0 0<br>0 0 0 0 0 | | | |
| 3 | 1 1 1 1 0<br>0 1 1 1 1 | | | |
| 4 | 1 1 0 0 1<br>2 2 2 4 2 | | | |
| 5 | 8 3 3 4 5<br>16 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTP372** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 44.61 | E 203,102.6 N 269,575.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 1 0 0 0 1 | | | |
| 1 | 1 1 0 1 1 | | | |
| | 0 0 0 0 1 | | | |
| 2 | 0 1 0 0 1 | | | |
| | 2 2 1 2 6 | | | |
| 3 | 2 1 2 2 2 | | | |
| | 2 4 3 2 3 | | | |
| 4 | 4 7 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

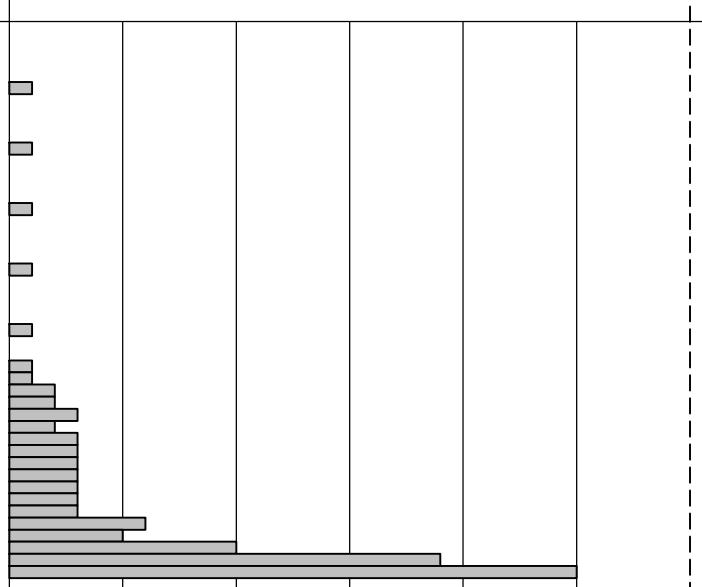
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPACPA** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-02-21<br>12-02-21 | 43.92 | E 205,084.6 N 269,127.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 2 2 3 2 3 | | | |
| | 3 3 3 3 3 | | | |
| 4 | 3 6 5 10 19 | | | Refusal. 25 blows for 0mm. |
| | 25 | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPACPB** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 45.55 | E 206,414.8 N 264,818.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 0 0 0 0 | | | |
| | 0 0 0 0 2 | | | |
| 4 | 2 1 2 2 2 | | | |
| | 2 2 3 3 2 | | | |
| 5 | 2 3 3 4 3 | | | |
| | 3 6 6 7 6 | | | |
| 6 | 7 8 25 | | | Refusal. 25 blows for 20mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

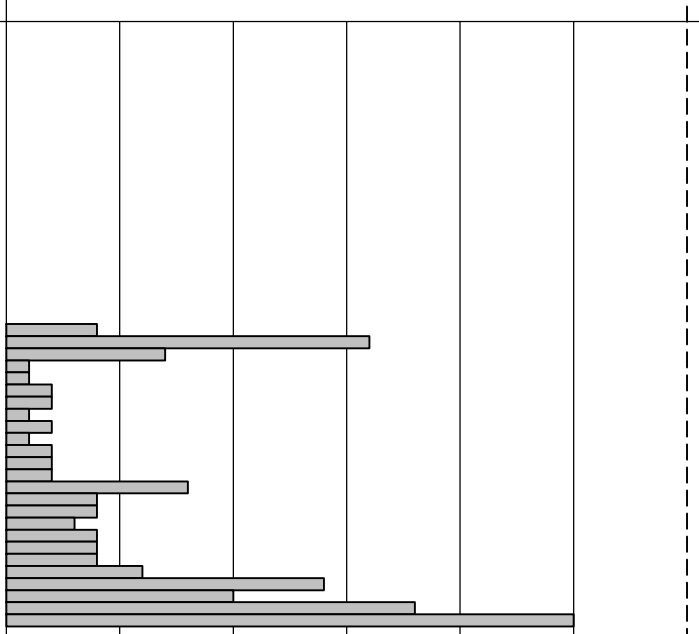
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPACPC** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 55.71 | E 209,739.3 N 263,163.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 4 16 7 1 1 | | | |
| 3 | 2 2 1 2 1 | | | |
| | 2 2 2 8 4 | | | |
| 4 | 4 3 4 4 4 | | | |
| | 6 14 10 18 25 | | | Refusal. 25 blows for 20mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 44.23 | E 205,165.7 N 268,925.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 5 | 1 0 0 0 0 | | | |
| | 1 1 1 2 2 | | | |
| 6 | 4 2 2 2 2 | | | |
| | 2 2 2 2 2 | | | |
| 7 | 2 3 3 4 7 | | | |
| | 9 25 | | | Refusal. 25 blows for 0mm. |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 7.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 43.23 | E 205,074.5 N 268,868.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 5 | 1 1 1 1 1 | | | |
| | 1 11 2 2 3 | | | |
| 6 | 3 3 3 4 4 | | | |
| | 4 9 12 15 20 | | | |
| 7 | 25 | | | Refusal. 25 blows for 0mm. |
| 8 | | | | |
| 9 | | | | |

| | | GENERAL REMARKS |
|---|---|---|
| Hammer Wt (kg) | 50 | DP terminated at 7.00m bgl. |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 03-03-21<br>03-03-21 | 44.34 | E 204,994.2 N 268,822.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 5 | 1 0 0 1 2 | | | |
| | 3 6 12 18 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

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# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR04** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 03-03-21<br>03-03-21 | 42.42 | E 204,913.4 N 268,761.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 1 1 2 1 | | | |
| | 2 2 2 3 3 | | | |
| 5 | 3 2 3 3 2 | | | |
| | 3 2 3 9 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

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# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR05** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-02-21<br>11-02-21 | 43.02 | E 204,828.9 N 268,711.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 1 0 0 1<br>1 1 1 1 0<br>1 1 0 0 0 | | | |
| 2 | 0 1 0 0 0<br>0 1 0 2 1<br>1 0 0 1 0 | | | |
| 3 | 1 0 0 0 0<br>0 0 0 0 0<br>0 1 2 2 1 | | | |
| 4 | 2 2 2 3 3<br>2 3 3 3 2<br>4 4 5 6 6 | | | |
| 5 | 25 | | | Refusal. 25 blows for 60mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 6.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR06** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-02-21<br>12-02-21 | 43.82 | E 204,735.5 N 268,759.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 2 2 3 2 | | | |
| | 1 1 1 1 1 | | | |
| 1 | 1 1 1 2 1 | | | |
| | 2 1 2 1 1 | | | |
| 2 | 1 1 1 1 2 | | | |
| | 1 2 1 1 1 | | | |
| 3 | 1 2 2 1 2 | | | |
| | 1 1 1 1 2 | | | |
| 4 | 2 2 3 1 2 | | | |
| | 1 2 2 2 2 | | | |
| 5 | 3 4 4 25 | | | Refusal. 25 blows for 25mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 5.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR07** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-02-21<br>12-02-21 | 42.85 | E 204,685.5 N 268,844.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 1 1 1 1 1 2 2 10 15 25 | | | Refusal. 25 blows for 0mm. |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 1.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

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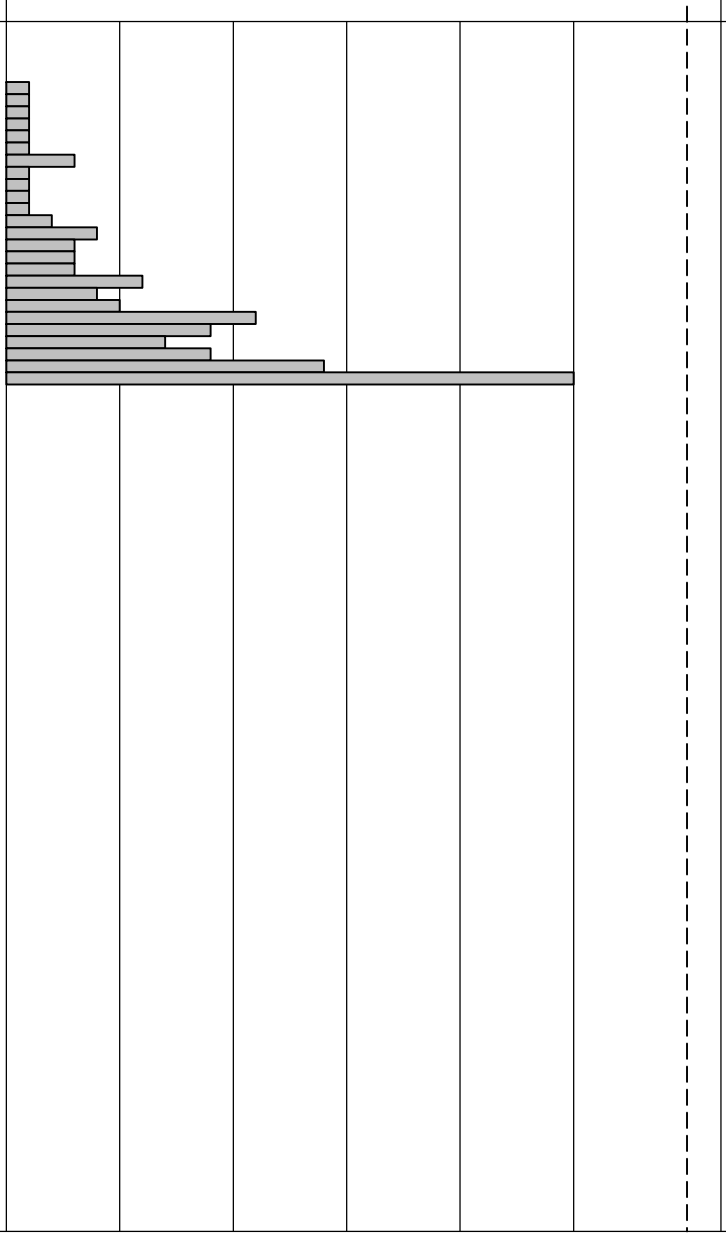
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR08** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-02-21<br>12-02-21 | 46.20 | E 204,633.4 N 268,933.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 1 1 1 1 | | | |
| 1 | 1 3 1 1 1 | | | |
| | 1 2 4 3 3 | | | |
| 2 | 3 6 4 5 11 | | | |
| | 9 7 9 14 25 | | | |
| 3 | | | | Refusal. 25 blows for 70mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR09** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-02-21<br>12-02-21 | 45.75 | E 204,555.8 N 268,995.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 1 1 | | | |
| | 1 1 2 3 3 | | | |
| 4 | 3 3 3 3 5 | | | |
| | 5 3 2 2 3 | | | |
| 5 | 4 5 5 6 6 | | | |
| | 6 16 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

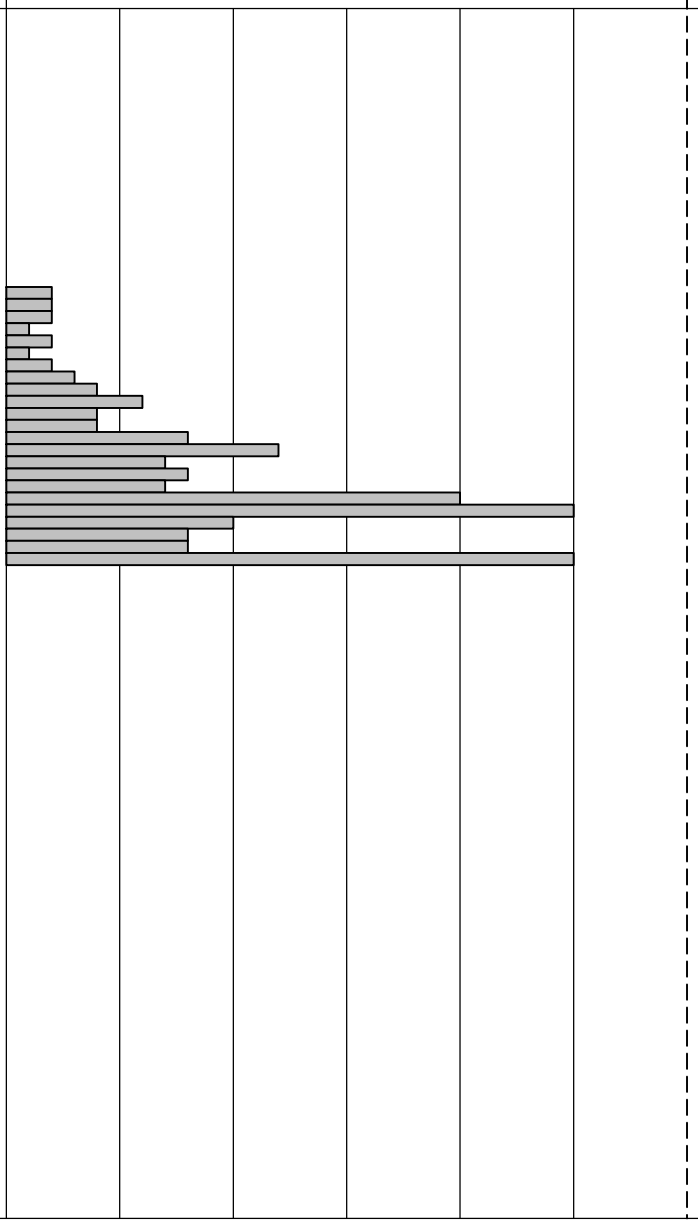
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR10** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-02-21<br>09-02-21 | 44.92 | E 204,473.9 N 269,047.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 2 1 2 1 2 | | | |
| 3 | 3 4 6 4 4 | | | |
| | 8 12 7 8 7 | | | |
| 4 | 20 25 10 8 8 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

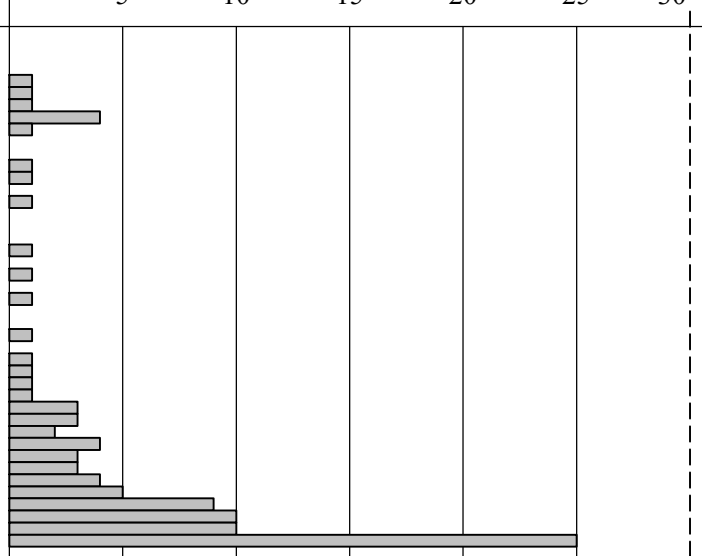
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR11** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-02-21<br>09-02-21 | 43.88 | E 204,389.3 N 269,102.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 1<br>1 1 4 1 0<br>0 1 1 0 1 | | | |
| 2 | 0 0 0 1 0<br>1 0 1 0 0<br>1 0 1 1 1 | | | |
| 3 | 1 3 3 2 4<br>3 3 4 5 9<br>10 10 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

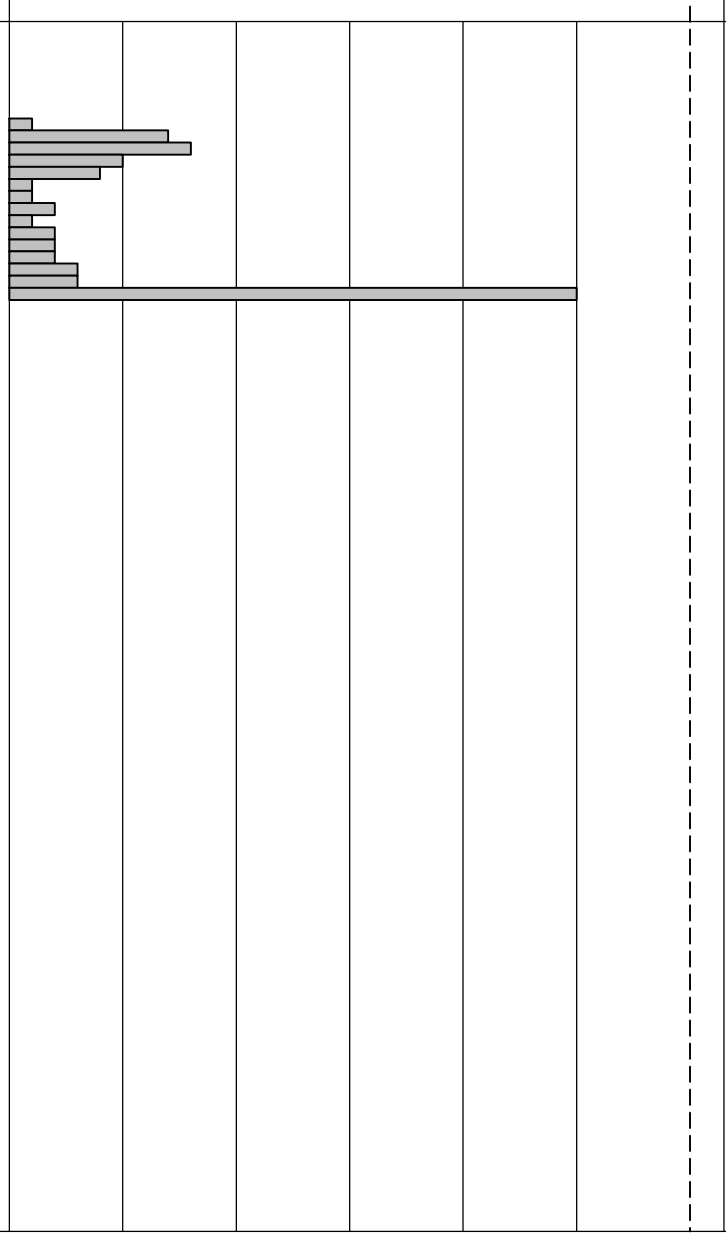
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR12** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-02-21<br>09-02-21 | 41.51 | E 204,339.4 N 269,187.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0<br>0 0 0 1 7<br>8 5 4 1 1<br>2 1 2 2 2<br>3 3 25 | | | Refusal. 25 blows for 0mm. |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

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# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR13** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-02-21<br>09-02-21 | 40.94 | E 204,291.7 N 269,276.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 1 | | | |
| 3 | 0 2 2 3 3 | | | |
| | 4 5 4 5 5 | | | |
| | 6 7 8 9 11 | | | |
| 4 | 14 12 16 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

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# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR14** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-02-21<br>10-02-21 | 40.12 | E 204,243.3 N 269,360.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 0 0 0 | | | |
| | 0 0 1 1 1 | | | |
| 3 | 1 1 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 4 | 1 2 1 1 1 | | | |
| | 2 4 3 2 2 | | | |
| 5 | 6 6 6 10 6 | | | |
| | 10 10 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

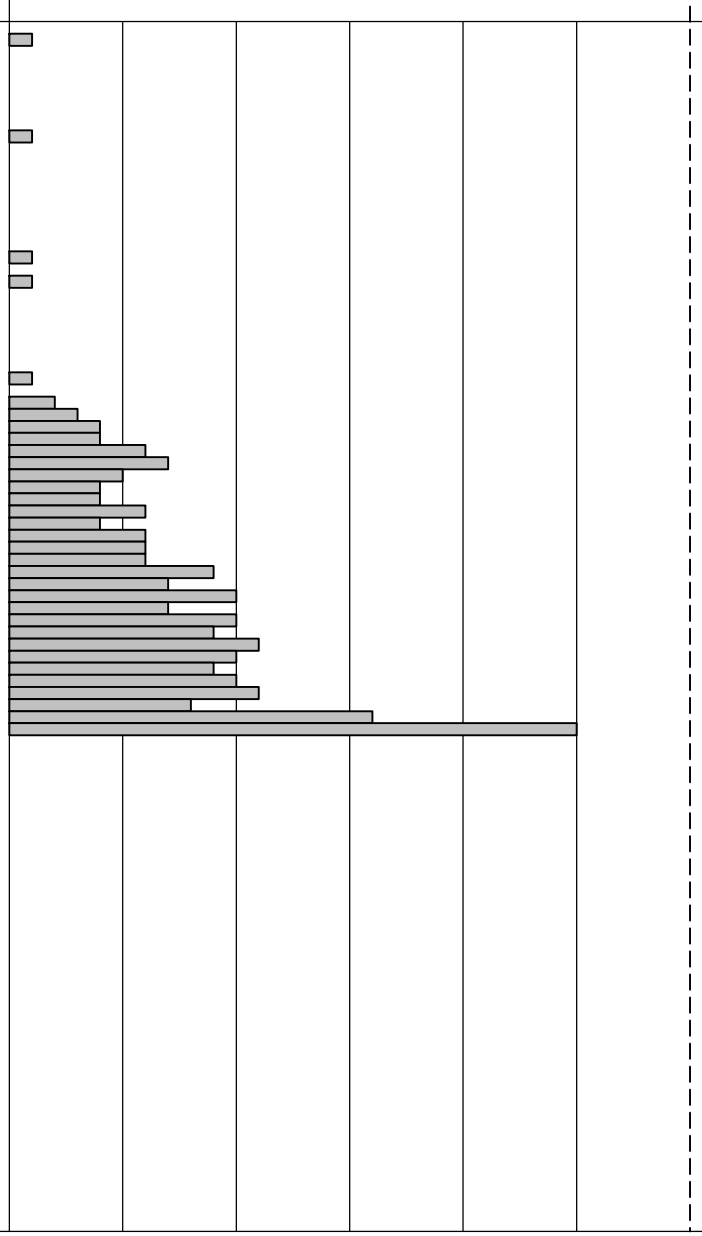
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR15** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-02-21<br>10-02-21 | 37.86 | E 204,196.3 N 269,448.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 1 0 0 0<br>0 0 0 0 1<br>0 0 0 0 0<br>0 0 0 0 1 | | | |
| 2 | 0 1 0 0 0<br>0 0 0 0 1 | | | |
| 3 | 0 2 3 4 4<br>6 7 5 4 4 | | | |
| 4 | 6 4 6 6 6<br>9 7 10 7 10 | | | |
| 5 | 9 11 10 9 10<br>11 8 16 25 | | | |
| 6 | | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

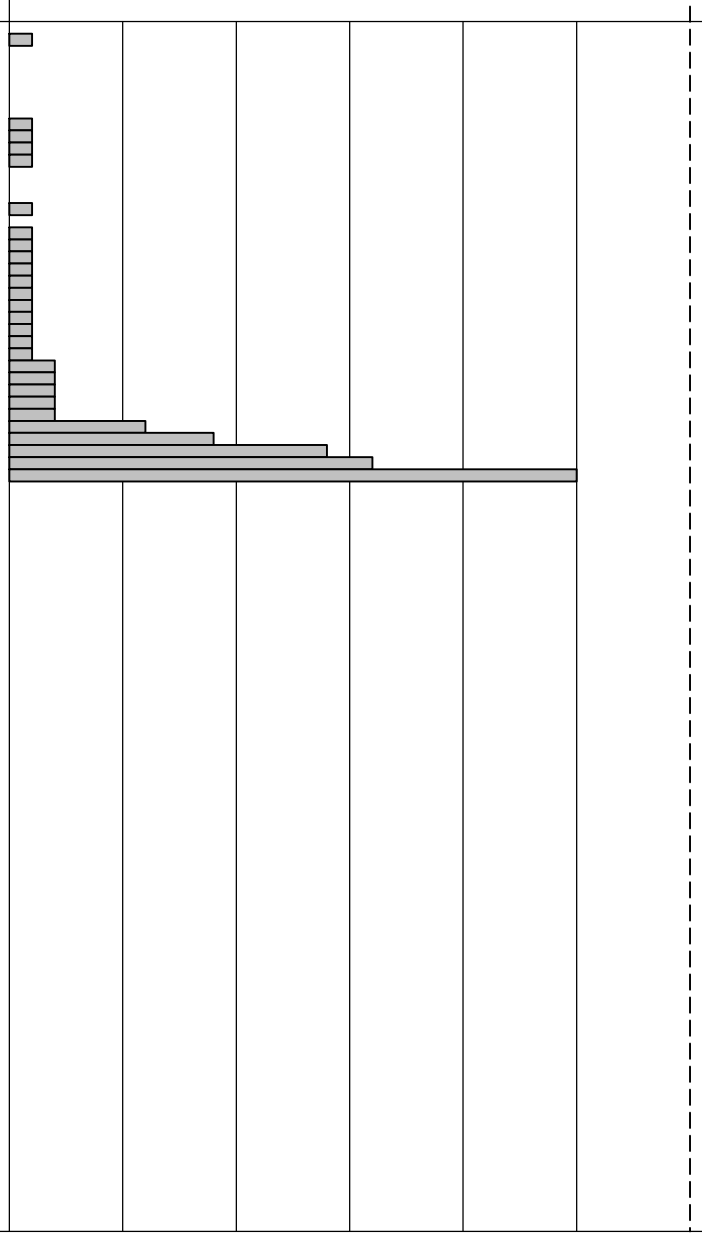
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR16** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-02-21<br>10-02-21 | 37.82 | E 204,145.7 N 269,537.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 1 1 | | | |
| 1 | 1 1 0 0 0 | | | |
| | 1 0 1 1 1 | | | |
| 2 | 1 1 1 1 1 | | | |
| | 1 1 1 2 2 | | | |
| 3 | 2 2 2 6 9 | | | |
| | 14 16 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR17** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-02-21<br>11-02-21 | 44.18 | E 204,725.2 N 269,038.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 1 1 1 1 | | | |
| | 1 2 2 2 2 | | | |
| 5 | 4 5 7 5 5 | | | |
| | 5 5 9 12 18 | | | |
| 6 | 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 6.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPAR18** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-02-21<br>11-02-21 | 43.77 | E 204,938.5 N 269,077.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 5 | 1 1 2 2 2 | | | |
| | 4 6 4 4 4 | | | |
| 6 | 4 6 6 6 6 | | | |
| | 6 6 17 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | | |
|---|---|---|---|
| Hammer Wt (kg) | 50 | | GENERAL REMARKS |
| Hammer Drop (mm) | 500 | | DP terminated at 6.80m bgl. |
| Cone Dia (mm) | 40 | | |
| Cone Type | | | |
| Damper | | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

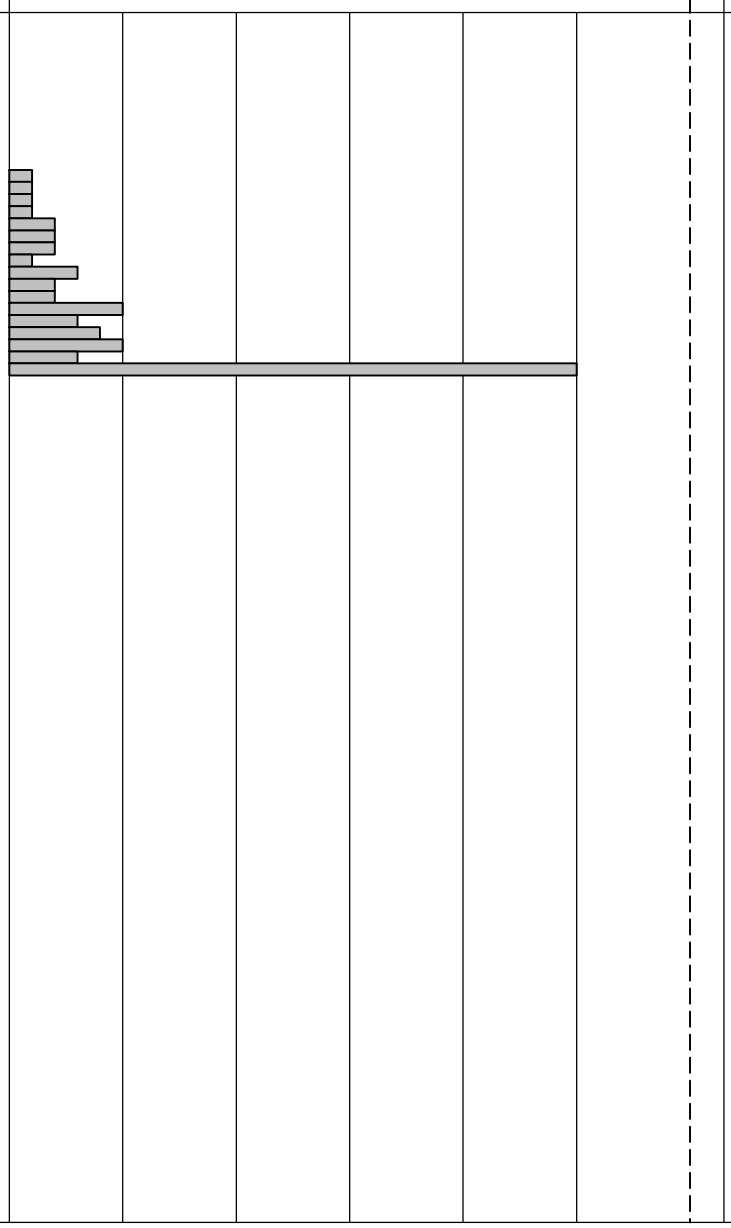
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPBPA01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-03-21<br>08-03-21 | 42.92 | E 205,781.0 N 268,752.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 1 1 | | | |
| 2 | 1 1 2 2 2<br>1 3 2 2 5 | | | |
| 3 | 3 4 5 3 25 | | | Refusal. 25 blows for 10mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

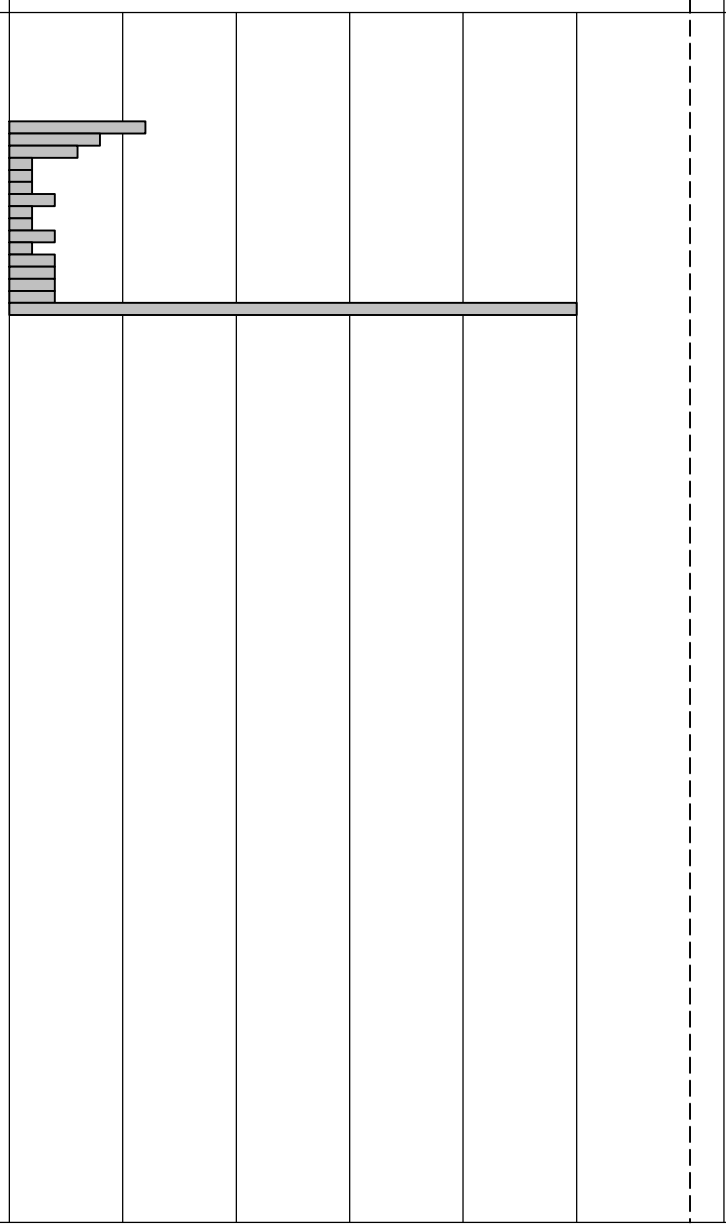
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPBPA02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-03-21<br>08-03-21 | 42.04 | E 205,856.3 N 268,713.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 6 | | | |
| 1 | 4 3 1 1 1 | | | |
| | 2 1 1 2 1 | | | |
| 2 | 2 2 2 2 25 | | | Refusal. 25 blows for 50mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

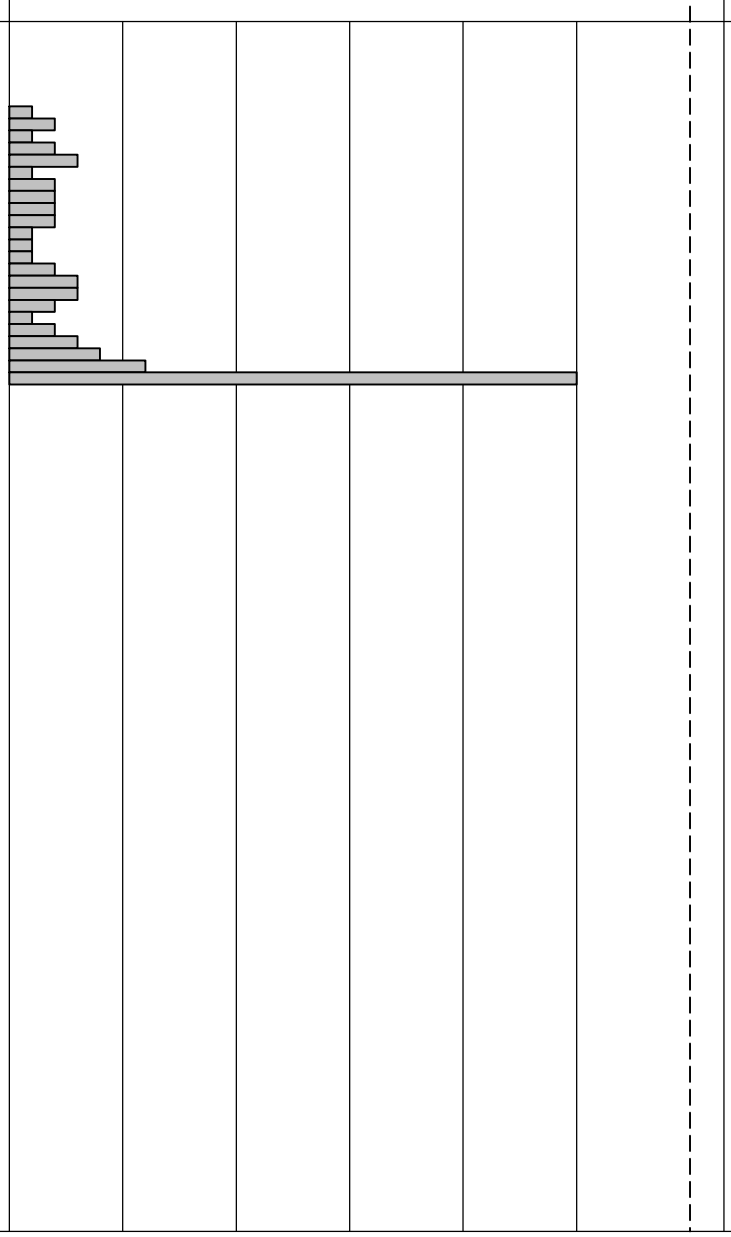
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPBPA03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-03-21<br>08-03-21 | 42.61 | E 205,889.2 N 268,622.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 1 2 1 | | | |
| 1 | 2 3 1 2 2 | | | |
| | 2 2 1 1 1 | | | |
| 2 | 2 3 3 2 1 | | | |
| | 2 3 4 6 25 | | | |
| 3 | | | | Refusal. 25 blows for 40mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

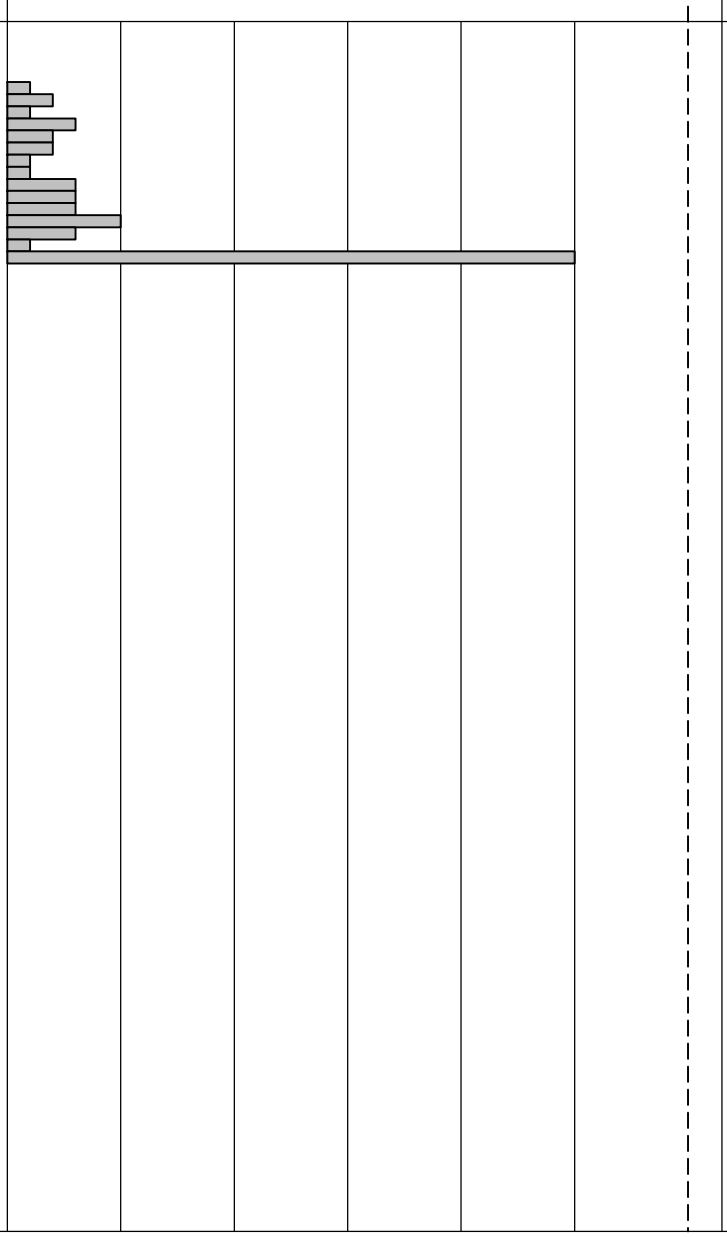
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPBPA04** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-03-21<br>08-03-21 | 42.82 | E 205,853.8 N 268,543.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 2 1 3 2 | | | |
| 1 | 2 1 1 3 3 | | | |
| | 3 5 3 1 25 | | | |
| 2 | | | | Refusal. 25 blows for 10mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

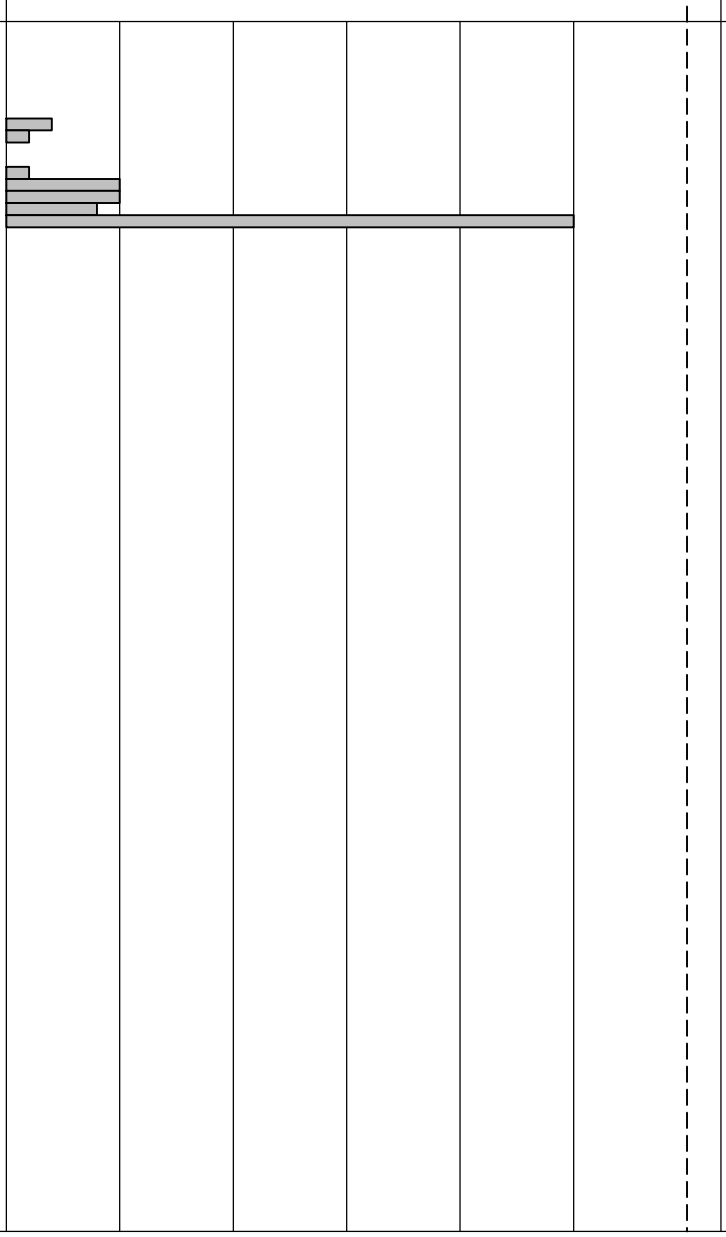
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPBPB01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-03-21<br>18-03-21 | 44.03 | E 206,283.4 N 266,445.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 2 1 | | | |
| 1 | 0 0 1 5 5 | | | |
| | 4 25 | | | Refusal. 25 blows for 10mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPBPB02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-03-21<br>18-03-21 | 42.08 | E 206,225.9 N 266,432.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 2 4 25 | | | Refusal. 25 blows for 0mm. |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 0.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

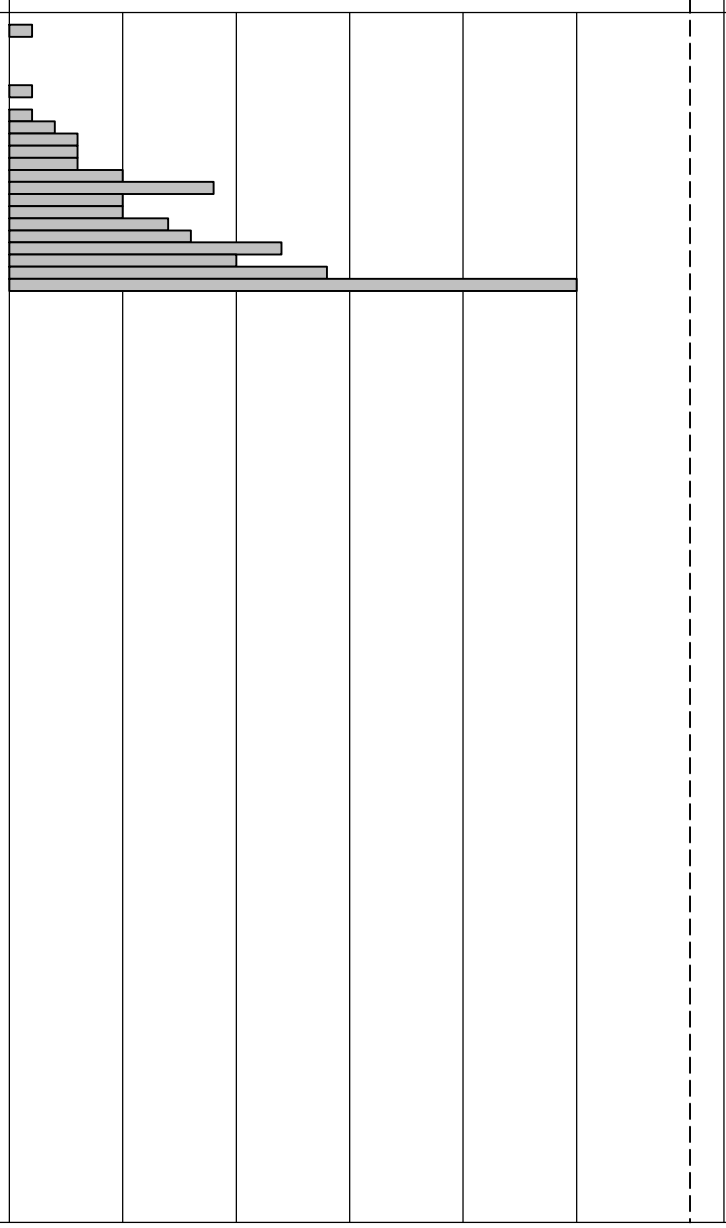
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPBPB03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-03-21<br>18-03-21 | 43.76 | E 206,299.3 N 266,365.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 1 0 1 2 | | | |
| 1 | 3 3 3 5 9 | | | |
| | 5 5 7 8 12 | | | |
| 2 | 10 14 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

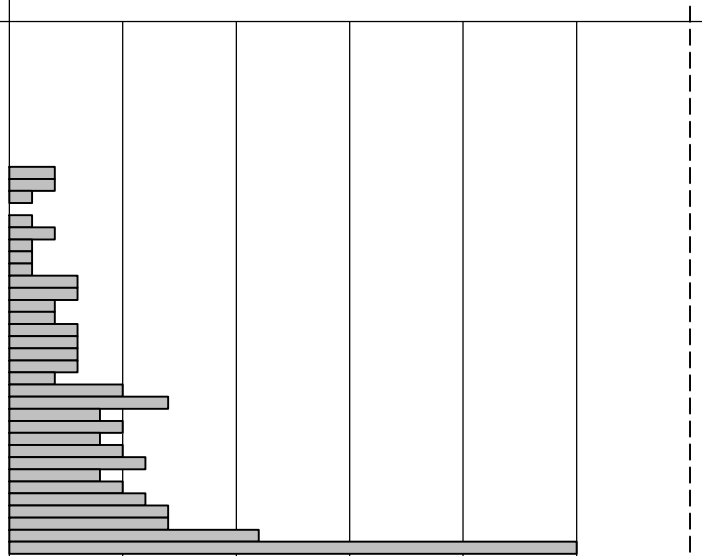
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPBPB04** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-03-21<br>18-03-21 | 43.11 | E 206,221.7 N 266,318.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 2 2 1 | | | |
| 2 | 0 1 2 1 1<br>1 3 3 2 2<br>3 3 3 3 2 | | | |
| 3 | 5 7 4 5 4<br>5 6 4 5 6 | | | |
| 4 | 7 7 11 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

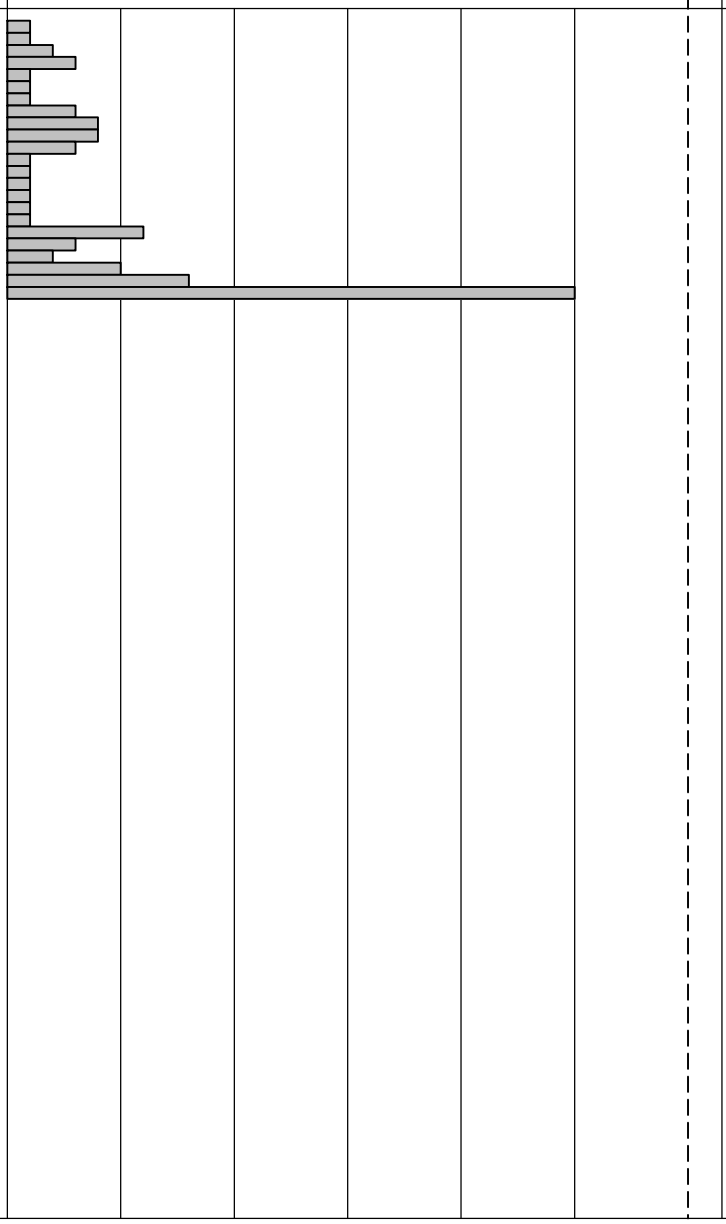
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPBPC01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-03-21<br>17-03-21 | 43.22 | E 206,308.7 N 265,967.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 1 2 3 | | | |
| | 1 1 1 3 4 | | | |
| 1 | 4 3 1 1 1 | | | |
| | 1 1 1 6 3 | | | |
| 2 | 2 5 8 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

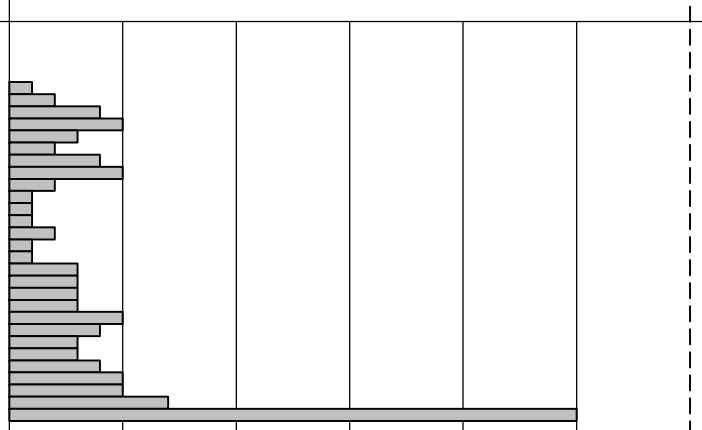
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPBPC02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-03-21<br>17-03-21 | 43.12 | E 206,355.7 N 265,884.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 2 4 5 3 | | | |
| 1 | 2 4 5 2 1 | | | |
| | 1 1 2 1 1 | | | |
| 2 | 3 3 3 3 5 | | | |
| | 4 3 3 4 5 | | | |
| 3 | 5 7 25 | | | Refusal. 25 blows for 90mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

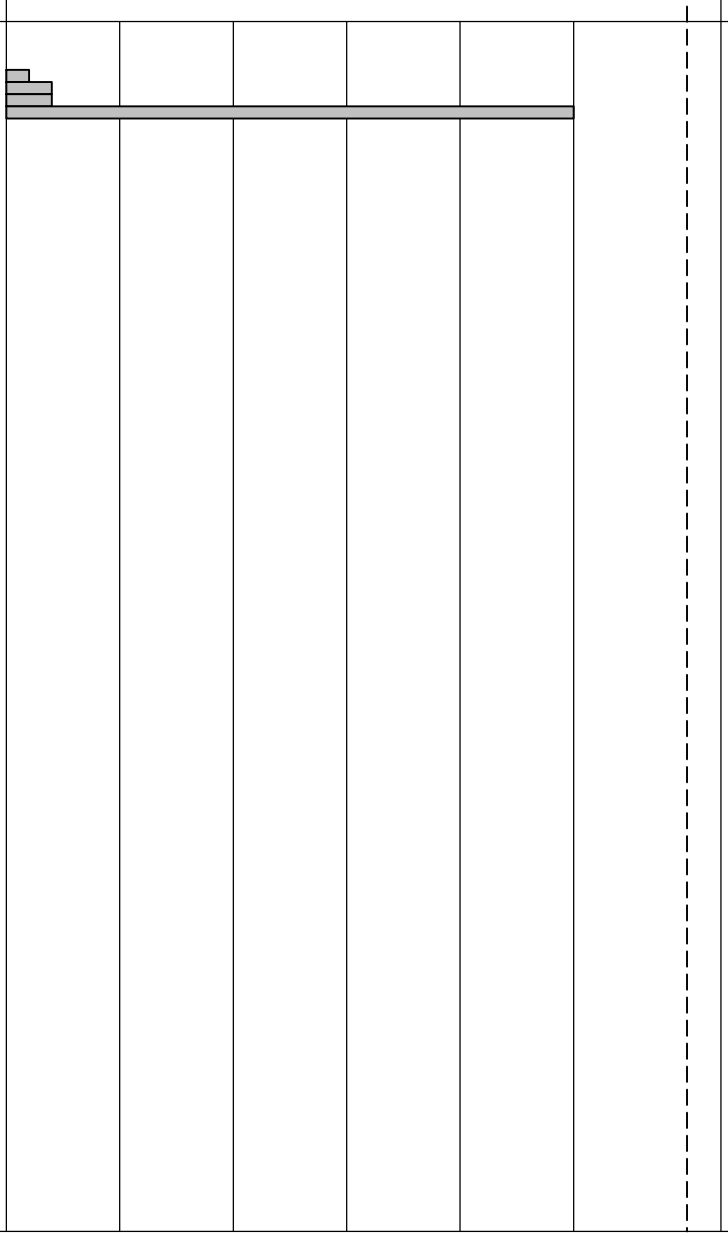
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPBPD01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-03-21<br>18-03-21 | 46.48 | E 206,820.1 N 266,358.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 1<br>2 2 25 | | | Refusal. 25 blows for 0mm. |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 0.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

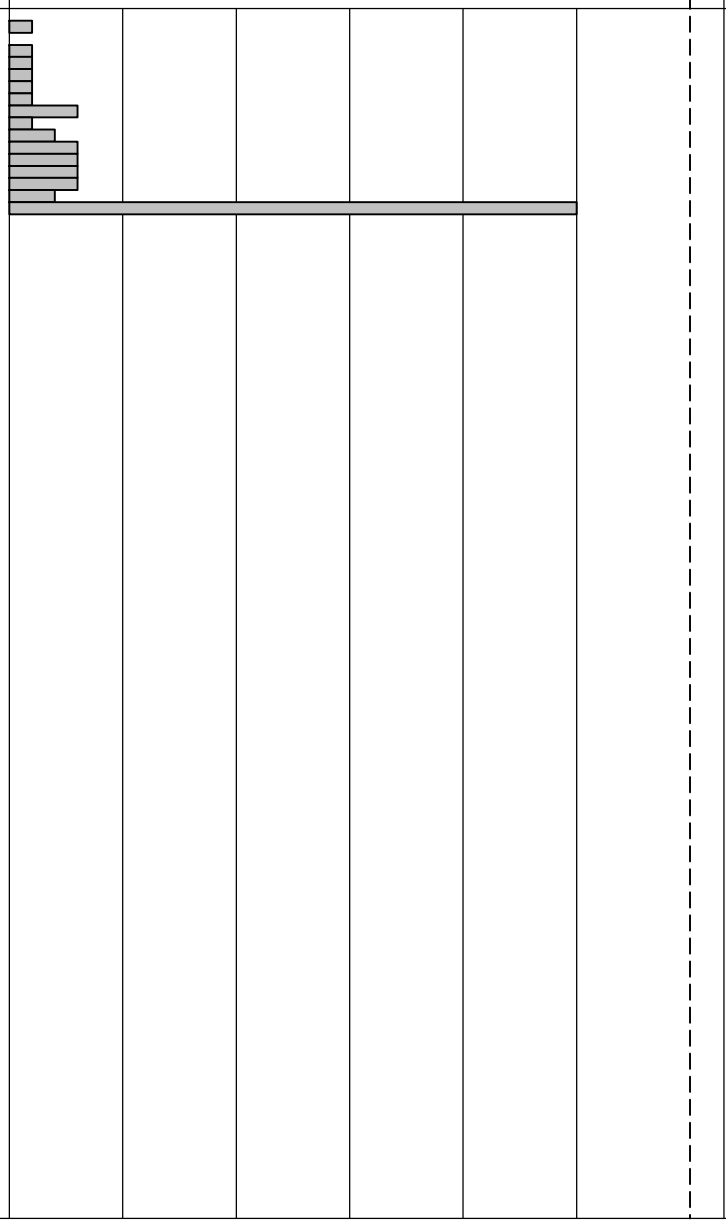
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPBPD02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 18-03-21<br>18-03-21 | 47.12 | E 206,869.9 N 266,224.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 1 1 | | | |
| | 1 1 1 3 1 | | | |
| 1 | 2 3 3 3 3 | | | |
| | 2 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

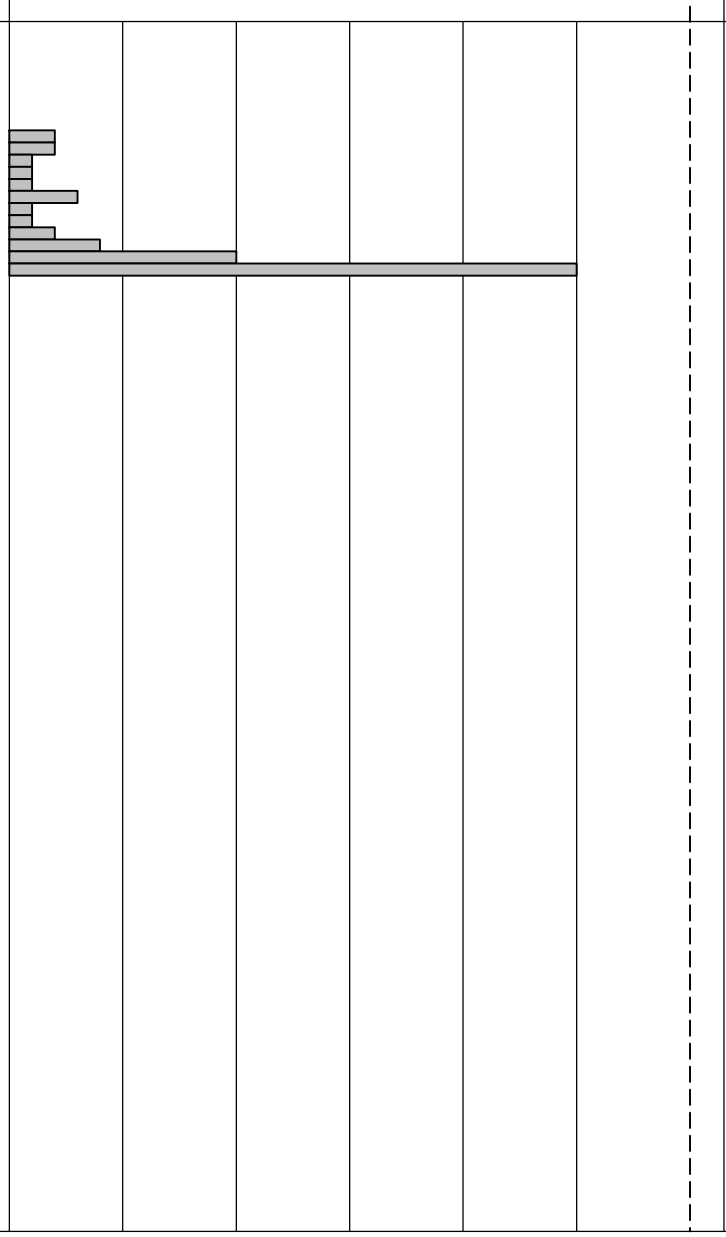
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPBPE01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 48.15 | E 206,887.4 N 266,096.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 2 | | | |
| 1 | 2 1 1 1 3 | | | |
| | 1 1 2 4 10 | | | |
| 2 | 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | DPTPBPE02 |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 48.28 | E 206,954.8 N 266,027.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 1 1 1 | | | |
| | 1 1 2 2 1 | | | |
| 1 | 1 1 2 4 6 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 1.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPMMA01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-02-21<br>11-02-21 | 39.72 | E 203,775.3 N 269,451.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 1 0 0 0 | | | |
| | 0 0 1 1 1 | | | |
| 4 | 1 1 1 1 1 | | | |
| | 2 2 3 3 3 | | | |
| 5 | 2 2 1 2 2 | | | |
| | 2 3 3 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: PMcG | Logged By: PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

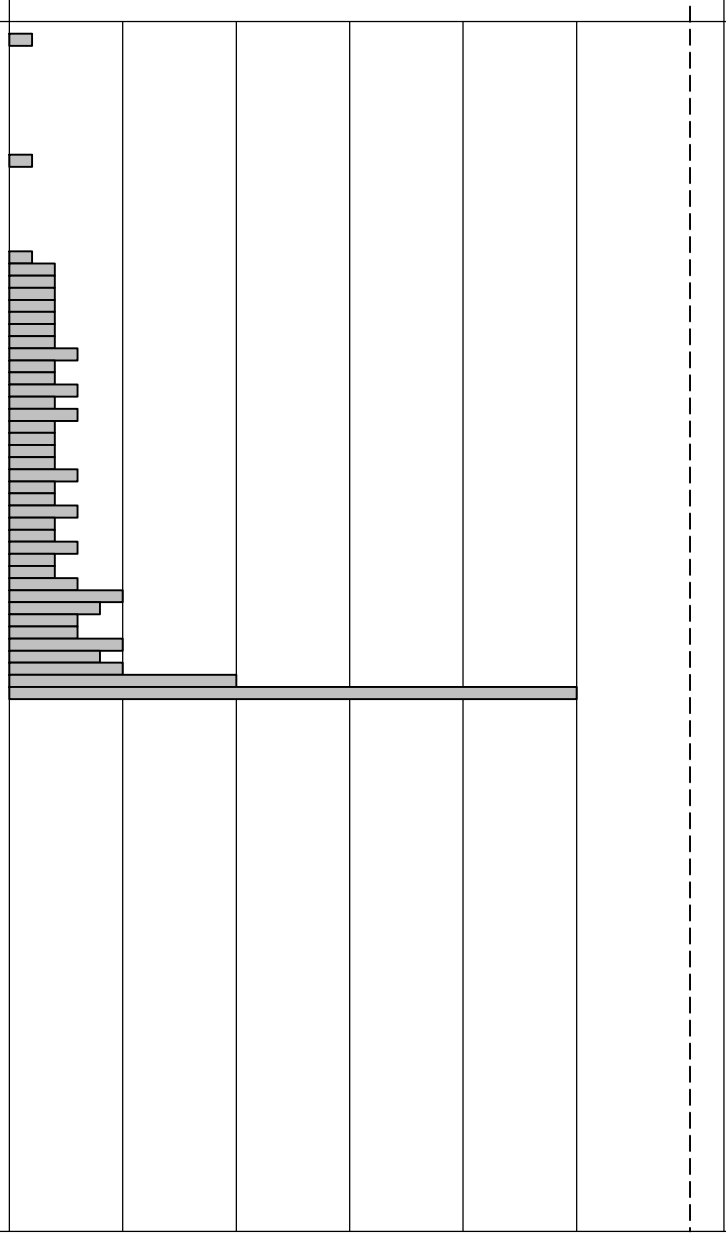
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPMMA02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-02-21<br>11-02-21 | 40.21 | E 203,763.2 N 269,421.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 1 | | | |
| 2 | 2 2 2 2 2 | | | |
| | 2 2 3 2 2 | | | |
| 3 | 3 2 3 2 2 | | | |
| | 2 2 3 2 2 | | | |
| 4 | 3 2 2 3 2 | | | |
| | 2 3 5 4 3 | | | |
| 5 | 3 5 4 5 10 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPMMB01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-03-21<br>15-03-21 | 44.17 | E 205,746.2 N 266,135.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 0 2 2 2 2<br>2 2 2 2 22 | | | |
| 3 | 1 2 2 3 2<br>4 4 6 4 9 | | | |
| 4 | 9 10 25 | | | Refusal. 25 blows for 80mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

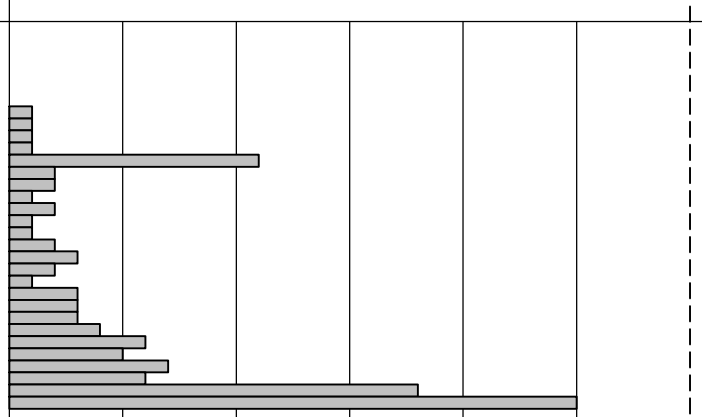
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPMMB02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-03-21<br>15-03-21 | 42.76 | E 205,750.1 N 266,160.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 1 1 1 | | | |
| 1 | 1 11 2 2 1 | | | |
| | 2 1 1 2 3 | | | |
| 2 | 2 1 3 3 3 | | | |
| | 4 6 5 7 6 | | | |
| 3 | 18 25 | | | Refusal. 25 blows for 20mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

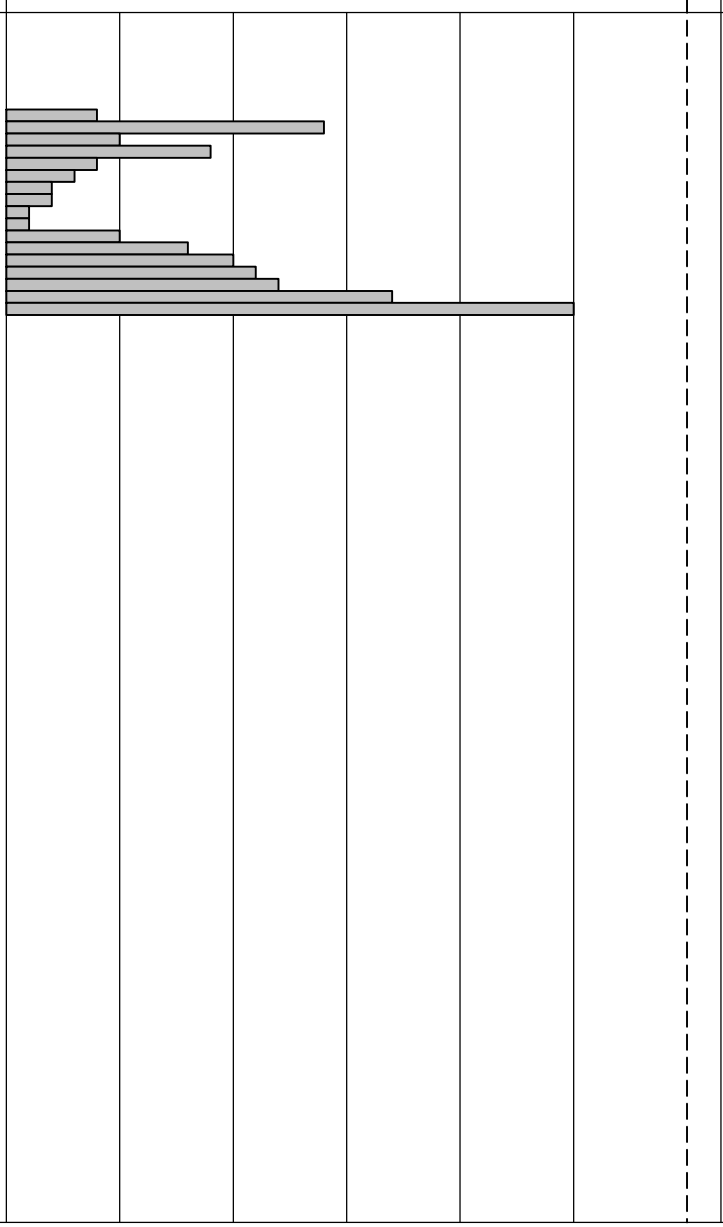
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPMMC01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-03-21<br>15-03-21 | 51.32 | E 209,665.1 N 263,350.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 4 14 | | | |
| 1 | 5 9 4 3 2 | | | |
| | 2 1 1 5 8 | | | |
| 2 | 10 11 12 17 25 | | | Refusal. 25 blows for 20mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPMMC02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-03-21<br>15-03-21 | 51.30 | E 209,686.1 N 263,331.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 17 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

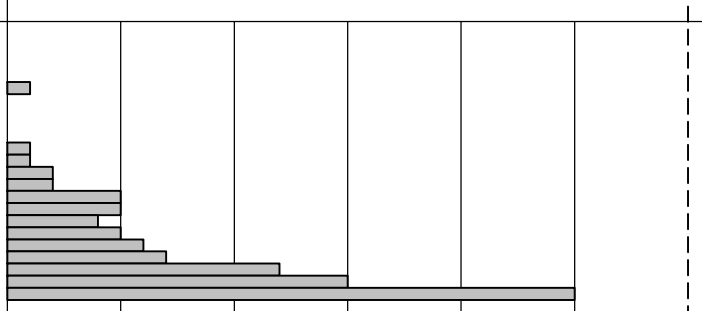
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSA01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-02-21<br>10-02-21 | 37.04 | E 203,158.2 N 271,074.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 1 2 2 5 | | | |
| | 5 4 5 6 7 | | | |
| 2 | 12 15 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

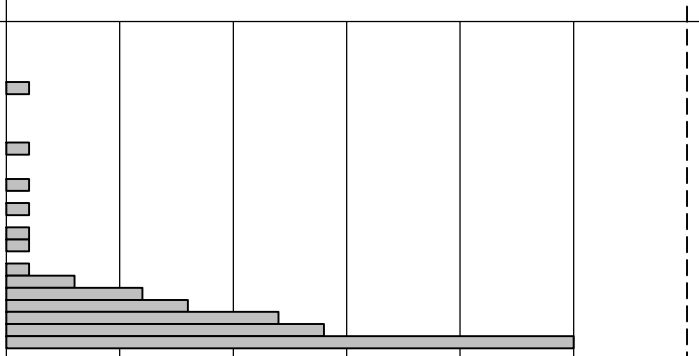
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSA02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-02-21<br>11-02-21 | 37.31 | E 203,108.1 N 271,164.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 1 0 | | | |
| | 1 0 1 1 0 | | | |
| 2 | 1 3 6 8 12 | | | |
| | 14 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSA03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 37.27 | E 203,054.5 N 271,249.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 1 1 | | | |
| 2 | 1 1 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 3 | 1 1 1 11 8 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 3.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSA04** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 37.13 | E 203,002.7 N 271,334.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 3 | 1 5 6 8 7 | | | |
| | 5 5 5 5 5 | | | |
| 4 | 15 18 | | | Refusal. 18 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 4.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

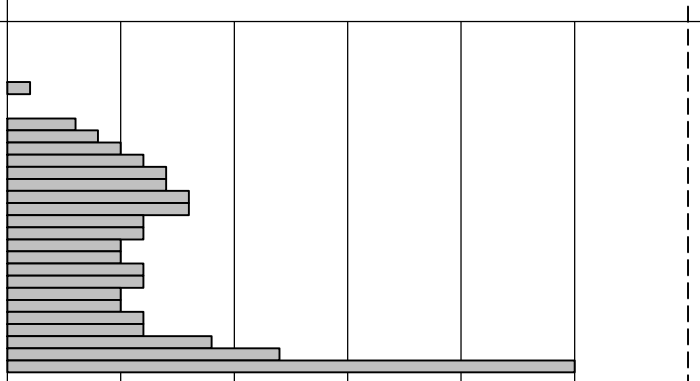
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSD01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-02-21<br>15-02-21 | 37.63 | E 204,543.7 N 270,670.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0<br>1 0 0 3 4<br>5 6 7 7 8<br>8 6 6 5 5<br>6 6 5 5 6<br>6 9 12 25 | 5 10 15 20 25 30 | | Refusal. 25 blows for 0mm. |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSD02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-02-21<br>11-02-21 | 37.94 | E 204,634.5 N 270,699.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Remarks |
|---|---|---|
| | 0 0 0 0 0 | |
| | 1 0 0 0 0 | |
| 1 | 1 0 0 0 0 | |
| | 1 0 0 0 0 | |
| 2 | 1 0 0 0 0 | |
| | 1 0 0 0 0 | |
| 3 | 1 0 0 0 0 | |
| | 1 0 0 1 1 | |
| | 4 2 3 2 2 | |
| 4 | 3 3 3 6 8 | |
| | 15 25 | Refusal. 25 blows for 0mm. |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

Torque (Nm)

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 4.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

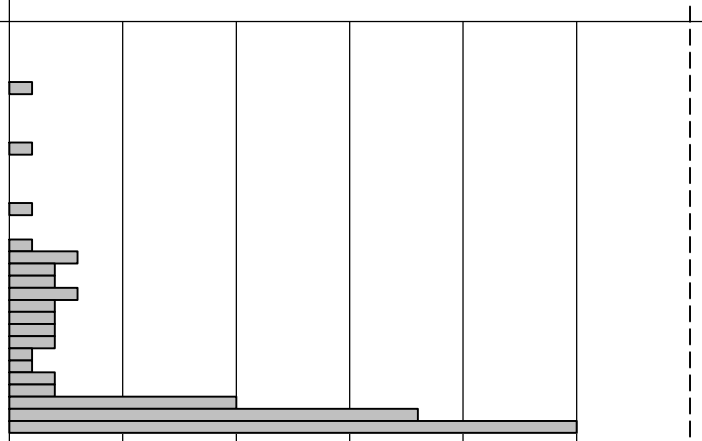
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSE01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-02-21<br>15-02-21 | 37.12 | E 204,537.2 N 269,973.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 1 3 | | | |
| 2 | 2 2 3 2 2 | | | |
| | 2 2 1 1 2 | | | |
| 3 | 2 10 18 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

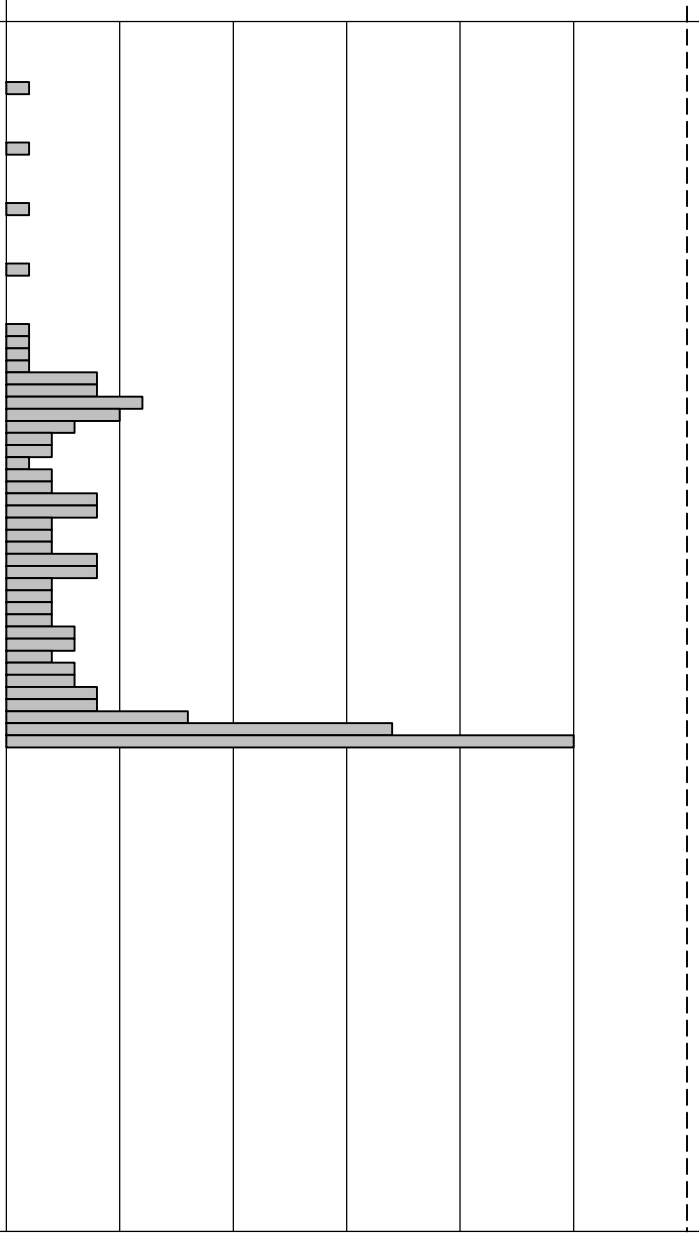
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSE02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-02-21<br>15-02-21 | 38.27 | E 204,486.4 N 270,060.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 1 1 1 4 | | | |
| 3 | 4 6 5 3 2 | | | |
| | 2 1 2 2 4 | | | |
| 4 | 4 2 2 2 4 | | | |
| | 4 2 2 2 2 | | | |
| 5 | 3 3 2 3 3 | | | |
| | 4 4 8 17 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSE03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-02-21<br>15-02-21 | 38.25 | E 204,433.1 N 270,145.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 1 0 0 1 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 1 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 5 | 2 2 4 5 4 | | | |
| | 3 3 3 2 2 | | | |
| 6 | 2 2 2 5 8 | | | |
| | 9 20 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 6.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSE04** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-02-21<br>11-02-21 | 37.82 | E 204,385.2 N 270,228.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 0 1 1 1 | | | |
| | 1 1 1 6 8 | | | |
| 5 | 14 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | | |
|---|---|---|---|
| Hammer Wt (kg) | 50 | | GENERAL REMARKS |
| Hammer Drop (mm) | 500 | | DP terminated at 5.10m bgl. |
| Cone Dia (mm) | 40 | | |
| Cone Type | | | |
| Damper | | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSF01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-03-21<br>04-03-21 | 40.86 | E 205,231.6 N 268,885.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 1 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 4 | 1 2 2 2 3 | | | |
| | 3 5 5 5 18 | | | |
| 5 | 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSG01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-03-21<br>04-03-21 | 40.28 | E 205,031.6 N 268,463.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 1 1 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 2 | 1 2 1 2 18 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSG02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-03-21<br>04-03-21 | 44.39 | E 204,963.5 N 268,389.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>1 0 0 0 0<br>1 0 0 0 0<br>1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0<br>1 0 0 0 0<br>1 0 0 0 1 | | | |
| 3 | 1 1 0 0 0<br>1 0 0 0 0 | | | |
| 4 | 1 1 1 1 1<br>1 1 1 1 1 | | | |
| 5 | 2 2 4 5 4<br>3 3 3 2 2 | | | |
| 6 | 2 2 2 5 8<br>9 20 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 6.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSH01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-03-21<br>11-03-21 | 41.67 | E 205,750.5 N 266,964.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 4 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 5 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 6 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 7 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 8 | 0 0 2 2 2 | | | |
| | 5 7 8 6 25 | | | Refusal. 25 blows for 0mm. |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 8.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSH02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-03-21<br>11-03-21 | 41.80 | E 205,650.9 N 266,947.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 4 | 0 0 0 0 0 | | | |
| | 0 1 0 0 0 | | | |
| 5 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 6 | 0 0 0 0 0 | | | |
| | 0 0 1 0 0 | | | |
| 7 | 0 0 0 0 0 | | | |
| | 1 0 0 1 0 | | | |
| 8 | 0 0 0 0 0 | | | |
| | 0 0 0 6 2 | | | |
| 9 | 6 11 5 5 18 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 9.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSH03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-03-21<br>11-03-21 | 42.52 | E 205,547.8 N 266,934.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 1 0 0 0 | | | |
| 3 | 0 0 0 0 0 | | | |
| | 0 0 0 0 1 | | | |
| 4 | 1 2 2 2 5 | | | |
| | 4 5 4 5 7 | | | |
| 5 | 25 | | | Refusal. 25 blows for 10mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

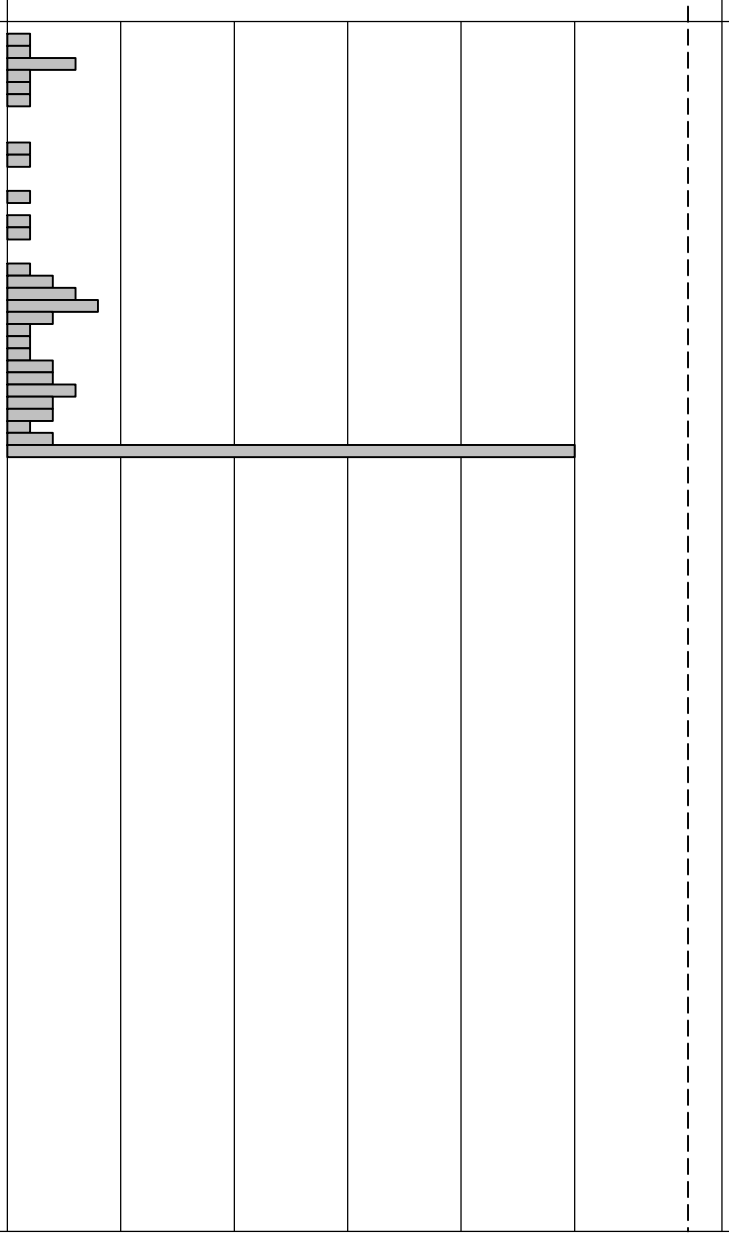
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSH04** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 11-03-21<br>11-03-21 | 42.41 | E 205,464.7 N 266,918.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 1 3 1 | | | |
| | 1 1 0 0 0 | | | |
| 1 | 1 1 0 0 1 | | | |
| | 0 1 1 0 0 | | | |
| 2 | 1 2 3 4 2 | | | |
| | 1 1 1 2 2 | | | |
| 3 | 3 2 2 1 2 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

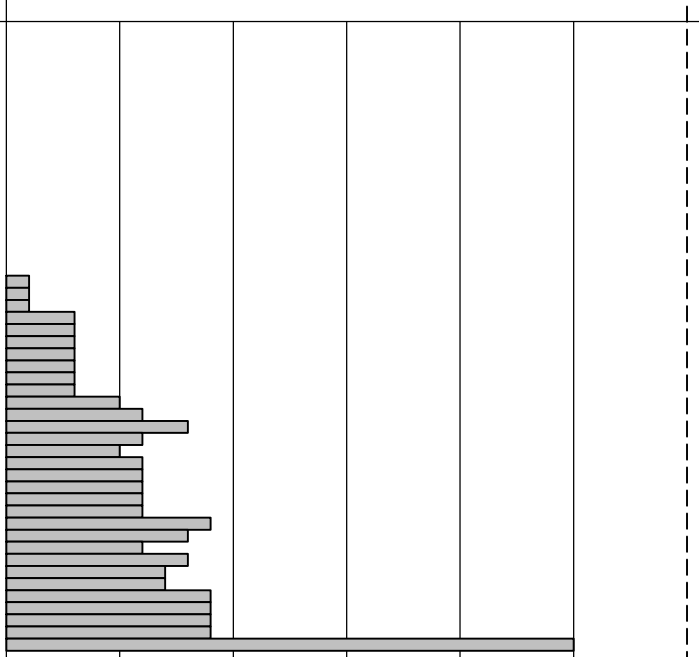
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSI01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 43.36 | E 206,804.0 N 266,958.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 1 1 1 3 | | | |
| | 3 3 3 3 3 | | | |
| 3 | 3 5 6 8 6 | | | |
| | 5 6 6 6 6 | | | |
| 4 | 6 9 8 6 8 | | | |
| | 7 7 9 9 9 | | | |
| 5 | 9 25 | | | Refusal. 25 blows for 90mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

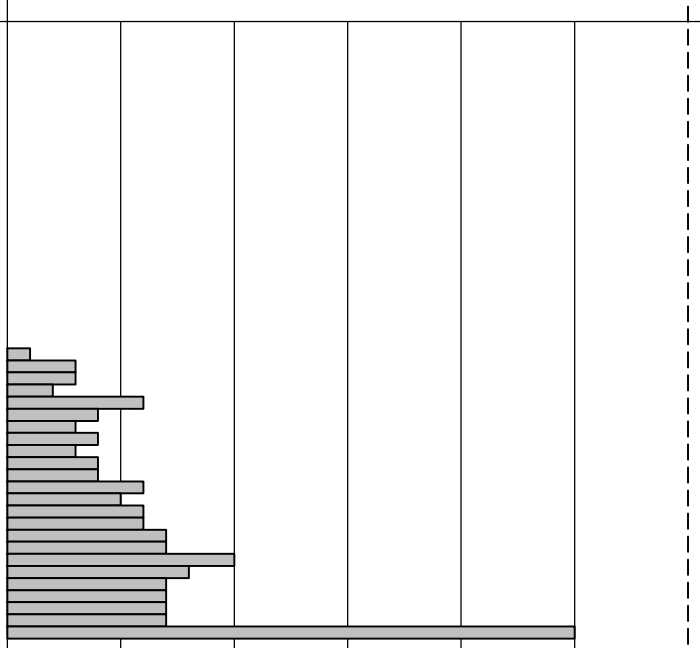
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSI02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 43.98 | E 206,878.3 N 267,025.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 1 3 3 | | | |
| 3 | 2 6 4 3 4 | | | |
| | 3 4 4 6 5 | | | |
| 4 | 6 6 7 7 10 | | | |
| | 8 7 7 7 7 | | | |
| 5 | 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

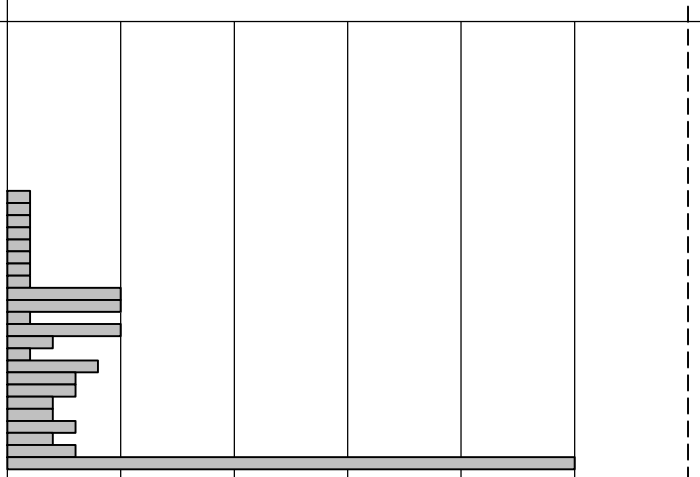
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSI03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-03-21<br>23-03-21 | 43.94 | E 206,953.7 N 267,090.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 1 | | | |
| 2 | 1 1 1 1 1<br>1 1 5 5 1<br>5 2 1 4 3 | | | |
| 3 | 3 2 2 3 2<br>3 25 | | | Refusal. 25 blows for 50mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

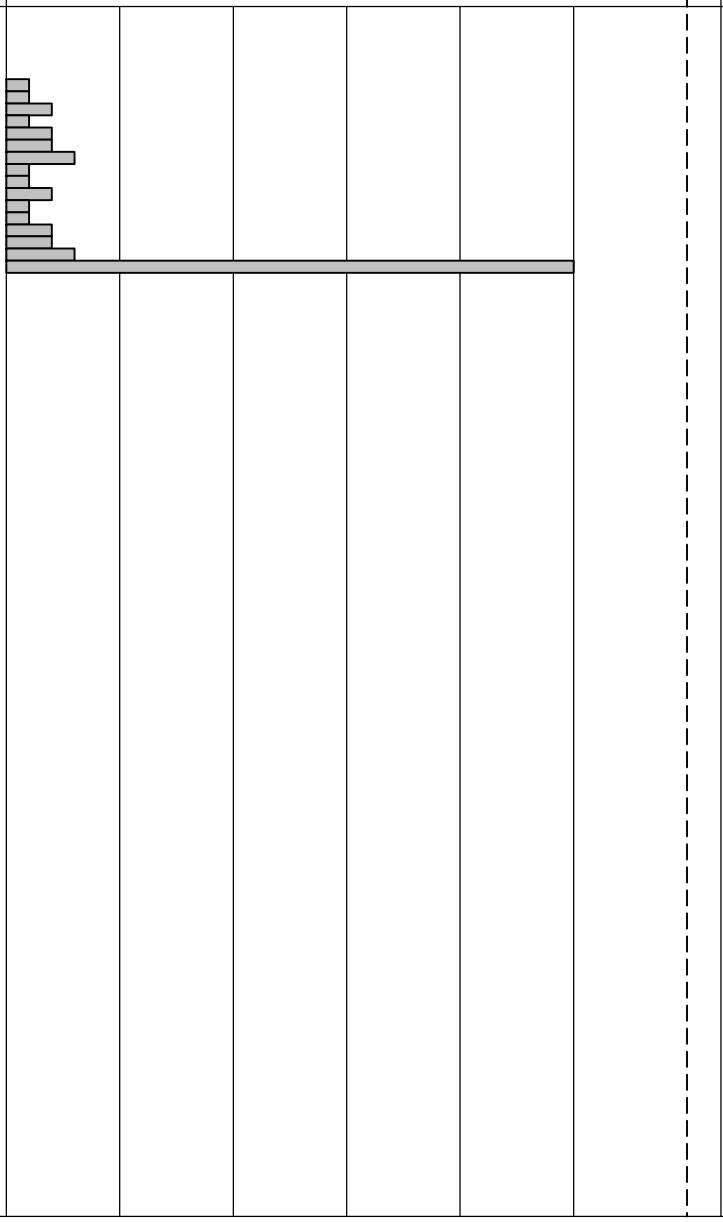
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSI04** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-03-21<br>23-03-21 | 44.66 | E 207,026.0 N 267,154.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 1 1 2 1 | | | |
| 1 | 2 2 3 1 1 | | | |
| | 2 1 1 2 2 | | | |
| 2 | 3 25 | | | Refusal. 25 blows for 50mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

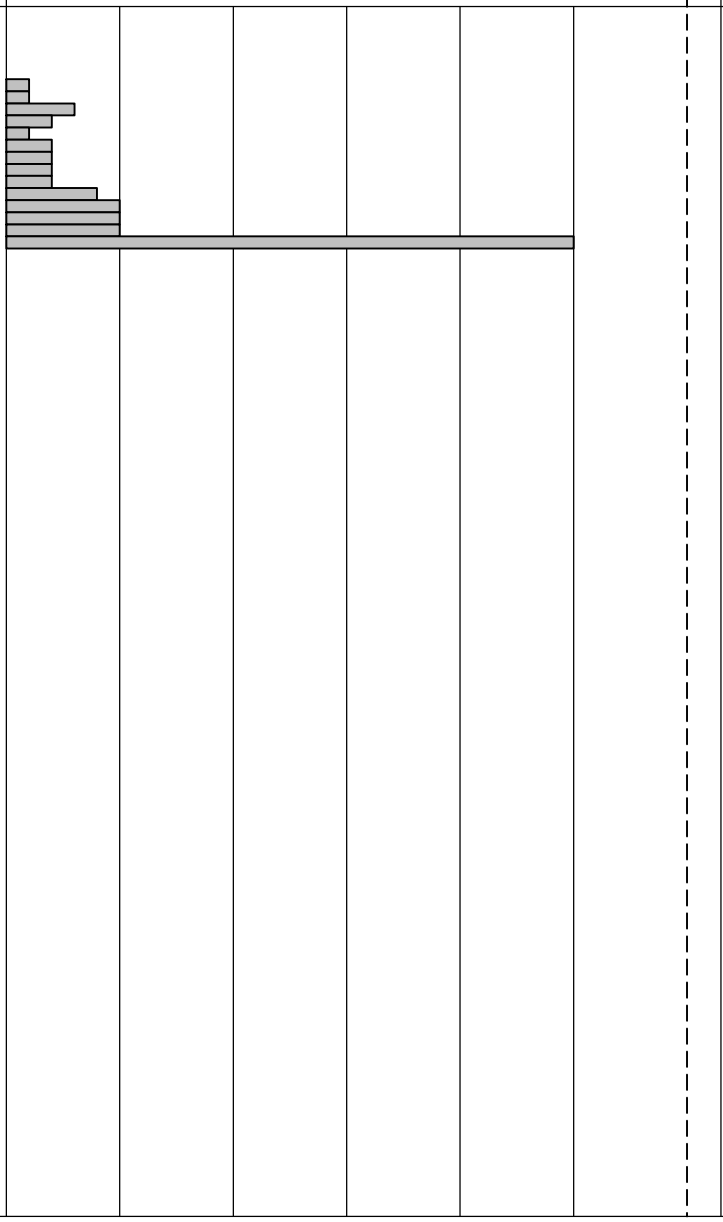
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSI05** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 23-03-21<br>23-03-21 | 43.97 | E 207,104.6 N 267,222.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 1 1 3 2 | | | |
| 1 | 1 2 2 2 2 | | | |
| | 4 5 5 5 25 | | | Refusal. 25 blows for 50mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSJ01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-03-21<br>16-03-21 | 41.78 | E 206,276.7 N 265,406.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 25 | | | |
| 1 | | | | Refusal. 25 blows for 50mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 0.90m bgl. Moved and set-up at DPTPPSJ01A

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

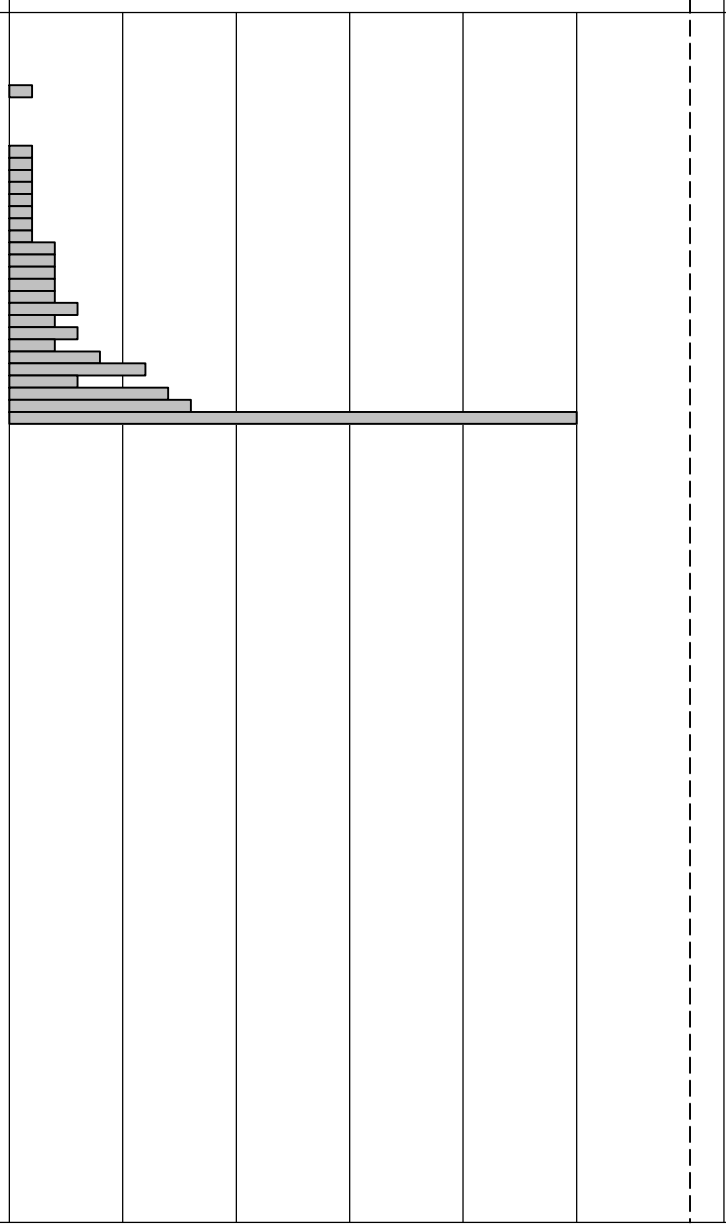
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | DPTPPSJ01A |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-03-21<br>16-03-21 | 41.80 | E 206,277.0 N 265,406.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 1 0 0 0 | | | |
| 1 | 0 1 1 1 1 | | | |
| | 1 1 1 1 2 | | | |
| 2 | 2 2 2 2 3 | | | |
| | 2 3 2 4 6 | | | |
| 3 | 3 7 8 25 | | | Refusal. 25 blows for 50mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

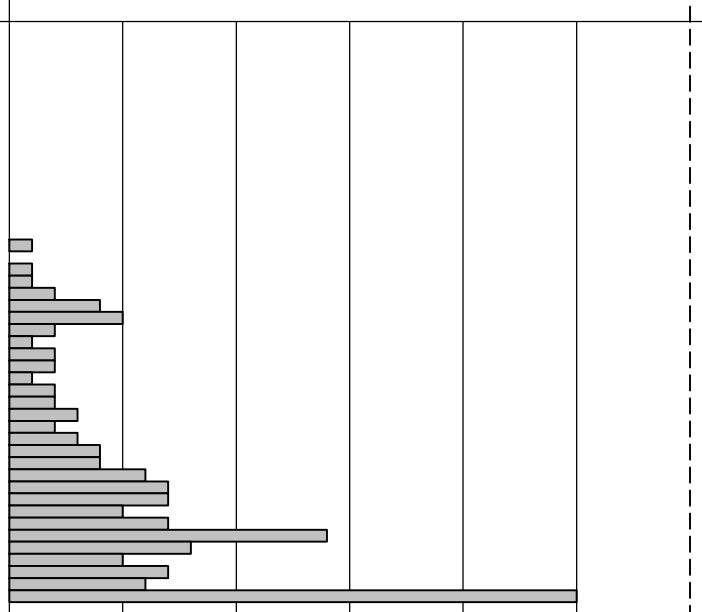
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPPSJ02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-03-21<br>16-03-21 | 42.00 | E 206,365.4 N 265,423.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 1 0 | | | |
| 2 | 1 1 2 4 5<br>2 1 2 2 1 | | | |
| 3 | 2 2 3 2 3<br>4 4 6 7 7 | | | |
| 4 | 5 7 14 8 5<br>7 6 25 | | | Refusal. 25 blows for 50mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPS277** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 05-03-21<br>05-03-21 | 39.30 | E 205,332.3 N 268,710.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 1 1 1 1 | | | |
| 4 | 1 20 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPS278** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 05-03-21<br>05-03-21 | 39.30 | E 205,250.4 N 268,650.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 0 0 0 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPS279** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-03-21<br>04-03-21 | 39.89 | E 205,202.1 N 268,558.0 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 1 1 1 1 | | | |
| | 1 4 7 6 5 | | | |
| 3 | 5 4 4 6 10 | | | |
| | 15 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: PMcG | Logged By: PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPS280** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-03-21<br>04-03-21 | 40.26 | E 205,116.5 N 268,511.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 1 1 3 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 1.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPS282** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-03-21<br>04-03-21 | 40.20 | E 205,057.7 N 268,550.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 1 1 | | | |
| | 1 1 1 1 1 | | | |
| 2 | 1 1 2 2 2 | | | |
| | 2 3 3 9 12 | | | |
| 3 | 18 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

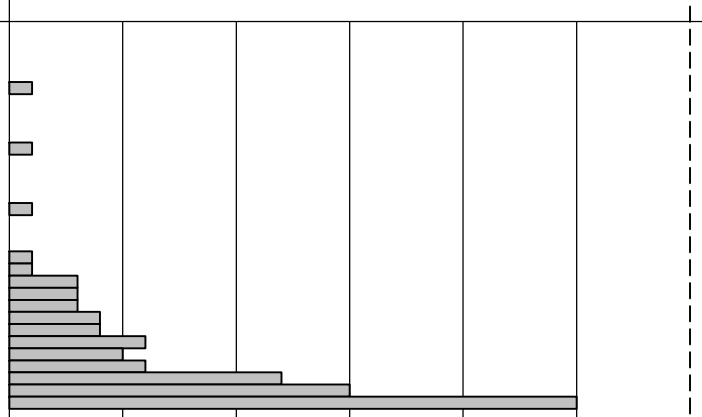
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPSSA01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-03-21<br>04-03-21 | 39.31 | E 205,114.9 N 268,681.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 1 | | | |
| | 1 3 3 3 4 | | | |
| | 4 6 5 6 12 | | | |
| 3 | 15 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPSSA02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-03-21<br>04-03-21 | 39.44 | E 205,087.8 N 268,654.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 5 10 11 11 16 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

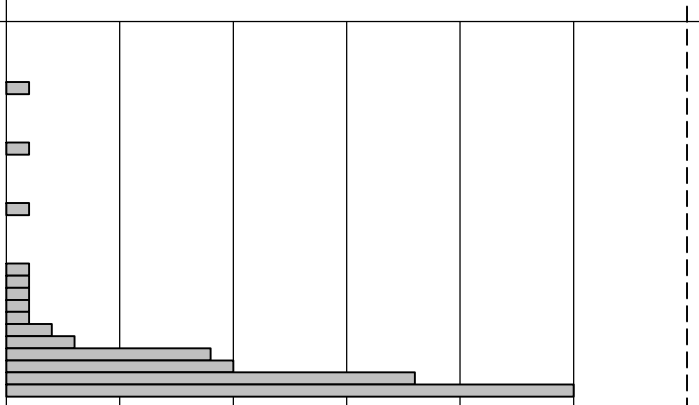
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPSSA03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 03-03-21<br>03-03-21 | 39.54 | E 205,064.5 N 268,630.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 1 1 1 1 | | | |
| | 2 3 9 10 18 | | | |
| 3 | 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: DK | Logged By: DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

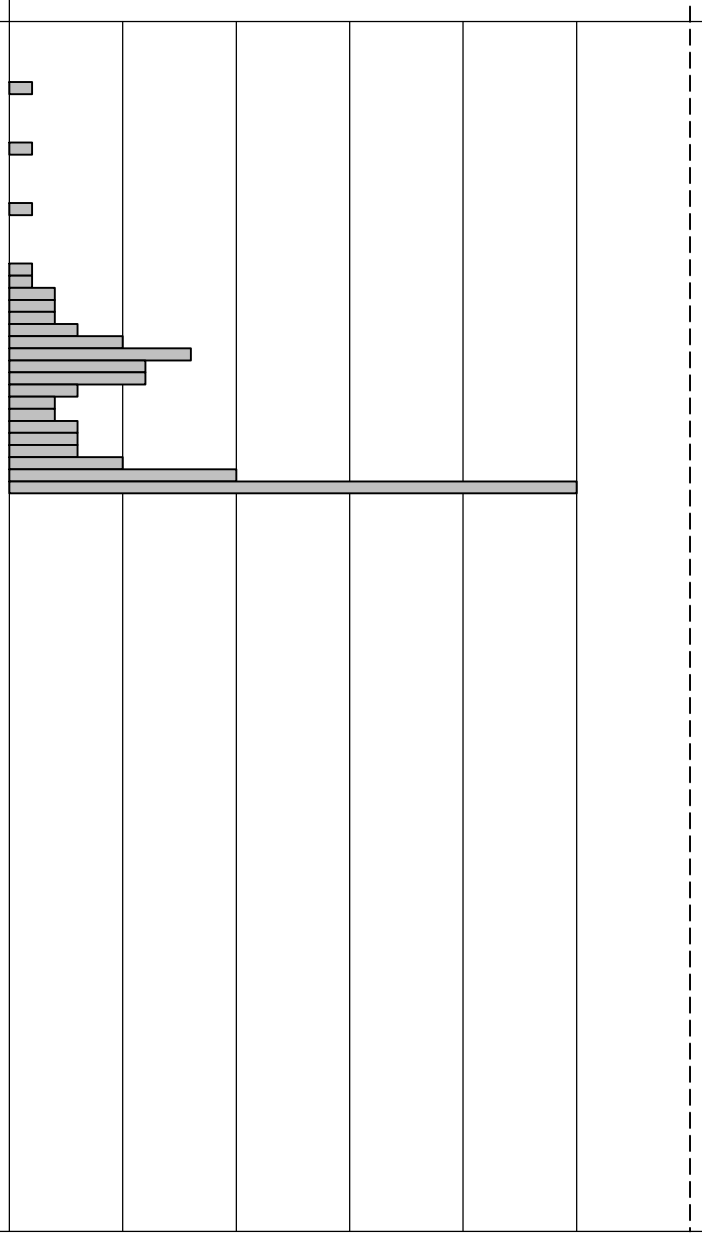
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPSSA04** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 03-03-21<br>03-03-21 | 40.97 | E 205,019.8 N 268,626.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 1 2 2 2 | | | |
| | 3 5 8 6 6 | | | |
| 3 | 3 2 2 3 3 | | | |
| | 3 5 10 25 | | | |
| 4 | | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPSSA05** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-03-21<br>04-03-21 | 39.44 | E 205,102.3 N 268,599.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 1 2 2 3 | | | |
| 2 | 8 12 19 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.30m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

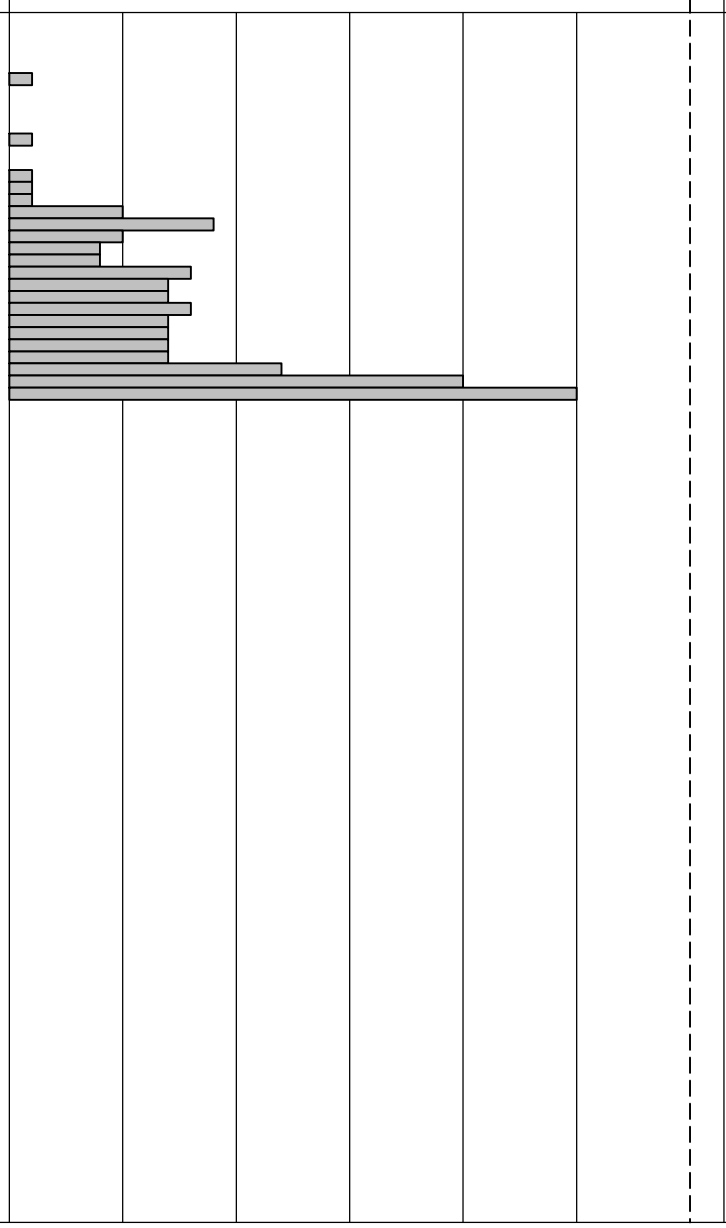
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPSSA06** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 04-03-21<br>04-03-21 | 39.34 | E 205,158.8 N 268,601.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 1 1 | | | |
| | 1 5 9 5 4 | | | |
| 2 | 4 8 7 7 8 | | | |
| | 7 7 7 7 12 | | | |
| 3 | 20 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

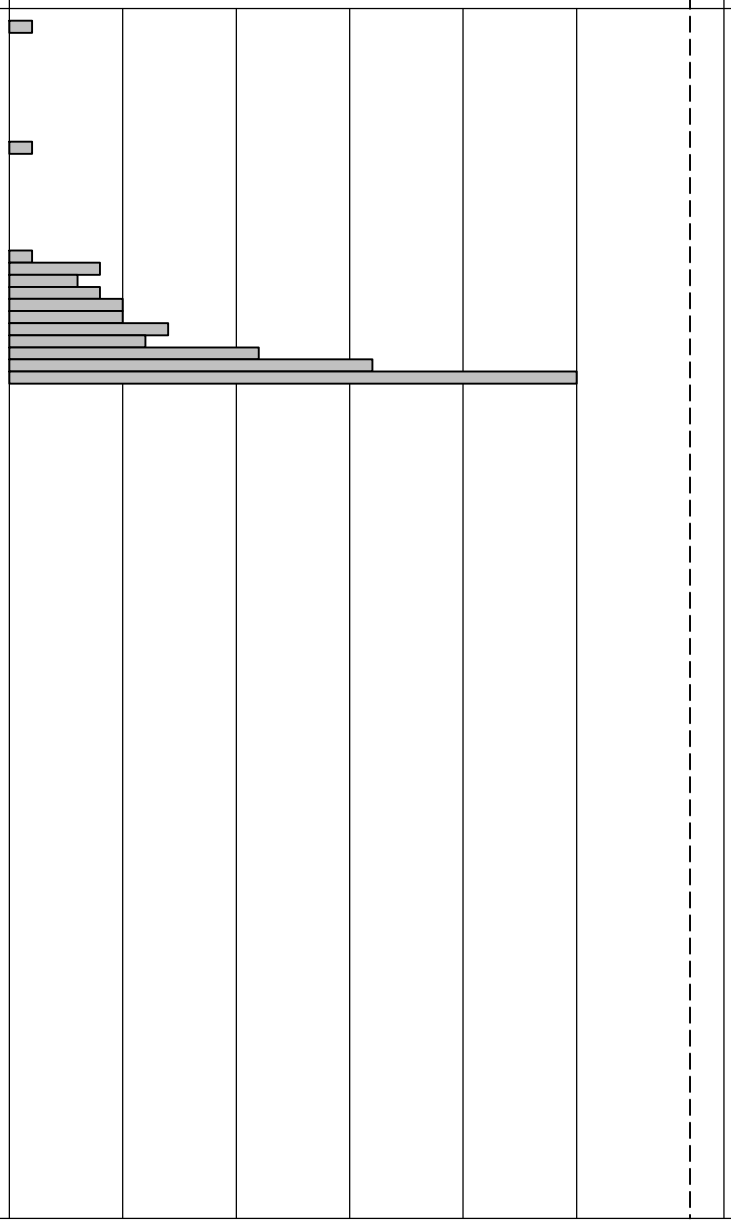
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-02-21<br>10-02-21 | 38.72 | E 204,022.0 N 269,727.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 1 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 1 4 3 4 5 | | | |
| | 5 7 6 11 16 | | | |
| 3 | 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-02-21<br>15-02-21 | 38.53 | E 203,739.6 N 270,180.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| | 1 1 1 11 15 | | | |
| 3 | 21 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT06** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 16-02-21<br>16-02-21 | 36.86 | E 204,126.1 N 271,221.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 1 2 1 2 | | | |
| | 2 6 54 2 2 | 54 | | |
| | 2 2 3 3 3 | | | |
| 4 | 4 5 8 9 15 | | | |
| | 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram scale: 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

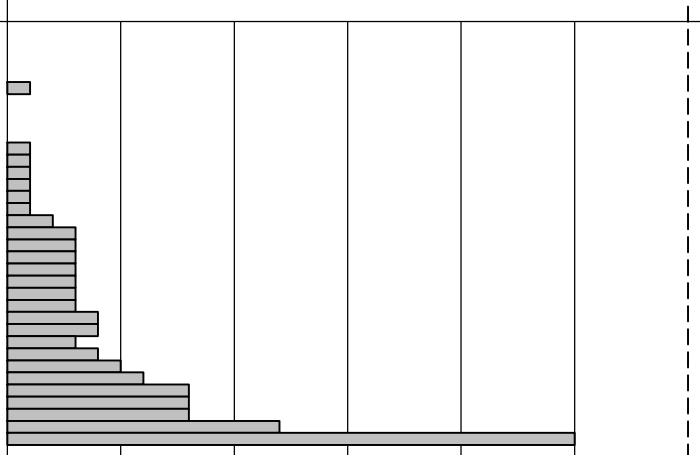
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT07** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-02-21<br>15-02-21 | 37.80 | E 204,464.5 N 270,775.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 1 1 1 1 | | | |
| | 1 2 3 3 3 | | | |
| 2 | 3 3 3 3 4 | | | |
| | 4 3 4 5 6 | | | |
| 3 | 8 8 8 12 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

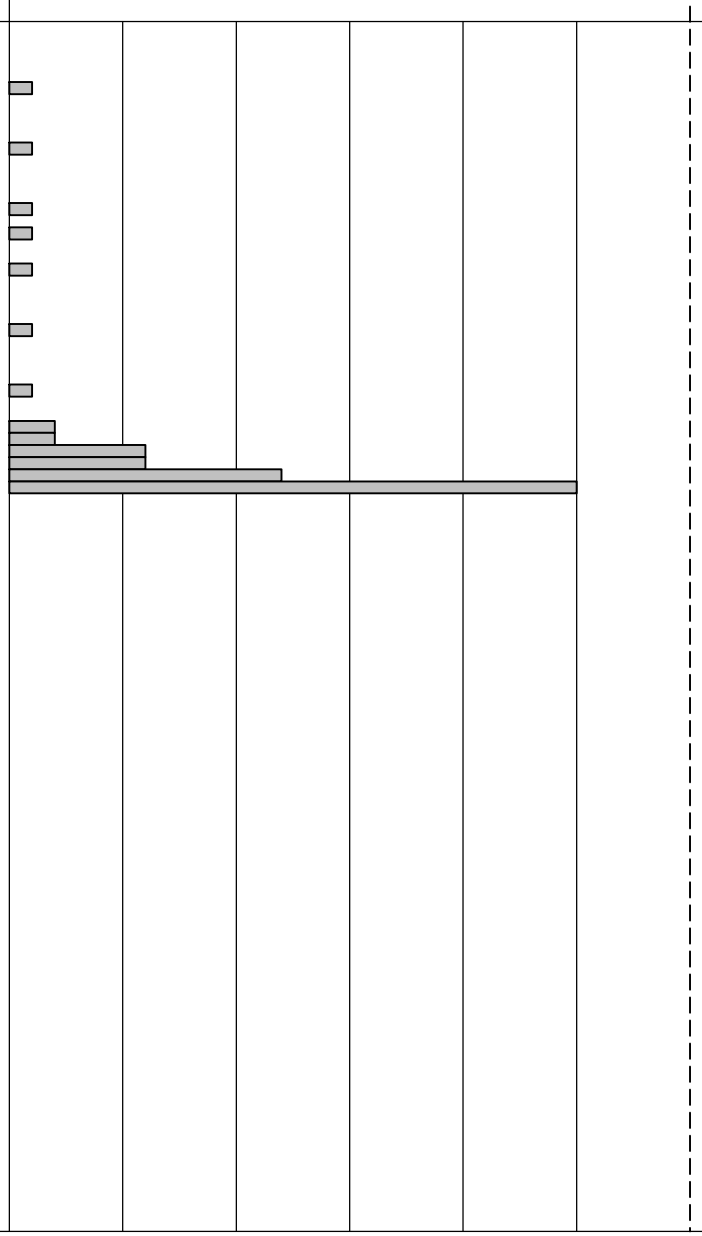
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT08** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-02-21<br>15-02-21 | 38.66 | E 204,609.9 N 270,335.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 1 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 6 6 12 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT09** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-02-21<br>10-02-21 | 39.62 | E 204,673.3 N 269,708.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 4 4 5 5 | | | |
| | 5 10 6 6 6 | | | |
| 5 | 6 4 4 4 4 | | | |
| | 4 3 3 3 3 | | | |
| 6 | 3 3 3 4 2 | | | |
| | 12 25 | | | Refusal. 25 blows for 0mm. |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 6.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

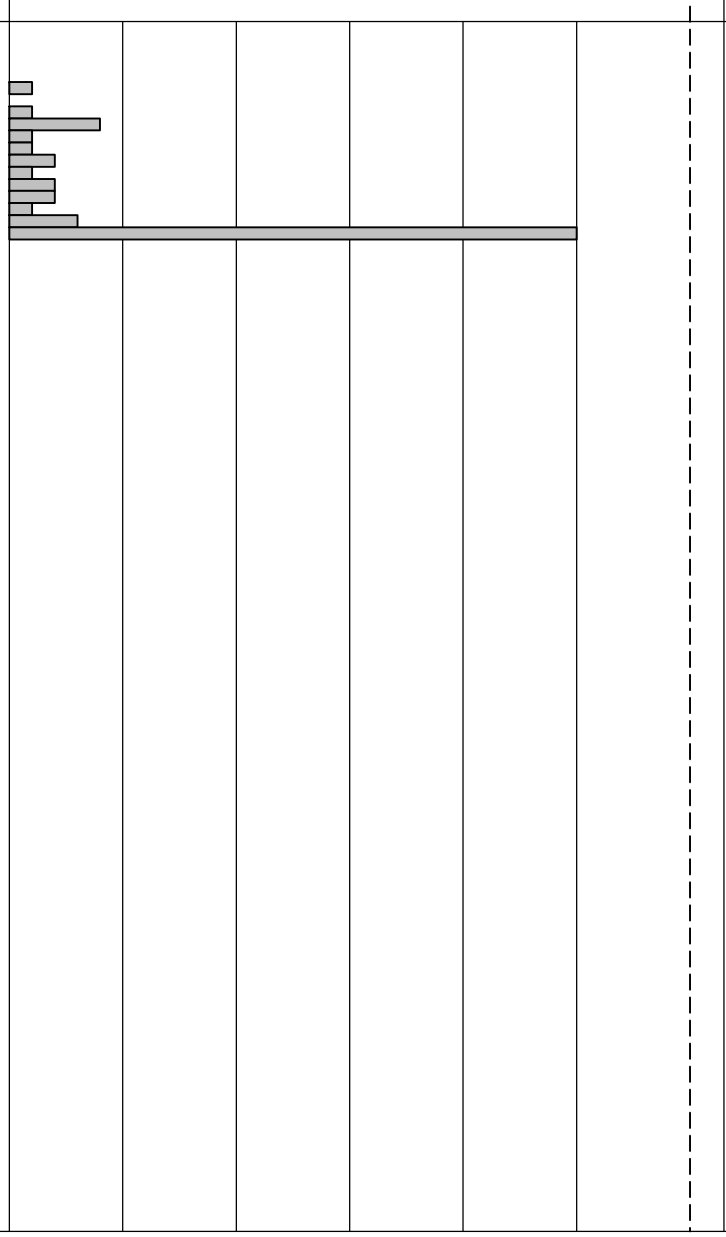
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT11** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-03-21<br>08-03-21 | 43.84 | E 206,058.6 N 268,278.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 1 4 1 | | | |
| 1 | 1 2 1 2 2 | | | |
| | 1 3 25 | | | Refusal. 25 blows for 0mm. |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 1.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT12** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-03-21<br>09-03-21 | 40.38 | E 205,689.9 N 267,791.5 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 4 9 13 19 25 | | | Refusal. 25 blows for 10mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT13** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-03-21<br>12-03-21 | 40.20 | E 205,968.8 N 266,464.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 3 | 0 0 0 0 0 | | | |
| | 0 0 2 1 1 | | | |
| 4 | 2 2 2 2 2 | | | |
| | 3 2 3 6 4 | | | |
| 5 | 3 4 4 6 6 | | | |
| | 8 10 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

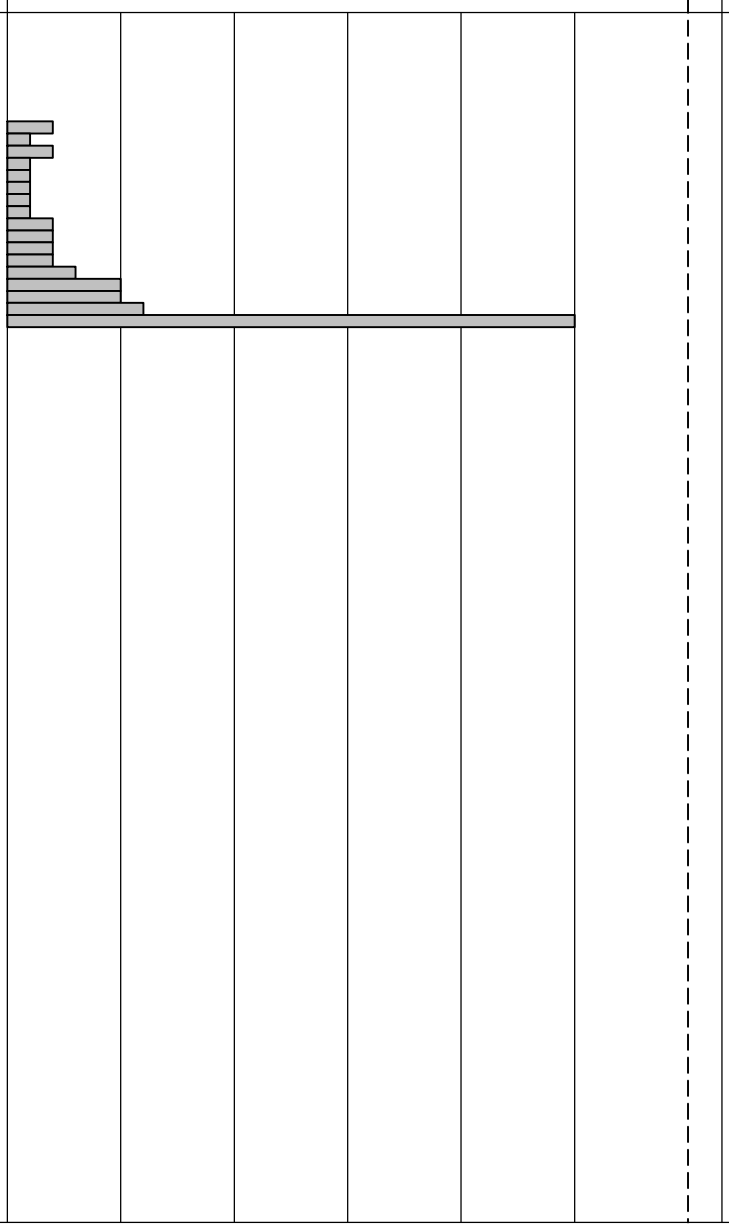
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT14** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 17-03-21<br>17-03-21 | 43.22 | E 206,349.5 N 266,164.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 2 | | | |
| 1 | 1 2 1 1 1 | | | |
| | 1 1 2 2 2 | | | |
| 2 | 2 3 5 5 6 | | | |
| | 25 | | | Refusal. 25 blows for 30mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.50m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

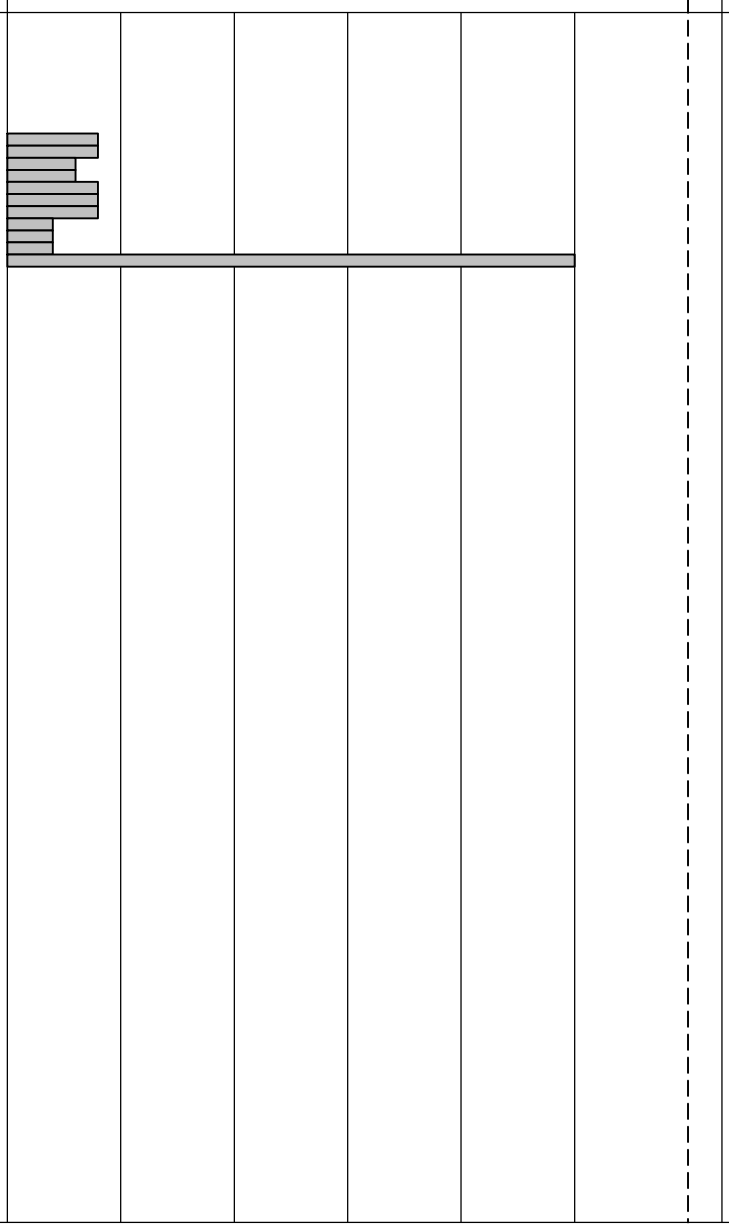
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT15** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 43.67 | E 207,005.4 N 266,312.6 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0<br>0 0 0 0 0<br>4 4 3 3 4<br>4 4 2 2 2<br>25 | | | Refusal. 25 blows for 10mm. |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 2.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

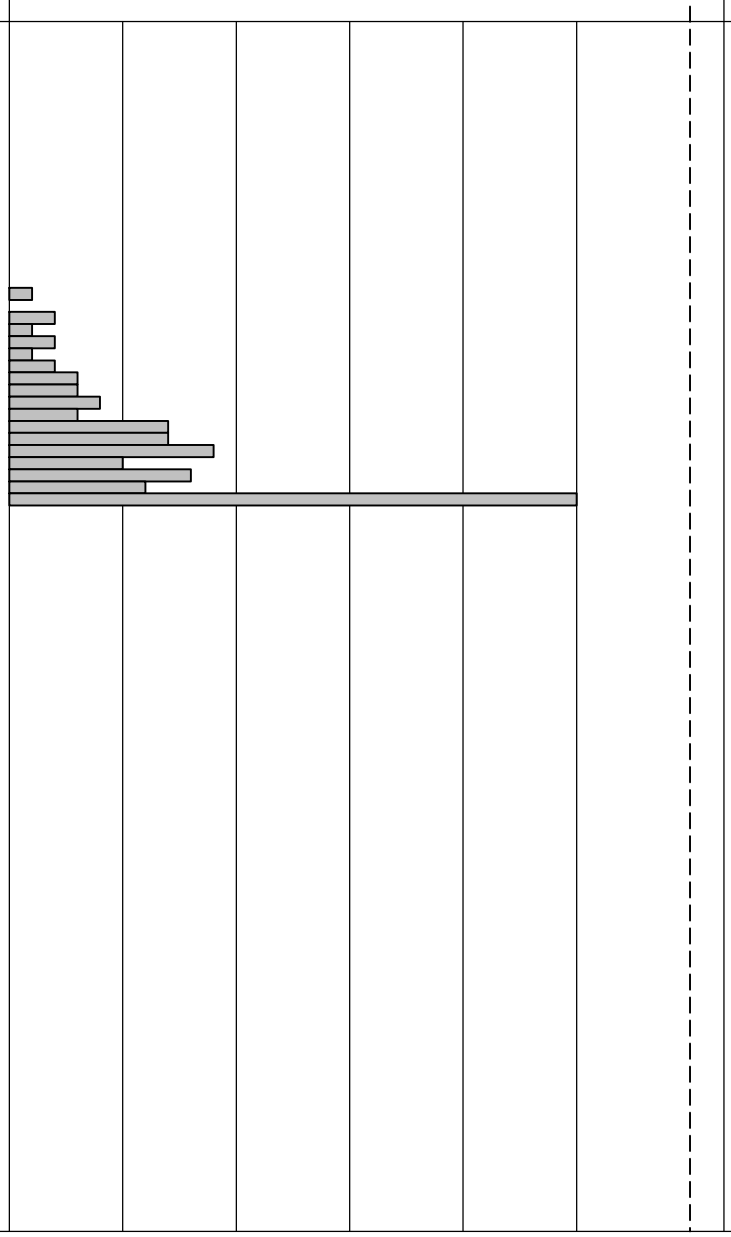
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT16** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 22-03-21<br>22-03-21 | 44.22 | E 206,851.0 N 266,643.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 0 0 1 0 2<br>1 2 1 2 3 | | | |
| 3 | 3 4 3 7 7<br>9 5 8 6 25 | | | |
| 4 | | | | Refusal. 25 blows for 10mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

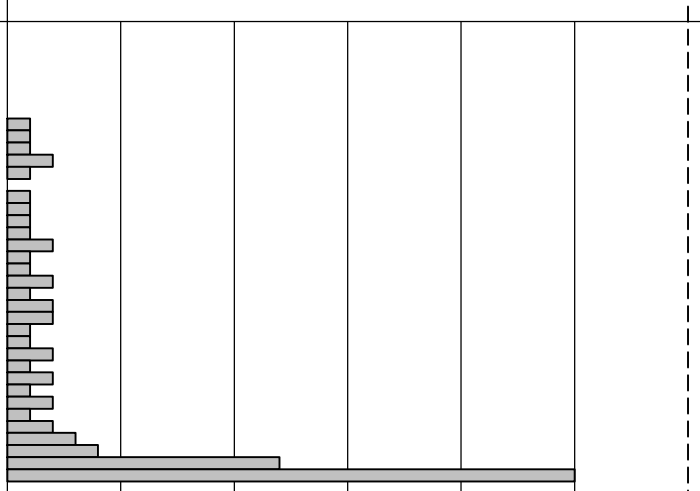
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT17** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 15-03-21<br>15-03-21 | 41.51 | E 206,122.9 N 265,556.4 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 1 1 | | | |
| 1 | 1 2 1 0 1 | | | |
| | 1 1 1 2 1 | | | |
| 2 | 1 2 1 2 2 | | | |
| | 1 1 2 1 2 | | | |
| 3 | 1 2 1 2 3 | | | |
| | 4 12 25 | | | Refusal. 25 blows for 10mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

Irish drilling LTD

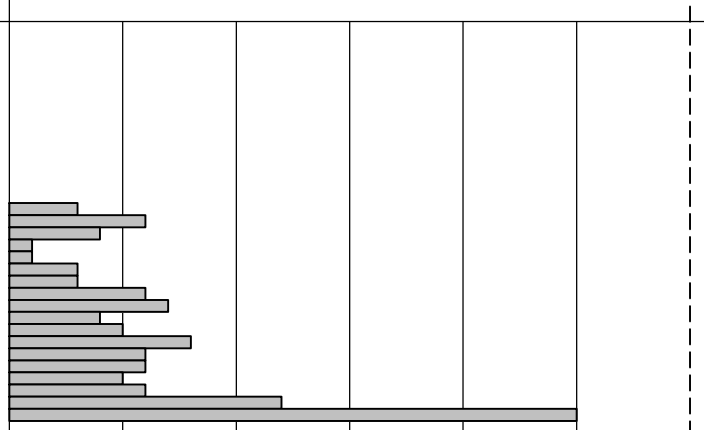
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT18** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 53.65 | E 208,017.5 N 264,524.8 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 3 6 4 1 1<br>3 3 6 7 4 | | | |
| 3 | 5 8 6 6 5<br>6 12 25 | | | Refusal. 25 blows for 10mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.20m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

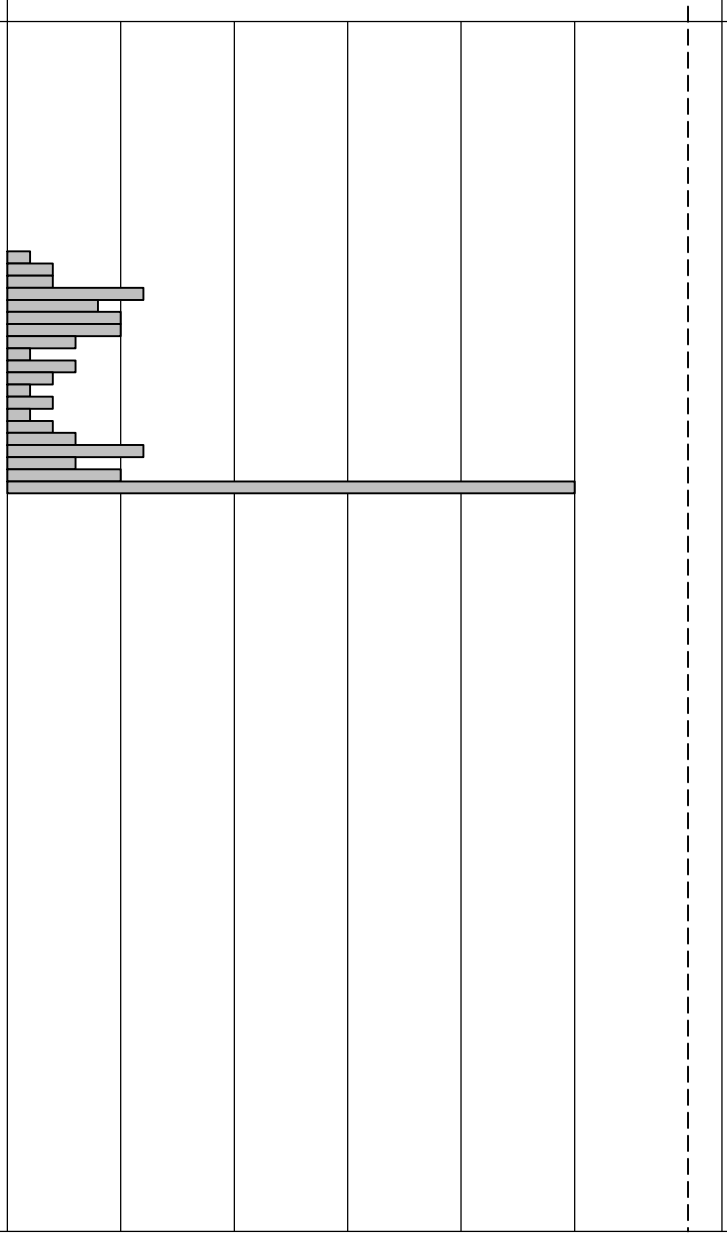
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT19** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 30-03-21<br>30-03-21 | 49.64 | E 208,330.1 N 264,332.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 1 | | | |
| 2 | 2 2 6 4 5<br>5 3 1 3 2 | | | |
| 3 | 1 2 1 2 3<br>6 3 5 25 | | | |
| 4 | | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT20** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 09-04-21<br>09-04-21 | 49.09 | E 209,215.1 N 264,190.3 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 4 6 3 1 | | | |
| | 2 1 2 4 4 | | | |
| 2 | 10 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | |
|---|---|---|
| Hammer Wt (kg) | 50 | |
| Hammer Drop (mm) | 500 | |
| Cone Dia (mm) | 40 | |
| Cone Type | | |
| Damper | | |

**GENERAL REMARKS**

DP terminated at 2.10m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

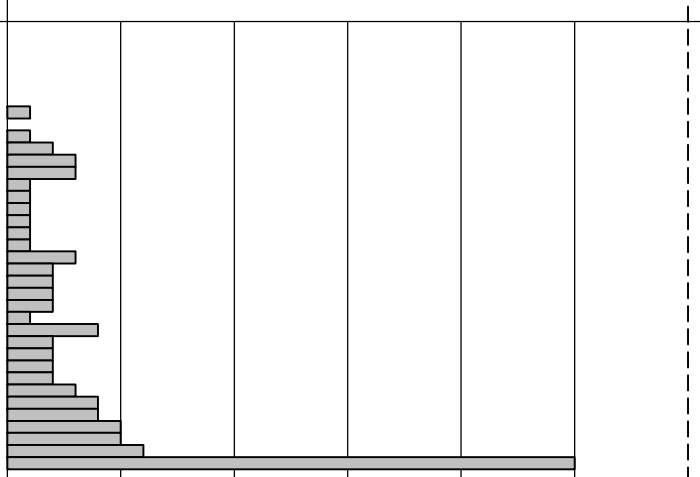
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT21** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 01-04-21<br>01-04-21 | 50.39 | E 209,472.0 N 263,656.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 1 0 1 | | | |
| 1 | 2 3 3 1 1 | | | |
| | 1 1 1 1 3 | | | |
| 2 | 2 2 2 2 1 | | | |
| | 4 2 2 2 2 | | | |
| 3 | 3 4 4 5 5 | | | |
| | 6 25 | | | Refusal. 25 blows for 30mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.60m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT22** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 07-04-21<br>07-04-21 | 58.25 | E 209,875.9 N 264,048.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 0 0 2 4 4<br>4 3 4 4 4 | | | |
| 3 | 25 | | | Refusal. 25 blows for 30mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.00m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

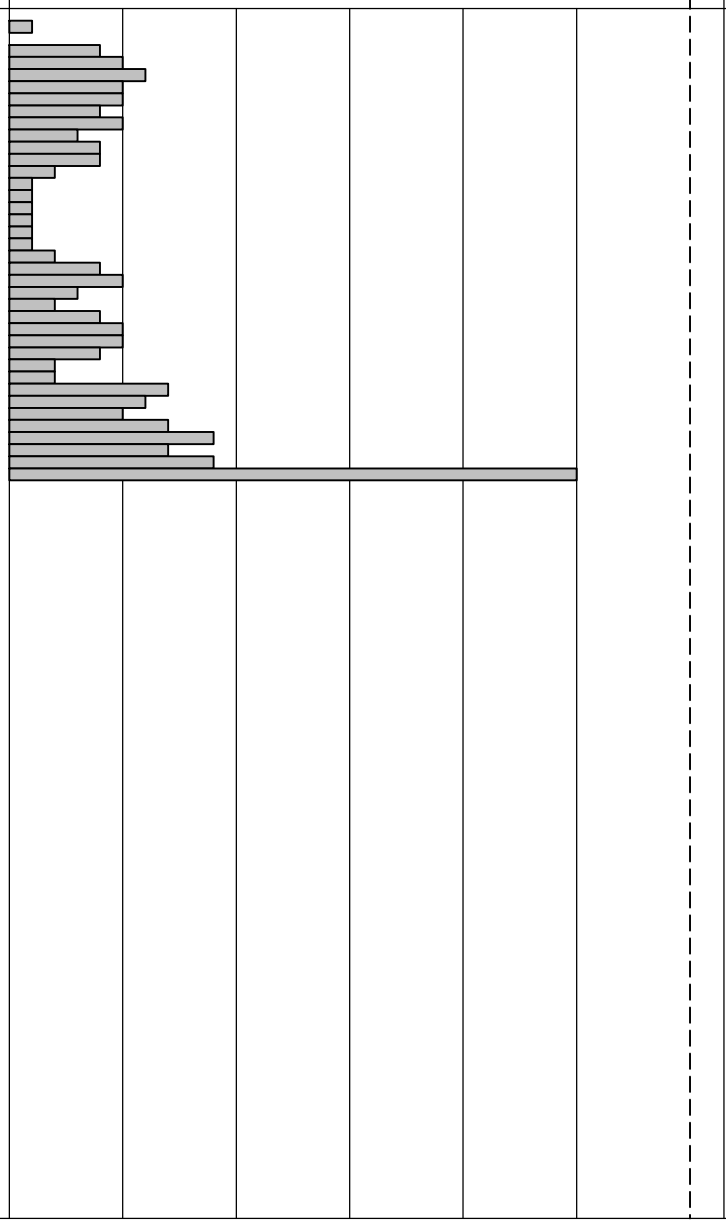
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT23** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 12-04-21<br>12-04-21 | 53.31 | E 209,683.0 N 264,623.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 1 0 4 5 | | | |
| | 6 5 5 4 5 | | | |
| 1 | 3 4 4 2 1 | | | |
| | 1 1 1 1 1 | | | |
| 2 | 2 4 5 3 2 | | | |
| | 4 5 5 4 2 | | | |
| 3 | 2 7 6 5 7 | | | |
| | 9 7 9 25 | | | |
| 4 | | | | Refusal. 25 blows for 10mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.80m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPT24** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 13-04-21<br>13-04-21 | 52.07 | E 209,877.1 N 265,184.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 1 | | | |
| 1 | 0 1 1 1 1 | | | |
| | 2 1 1 1 1 | | | |
| 2 | 2 1 1 2 3 | | | |
| | 3 3 3 8 9 | | | |
| 3 | 9 7 7 5 3 | | | |
| | 6 9 6 4 3 | | | |
| 4 | 13 13 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | | | |
|---|---|---|---|
| Hammer Wt (kg) | 50 | | GENERAL REMARKS |
| Hammer Drop (mm) | 500 | | DP terminated at 4.20m bgl. |
| Cone Dia (mm) | 40 | | |
| Cone Type | | | |
| Damper | | | |

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

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# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPTCCA** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 10-02-21<br>10-02-21 | 37.71 | E 204,443.0 N 269,870.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 4 | 1 1 2 3 6 | | | |
| | 4 4 3 3 3 | | | |
| 5 | 3 3 4 4 4 | | | |
| | 8 14 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 5.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: PMcG | Logged By: PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

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# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPTCCB** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 05-03-21<br>05-03-21 | 39.20 | E 205,256.3 N 268,700.2 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 1 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 2 | 1 0 0 0 0 | | | |
| | 1 0 0 0 0 | | | |
| 3 | 1 0 0 0 0 | | | |
| | 1 0 0 1 1 | | | |
| 4 | 1 1 1 1 1 | | | |
| | 1 2 3 3 4 | | | |
| | 4 6 7 12 25 | | | Refusal. 25 blows for 0mm. |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 4.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller PMcG | Logged By PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

Irish drilling LTD

# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPTCCC** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 08-03-21<br>08-03-21 | 44.35 | E 205,492.3 N 268,716.7 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 2 | | | |
| 1 | 2 2 1 2 2 | | | |
| | 2 5 5 5 6 | | | |
| 2 | 10 12 10 11 11 | | | |
| | 11 11 25 | | | Refusal. 25 blows for 0mm. |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

Diagram (N100 Values): 5, 10, 15, 20, 25, 30

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 2.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used: DPH Rig | Bit Design | Driller: PMcG | Logged By: PMcG |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS3_1.GDT 25/5/21

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# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | DPTPTCCD01 |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-03-21<br>24-03-21 | 41.43 | E 206,093.8 N 265,191.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) 5 10 15 20 25 30 | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 2 | 0 0 0 0 0 | | | |
| | 1 1 1 1 1 | | | |
| 3 | 1 0 2 2 3 | | | |
| | 4 4 5 5 3 | | | |
| 4 | 5 6 3 3 5 | | | |
| | 5 7 7 7 5 | | | |
| 5 | 6 7 6 8 25 | | | Refusal. 25 blows for 0mm. |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |

| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 5.40m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

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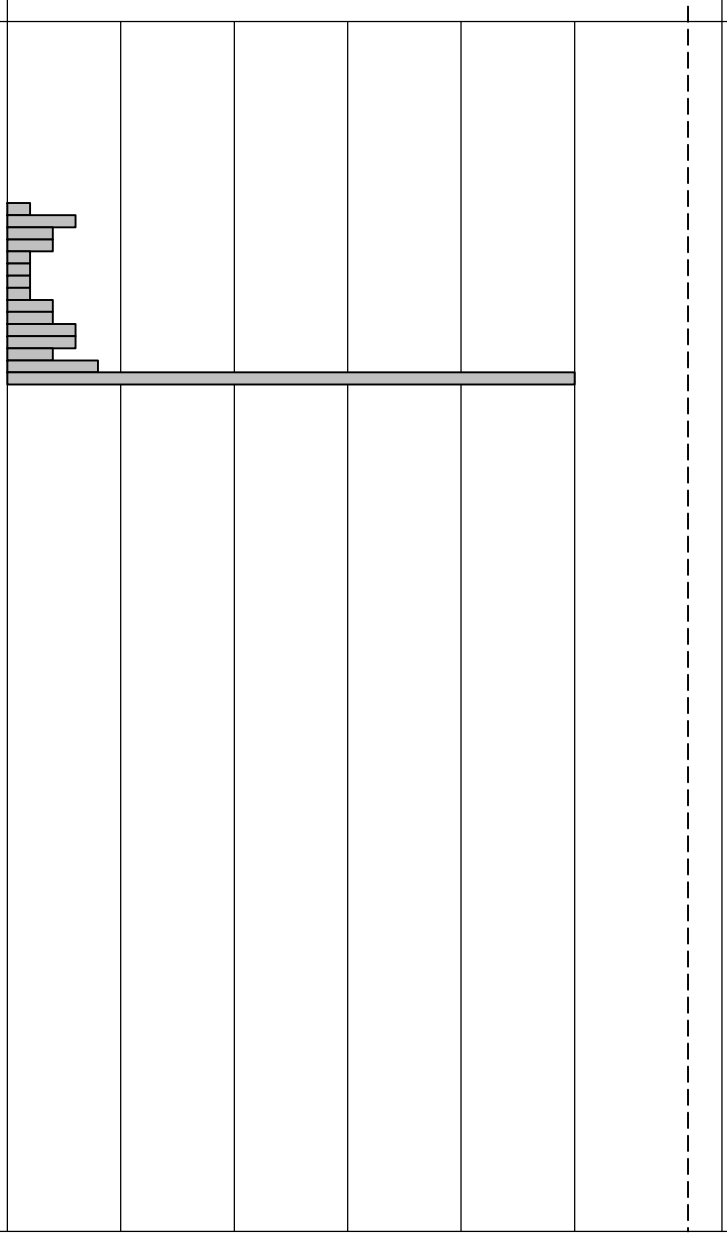
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | DPTPTCCD02 |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 24-03-21<br>24-03-21 | 41.40 | E 206,160.1 N 265,194.9 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1 |
| | Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| | 0 0 0 0 0 | | | |
| | 0 0 0 0 0 | | | |
| 1 | 0 0 0 0 0 | | | |
| | 1 3 2 2 1 | | | |
| 2 | 1 1 1 2 2 | | | |
| | 3 3 2 4 25 | | | |
| 3 | | | | Refusal. 25 blows for 20mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

GENERAL REMARKS

DP terminated at 2.90m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

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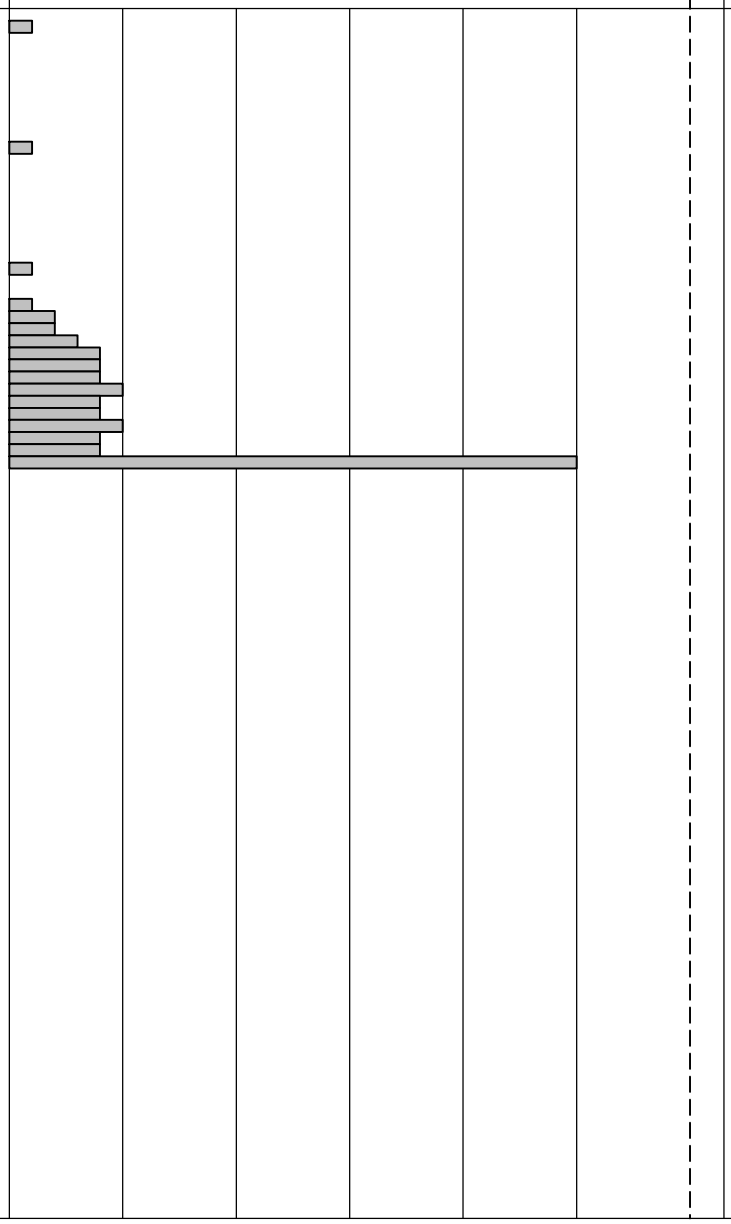
# DYNAMIC PROBE LOG

| Project | Location | PROBE No |
|---|---|---|
| Derryadd Wind Farm | Derryadd, Co. Longford | **DPTPTCCE** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2021LD101 | 25-03-21<br>25-03-21 | 44.68 | E 206,702.2 N 264,700.1 |

| Engineer | Sheet |
|---|---|
| Bord na Mona | 1 of 1<br>Rev. DRAFT |

| Depth (m) | Readings (blows/100mm) | Diagram (N100 Values) | Torque (Nm) | Remarks |
|---|---|---|---|---|
| 1 | 0 1 0 0 0<br>0 0 0 0 0<br>0 1 0 0 0<br>0 0 0 0 0 | | | |
| 2 | 0 1 0 0 1<br>2 2 3 4 4 | | | |
| 3 | 4 5 4 4 5<br>4 4 25 | | | Refusal. 25 blows for 0mm. |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |




| | |
|---|---|
| Hammer Wt (kg) | 50 |
| Hammer Drop (mm) | 500 |
| Cone Dia (mm) | 40 |
| Cone Type | |
| Damper | |

**GENERAL REMARKS**

DP terminated at 3.70m bgl.

| All dimensions in metres Scale 1:62.5 | Client: Bord na Mona | Method/ Plant Used DPH Rig | Bit Design | Driller DK | Logged By DK |
|---|---|---|---|---|---|

AGS3 DYNAMIC PROBE DERRYADD WF DPS ALL FILE APRIL 13 2021.GPJ AGS 3_1.GDT 25/5/21

# Appendix 4A
# Windowless Sample Records

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm<br>**LOCATION:** Derryadd, Co. Longford | | **WINDOW BH:** WSTPAR05<br>**Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona<br>**ENGINEER:** Bord na Mona | **Co-ordinates:**<br>N 268,711.1 E 204,828.9 | **Rig:** DPH Rig |
| **Ground level:** 43.02m O.D. | | **DATE:** 2.3.21 |
| **GROUNDWATER**<br>**Water strikes:**<br>**1st:** dry<br>**2nd:**<br>**3rd:** | **LOGGED BY:** PMcG | |

| Depth (m) | Date | Samples | Depth (m) | SPT (N) | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | WS | 0.00-1.00 | | | | | Dark brown fibrous PEAT. | |
| 1 | | | | | | | | | |
| 2 | | WS | 2.00-3.00 | | | | | | |
| 3 | | WS | 3.00-4.00 | | | | | 3.00m: with wood. | |
| | | | | | | 39.02 | 4.00 | | |
| 4 | | WS | 4.00-5.00 | | | | | No recovery. | |
| | | | | | | 38.02 | 5.00 | | |
| 5 | | | | | END | | | WS terminated at 5.00m bgl - refusal. | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |

**Remarks:** WS terminated at 5.00m bgl.

**Scale:** 1:37.5

**Irish drilling LTD**

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Fax

WINDOW SAMPLER DERRYADD WF WS FILE 1 MAR 10 2021.GPJ IRISHDRL.GDT 25/5/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm | **WINDOW BH:** WSTPAR06 |
| **LOCATION:** Derryadd, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** N 268,759.6 E 204,735.5 |
| **ENGINEER:** Bord na Mona | **Rig:** DPH Rig |
| **Ground level:** 43.82m O.D. | **DATE:** 2.3.21 |

**GROUNDWATER**
**Water strikes:**
**1st:** dry
**2nd:**
**3rd:**

**LOGGED BY:** PMcG

| Depth (m) | Date | Samples | Depth (m) | SPT (N) | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | 43.62 | 0.20 | MADE GROUND: Railway ballast over geotextile. | |
| | | WS | 0.20-1.00 | | | | | Firm grey silty gravelly CLAY. | |
| 1 | | WS | 1.00-2.00 | | | | | | |
| 2 | | WS | 2.00-3.00 | | | | | 2.00m to 4.00m: soft. | |
| 3 | | WS | 3.00-4.00 | | | | | | |
| 4 | | | | | END | 39.82 | 4.00 | WS terminated at 4.00m bgl - refusal. | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |

**Remarks:** WS terminated at 4.00m bgl.

**Scale:** 1:37.5

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WINDOW SAMPLER DERRYADD WF WS FILE 1 MAR 10 2021.GPJ IRISHDRL.GDT 25/5/21

| | | |
|---|---|---|
| **PROJECT:** Derryadd Wind Farm<br>**LOCATION:** Derryadd, Co. Longford | | **WINDOW BH:** WSTPAR07<br>**Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona<br>**ENGINEER:** Bord na Mona | **Co-ordinates:**<br>N 268,844.8 E 204,685.5 | **Rig:** DPH Rig |
| **Ground level:** 42.85m O.D. | | **DATE:** 2.3.21 |
| **GROUNDWATER**<br>**Water strikes:**<br>**1st:** dry<br>**2nd:**<br>**3rd:** | **LOGGED BY:** PMcG | |

| Depth (m) | Date | Samples | Depth (m) | SPT (N) | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | 42.55 | 0.30 | MADE GROUND: Railway ballast over geotextile. | |
| | | WS | 0.30-1.00 | | | | | Firm grey silty gravelly CLAY. | |
| 1 | | WS | 1.00-2.00 | | | | | | |
| | | | | | | 40.85 | 2.00 | | |
| 2 | | | | | END | | | WS terminated at 2.00m bgl - refusal. | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |

**Remarks:** WS terminated at 2.00m bgl.
Hand dug inspection pit to 0.30m depth.

**Scale:** 1:37.5

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WINDOW SAMPLER DERRYADD WF WS FILE 1 MAR 10 2021.GPJ IRISHDRL.GDT 25/5/21

| | |
|---|---|
| **PROJECT:** Derryadd Wind Farm<br>**LOCATION:** Derryadd, Co. Longford | **WINDOW BH:** **WSTPAR08**<br>**Sheet 1 of 1** |
| **CLIENT:** Bord na Mona<br>**ENGINEER:** Bord na Mona<br>**Co-ordinates:** N 268,933.2 E 204,633.4 | **Rig:** DPH Rig |
| **Ground level:** 46.20m O.D. | **DATE:** 2.3.21 |

**GROUNDWATER**
**Water strikes:**
**1st:** dry
**2nd:**
**3rd:**

**LOGGED BY:** PMcG

| Depth (m) | Date | Samples | Depth (m) | SPT (N) | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | 45.80 | 0.40 | MADE GROUND: Railway ballast over geotextile. | |
| | | WS | 0.40-1.00 | | | | | Soft grey gravelly very silty CLAY. | |
| 1 | | WS | 1.00-1.70 | | | 44.50 | 1.70 | 1.00m: firm. | |
| | | | | | END | | | WS terminated at 1.70m bgl - refusal. | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |

**Remarks:** WS terminated at 1.70m bgl.
Hand dug inspection pit to 0.40m depth.

**Scale:** 1:37.5

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WINDOW SAMPLER DERRYADD WF WS FILE 1 MAR 10 2021.GPJ IRISHDRL.GDT 25/5/21

# Appendix 5
# Geophysical Survey

Derryadd Wind Farm

County Longford

# Geophysical Survey

Report Status: Final

*MGX Project Number: 6540*

*MGX File Ref: 6540f-005.doc*

12th July 2021

**Confidential Report To:**

**Irish Drilling Ltd.**
Old Galway Rd
Pollroebuck
Loughrea
Co. Galway


**Report submitted by:**
**Minerex Geophysics Limited**

Unit F4, Maynooth Business Campus
Maynooth, Co. Kildare, W23X7Y5
Ireland
Tel.: 01-6510030
Email: info@mgx.ie


**Issued by:**

Author: John Connaughton (Geophysicist)

Reviewer: Hartmut Krahn (Senior Geophysicist)

Minerex
Geophysics Limited

Subsurface Geophysical Investigations

# EXECUTIVE SUMMARY

1. Minerex Geophysics Ltd. (MGX) carried out a geophysical survey consisting of 2D-Resistivity, seismic refraction (p-wave), MASW (s-wave) and Wenner testing methods for the ground investigation of the proposed development of Derryadd Wind Farm, County Longford.
2. The main objectives of the survey were to determine ground conditions under the site, for suitability of shallow foundations; to determine the depth to rock and the overburden thickness in order to estimate the strength or stiffness or compaction of overburden and the rock quality; map the extent of soft ground layers; establish the presence of faults and fracture zones, and to detect possible karstified rock.
3. The overburden geology typically consists of peat over predominantly clay and silt overburden with some areas having greater sand and gravel content that others.
4. The bedrock is described in this report as clean limestone at the substation, borrow pits and turbines T1 – T20 and shale or argillaceous limestone at T21 – T24. There may be a fault zone between these rock types running close to T18 and T19 but this may also be an increase in shale or argillaceous limestone at these locations.
5. Rock was interpreted at all locations surveyed with the exception of T23 while the shallowest rock was located at T11. Shallow rock was also noted at T1, T2 and T16 turbine locations. Under the hard standing areas, T4, T14 and T15 some shallow rock is also indicated.
6. Many turbines did not have deep soft peat, clay or silt layers but at some points along the lines surveyed at T6, T8, T12, T13, T14 and T22, this layer is 3m or greater in thickness. At T6 there is consistently over 3m of soft peat, clay or silt across the lines surveyed.
7. Anomalous or karstified limestone was identified at T7, T12, T13, T15 and T16 and are discussed in chapter 4 and in the conclusions.
8. It was possible to acquire useful MASW results at 14 of the 24 turbine locations. The results for these turbines are shown on Table 3 and Appendix 1.
9. At the borrow pits, the depth to rock varied across the locations. The average depth to rock at BP17-1 is 6m, at PB17-2, BP17-3 and BP17-4, the average depth to rock is 2 – 3m while at BP17-5 it is 4m. There is possible anomalous or karstified rock to the south of BP17-2.
10. At the substation, there is some weathered rock near the top of rock and there is some more deeper weathering indicated to the NE of the proposed location.

# CONTENTS

1. INTRODUCTION ..... 1

1.1 Background ..... 1
1.2 Objectives ..... 1
1.3 Site Description ..... 2
1.4 Geology ..... 2
1.5 Report ..... 2

2. GEOPHYSICAL SURVEY ..... 4

2.1 Methodology ..... 4
2.2 2D-Resistivity (ERT) ..... 5
2.3 Seismic Refraction ..... 5
2.4 1D-MASW (Multichannel Analysis of Surface Waves) ..... 6
2.5 Site Work ..... 6

3. RESULTS AND INTERPRETATION ..... 7

3.1 2D-Resistivity (ERT) ..... 7
3.2 Seismic Refraction ..... 8
3.3 Interpretation of Resistivity and Seismic Refraction at Turbines ..... 9
3.4 Interpretation of Seismic Refraction at Borrow Pits ..... 10
3.5 1D-MASW (Multichannel Analysis of Surface Waves) ..... 11

4. GEOPHYSICAL RESULTS BY LOCATION ..... 13

5. CONCLUSIONS AND RECOMMENDATIONS ..... 19

6. REFERENCES ..... 21

## List of Tables, Maps and Figures:


| Title | Pages | Document Reference |
|---|---|---|
| Table 1: Geophysical Survey Locations and Acquisition Parameters | 3 x A4 | 6540f_Tab1.xls |
| Table 2a: Summary of Interpretation for Turbines | In text | In text |
| Table 2b: Summary of Interpretation for Borrow Pits | In text | In text |
| Table 3: MASW Shear Wave Velocity and Elastic Constants | 5 x A4 | 6540f_Tab3.xls |
| Table 4: Shear Wave Velocity to Stiffness Relationship | In text | In text |
| | | |
| Appendix 1: Graphs of MASW Results | 7 x A4 | 6540f_App1.xls |
| | | |
| Map 1: Geophysical Survey Location Map | 1 x A3 | 6540f_MapsFigs.dwg |
| | | |
| Figure 1a: Models of Geophysical Survey, Turbine 1 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1b: Models of Geophysical Survey, Turbine 2 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1c: Models of Geophysical Survey, Turbine 3 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1d: Models of Geophysical Survey, Turbine 4 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1e: Models of Geophysical Survey, Turbine 5 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1f: Models of Geophysical Survey, Turbine 6 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1g: Models of Geophysical Survey, Turbine 7 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1h: Models of Geophysical Survey, Turbine 8 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1i: Models of Geophysical Survey, Turbine 9 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1j: Models of Geophysical Survey, Turbine 10 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1k: Models of Geophysical Survey, Turbine 11 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1l: Models of Geophysical Survey, Turbine 12 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1m: Models of Geophysical Survey, Turbine 13 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1n: Models of Geophysical Survey, Turbine 14 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1o: Models of Geophysical Survey, Turbine 15 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1p: Models of Geophysical Survey, Turbine 16 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1q: Models of Geophysical Survey, Turbine 17 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1r: Models of Geophysical Survey, Turbine 18 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1s: Models of Geophysical Survey, Turbine 19 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1t: Models of Geophysical Survey, Turbine 20 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1u: Models of Geophysical Survey, Turbine 21 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1v: Models of Geophysical Survey, Turbine 22 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1w: Models of Geophysical Survey, Turbine 23 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1x: Models of Geophysical Survey, Turbine 24 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1y: Models of Geophysical Survey, Substation | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1z: Models of Geophysical Survey, Substation | 1 x A3 | 6540f_MapsFigs.dwg |

| | | |
|---|---|---|
| Figure 2a: Interpretation of Geophysical Survey, Turbine 1 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2b: Interpretation of Geophysical Survey, Turbine 2 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2c: Interpretation of Geophysical Survey, Turbine 3 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2d: Interpretation of Geophysical Survey, Turbine 4 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2e: Interpretation of Geophysical Survey, Turbine 5 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2f: Interpretation of Geophysical Survey, Turbine 6 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2g: Interpretation of Geophysical Survey, Turbine 7 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2h: Interpretation of Geophysical Survey, Turbine 8 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2i: Interpretation of Geophysical Survey, Turbine 9 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2j: Interpretation of Geophysical Survey, Turbine 10 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2k: Interpretation of Geophysical Survey, Turbine 11 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2l: Interpretation of Geophysical Survey, Turbine 12 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2m: Interpretation of Geophysical Survey, Turbine 13 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2n: Interpretation of Geophysical Survey, Turbine 14 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2o: Interpretation of Geophysical Survey, Turbine 15 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2p: Interpretation of Geophysical Survey, Turbine 16 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2q: Interpretation of Geophysical Survey, Turbine 17 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2r: Interpretation of Geophysical Survey, Turbine 18 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2s: Interpretation of Geophysical Survey, Turbine 19 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2t: Interpretation of Geophysical Survey, Turbine 20 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2u: Interpretation of Geophysical Survey, Turbine 21 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2v: Interpretation of Geophysical Survey, Turbine 22 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2w: Interpretation of Geophysical Survey, Turbine 23 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2x: Interpretation of Geophysical Survey, Turbine 24 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2y: Interpretation of Geophysical Survey, Substation | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2z: Interpretation of Geophysical Survey, Substation | 1 x A3 | 6540f_MapsFigs.dwg |
| | | |
| Figure 3a: Models of Geophysical Survey, Borrow Pit 17-1 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 3b: Models of Geophysical Survey, Borrow Pit 17-2 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 3c: Models of Geophysical Survey, Borrow Pit 17-3 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 3d: Models of Geophysical Survey, Borrow Pit 17-4 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 3e: Models of Geophysical Survey, Borrow Pit 17-5 | 1 x A3 | 6540f_MapsFigs.dwg |
| | | |
| Figure 4a: Interpretation of Geophysical Survey, Borrow Pit 17-1 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 4b: Interpretation of Geophysical Survey, Borrow Pit 17-2 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 4c: Interpretation of Geophysical Survey, Borrow Pit 17-3 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 4d: Interpretation of Geophysical Survey, Borrow Pit 17-4 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 4e: Interpretation of Geophysical Survey, Borrow Pit 17-5 | 1 x A3 | 6540f_MapsFigs.dwg |

# 1. INTRODUCTION

## 1.1 Background

Minerex Geophysics Ltd. (MGX) carried out a geophysical survey consisting of 2D-Resistivity (ERT), seismic refraction (p-wave), MASW (s-wave) and Wenner VES measurements for the ground investigation of the proposed Bord Na Mona development of Derryadd Windfarm, County Longford.

The proposed development is a wind farm consisting of 24 wind turbines, 5 borrow pits, one substation and roads. The survey was aimed both at investigating the ground stability and to estimate the geological conditions under the site. The role of geophysics as a non-destructive fast method is to provide a geological interpretation at selected locations on the site.

This survey utilized various complimentary geophysical methods at 24 turbine, 5 borrow pit locations and the substation which will complement direct ground investigations. The direct ground investigation results can be used to improve the initial geophysical results and interpretation.

This report discusses the results and interpretations from the seismic refraction survey carried out at the turbine, borrow pit and substation locations and the 2D-Resistivity and MASW surveys carried out at the turbine and substation locations.

The Wenner VES electrical resistivity measurements that were carried out at the 24 turbines and the substation are displayed in a separate report. Those measurements are used for the design of the earthing system and they do not require interpretation.

## 1.2 Objectives

The main objectives of the geophysical survey were:

- To determine the ground conditions under the site
- To determine the type of overburden and rock
- To determine the depth to rock and the overburden thickness
- To estimate the strength or stiffness or compaction of overburden materials and the rock quality
- To estimate the excavatability of the bedrock
- To detect lateral changes within the geological layers
- To determine the presence of possible faults and fracture zones
- To detect possible karstified zones within the rock and karst features
- To determine the s-wave velocity and to calculate the small strain shear modulus $G_{max}$

## 1.3 Site Description

The site is located across the Derryaroge, Derryadd and Lough Bannow bogs to the east of Lanesborough. The proposed windfarm spans an area of 1908Ha of bogland. Elevations varied from 36 mOD near the middle of the site to 59 mOD in the south. At some turbines there were sharp elevation changes due to peat banks and cut drains. The site was accessible from various points from the public roads and a six wheeled ATV was used to transport equipment across the site.

## 1.4 Geology

Previous geotechnical surveys carried out in 2016 – 2018 describe the geology as generally consisting of peat underlain by silt and clay. There are some areas where sand and gravel were encountered, usually below the clay/silt layer. The rotary cores describe a limestone bedrock. No rotary core information was available for the southern area where the geology changes according to the Geological Survey of Ireland as described below.

The online bedrock geological map of Ireland (GSI, 2021) indicates that Turbine locations 1 – 17 and the substation are underlain by Visean Limestone, described as undifferentiated limestone, Turbines 18 – 23 are underlain by the Moathill Formation, described as limestone, calcareous sandstone and shale while turbine 24 is underlain by the Ballysteen Formation, described as dark muddy limestone and shale.

Between the Visean Limestone in the north and the Moathill Formation to the south is an area of argillaceous limestone described as dark limestone and shale but there are no turbines located in this bedrock.

There is a fault running roughly SW – NE close to turbines 18 and 24.

The subsoils are generally described as cut over raised peat with some till derived from limestone associated with drumlins on the site.

There are numerous karst features located to the NE and SW of the site associated with the Visean limestone formation but there are no karst features noted within the site.

## 1.5 Report

This report includes the results and interpretation of the geophysical survey. Maps, figures and tables are included to illustrate the results of the survey. More detailed descriptions of geophysical methods and measurements can be found in GSEG (2002), Milsom (1989) and Reynolds (1997).

The description of soil, rock and the use of geotechnical terms (soft, stiff, dense etc) follows Eurocode (2007) and BSI (2015) standards. The terms are defined in the standards and the physical parameters are related

form experience. This geophysical survey has been acquired, processed, interpreted and reported in accordance with these guidelines.

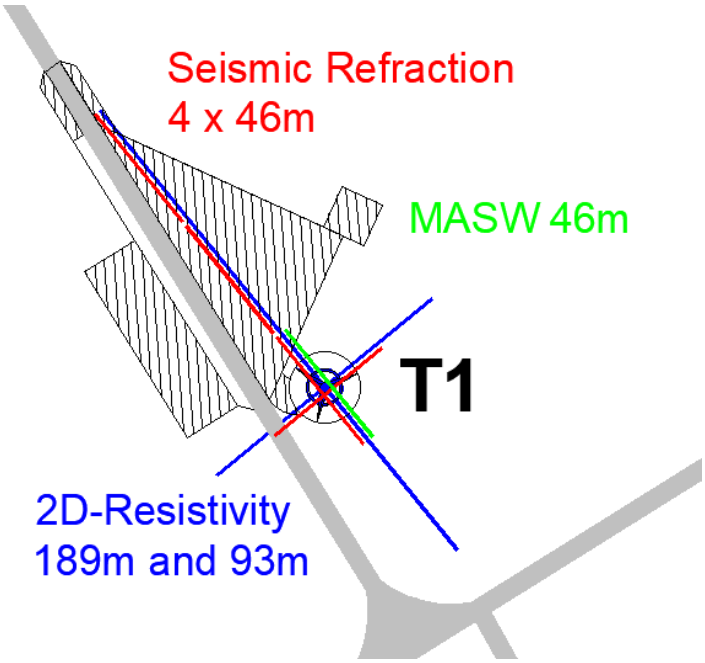
The client provided maps of the site and the digital version was used as the background map in this report. Elevations were surveyed on site and are used in the vertical sections.

The interpretative nature and the non-invasive survey methods must be taken into account when considering the results of this survey and Minerex Geophysics Limited, while using appropriate practice to execute, interpret and present the data, give no guarantees in relation to the existing subsurface.

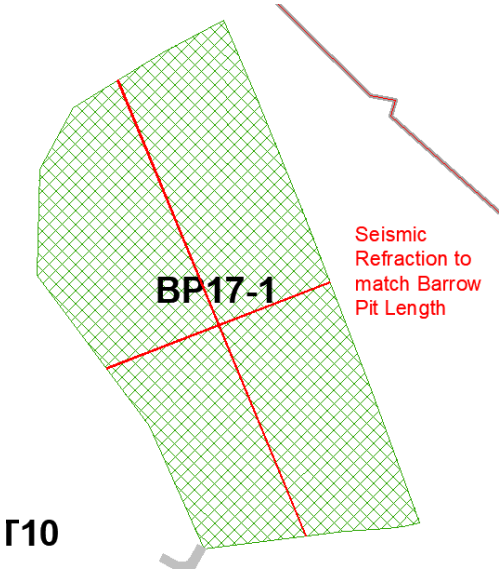
# 2. GEOPHYSICAL SURVEY

## 2.1 Methodology

The methodology was outlined in the tender documents and consisted of 2D-Resistivity surveying, Seismic Refraction surveying and MASW surveying at each turbine location. Two perpendicular lines crossing at each turbine location were carried out the longer one line extending into the future hardstanding area. The design of the lines at the turbine locations are shown below. Any deviations from this design are mentioned in Chapter 4. Two perpendicular lines were also carried out crossing the substation location.




At borrow pit locations, two perpendicular seismic refraction lines are carried out across the extent of the pit.

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The survey locations are indicated on Map 1 as well as each figure for individual turbines, borrow pits and substation. The lines, locations and parameters are tabulated in Table 1 attached at the end of this report.

## 2.2 2D-Resistivity (ERT)

2D-Resistivity lines were surveyed with electrode spacing of 3m, up to 64 electrodes per set-up and a maximum length of 189m per set-up. The readings were taken with a Tigre Resistivity Meter, Imager Cables, stainless steel electrodes and a laptop with ImagerPro acquisition software.

At each turbine locations, two lines were carried out intersecting at the turbine location. Where space was available, one 93m line was carried out, centred on the turbine locations while a second 189m line extended into the hard standing area. The target depth was 15m for the shorter line and 30m for the longer line. At the substation, two 189m long lines were carried out intersecting at the proposed location.

During 2D-Resistivity surveying, data is acquired in the form of linear arrays using a suite of metal electrodes. A current is induced into the ground via a pair of electrodes whilst a potential difference is measured across a second pair of electrodes. This allows for the recording of the apparent resistivity in a two-dimensional arrangement below the line. The data is inverted after the survey to obtain a model of subsurface resistivities. The generated model resistivity values and their spatial distribution can then be related to typical values for different geological materials.

The penetration depth of a resistivity set-up increases towards the centre where it reaches an approx. value of 1/6$^{th}$ of the array length. 2D-Resistivity has previously proven zones of anomalous or karstified rock with lateral extents of 5m and more.

## 2.3 Seismic Refraction

Seismic refraction lines were surveyed with geophone spacing of 2m and 24 geophones per set-up resulting in a 46m length per set-up. The recording equipment consisted of a 24 Channel GEOMETRICS ES-3000 engineering seismograph with 4.5Hz vertical geophones. The seismic energy source consisted of a hammer and plate and a seismograph gun in soft ground areas. A zero-delay trigger was used to start the recording. Normally 7 shot points per p-wave set-up were used.

Two set ups were centred perpendicular to each other on the turbine location while 2 further set ups were carried out into the hard standing area. Along this line, the set-ups were acquired in a longer continuous line using common shot points between set-ups and concatenating into longer lines at the processing stage. At the substation, the lines were 142 m and 120m long and centred on the proposed location

The seismic refraction survey method focuses on propagating p-waves travelling through the subsurface, which are generated by hitting a hammer on a plate or other source. As the wave propagates through the subsurface, its velocity varies as it travels through overburden, rock with different elastic properties, and

along geological boundaries. Velocity data is recorded via the surveying equipment, which is then processed, allowing geological layer thicknesses and boundaries to be established.

Seismic Refraction generally determines the depth to horizontal or near horizontal layers where the compaction or strength or rock quality changes with an accuracy of 10 – 20% of depth to that layer. Where low velocity layers or shadow zones are present (e.g., below solid ground surface) or where layers dip with more than 20 degree angle the accuracy becomes much less.

The seismic refraction set-ups with 46m individual length have a reasonable penetration depth of around 10m which is also the target depth given in the tender documents. The depth penetration varies according to the velocity structure of the subsurface. While some models show layers at a depth deeper than 10m, the accuracy of the seismic models at these depths are significantly reduced.

## 2.4 1D-MASW (Multichannel Analysis of Surface Waves)

The seismic shear wave velocity was determined by active 1D-MASW surveying. MASW determines the bulk seismic shear wave velocity versus depth. The velocities are used to determine the small strain shear modulus and to compute other geotechnical parameters. As the seismic p-wave velocities are measured along some of the same lines the density can be estimated and other elastic parameters like Poisson's ratio and young's modulus can be computed.

The MASW method was acquired along with one line from the seismic refraction survey at each turbine and at the substation, though the shots were done separately with a larger time window. The MASW used 24 geophones with 2m spacing and a length of 46m per set-up. The recording equipment consisted of a 24 Channel GEOMETRICS ES-3000 engineering seismograph with 4.5Hz vertical geophones. The seismic energy source consisted of a hammer and plate or a seismograph gun in soft ground areas. A zero-delay trigger was used to start the recording. The shot points were located 8m off the ends of the set-ups.

Many constraints exist for the MASW method and the main factors on this site that affect the methods are shallow rock, sudden velocity jumps with depth and changing geology across the lines at some turbines.

## 2.5 Site Work

The data acquisition was carried out between the 8$^{th}$ of February and 7$^{th}$ of May 2021. The weather conditions were fair to good throughout the acquisition period. On days with poor weather the survey was postponed in order to obtain good data quality. Health and safety standards were adhered to at all times. The locations and elevations were surveyed with a Carlson NR3 RTK-GPS to accuracy < 0.05m.

# 3. RESULTS AND INTERPRETATION

The interpretation of geophysical data was executed utilizing the known response of geophysical measurements, typical physical parameters for subsurface features that may underlay the site, and the experience of the authors.

The interpretation is based on the methods carried out at each area. At turbine locations and the substation, 2D-Resistivity, seismic refraction and MASW surveys were carried out while at borrow pit locations the interpretation is based solely on seismic refraction as this was the only method undertaken there.

Some ground investigation results were available before the survey and the abbreviated borehole and trial pit logs are indicated on the sections. Some results are indicated on the maps that were taken from client drawings. The rock was generally divided into strong fresh limestone and weathered limestone based on the RQD value of more or less than 50%. This can be done only to a certain extend as the rock is very variable, RQD values and fracture index often changes rapidly with depth and the small size of a borehole only represents a very small volume of ground. The geophysical survey on the other end of the scale averages over a large volume of ground.

## 3.1 2D-Resistivity (ERT)

The 2D-Resistivity data was positioned and inverted with the RES2DINV inversion package. The programme uses a smoothness constrained least-squares inversion method to produce a 2D model of the subsurface resistivities from the recorded apparent resistivity values. Three variations of the least squares method are available and for this project the Jacobian Matrix was recalculated for the first three iterations, then a Quasi-Newton approximation was used for subsequent iterations. Each dataset was inverted using seven iterations resulting in a typical RMS error of <3.0%. The resulting models were colour contoured with the same resistivity scale for all lines and they are displayed as cross sections for each Turbine location and the substation (Figures 1a – 1z).

Resistivities are characteristic for certain overburden and rock types. If there is peat or a high content of clay minerals (which are electrically conductive) then the overburden resistivity will be lower than if there is a high content of clastic grains like sand or gravel. The purer the clay and the lower the sand and gravel content, the lower the resistivity. Water content in overburden layers can influence the resistivities, but generally clay content has a more dominating effect.

Within bedrock types like clean limestone, high resistivities indicate a fresh, strong, unweathered rock. As the weathering in the rock increases the resistivity gets lower because of weathering products, remineralisation of rock and infill of cracks, faults and voids with clay and water. Weathering within rock is typically indicated by lower resistivity values in the cross sections.

In limestone areas, karstified rock is defined in this report as a formerly intact clean limestone rock, liable to karstification, that has been partially dissolved by water over long geological time scales and where the cavities and voids have either remained empty (filled by air) or became filled by overburden sediment (clay, silt, sand), weathering product of the broken rock itself or water. This process would lead to a reduction of the resistivity of the overall rock and therefore karstified rock has a lower resistivity than intact clean limestone rock. This is generally indicated by lower resistivities embedded within high resistivity at depth.

The resistivities cover a range typical for materials from clay rich overburden or peat (low resistivities) to fresh strong unweathered bedrock (high resistivities). The ranges have been taken into the consideration for the interpretation. Low resistivity values (<200 Ohmm) typically indicate peat and overburden with high clay and silt content. Medium values (200 to 1000 Ohmm) show sand and gravel in the overburden and weathered, karstified or anomalous bedrock. High resistivities (>1000 Ohmm) indicate bedrock types like clean limestone. At Turbines 21 – 24, the rock appears to be different and medium resistivities within the rock layers at these turbines likely indicates a shale or argillaceous limestone bedrock.

## 3.2 Seismic Refraction

The seismic refraction data was positioned and processed with the SEISIMAGER software package to give a layered model of the subsurface. The number of layers has been determined by analysing the seismic traces and between 4 layers were used in the models. All seismic lines were subject to a standardised processing sequence which consisted of a topographic correction which was based on integrated elevation data, first break picking, tomographic inversion, travel-time computation via ray-tracing and velocity modelling. Residual deviations of typically 0.4 to 1.8 msec RMS have been obtained for each line. Following each processing stage QC procedures were adhered to. The resulting layer boundaries are shown as thick lines overlaid on the 2D-Resistivity cross sections at the Turbine and substation locations (Figures 1a – 1z) and on their own at the Borrow Pit locations (Figures 3a – 3e). The average seismic velocities obtained within the layers are annotated on the sections as bold black or yellow numbers.

The p-wave seismic velocity is closely linked to the density of subsurface materials and to parameters like compaction, stiffness, strength and rock quality. The higher the density of the subsurface materials the higher the seismic velocity. More compacted, stiffer, denser and stronger material will have a higher seismic velocity. For rock, the seismic velocity is higher when the rock is stronger, less weathered and has a higher quality. If the rock is more weathered, broken, fractured, fissured or karstified then the seismic velocity will be reduced compared to that of intact fresh rock.

Because of the above relationship, the seismic refraction method and seismic velocities are suitable to investigate ground where the layers get denser, more compacted and stronger with depth. A disadvantage is that some materials may have the same seismic velocity: Very stiff or very dense highly consolidated overburden and a weathered rock can have the same seismic velocity range (as is the case in the layer 3 below).

The modelled seismic data has created the following layered ground model:

Layer 1 has seismic velocities of 100 - 400m/s. This overburden would be peat and soil with a soft stiffness or compaction.

Layer 2 was modelled with a velocity range of 600 - 1400m/s. The velocity indicates overburden material with firm strength or compaction.

Layer 3 velocities of 1600 - 2400m/s indicate predominantly overburden with stiff to very stiff or dense to very dense strength or compaction or a highly weathered rock with poor rock quality.

Good to very good rock is indicated by seismic velocities of 3000 - 4500m/s.

### 3.3 Interpretation of Resistivity and Seismic Refraction at Turbines

Table 2a summarises the interpretation at the 24 turbines and the substation. The stiffness or compaction and the rock strength or quality have been estimated from the seismic velocity. The estimation of the excavatability for the bedrock has been made according to the caterpillar chart published in Reynolds (1997). The geotechnical assessment for rippability will have to take factors like rock type and jointing into account and the estimation in this report is solely based on the seismic velocities.

Interpreted cross sections are shown in Figure 2a – 2z. The interpretation has been made from all available information. For overburden layers and the top of the rock the seismic refraction data has been used as seismic refraction is the best method to delineate layer boundaries. The resistivity models have been used to delineate two generalised types of rock. Resistivity data is better suited to show rock types and features within the rock while seismic refraction velocities are indicating the change of compaction, stiffness or rock quality with depth. Along short sections where only one data type is available, an interpolation for the interpreted layers was made.

Table 2a: Summary of Interpretation at Turbines

| **Layer** | **General Seismic Velocity Range (m/sec)** | **General Resistivity Range (Ohmm)** | **Stiffness or Compaction or Rock Quality** | **Interpretation** | **Estimated Excavation Method** |
|---|---|---|---|---|---|
| 1 | 100 - 400 | <250 | Soft | Peat or Clay or Silt | Diggable |
| 2 | 600 - 1400 | <250 | Firm | Clay or Silt | Diggable |

| | | | | | |
|---|---|---|---|---|---|
| 3a | 1600 - 2400 | <250 | Stiff to Very stiff | Sandy Gravelly Clay and Silt | Diggable |
| 3b | 1600 - 2400 | >250 | Dense to very dense or poor rock | Clayey silty sand and gravel or highly weathered Rock (derived from limestone or shale) | Diggable or rippable to marginal rippable |
| 4a | 3000 – 4500 | <1000 (T1 – T20) | Fair to good rock | Weathered or Karstified Limestone | Breaking & Blasting |
| 4b | 3000 - 4500 | >1000 (T1 – T20) | Good to very good rock | Fresh Clean Limestone | Breaking & Blasting |
| 4c | 3000 - 4500 | <1000 (T21 – T24) | Good to very good rock | Shale or argillaceous Limestone | Breaking & Blasting |

## 3.4 Interpretation of Seismic Refraction at Borrow Pits

Table 2b summarises the interpretation at the five borrow pits. The stiffness or compaction and the rock strength or quality have been estimated from the seismic velocity. The estimation of the excavatability for the bedrock has been made according to the caterpillar chart published in Reynolds (1997). The geotechnical assessment for rippability will have to take factors like rock type and jointing into account and the estimation in this report is solely based on the seismic velocities.

Interpreted cross sections are shown in Figures 4a – 4e. The interpretation has been made from the seismic refraction velocities.

Table 2b: Summary of Interpretation at Borrow Pits

| **Layer** | **General Seismic Velocity Range (m/sec)** | **Stiffness or Compaction or Rock Quality** | **Interpretation** | **Estimated Excavation Method** |
|---|---|---|---|---|
| 1 | 100 - 400 | Soft | Peat or Clay or Silt | Diggable |
| 2 | 600 - 1400 | Firm | Clay or Silt | Diggable |
| 3 | 1600 - 2400 | Stiff to very stiff or dense to very dense or poor rock | Overburden or highly weathered Limestone | Diggable or rippable to marginal rippable |
| 4 | 3000 - 4500 | Fair to very good rock | Limestone | Breaking & Blasting |

### 3.5 1D-MASW (Multichannel Analysis of Surface Waves)

The MASW lines were positioned, processed, analysed and modelled with the SEISIMAGER/SW software packages. The objective is to obtain a model of shear wave velocity versus depth and to calculate the small strain shear modulus Gmax from the shear wave velocities. Two opposed shot points from one array set-up at each turbine and the substation were acquired and are analysed. One model was subsequently produced for all turbines where surface waves were encountered.

Following processing steps are done to achieve this:

1. Edit the shot point geometry and display the shot points for each array
2. Edit traces and/or apply filters to improve the shot record for the next step
3. A dispersion curve (phase velocity versus frequency plot or dispersion image) is computed
4. Select an optimum dispersion curve for each turbine location
5. For each shot the maximum amplitude at each frequency of the dispersion image is selected and the picks for the dispersion curve are truncated (frequency gate), smoothed and brought forward into the modelling process
6. An initial model of shear-wave velocity, $V_s$, versus depth is computed
7. An inversion is carried out to create the final $V_s$ curve (Shear wave versus depth). The valid depth range is noted and the data saved in a file
8. The small strain shear modulus (also named $G_{max}$) for each shot point and depth is computed by using a density calculated from the P-Wave results.

   (Eq. 1) $G = V_s^2 * \rho * 10^{-6}$

   where G = Shear Modulus (MPa)

   $V_s$ = Seismic Shear Wave Velocity (m/s)

   $\rho$ = Density (kg/m$^3$)
9. The p-wave velocity is added at each depth interval from the p-wave seismic refraction model
10. Using the s-wave and p-wave velocities and a calculated density, the Poisson Ratio, Bulk Modulus and Young's Modulus are computed and listed in Table 3.
11. Graphs displaying the S-Wave velocity and small shear strain modulus $G_{max}$ for each turbine location where dispersion curves were present are displayed in Appendix 1.

Intensive efforts have been made to extract the best dispersion curves by time gating, selecting and test processing various source versus receiver trace distances and trace ranges and by directional selection of

traces. At some locations (T7 - T12, T16, T19, T21, T24 and the substation) the ground is not suitable for the generation of surface waves. The main constraints are the rapid increase of the shear wave velocity with depth (creating high velocity gradients) and the change in layer thickness across lines.

After analysing all data, it can be stated that the seismic refraction method has worked much better on this site than the MASW method.

The tender document proposed the calculation of various elastic constants from the geophysical results. In order to calculate the elastic constants, assumed densities are first computed using the seismic refraction results. As the seismic refraction results assume a layered ground model with constant velocities within the layers, the calculated densities do not increase gradually with depth in the same way the S-Wave velocities increase. While there are reasonably small errors within the geophysical results, combining these results with other assumptions leads to significantly larger and unavoidable errors within the calculations of the elastic constants.

Table 4: Shear Wave Velocity to Stiffness Relationship

| **Shear Wave Velocity Vs Range in m/s** | **Material Stiffness** |
|---|---|
| < 150 | Soft |
| 150 to 300 | Firm |
| 300 to 500 | Stiff |
| > 500 m/s | Very Stiff |

# 4. GEOPHYSICAL RESULTS BY LOCATION

This chapter gives a brief interpretation for each survey location starting with the Turbine location in numerical order, then the substation and then through the borrow pit locations. The interpretations are based on all the geophysical data available at each location.

**Turbine 1**

Layers 1 and 2 are thin, reaching a depth of approx. 1.5m. This is underlain by a 1 – 3.5m thick layer of stiff to very stiff sandy gravelly clay and silt. The top of rock is between 3 – 5m below ground level (bgl). The rock is primarily fresh unweathered limestone but there is some weathering in the east of the area which is visible along Line 1 up to 80m and along Line 2 from 55m to the end of the line. This weathering is not interpreted as significant but moving the turbine 40m to the NW would place it above less weathered limestone.

**Turbine 2**

The survey at Turbine 2 shows a thin layer of soft peat, silt or clay and a layer of firm clay or silt to a depth of 1 – 1.5m bgl. There is a 1.5 – 3m thick layer of stiff to very stiff sandy gravelly clay and silt. The rock is between 2.5 and 5m bgl and is primarily fresh unweathered limestone. The 2D-Resistivity indicates some weathering at the top of this layer, particularly towards the southwest along lines 4 but also close to the Turbine location along Line 3.

**Turbine 3**

Turbine 3 shows very thin layers 1 and 2 underlain by 4 – 6m of very stiff sandy gravelly clay and silt. The top of the rock layer is between 5 – 7m bgl and consists of approx. 2 – 5m of weathered limestone over fresh clean limestone. R10 is 165m long due to a deep ditch at the SW end of the line.

**Turbine 4**

Line R12 is shorted than lines at other turbines due to a deep ditch at the east end of the line. The survey shows a 0.5 – 1.5m thick layer of soft silt, clay or peat under a layer of firm clay and silt to a depth of 1.5 – 4m bgl. There is a 1 – 5m thick layer of stiff to very stiff sandy gravelly clay and silt and dense to very dense clayey silty sand and gravel. This layer may also contain some very poor highly weathered limestone and is thickest under the turbine location and towards the north and becomes thinner towards the south. The rock layer is 3 – 7.5m bgl and consists of fresh unweathered limestone. This layer is deepest to the north and is shallower to the south.

**Turbine 5**

There is a 0.5 – 1.5m layer of soft silt, clay or peat and a 0.5 – 3.5m layer of firm clay or silt. The stiff to very stiff sandy gravelly clay and silt layer has a thickness of 6 – 10m. The rock layer begins at a depth of 9 – 13m bgl and consists of 6.5 – 11m of weathered limestone underlain by fresh unweathered limestone.

**Turbine 6**

There is at least 3m of peat underlying the areas surveyed at Turbine 6 with up to 4.5m in some areas. This is the deepest soft layer identified throughout the surveyed areas. The seismic refraction lines running towards the hard standing area were split due to high peat banks over which seismic refraction data could not be acquired. Similarly, the perpendicular line is marginally offset from the turbine location to avoid running on top of the peat bank.

Underlying the peat is a 0.5 – 2.5m thick layer of firm clay and silt. From 2.5 – 6m bgl there is a layer consisting of stiff to very stiff sandy gravelly clay and silt and dense to very dense clayey silty sand and gravel. This layer may also contain some very poor highly weathered limestone. The top of the good to very good limestone is at a depth of 7.5 – 10m bgl.

**Turbine 7**

The soft peat, clay or silt layer is up to 1.5m thick but generally has a 1m thickness. This is underlain by 2 – 3m of firm clay or silt. Layer 3, described as stiff to very stiff sandy gravelly clay or silt has a general thickness of 4 – 6m. This becomes significantly thicker towards the southeast, ~50m away from the turbine location. The top of the rock layer is 7 – 9m bgl but becomes significantly deeper to the southeast again. The area to the southeast likely indicates karstified or anomalous rock. There may also be highly weathered infilled rock within layer 3.

**Turbine 8**

The 2D-Resistivity profile R15 was shorter than at other turbines due to a deep ditch to the northeast and water to the southwest. At this turbine location, there is a 1 – 3m thick layer of soft peat, clay or silt, underlain by firm clay and silt to a depth of 1 – 4m bgl. There is a 5 – 9m thick layer of stiff to very stiff sandy gravelly clay and silt. Fair to very good rock is identified at a depth of 7 – 12m bgl which includes a layer of 4 – 7m of weathered rock.

**Turbine 9**

There is a 0.5 – 2.5m layer of soft peat, clay or silt and firm clay or silt to a depth of 1 – 4.5m bgl and approx. 2m bgl at the turbine. There is a 3 – 4m thick layer of stiff to very stiff sandy gravelly clay and silt. The top of the limestone layer is at a depth of 5.5 – 10m. There is some fair weathered limestone at the top of this layer which becomes thicker under the turbine location and very thin to the southeast. The variation in weathering below the turbine location across both lines indicates that the weathering occurs to the north of the turbine and so is not visible on line R6.

**Turbine 10**

Layer 1 is very thin and layer 2 extends to a depth of 1 – 5m bgl. Layer 3, which consists of stiff to very stiff sandy gravelly clay and silt and dense to very dense clayey silty sand and gravel has a thickness of 1.5 – 5.5m and may also contain some highly weathered limestone, particularly near its base. The top of the good to very good limestone is at a depth of 3.5 – 10m bgl and is ~5m deep at the turbine location.

**Turbine 11**

The fair to very good limestone layer is very shallow at this location. The rock is between 0.5 and 1m bgl and consists of 1 – 2m of fair weathered limestone over good to very good limestone. This location contains the shallowest rock surveyed on the site.

**Turbine 12**

There is a large anomalous zone under the hard standing area between 90 and 160m along line 19 and up to 50m along line 20. Outside this zone, the rock is between 1 and 5m deep but becomes significantly deeper within the anomalous zone. Within the overburden, there is up to 4m of peat to the west of the turbine location. It is recommended to move the turbine to the southeast to avoid this anomalous area and deep peat, and construct the hardstanding to the south rather than the north.

**Turbine 13**

There is up to 3m of peat at this location. The top of rock is 5.5 – 7m bgl along line 25 but becomes significantly deeper in the middle of line 26. The resistivities within the rock at this location indicates the whole area may be underlain by anomalous or karstified rock.

**Turbine 14**

There is 1 – 3m of soft peat at this location underlain by 1 – 3.5m of firm to very stiff sandy gravelly clay and silt. Good to very good limestone is present from 2 – 6m bgl.

**Turbine 15**

Layers 1 and 2 have a combined thickness of 2 – 3m. The thickness of layer 3 varies significantly from 0.5 – 2.5m to the north of the turbine location to ~7m at the turbine and to the east and west. There is a deep anomalous or karstified rock zone evident along line 27 and along line 28 to 85m. It is recommended to move the turbine to the north to where the rock is shallower and not anomalous.

**Turbine 16**

There is up to 2m of soft peat at this location and the overburden layers have a combined total thickness of 2 – 6m. Within the rock layer there is an anomalous zone to the southeast of the turbine location into the hard standing area. This is visible from 130m along lines 30

**Turbine 17**

There is 1 – 2.5m of soft peat, clay or silt underlain by a firm clay and silt layer with a thickness of up to 2.5m and 2 – 4.5m of stiff to very stiff sandy gravelly clay and silt and dense to very dense clayey silty sand and gravel. This layer may also contain some highly weathered limestone. The fair to very good rock layer is found at a depth of 4 – 8.5m, shallowest towards the south. There is some weathered limestone at the top of the layer but is generally good to very good clean fresh limestone.

**Turbine 18**

Layers 1 and 2 have a combined thickness of 0.5 – 4m. Layer 3 is primarily dense to very dense clayey silty sand and gravel and has a thickness of up to 7m but is very thin in some places. The top of the rock layer varied between 2 and 12m bgl and is approx. 7m bgl at the turbine location. The rock is deeper towards the southeast and shows some deeper weathering at the end of line R37 but it is not significant. The slightly lower resistivities within the rock layer compared to other turbines may indicate a fault zone in this area or a larger content of argillaceous or shaly limestone.

**Turbine 19**

Layers 1 and 2 have a combined thickness of 1 – 4m. The thickness of layer 3 varied from 1 – 8m and consists of stiff to very stiff sandy gravelly clay and silt and dense to very dense clayey silty sand and gravel. The rock layer, which is primarily fresh clean limestone with some thin weathering on top is found at a depth of 3.5 – 9.5 bgl and is 4.5m bgl at the turbine location. Lower resistivities at this location, similar to those at Turbine 18 may indicate a fault zone or a higher content of argillaceous or shaly limestone.

**Turbine 20**

Layers 1 and 2 reach a depth of 1.5 – 3.5m bgl. Layer 3 is a combination of stiff to very stiff sandy gravelly clay and silt and dense to very dense clayey silty sand and gravel and has a thickness of between 4 to over 10m. This layer becomes thicker at both ends of line R42. The top of the rock layer is found at a depth of 7m to over 10m. There appears to be deeper weathering to the north along line R41 which may indicate anomalous rock. The top of rock also becomes deeper to the west and east along line R42 but this may be a change in the top of rockhead rather than anomalous rock.

**Turbine 21**

Turbine 21 – 24 appear to be underlain by a different rock type which may be shale or argillaceous limestone. At T21, layers 1 and 2 reach a depth of 1 – 5m bgl with a 2 – 8m thick layer of primarily stiff sandy gravelly clay and silt and some dense to very dense clayey silty sand and gravel or highly weathered rock below it. The depth to rock ranges from 3.5 – 10.5m bgl and is interpreted as good to very good shale or argillaceous limestone.

**Turbine 22**

There is a soft peat, clay or silt layer which is up to 3m thick but is generally thinner along both lines. This is underlain by a firm clay and silt layer to a depth of 2.5 – 6 bgl. There is a 5 – 10m thick layer which consists of stiff sandy gravelly clay and silt and some dense to very dense clayey silty sand and gravel and may also contain some highly weathered rock. The top of the good to very good shale or argillaceous limestone layer is deeper than 7m bgl and over 10m in some areas.

**Turbine 23**

There is a very thin layer of soft peat, clay or silt underlain by a 1.5 – 3m thick layer of firm clay and silt. The top of the stiff sandy gravelly clay and silt layer is 1.5 – 3.5m bgl and extends to depths of over 10m bgl. At a

depth of over 15m along line R43, the resistivities increase which may indicate the top of rock or a change to clayey silty sand and gravel overburden.

**Turbine 24**

There is 1 – 2m of soft peat underlain by 1 – 5m of firm clay and silt. This layer becomes over 9 m thick between 100 and 120m along line R47. Layer 3 is described primarily as dense to very dense clayey silty sand and gravel. Along all of line R48 and up to 95m along line R47. The top of the good to very good shale or argillaceous limestone layer is between 5 and 9.5m bgl but becomes very deep after 95m along lines R47. This area may indicate anomalous rock or possibly a fault zone.

**Substation**

There is between 0.8 – 1.6m of soft peat underlain by 0.4 – 2.5m of firm clay and silt. Layer 3is primarily stiff to very stiff sandy gravelly clay and silt, containing more sand and gravel at depth. The top of the limestone layer is between 4 – 10m bgl. There is some weathering at the top of this layer, especially to the SW and NE of the substation location.

**Borrow Pit 17-1**

The soft and firm layers reach a depth of 0.5 – 3.5m bgl. Layer 3, which is described as stiff to very stiff or dense to very dense overburden or poor weathered rock has a thickness ranging from 1 – 9m. The top of the fair to very good limestone layer is between 1 and 12m bgl.

**Borrow Pit 17-2**

The seismic refraction models show shallow rock across the borrow pit with the top of the fair to very good limestone layer generally from 1.5 – 3m bgl. This layer becomes deeper at the start of line S107 & S108 to the south and to the west along S109. A rotary core at the start of line S107 & S108 shows deep sand with rock at a depth of over 20m in contradiction to the seismic refraction models. The reason for this difference may be related to the change in rock depth shown on the models indicating an anomalous or karstified rock zone.

**Borrow Pit 17-3**

The top of the fair to very good rock layer is generally between 1 – 5.5m bgl with the overburden above being primarily stiff to very stiff or dense to very dense overburden or poor weathered rock.

**Borrow Pit 17-4**

There are thin layers of soft and firm overburden underlain by 1.5 – 6m of stiff to very stiff or dense to very dense overburden or poor weathered rock. The top of the fair to very good limestone layer is between 2.5 and 9m and is shallower in the northwest and deepest in the southeast.

**Borrow Pit 17-5**

The overburden gradually increases from soft to stiff to very stiff or dense to very dense overburden. The top of the fair to very good limestone layer is generally between 2.5 – 5m bgl but is as deep as 8m in some places.

## 5. CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are made:

- The geophysical surveys carried out at selected locations across the Derryadd Wind Farm site show that the subsurface geology generally consists of peat, underlain by clay and silt and limestone bedrock with anomalous rock in some places. The specific geology varies significantly between each location surveyed.
- There is a significant change in rock type from clean limestone at the substation, five borrow pits and turbines T1 – T20 to shale or argillaceous limestone at turbines T21 – T24. This will have to be confirmed against the rock cores.
- Lower resistivities at turbines T18 and T19 compared to T1 – T17 and T20 may indicate a fault zone in this area, or an increase in the content of the shaley or argillaceous limestone.
- The shallowest rock at the turbine locations is at T11 where rock is approx. 1m bgl. At locations T1, T2 and T16 rock is 4m or shallower bgl under the turbines.
- At locations T1, T2, T4, T14, T15 and T16 there is also shallow rock noted under the proposed hard standing areas.
- The deepest soft peat, clay and silt layer is found at turbine T6 where the average thickness is around 3.25m.
- At a number of turbine locations there are significant changes across the lines which may indicate anomalous rock or karstified limestone. The most significant of these are at T7, T12, T13, T15 and T16.
- At T7 there is a significant drop in the depth to the top of rock and the rock quality to the southeast of the turbine location
- At T12, the turbine location is close to a drop in the rockhead to the northwest
- At T13, there is deep weathering of the rock throughout the area surveyed.
- At T15, the hard standing area is underlain by fresh unweathered limestone while the turbine location and towards the south there is a significant anomalous rock zone.
- At T16, the anomalous rock is found to the southeast of the turbine location within the hard standing area.
- At the substation, there is some weathered rock near the top of rock and there is some more deeper weathering indicated to the NE of the proposed location.

- MASW results are displayed in Table 3 and Appendix 1. The MASW method was not ideal for this site and dispersion curves were not found at 10 turbine locations (T7 - T12, T16, T19, T21, T24) or at the substation. The highest S-Wave velocities were found at T17.
- At BP17-1, the rock is an average of 6m bgl but is shallower than 2m at some places.
- At borrow pits BP17-2, BP17-3 and BP17-4, the top of rock is generally around 2 – 3 m bgl but varied throughout.
- At BP17-2, deep rock within a rotary core and a change in the depth to rock within the seismic refraction model may indicate anomalous or karstified rock to the south.
- At BP17-5, the rock is found at an average of 4m bgl.
- This draft report will be reviewed when all the direct GI data becomes available.

# 6. REFERENCES

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5. **Milsom, 1989.** Field Geophysics. John Wiley and Sons.

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7. **Weaver, 1975.** Geological Factors significant in the Assessment of Rippability.

# Table 1: Geophysical Survey Locations and Acquisition Parameters

| 2D-Resistivity Survey | | | | | |
|---|---|---|---|---|---|
| **Site** | **Line** | **Electrode Spacing (m)** | **Length (m)** | **Display direction** | **Comment** |
| Turbine 1 | R1 | 3 | 189 | SE-NW | |
| Turbine 1 | R2 | 3 | 93 | SW-NE | |
| Turbine 2 | R3 | 3 | 189 | SE-NW | |
| Turbine 2 | R4 | 3 | 93 | NE-SW | |
| Turbine 3 | R9 | 3 | 93 | SE-NW | |
| Turbine 3 | R10 | 3 | 168 | SW-NE | Deep Ditch SW |
| Turbine 4 | R11 | 3 | 189 | S-N | |
| Turbine 4 | R12 | 3 | 75 | W-E | Deep Ditch E |
| Turbine 5 | R7 | 3 | 189 | E-W | |
| Turbine 5 | R8 | 3 | 93 | S-N | |
| Turbine 6 | R17 | 3 | 189 | SW-NE | 2 Banks with 1 deep ditch |
| Turbine 6 | R18 | 3 | 93 | SE-NW | |
| Turbine 7 | R13 | 3 | 189 | NW-SE | |
| Turbine 7 | R14 | 3 | 93 | SW-NE | |
| Turbine 8 | R15 | 3 | 57 | NE-SW | Deep ditch NE, water SW |
| Turbine 8 | R16 | 3 | 189 | SE-NW | |
| Turbine 9 | R5 | 3 | 189 | NW-SE | |
| Turbine 9 | R6 | 3 | 93 | NE-SW | Deep Ditch NE |
| Turbine 10 | R31 | 3 | 189 | SE-NW | |
| Turbine 10 | R32 | 3 | 93 | SW-NE | |
| Turbine 11 | R33 | 3 | 189 | SE-NW | |
| Turbine 11 | R34 | 3 | 93 | NE-SW | |
| Turbine 12 | R19 | 3 | 189 | S-N | |
| Turbine 12 | R20 | 3 | 93 | W-E | |
| Turbine 13 | R25 | 3 | 93 | W-E | |
| Turbine 13 | R26 | 3 | 189 | N-S | |
| Turbine 14 | R23 | 3 | 93 | S-N | |
| Turbine 14 | R24 | 3 | 189 | E-W | |
| Turbine 15 | R27 | 3 | 93 | E-W | |
| Turbine 15 | R28 | 3 | 189 | S-N | |
| Turbine 16 | R29 | 3 | 93 | SW-NE | |
| Turbine 16 | R30 | 3 | 189 | NW-SE | |
| Turbine 17 | R21 | 3 | 189 | N-S | |
| Turbine 17 | R22 | 3 | 93 | E-W | |
| Turbine 18 | R37 | 3 | 189 | NW-SE | |
| Turbine 18 | R38 | 3 | 93 | NE-SW | |
| Turbine 19 | R35 | 3 | 189 | SE-NW | |
| Turbine 19 | R36 | 3 | 93 | NE-SW | |
| Turbine 20 | R41 | 3 | 93 | N-S | |
| Turbine 20 | R42 | 3 | 189 | E-W | |
| Turbine 21 | R39 | 3 | 93 | SW-NE | |
| Turbine 21 | R40 | 3 | 189 | NW-SE | |
| Turbine 22 | R45 | 3 | 189 | NE-SW | |
| Turbine 22 | R46 | 3 | 93 | SE-NW | |
| Turbine 23 | R43 | 3 | 189 | NE-SW | |
| Turbine 23 | R44 | 3 | 93 | SE-NW | |
| Turbine 24 | R47 | 3 | 189 | NE-SW | |
| Turbine 24 | R48 | 3 | 93 | NW-SE | |
| Substation | R49 | 3 | 189 | SW-NE | |
| Substation | R50 | 3 | 189 | NE-SW | |
| | | **SUM** | **7071** | | |
| | | | | | |
| **Seismic Refraction Survey** | | | | | |
| **Site** | **Line** | **Geophone Spacing (m)** | **Length (m)** | **Display direction** | **Comment** |

# Table 1: Geophysical Survey Locations and Acquisition Parameters

| | | | | | |
|---|---|---|---|---|---|
| Turbine 1 | S1 | 2 | 142 | SE-NW | |
| Turbine 1 | S2 | 2 | 46 | SW-NE | |
| Turbine 2 | S3 | 2 | 142 | SE-NW | |
| Turbine 2 | S4 | 2 | 46 | NE-SW | |
| Turbine 3 | S9 | 2 | 46 | SE-NW | |
| Turbine 3 | S10 | 2 | 94 | SW-NE | |
| Turbine 4 | S11 | 2 | 142 | S-N | |
| Turbine 4 | S12 | 2 | 46 | W-E | |
| Turbine 5 | S7 | 2 | 142 | E-W | |
| Turbine 5 | S8 | 2 | 46 | S-N | |
| Turbine 6 | S17A | 2 | 46 | SW-NE | 2x separate 46m profiles |
| Turbine 6 | S17B | 2 | 46 | SW-NE | 2x separate 46m profiles |
| Turbine 6 | S18 | 2 | 46 | SE-NW | |
| Turbine 7 | S13 | 2 | 142 | NW-SE | |
| Turbine 7 | S14 | 2 | 46 | SW-NE | |
| Turbine 8 | S15 | 2 | 46 | NE-SW | |
| Turbine 8 | S16 | 2 | 142 | SE-NW | |
| Turbine 9 | S5 | 2 | 142 | NW-SE | |
| Turbine 9 | S6 | 2 | 46 | NE-SW | |
| Turbine 10 | S31 | 2 | 142 | SE-NW | |
| Turbine 10 | S32 | 2 | 46 | SW-NE | |
| Turbine 11 | S33 | 2 | 142 | SE-NW | |
| Turbine 11 | S34 | 2 | 46 | NE-SW | |
| Turbine 12 | S19 | 2 | 142 | S-N | |
| Turbine 12 | S20 | 2 | 46 | W-E | |
| Turbine 13 | S25 | 2 | 46 | W-E | |
| Turbine 13 | S26 | 2 | 142 | N-S | |
| Turbine 14 | S23 | 2 | 46 | S-N | |
| Turbine 14 | S24 | 2 | 142 | E-W | |
| Turbine 15 | S27 | 2 | 46 | E-W | |
| Turbine 15 | S28 | 2 | 142 | S-N | |
| Turbine 16 | S29 | 2 | 46 | SW-NE | |
| Turbine 16 | S30 | 2 | 142 | NW-SE | |
| Turbine 17 | S21 | 2 | 142 | N-S | |
| Turbine 17 | S22 | 2 | 46 | E-W | |
| Turbine 18 | S36 | 2 | 142 | NW-SE | |
| Turbine 18 | S35 | 2 | 46 | NE-SW | |
| Turbine 19 | S38 | 2 | 142 | SE-NW | |
| Turbine 19 | S37 | 2 | 46 | NE-SW | |
| Turbine 20 | S43 | 2 | 142 | E-W | |
| Turbine 20 | S44 | 2 | 46 | N-S | |
| Turbine 21 | S39 | 2 | 46 | SW-NE | |
| Turbine 21 | S40 | 2 | 94 | SW-NE | |
| Turbine 21 | S41 | 2 | 46 | NW-SE | |
| Turbine 21 | S42 | 2 | 46 | NW-SE | |
| Turbine 22 | S45 | 2 | 142 | NE-SW | |
| Turbine 22 | S46 | 2 | 46 | SE-NW | |
| Turbine 23 | S47 | 2 | 46 | SE-NW | |
| Turbine 23 | S48 | 2 | 142 | NE-SW | |
| Turbine 24 | S49 | 2 | 46 | NW-SE | |
| Turbine 24 | S50 | 2 | 142 | NE-SW | |
| BP17-1 | S113 | 2 | 162 | W-E | |
| BP17-1 | S114 | 2 | 142 | N-S | |
| BP17-1 | S115 | 2 | 190 | N-S | |
| BP17-2 | S107 | 2 | 142 | S-N | |
| BP17-2 | S108 | 2 | 94 | S-N | |
| BP17-2 | S109 | 2 | 94 | W-E | |

# Table 1: Geophysical Survey Locations and Acquisition Parameters

| | | | | | |
|---|---|---|---|---|---|
| BP17-3 | S103 | 2 | 142 | S-N | |
| BP17-3 | S104 | 2 | 118 | S-N | |
| BP17-3 | S105 | 2 | 134 | W-E | Water W |
| BP17-3 | S106 | 2 | 46 | W-E | Water W |
| BP17-4 | S101 | 2 | 190 | SE-NW | |
| BP17-4 | S102 | 2 | 94 | SW-NE | |
| BP17-5 | S110 | 2 | 118 | S-N | |
| BP17-5 | S111 | 2 | 142 | S-N | |
| BP17-5 | S112 | 2 | 82 | W-E | |
| Substation | S52 | 2 | 120 | SW-NE | |
| Substation | S53 | 2 | 142 | SE-NW | |
| | | **SUM** | **6610** | | |
| | | | | | |
| **MASW Survey** | | | | | |
| **Site** | **Line** | **Geophone Spacing (m)** | **Length (m)** | **Display direction** | **Comment** |
| Turbine 1 | M1 | 2 | 46 | SE-NW | |
| Turbine 2 | M3 | 2 | 46 | SE-NW | |
| Turbine 3 | M9 | 2 | 46 | SE-NW | |
| Turbine 4 | M11 | 2 | 46 | S-N | |
| Turbine 5 | M7 | 2 | 46 | E-W | |
| Turbine 6 | M18 | 2 | 46 | SE-NW | |
| Turbine 7 | M13 | 2 | 46 | SW-NE | |
| Turbine 8 | M16 | 2 | 46 | SW-NE | |
| Turbine 9 | M3 | 2 | 46 | NW-SE | |
| Turbine 10 | M32 | 2 | 46 | SW-NE | |
| Turbine 11 | M34 | 2 | 46 | NE-SW | |
| Turbine 12 | M19 | 2 | 46 | S-N | |
| Turbine 13 | M26 | 2 | 46 | N-S | |
| Turbine 14 | M23 | 2 | 46 | S-N | |
| Turbine 15 | M28 | 2 | 46 | S-N | |
| Turbine 16 | M30 | 2 | 46 | NW-SE | |
| Turbine 17 | M21 | 2 | 46 | N-S | |
| Turbine 18 | M35 | 2 | 46 | NE-SW | |
| Turbine 19 | M37 | 2 | 46 | NE-SW | |
| Turbine 20 | M43 | 2 | 46 | E-W | |
| Turbine 21 | M40 | 2 | 46 | SW-NE | |
| Turbine 22 | M45 | 2 | 46 | NE-SW | |
| Turbine 23 | M47 | 2 | 46 | SE-NW | |
| Turbine 24 | M50 | 2 | 46 | NE-SW | |
| Substation | M52 | 2 | 46 | SW-NE | |
| | | **SUM** | **1150** | | |

Table 3: MASW S-Wave Velocity and Elastic Constants

| Turbine Name | Depth (m) | S-Wave Velocity (m/s) | Gmax - Shear Modulus in MPa | P-wave velocity (m/s) from Seismic Refraction | Density in Kg/m$^3$ (comp. from P-wave vel) | Poisson Ratio | K - Bulk Modulus in MPa | E - Young's Modulus in MPa |
|---|---|---|---|---|---|---|---|---|
| **T1** | | | | | | | | |
| | **1.0** | 291 | 135 | **700** | 1595 | 0.40 | 601 | 377 |
| | **1.5** | 339 | 183 | **700** | 1595 | 0.35 | 537 | 494 |
| | **2.0** | 457 | 409 | **1600** | 1961 | 0.46 | 4473 | 1192 |
| | **2.5** | 557 | 608 | **1600** | 1961 | 0.43 | 4208 | 1741 |
| | **3.0** | 662 | 859 | **1600** | 1961 | 0.40 | 3874 | 2400 |
| | **3.5** | 762 | 1138 | **1600** | 1961 | 0.35 | 3502 | 3081 |
| | **4.0** | 796 | 1242 | **1600** | 1961 | 0.34 | 3363 | 3318 |
| **T2** | | | | | | | | |
| | **3.0** | 383 | 296 | **1800** | 2019 | 0.48 | 6147 | 875 |
| | **3.5** | 430 | 373 | **1800** | 2019 | 0.47 | 6045 | 1097 |
| | **4.0** | 477 | 459 | **1800** | 2019 | 0.46 | 5930 | 1344 |
| | **4.5** | 514 | 533 | 1800 | 2019 | 0.46 | 5831 | 1553 |
| **T3** | | | | | | | | |
| | **2.0** | 344 | 242 | 1900 | 2047 | 0.48 | 7066 | 718 |
| | **2.5** | 410 | 344 | 1900 | 2047 | 0.48 | 6930 | 1015 |
| | **3.0** | 474 | 460 | 1900 | 2047 | 0.47 | 6776 | 1349 |
| | **3.5** | 545 | 608 | 1900 | 2047 | 0.46 | 6578 | 1769 |
| | **4.0** | 621 | 789 | 1900 | 2047 | 0.44 | 6336 | 2273 |
| | **4.5** | 690 | 974 | 1900 | 2047 | 0.42 | 6090 | 2775 |
| | **5.0** | 771 | 1217 | 1900 | 2047 | 0.40 | 5767 | 3410 |
| **T4** | | | | | | | | |
| | **1.5** | 288 | 145 | 1000 | 1743 | 0.45 | 1551 | 421 |
| | **2.0** | 308 | 165 | 1000 | 1743 | 0.45 | 1523 | 479 |
| | **2.5** | 340 | 202 | 1000 | 1743 | 0.43 | 1475 | 578 |
| | **3.0** | 374 | 244 | 1000 | 1743 | 0.42 | 1418 | 692 |
| | **3.5** | 414 | 299 | 1000 | 1743 | 0.40 | 1345 | 835 |
| | **4.0** | 446 | 422 | 2200 | 2123 | 0.48 | 9713 | 1249 |
| | **4.5** | 484 | 497 | 2200 | 2123 | 0.47 | 9613 | 1467 |
| | **5.0** | 525 | 585 | 2200 | 2123 | 0.47 | 9496 | 1720 |
| | **5.5** | 555 | 654 | 2200 | 2123 | 0.47 | 9404 | 1917 |
| | **6.0** | 587 | 732 | 2200 | 2123 | 0.46 | 9301 | 2139 |
| | **6.5** | 622 | 821 | 2200 | 2123 | 0.46 | 9181 | 2393 |
| **T5** | | | | | | | | |
| | **1.5** | 412 | 296 | 1000 | 1743 | 0.40 | 1349 | 827 |
| | **2.0** | 415 | 300 | 1000 | 1743 | 0.40 | 1343 | 838 |

Table 3: MASW S-Wave Velocity and Elastic Constants

| Turbine Name | Depth (m) | S-Wave Velocity (m/s) | Gmax - Shear Modulus in MPa | P-wave velocity (m/s) from Seismic Refraction | Density in Kg/m$^3$ (comp. from P-wave vel) | Poisson Ratio | K - Bulk Modulus in MPa | E - Young's Modulus in MPa |
|---|---|---|---|---|---|---|---|---|
| | **2.5** | 435 | 330 | 1000 | 1743 | 0.38 | 1304 | 913 |
| | **3.0** | 465 | 469 | 2400 | 2170 | 0.48 | 11873 | 1389 |
| | **3.5** | 486 | 512 | 2400 | 2170 | 0.48 | 11815 | 1516 |
| | **4.0** | 531 | 612 | 2400 | 2170 | 0.47 | 11682 | 1804 |
| | **4.5** | 552 | 661 | 2400 | 2170 | 0.47 | 11617 | 1946 |
| | **5.0** | 583 | 737 | 2400 | 2170 | 0.47 | 11515 | 2166 |
| | **5.5** | 623 | 842 | 2400 | 2170 | 0.46 | 11375 | 2466 |
| | **6.0** | 661 | 948 | 2400 | 2170 | 0.46 | 11234 | 2766 |
| | **6.5** | 700 | 1063 | 2400 | 2170 | 0.45 | 11081 | 3091 |
| | **7.0** | 728 | 1150 | 2400 | 2170 | 0.45 | 10965 | 3333 |
| **T6** | | | | | | | | |
| | **4.0** | 399 | 278 | 1000 | 1743 | 0.41 | 1373 | 780 |
| | **4.5** | 405 | 286 | 1000 | 1743 | 0.40 | 1362 | 802 |
| | **5.0** | 428 | 319 | 1000 | 1743 | 0.39 | 1318 | 886 |
| | **5.5** | 458 | 366 | 1000 | 1743 | 0.37 | 1256 | 1000 |
| | **6.0** | 486 | 501 | 2200 | 2123 | 0.47 | 9607 | 1479 |
| | **6.5** | 522 | 579 | 2200 | 2123 | 0.47 | 9505 | 1701 |
| | **7.0** | 531 | 599 | 2200 | 2123 | 0.47 | 9478 | 1759 |
| | **7.5** | 582 | 719 | 2200 | 2123 | 0.46 | 9317 | 2103 |
| | **8.0** | 597 | 757 | 2200 | 2123 | 0.46 | 9267 | 2210 |
| **T7** | Poor Data due to geological changes across line | | | | | | | |
| **T8** | Poor Data | | | | | | | |
| **T9** | Poor Data due to geological changes across line | | | | | | | |
| **T10** | Poor Data | | | | | | | |
| **T11** | Poor Data due to shallow rock | | | | | | | |
| **T12** | Poor Data due to geological changes across line | | | | | | | |
| **T13** | | | | | | | | |
| | **2.5** | 716 | 1025 | 2000 | 2073 | 0.43 | 6876 | 3032 |
| | **3.0** | 706 | 997 | 2000 | 2073 | 0.43 | 6915 | 2953 |
| | **3.5** | 693 | 960 | 2000 | 2073 | 0.43 | 6965 | 2851 |
| | **4.0** | 677 | 917 | 2000 | 2073 | 0.44 | 7026 | 2728 |
| | **4.5** | 660 | 871 | 2000 | 2073 | 0.44 | 7089 | 2599 |
| | **5.0** | 645 | 832 | 2000 | 2073 | 0.44 | 7143 | 2487 |
| | **5.5** | 637 | 812 | 2000 | 2073 | 0.44 | 7171 | 2429 |
| | **6.0** | 639 | 817 | 2000 | 2073 | 0.44 | 7164 | 2443 |
| **T14** | | | | | | | | |

Table 3: MASW S-Wave Velocity and Elastic Constants

| Turbine Name | Depth (m) | S-Wave Velocity (m/s) | Gmax - Shear Modulus in MPa | P-wave velocity (m/s) from Seismic Refraction | Density in Kg/m$^3$ (comp. from P-wave vel) | Poisson Ratio | K - Bulk Modulus in MPa | E - Young's Modulus in MPa |
|---|---|---|---|---|---|---|---|---|
| | **3.5** | 455 | 414 | 1000 | 1743 | 0.37 | 1262 | 988 |
| | **4.0** | 517 | 535 | 1800 | 2019 | 0.46 | 5823 | 1571 |
| | **4.5** | 581 | 675 | 1800 | 2019 | 0.44 | 5634 | 1966 |
| | **5.0** | 641 | 822 | 1800 | 2019 | 0.43 | 5436 | 2368 |
| | **5.5** | 704 | 991 | 1800 | 2019 | 0.41 | 5208 | 2822 |
| **T15** | | | | | | | | |
| | **1.5** | 468 | 438 | 900 | 1698 | 0.31 | 880 | 978 |
| | **2.0** | 482 | 465 | 900 | 1698 | 0.30 | 849 | 1025 |
| | **2.5** | 496 | 492 | 1900 | 2047 | 0.46 | 6717 | 1474 |
| | **3.0** | 505 | 510 | 1900 | 2047 | 0.46 | 6693 | 1526 |
| | **3.5** | 507 | 514 | 1900 | 2047 | 0.46 | 6687 | 1538 |
| | **4.0** | 505 | 510 | 1900 | 2047 | 0.46 | 6693 | 1526 |
| | **4.5** | 503 | 506 | 1900 | 2047 | 0.46 | 6698 | 1514 |
| | **5.0** | 502 | 504 | 1900 | 2047 | 0.46 | 6701 | 1509 |
| | **5.5** | 506 | 512 | 1900 | 2047 | 0.46 | 6690 | 1532 |
| | **6.0** | 516 | 533 | 1900 | 2047 | 0.46 | 6662 | 1591 |
| | **6.5** | 538 | 579 | 1900 | 2047 | 0.46 | 6599 | 1726 |
| | **7.0** | 563 | 634 | 1900 | 2047 | 0.45 | 6524 | 1884 |
| | **7.5** | 596 | 710 | 1900 | 2047 | 0.45 | 6419 | 2102 |
| | **8.0** | 608 | 739 | 1900 | 2047 | 0.44 | 6380 | 2183 |
| | **8.5** | 652 | 850 | 1900 | 2047 | 0.43 | 6229 | 2494 |
| | **9.0** | 695 | 966 | 1900 | 2047 | 0.42 | 6071 | 2813 |
| **T16** | Poor Data due to shallow rock | | | | | | | |
| **T17** | | | | | | | | |
| | **2.0** | 494 | 488 | 1000 | 1743 | 0.34 | 1176 | 1139 |
| | **2.5** | 570 | 650 | 1000 | 1743 | 0.26 | 988 | 1427 |
| | **3.0** | 654 | 855 | 2000 | 2073 | 0.44 | 7110 | 2554 |
| | **3.5** | 753 | 1134 | 2000 | 2073 | 0.42 | 6725 | 3332 |
| | **4.0** | 837 | 1401 | 2000 | 2073 | 0.39 | 6356 | 4049 |
| | **4.5** | 904 | 1634 | 2000 | 2073 | 0.37 | 6034 | 4648 |
| | **5.0** | 981 | 1925 | 2000 | 2073 | 0.34 | 5633 | 5353 |
| | **5.5** | 1054 | 2222 | 2000 | 2073 | 0.31 | 5222 | 6024 |
| | **6.0** | 1100 | 2420 | 2000 | 2073 | 0.28 | 4949 | 6437 |
| **T18** | | | | | | | | |
| | **1.5** | 401 | 322 | 1000 | 1743 | 0.40 | 1370 | 787 |
| | **2.0** | 433 | 375 | 1000 | 1743 | 0.38 | 1308 | 905 |

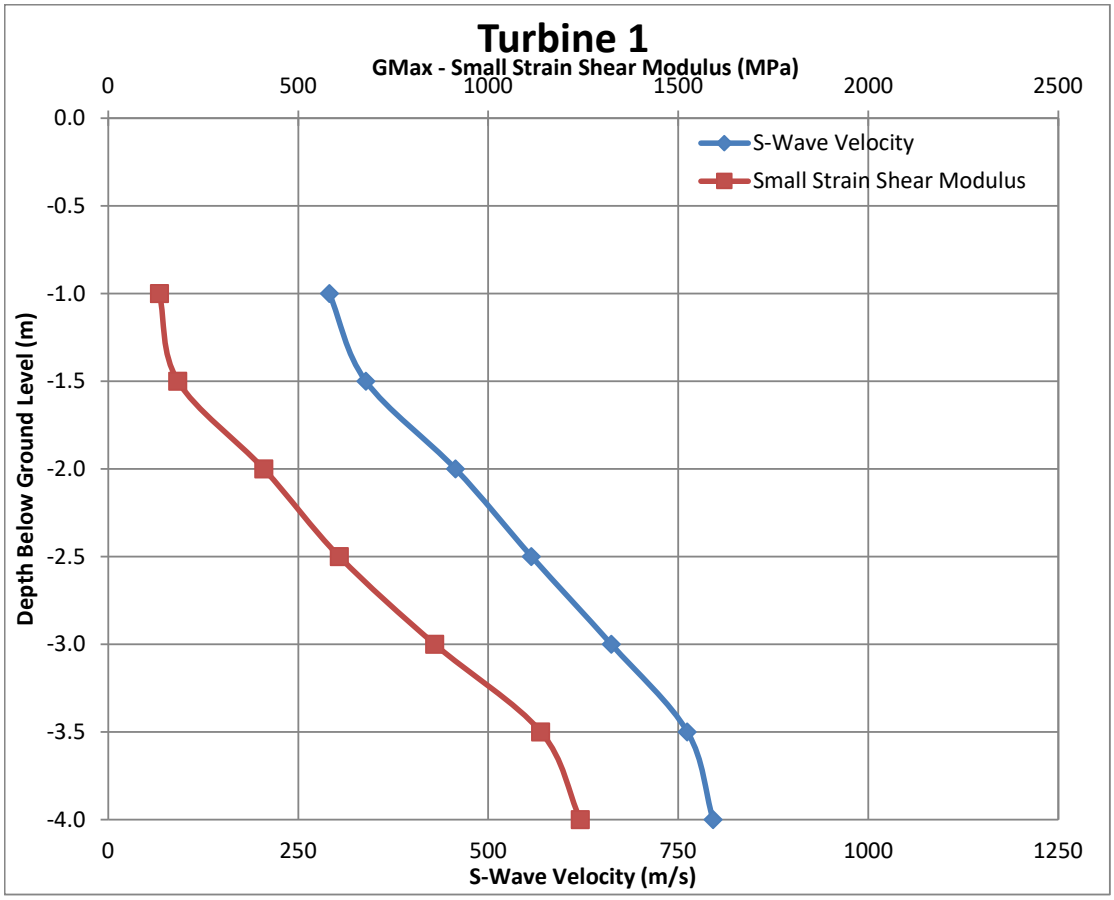
Table 3: MASW S-Wave Velocity and Elastic Constants

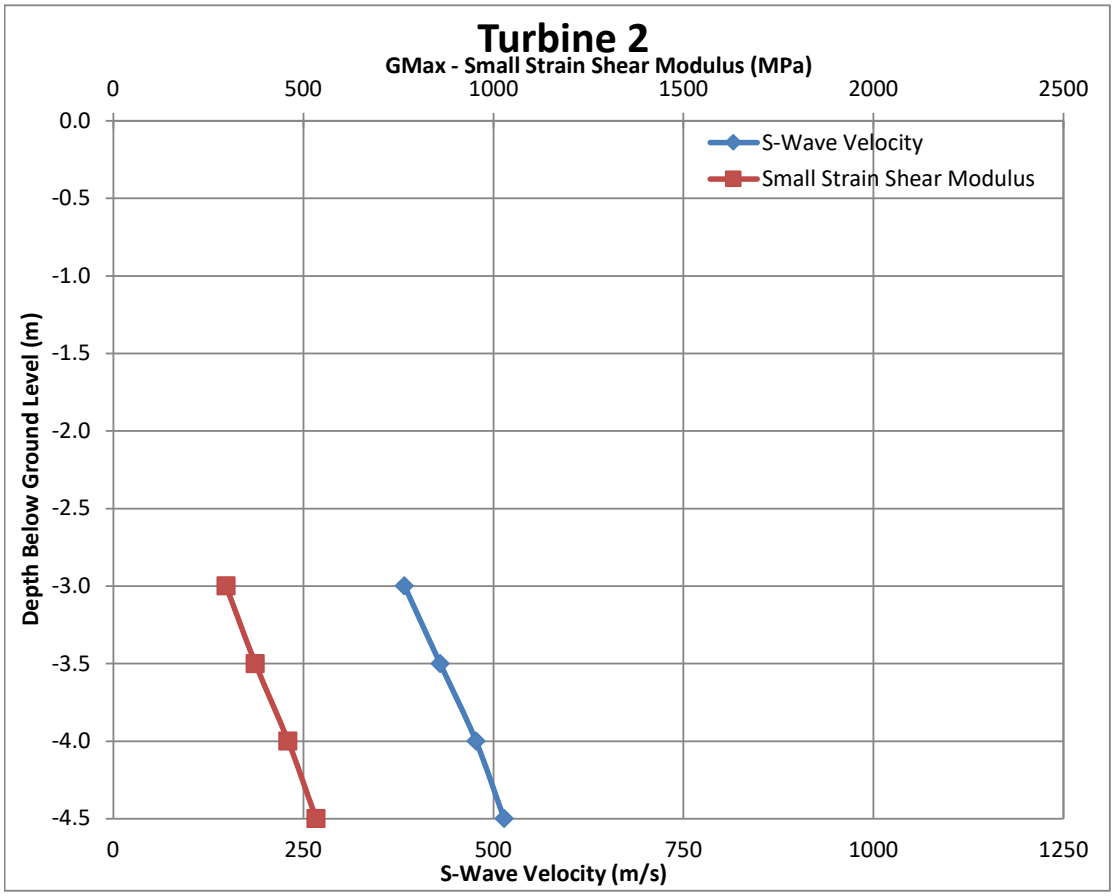
| Turbine Name | Depth (m) | S-Wave Velocity (m/s) | Gmax - Shear Modulus in MPa | P-wave velocity (m/s) from Seismic Refraction | Density in Kg/m$^3$ (comp. from P-wave vel) | Poisson Ratio | K - Bulk Modulus in MPa | E - Young's Modulus in MPa |
|---|---|---|---|---|---|---|---|---|
| | **2.5** | 477 | 455 | 1000 | 1743 | 0.35 | 1215 | 1073 |
| | **3.0** | 529 | 560 | 2000 | 2073 | 0.46 | 7519 | 1697 |
| | **3.5** | 548 | 601 | 2000 | 2073 | 0.46 | 7463 | 1817 |
| **T19** | Poor Data | | | | | | | |
| **T20** | | | | | | | | |
| | **3.0** | 701 | 983 | 2400 | 2170 | 0.45 | 11077 | 3099 |
| | **3.5** | 761 | 1158 | 2400 | 2170 | 0.44 | 10823 | 3629 |
| | **4.0** | 815 | 1328 | 2400 | 2170 | 0.43 | 10577 | 4136 |
| | **4.5** | 869 | 1510 | 2400 | 2170 | 0.42 | 10314 | 4668 |
| | **5.0** | 926 | 1715 | 2400 | 2170 | 0.41 | 10018 | 5256 |
| | **5.5** | 969 | 1878 | 2400 | 2170 | 0.40 | 9782 | 5715 |
| | **6.0** | 987 | 1948 | 2400 | 2170 | 0.40 | 9680 | 5911 |
| | **6.5** | 1005 | 2020 | 2400 | 2170 | 0.39 | 9577 | 6109 |
| **T21** | Poor Data due to homogeneous seismic layer | | | | | | | |
| **T22** | | | | | | | | |
| | **3.0** | 440 | 387 | 1000 | 1743 | 0.38 | 1293 | 931 |
| | **3.5** | 454 | 412 | 1000 | 1743 | 0.37 | 1264 | 985 |
| | **4.0** | 489 | 478 | 1000 | 1743 | 0.34 | 1188 | 1120 |
| | **4.5** | 524 | 549 | 1000 | 1743 | 0.31 | 1105 | 1255 |
| | **5.0** | 565 | 638 | 1000 | 1743 | 0.27 | 1001 | 1409 |
| | **5.5** | 615 | 756 | 2300 | 2147 | 0.46 | 10274 | 2373 |
| | **6.0** | 654 | 855 | 2300 | 2147 | 0.46 | 10133 | 2674 |
| | **6.5** | 696 | 969 | 2300 | 2147 | 0.45 | 9970 | 3015 |
| | **7.0** | 742 | 1101 | 2300 | 2147 | 0.44 | 9781 | 3409 |
| | **7.5** | 793 | 1258 | 2300 | 2147 | 0.43 | 9557 | 3868 |
| | **8.0** | 849 | 1442 | 2300 | 2147 | 0.42 | 9294 | 4398 |
| | **8.5** | 867 | 1503 | 2300 | 2147 | 0.42 | 9206 | 4574 |
| | **9.0** | 929 | 1726 | 2300 | 2147 | 0.40 | 8887 | 5197 |
| | **9.5** | 969 | 1878 | 2300 | 2147 | 0.39 | 8670 | 5612 |
| **T23** | | | | | | | | |
| | **1.5** | 325 | 211 | 1000 | 1743 | 0.44 | 1498 | 531 |
| | **2.0** | 388 | 301 | 1000 | 1743 | 0.41 | 1393 | 741 |
| | **2.5** | 446 | 398 | 1000 | 1743 | 0.38 | 1281 | 954 |
| | **3.0** | 496 | 492 | 2400 | 2170 | 0.48 | 11786 | 1578 |
| | **3.5** | 539 | 581 | 2400 | 2170 | 0.47 | 11658 | 1858 |
| | **4.0** | 585 | 684 | 2400 | 2170 | 0.47 | 11508 | 2181 |

Table 3: MASW S-Wave Velocity and Elastic Constants

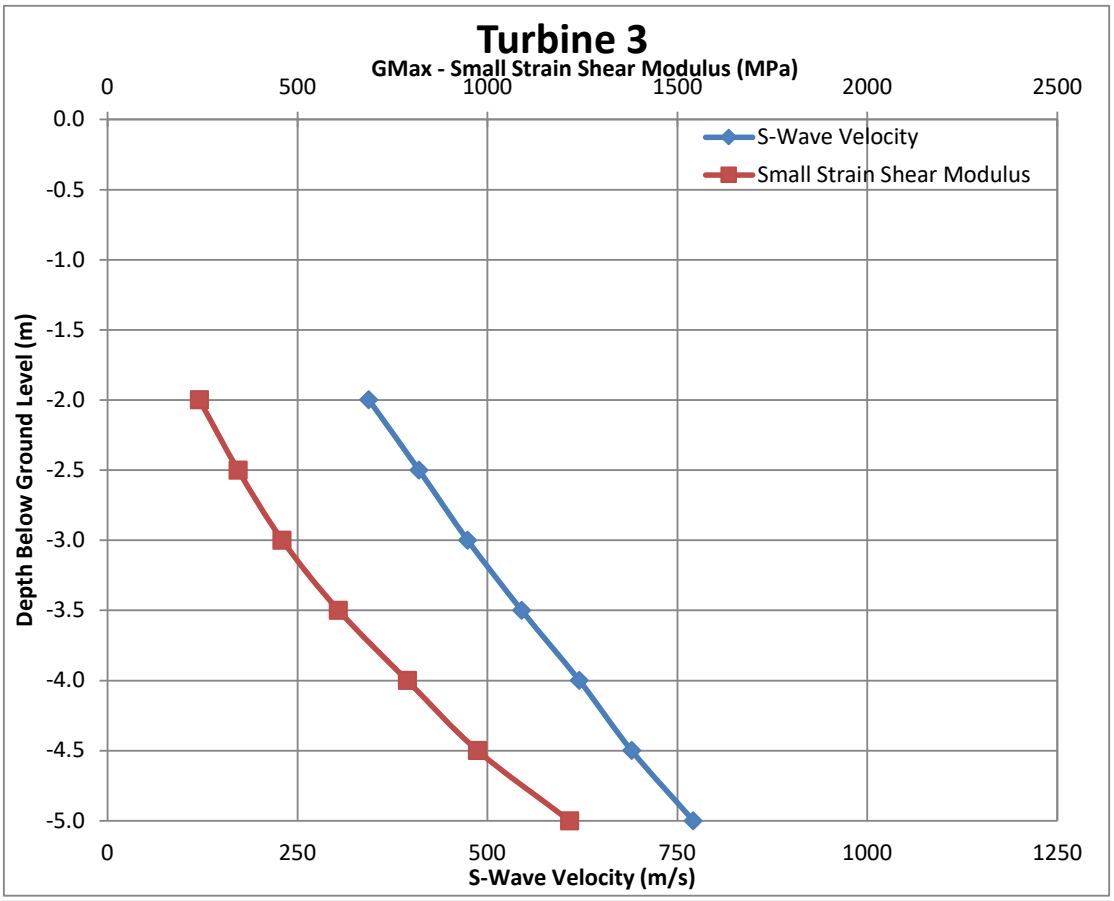
| Turbine Name | Depth (m) | S-Wave Velocity (m/s) | Gmax - Shear Modulus in MPa | P-wave velocity (m/s) from Seismic Refraction | Density in Kg/m$^3$ (comp. from P-wave vel) | Poisson Ratio | K - Bulk Modulus in MPa | E - Young's Modulus in MPa |
|---|---|---|---|---|---|---|---|---|
| | **4.5** | 636 | 809 | 2400 | 2170 | 0.46 | 11328 | 2567 |
| | **5.0** | 661 | 874 | 2400 | 2170 | 0.46 | 11234 | 2766 |
| | **5.5** | 670 | 898 | 2400 | 2170 | 0.46 | 11200 | 2840 |
| | **6.0** | 679 | 922 | 2400 | 2170 | 0.46 | 11164 | 2914 |
| **T24** | Poor Data due to changing geology across line | | | | | | | |
| **Substation** | Poor Data due to shallow rock | | | | | | | |

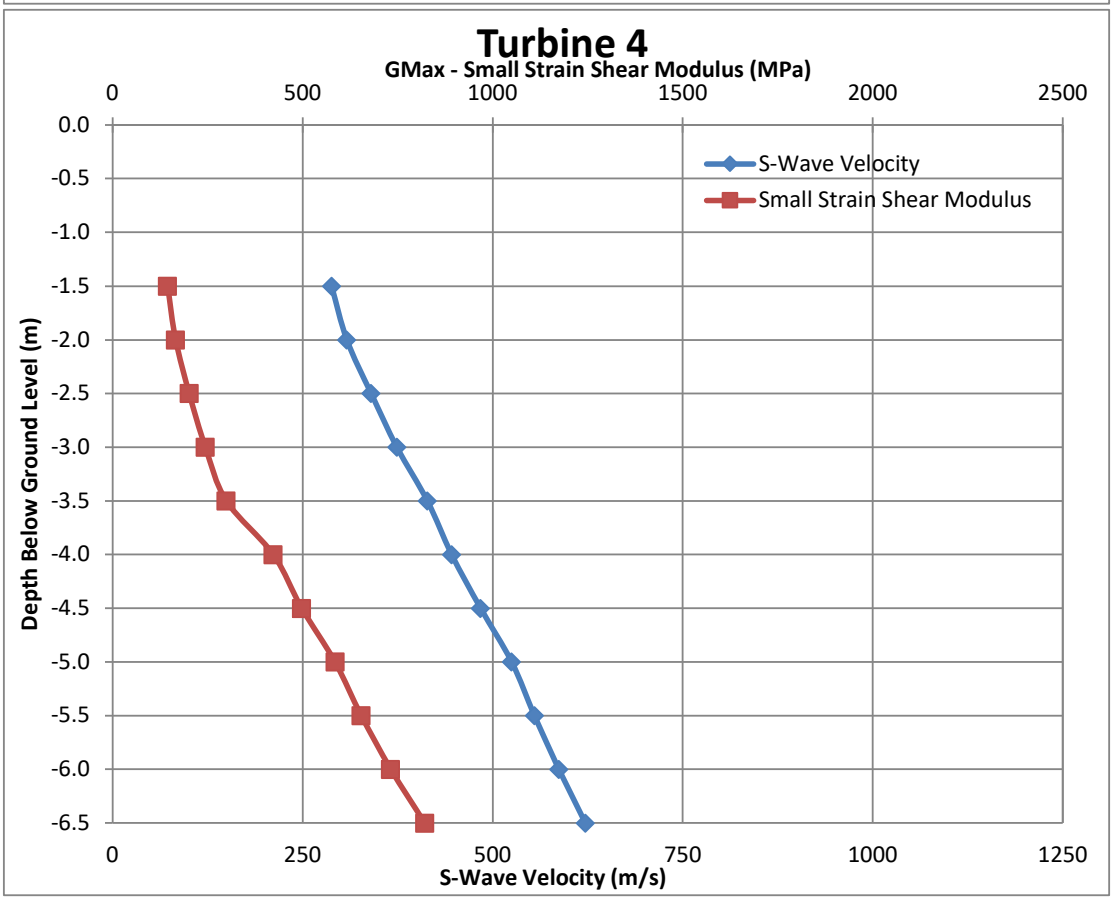
## Appendix 1: Graphs of MASW Results



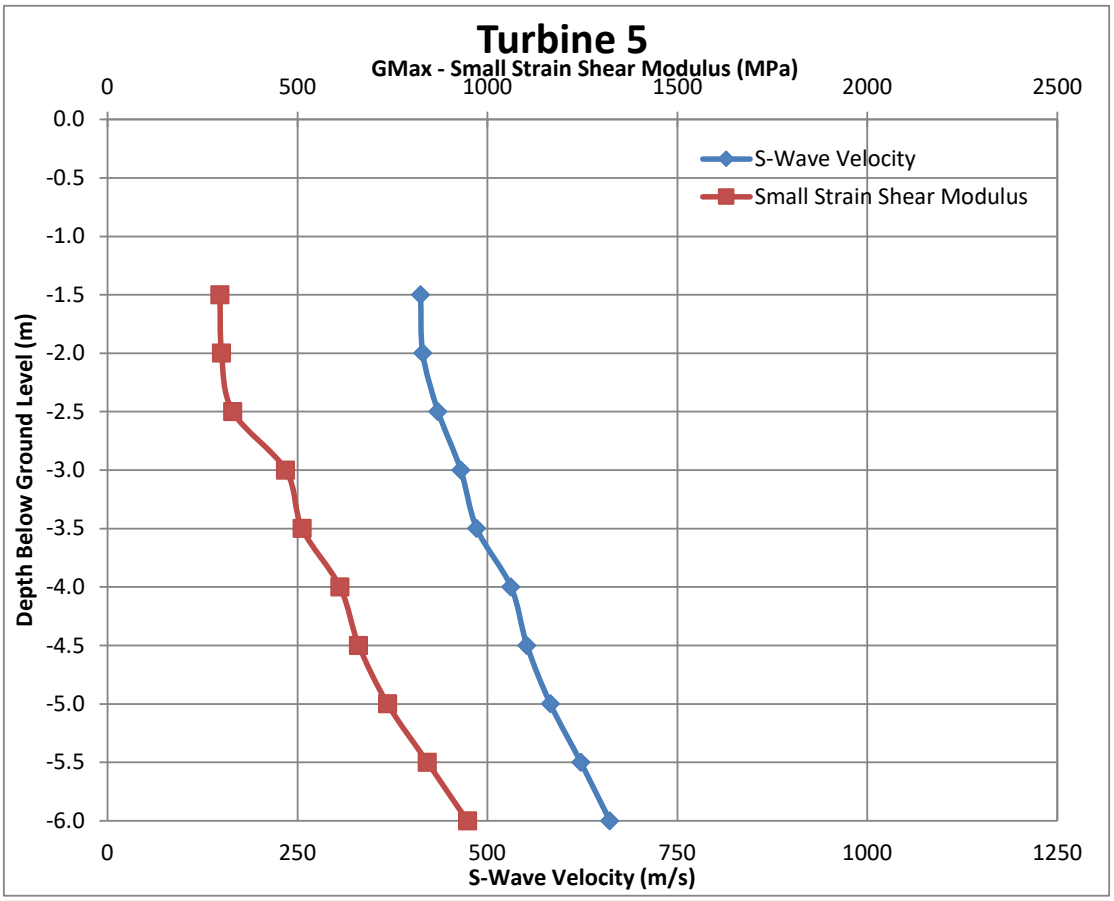



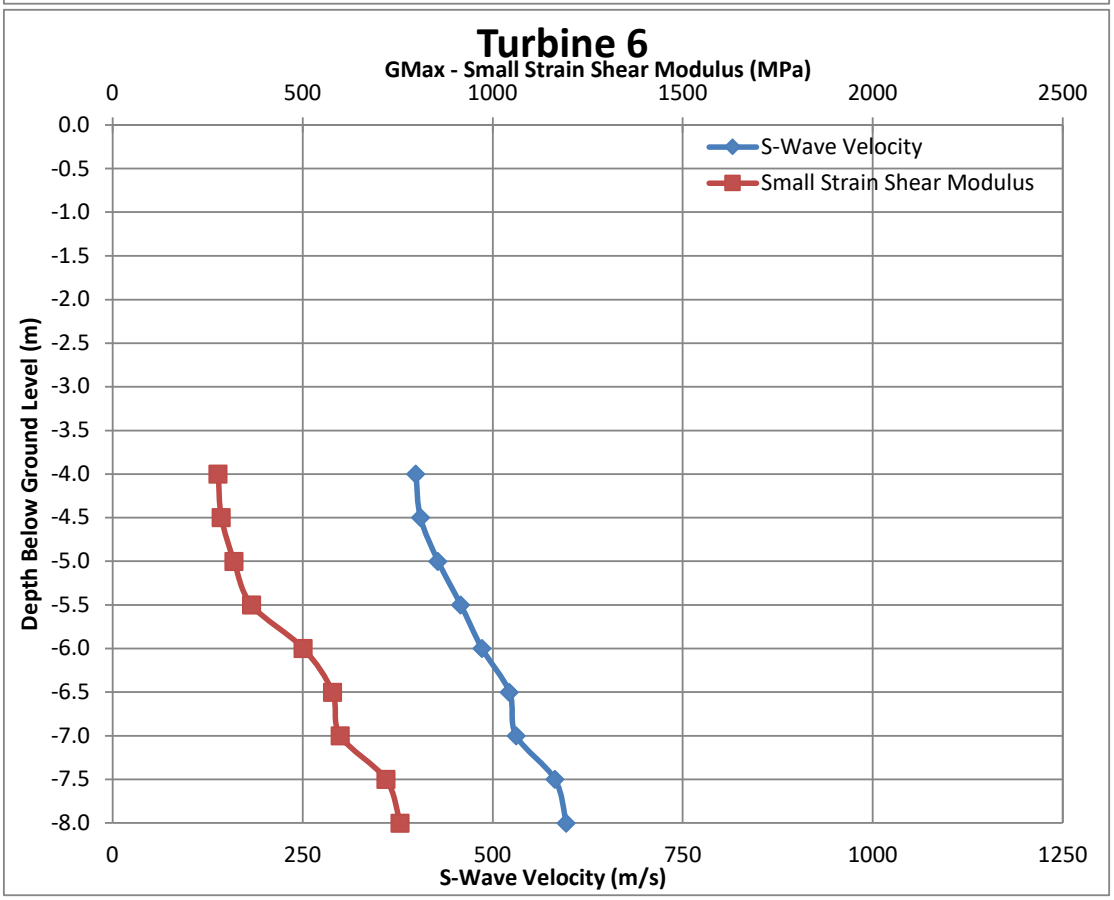
**Appendix 1: Graphs of MASW Results**



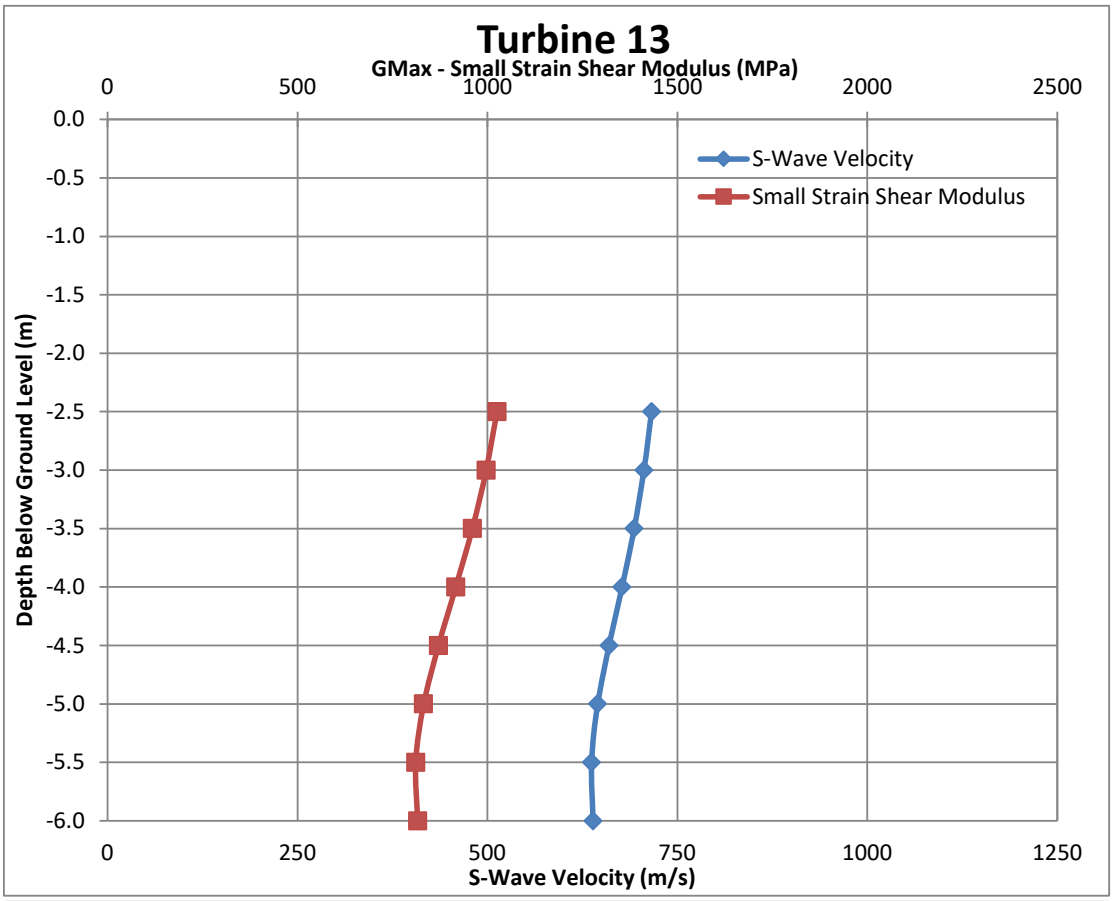



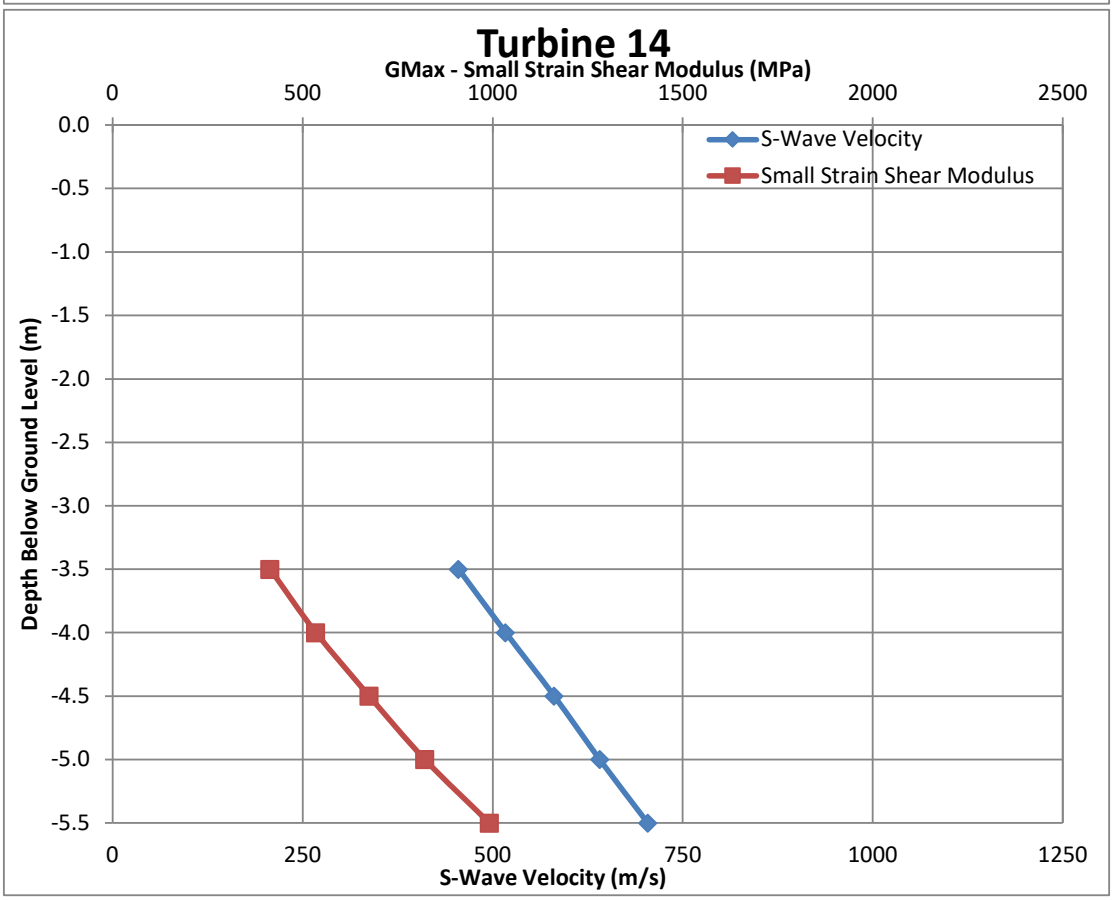
**Appendix 1: Graphs of MASW Results**



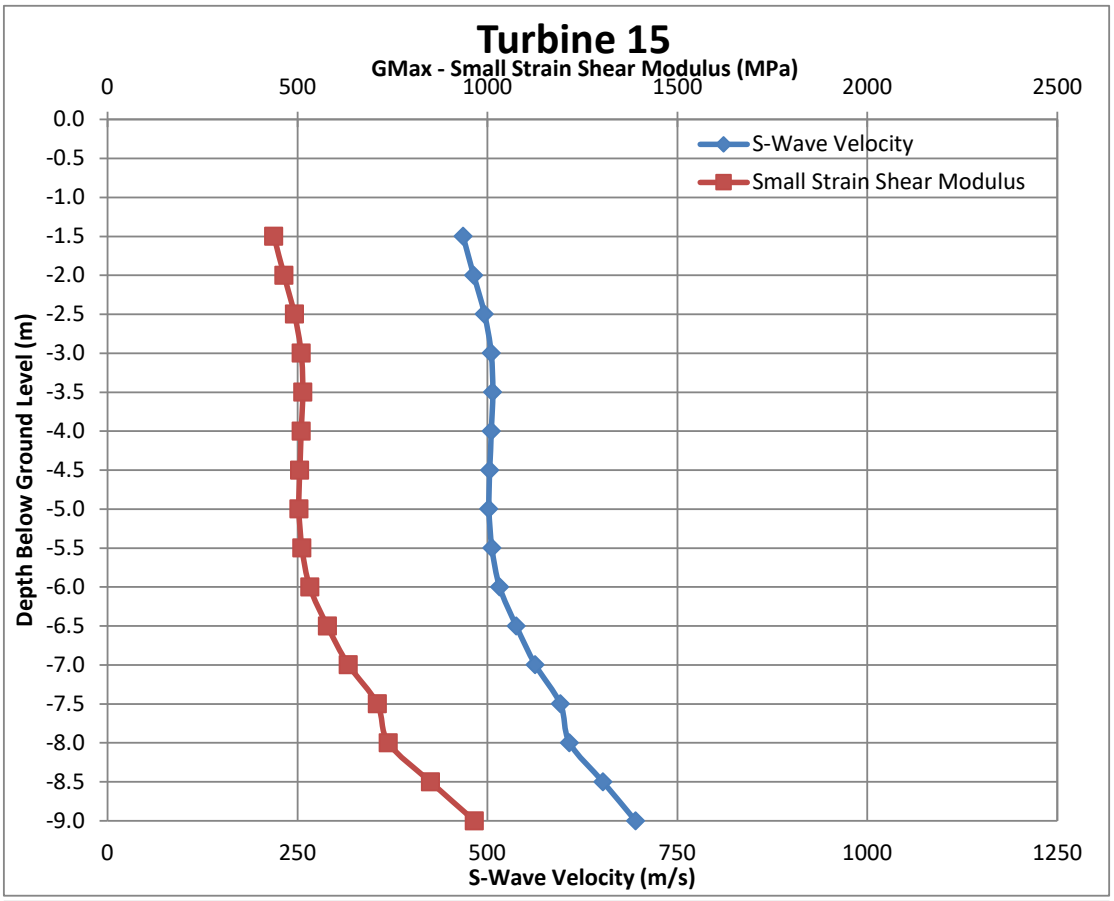



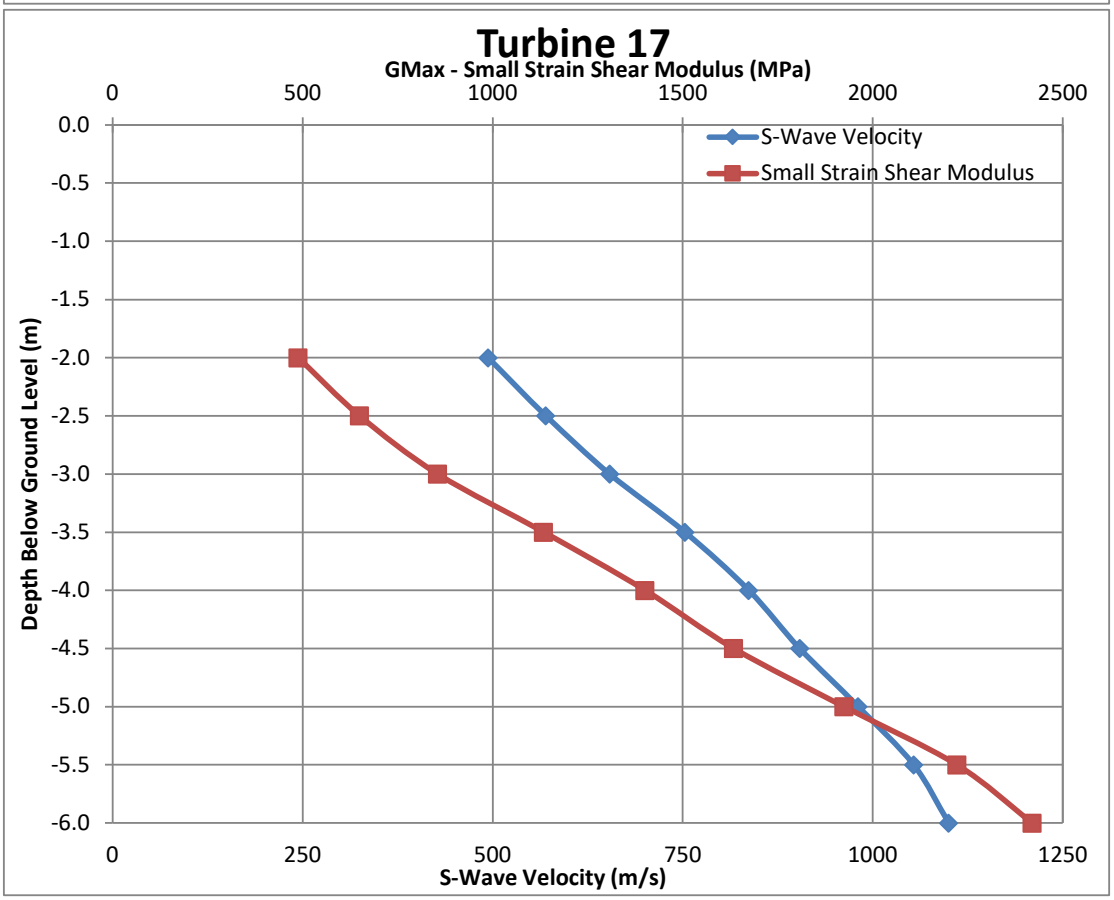
**Appendix 1: Graphs of MASW Results**



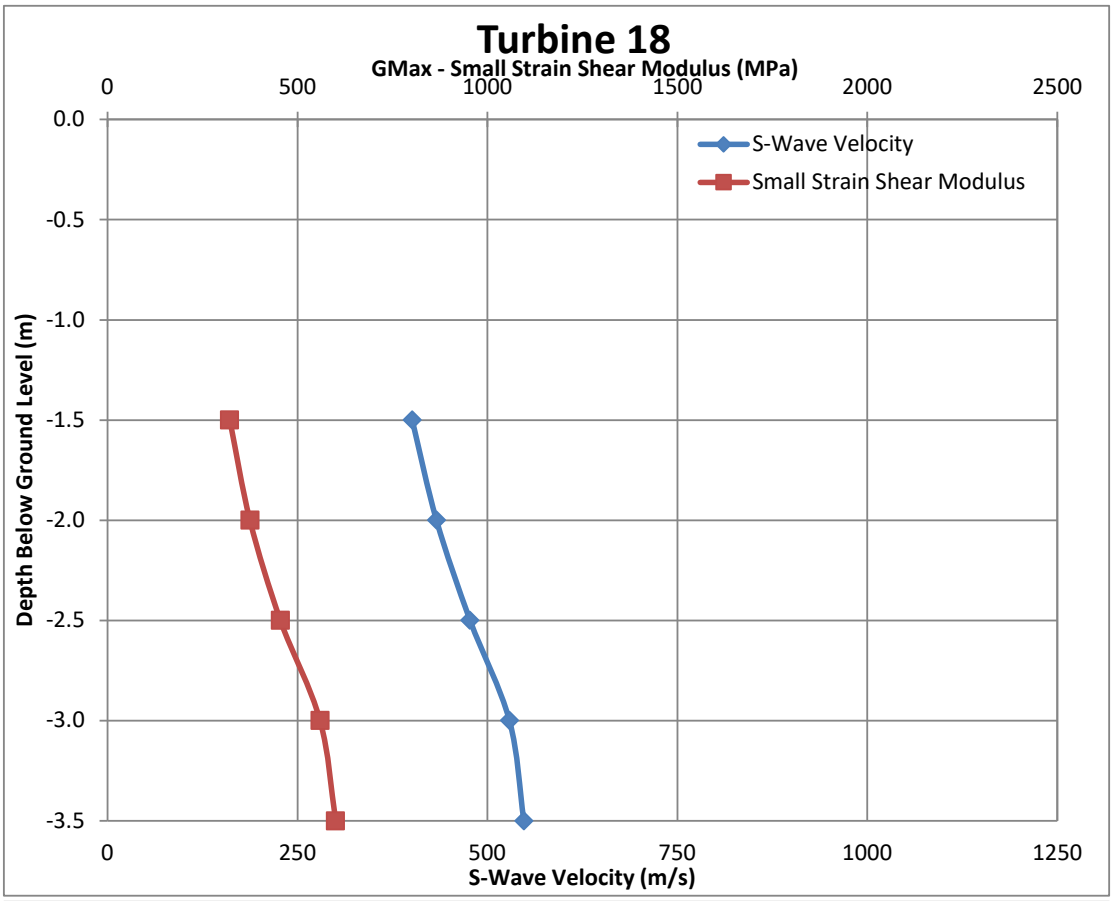



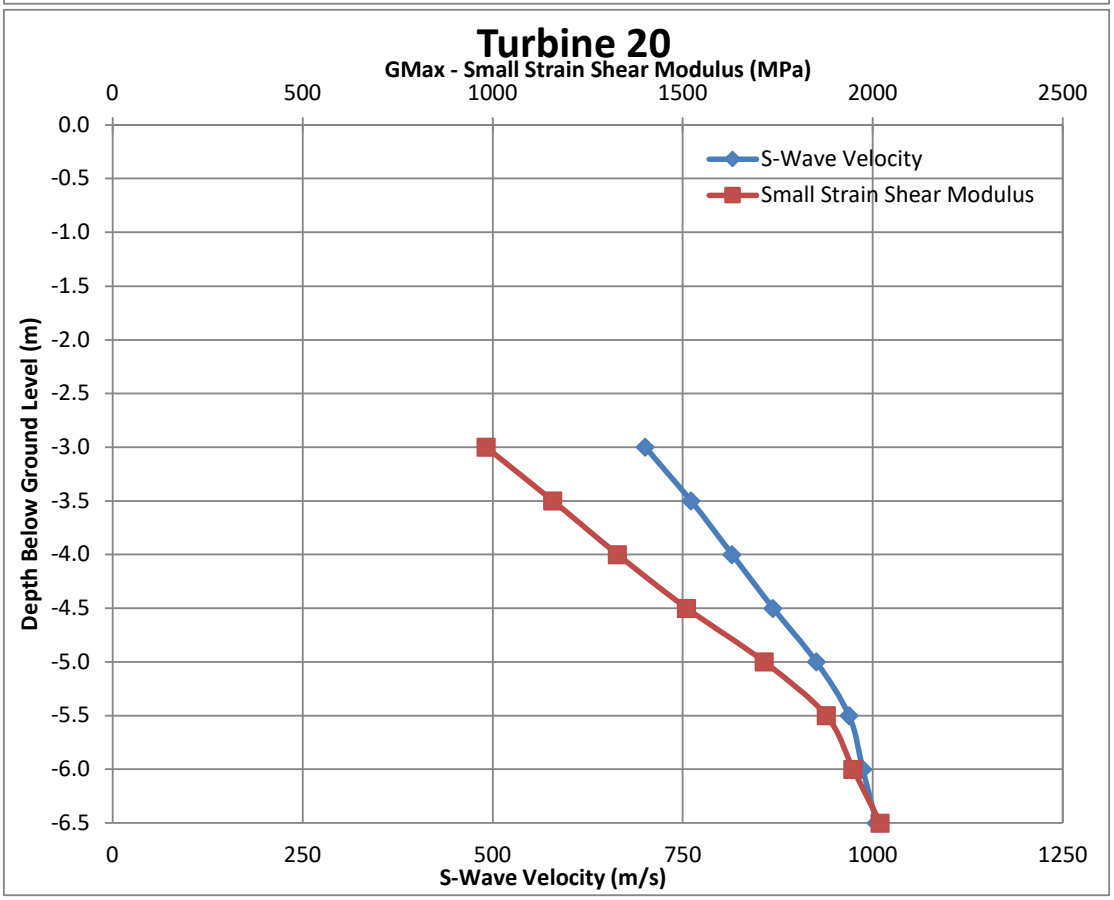
**Appendix 1: Graphs of MASW Results**



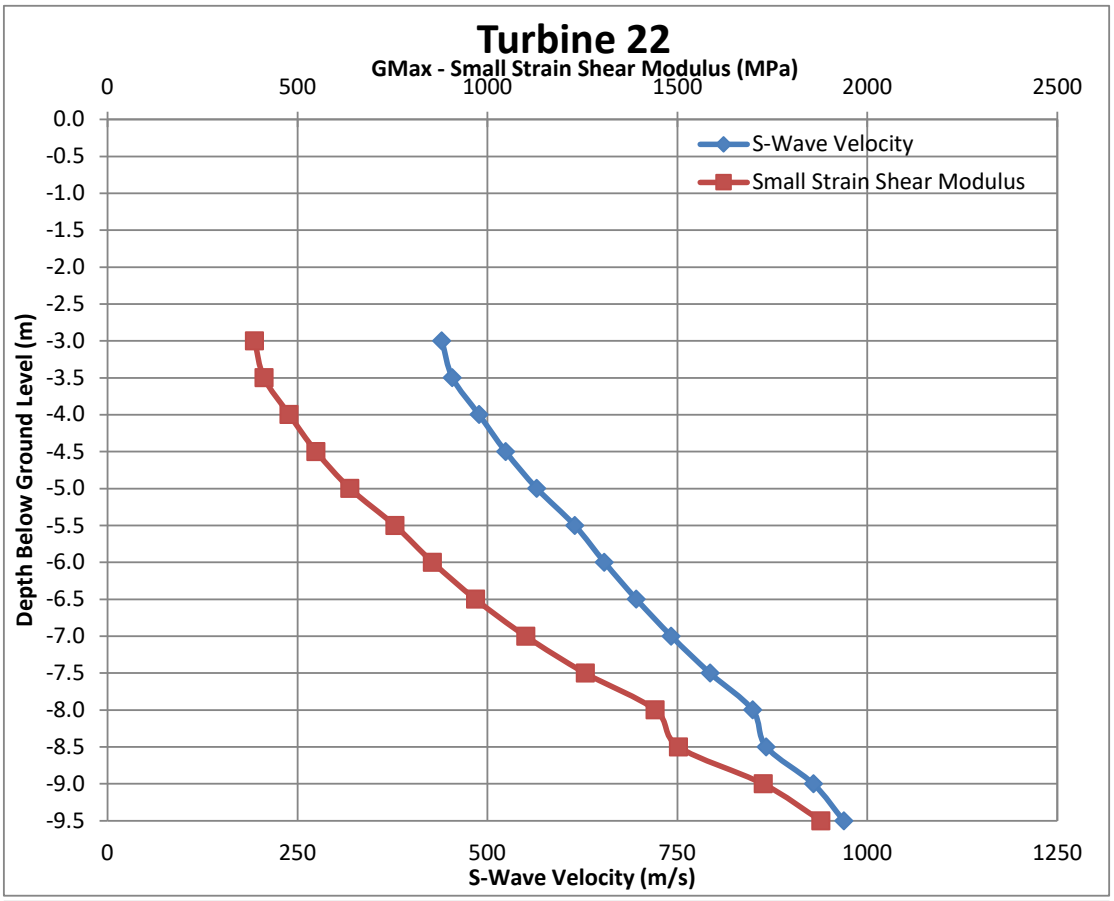



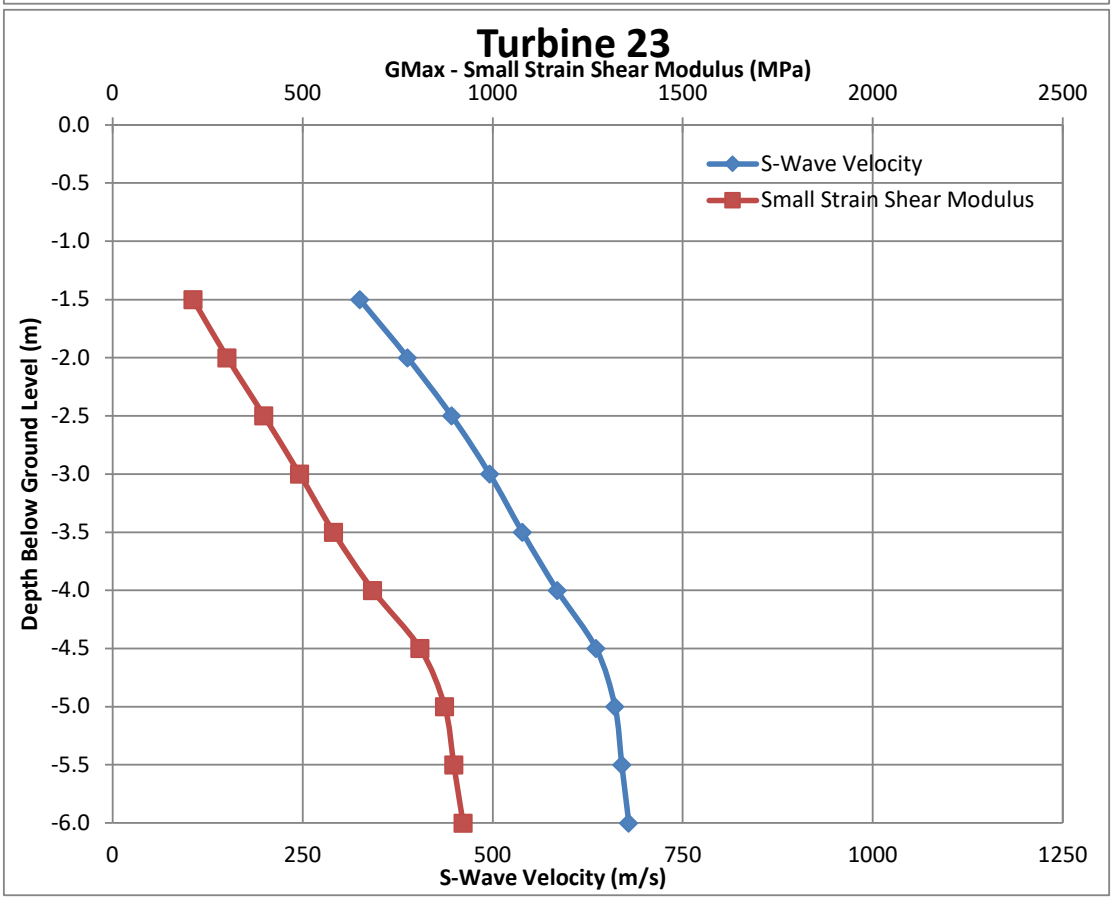
**Appendix 1: Graphs of MASW Results**

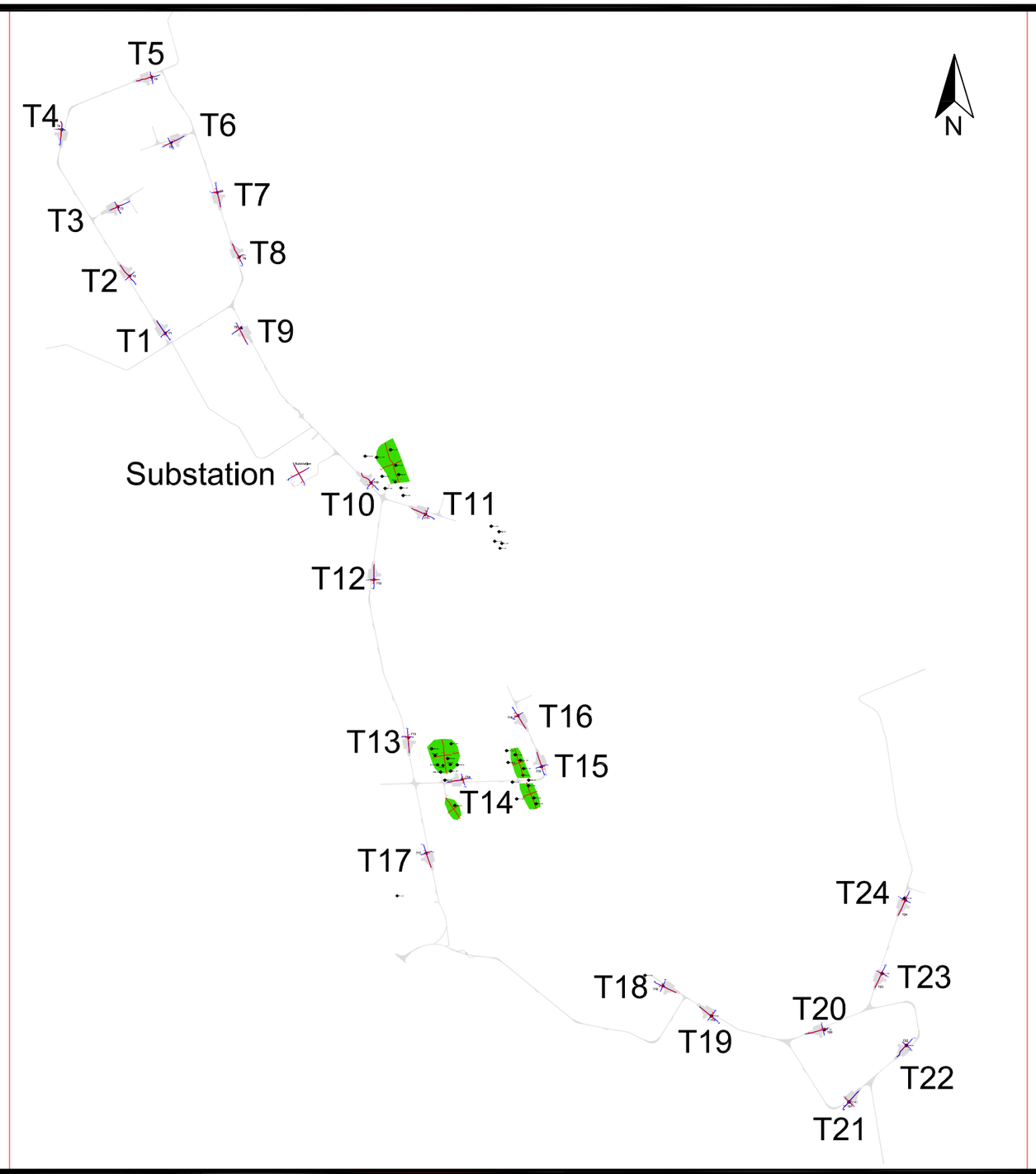


**Appendix 1: Graphs of MASW Results**



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Web: www.mgx.ie

| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Map 1: Geophysical Survey<br>Location Map |

| | |
|---|---|
| SCALE: | 1:40000 @ A3 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 15/02/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

Geophysical Survey Locations:

R2 — 2D-Resistivity Line

S1 — Seismic Refraction Line

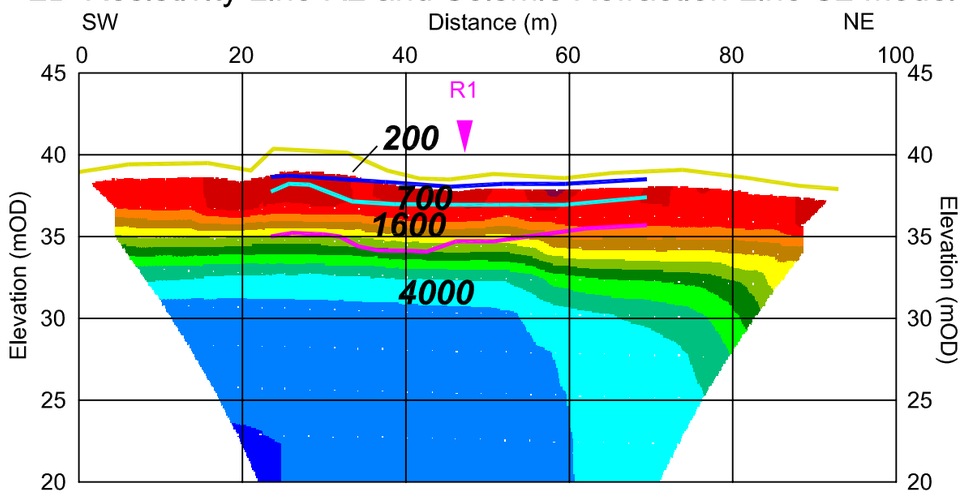
Direct Ground Investigation Locations:

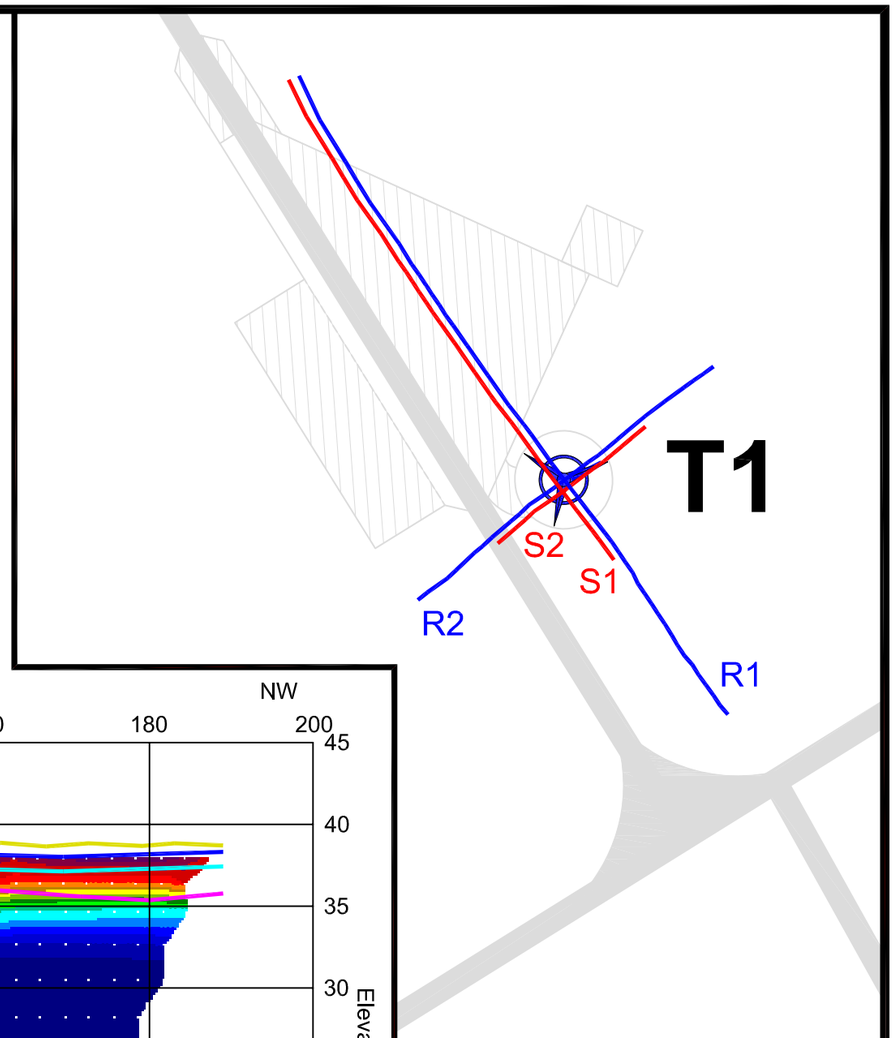
RC1 — Rotary Core Hole

TP1 — Trial Pit

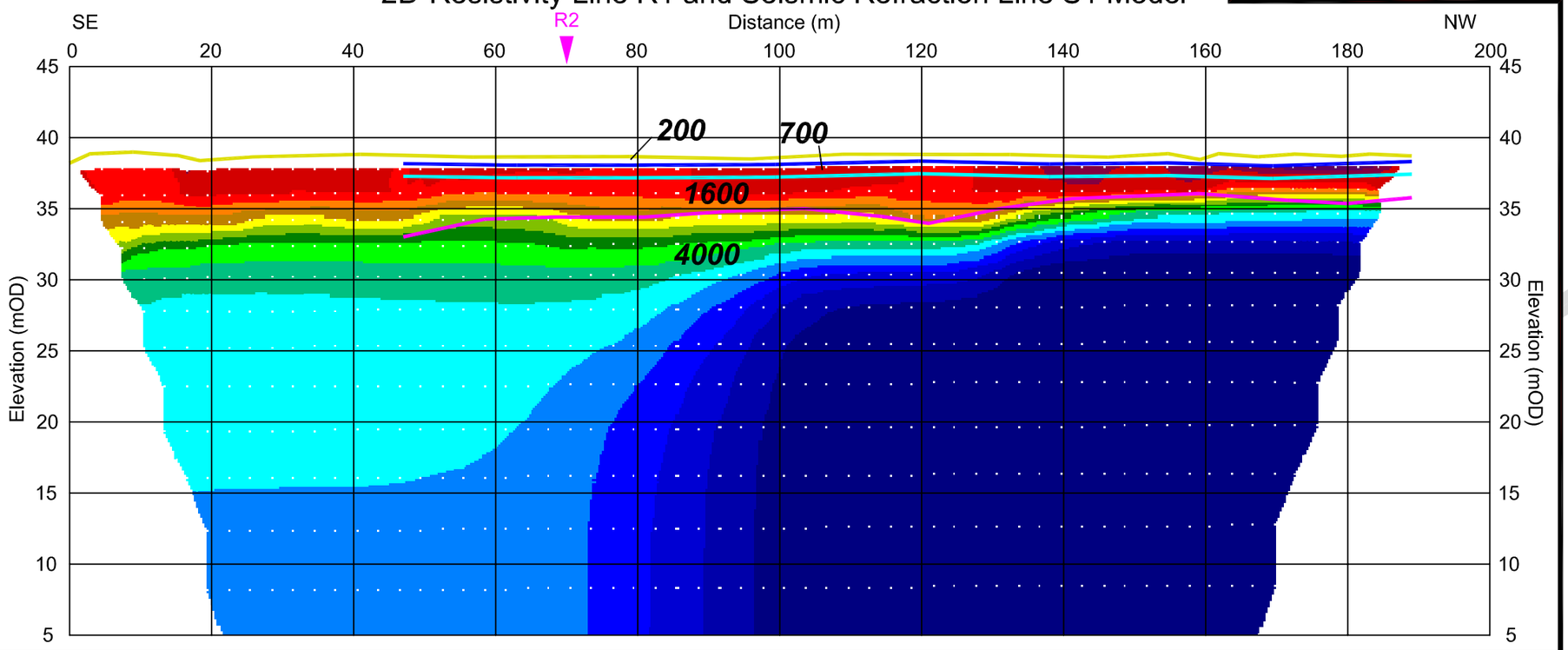
# T1

## 2D-Resistivity Line R2 and Seismic Refraction Line S2 Model




## 2D-Resistivity Line R1 and Seismic Refraction Line S1 Model





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Email: info@mgx.ie
Web: www.mgx.ie


| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1a: Models of Geophysical Survey, Turbine 1 |

| | |
|---|---|
| SCALE: | Model:1:750, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 15/02/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

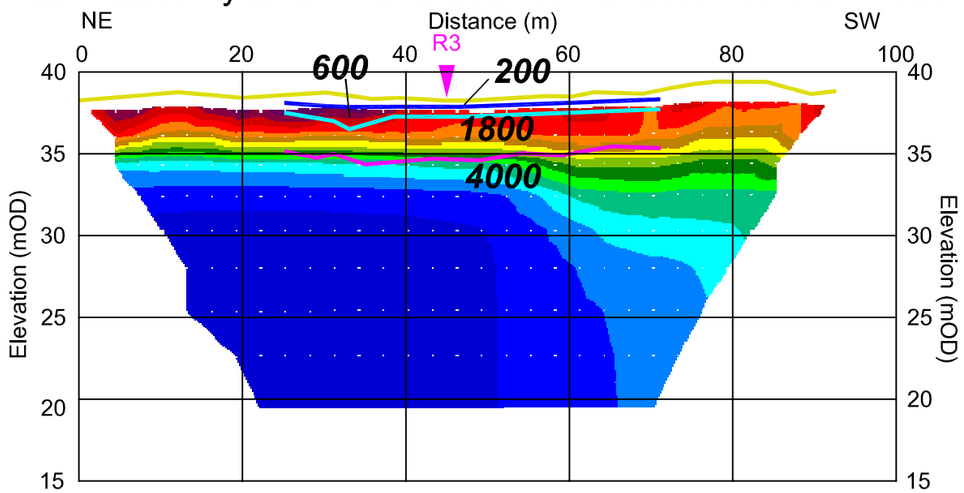
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

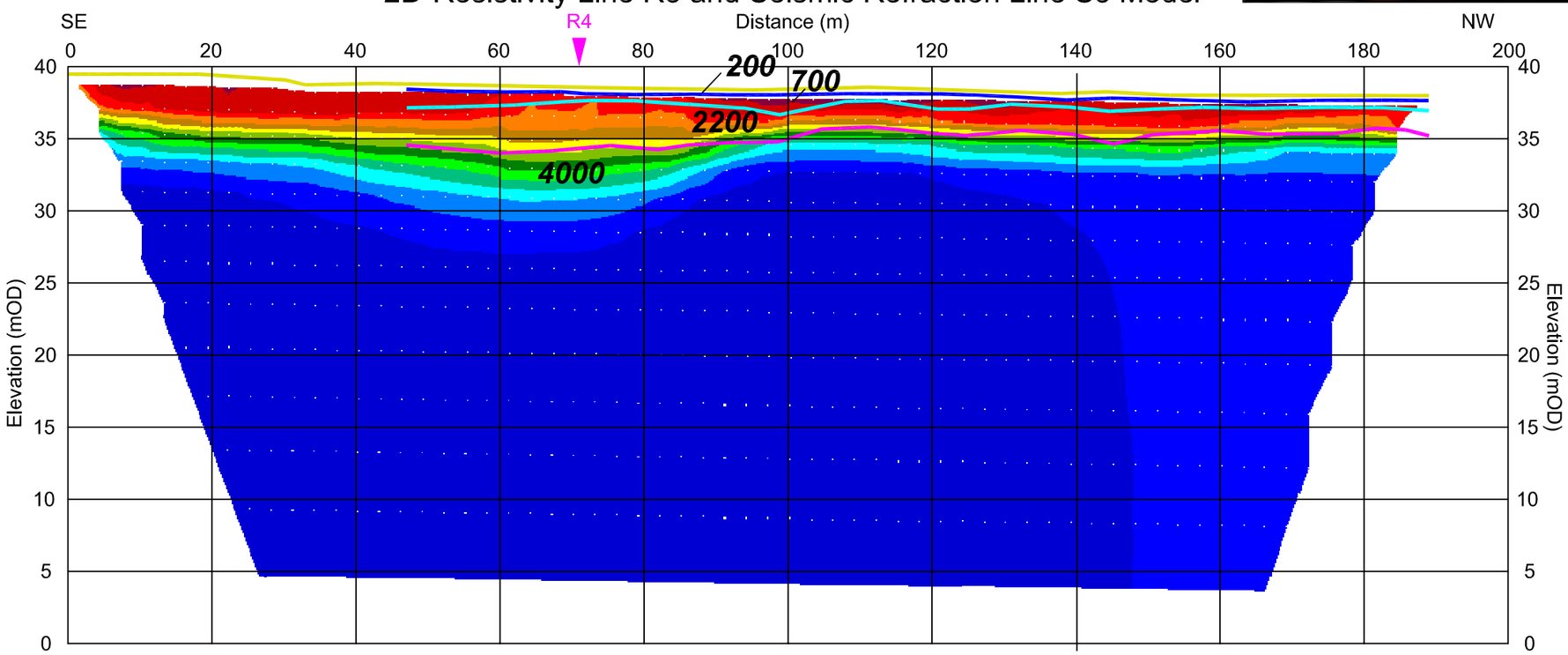
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- **1600** Seismic Velocity in m/s

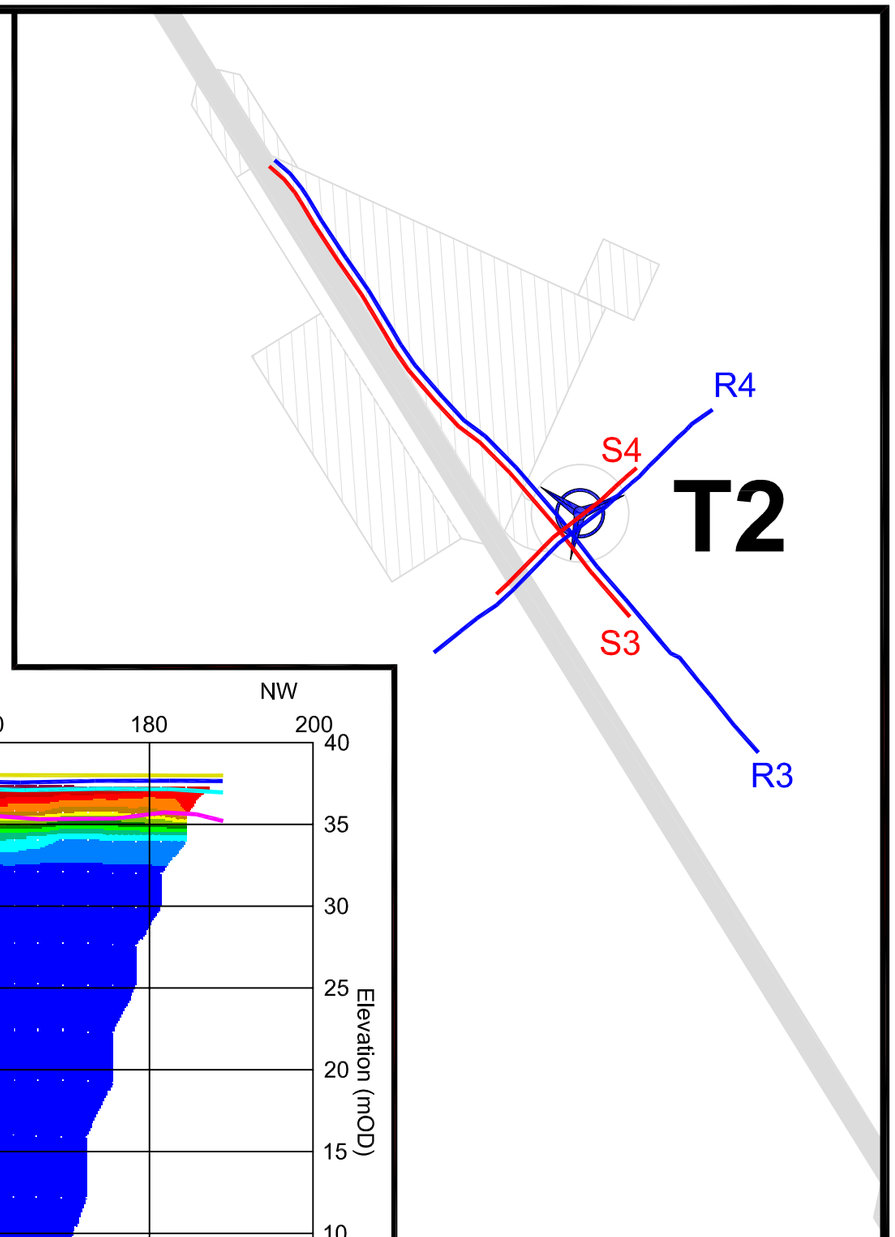
# T2

## 2D-Resistivity Line R4 and Seismic Refraction Line S4 Model




## 2D-Resistivity Line R3 and Seismic Refraction Line S3 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1b: Models of Geophysical Survey, Turbine 2 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 18/02/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

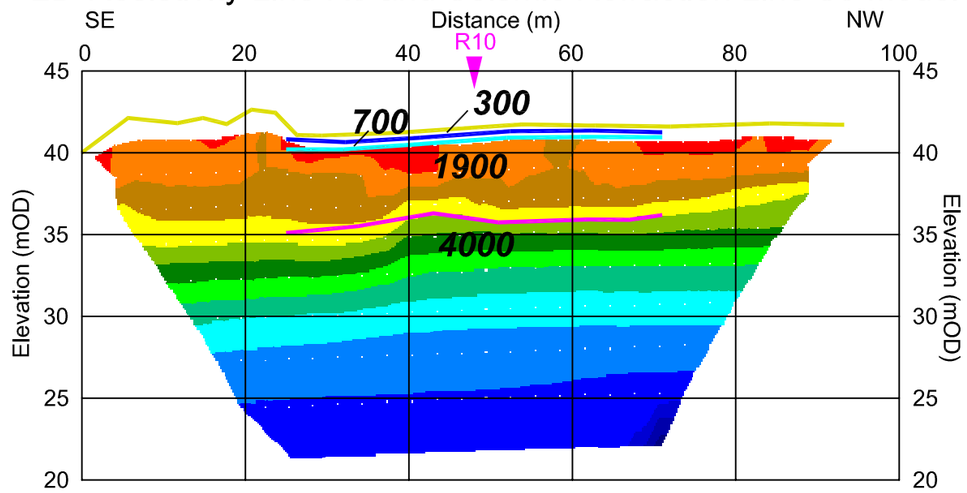
31.3 62.5 125 250 500 1000 2000 4000

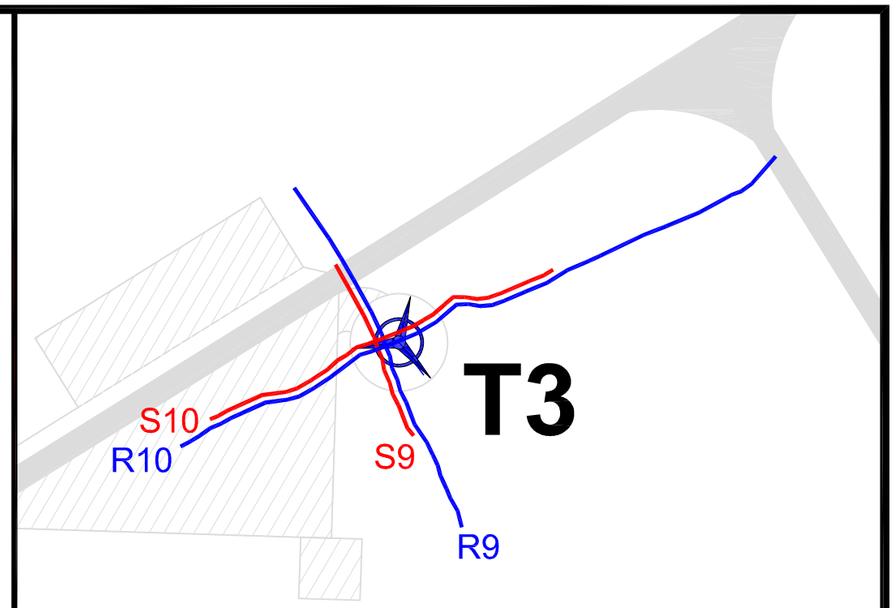
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

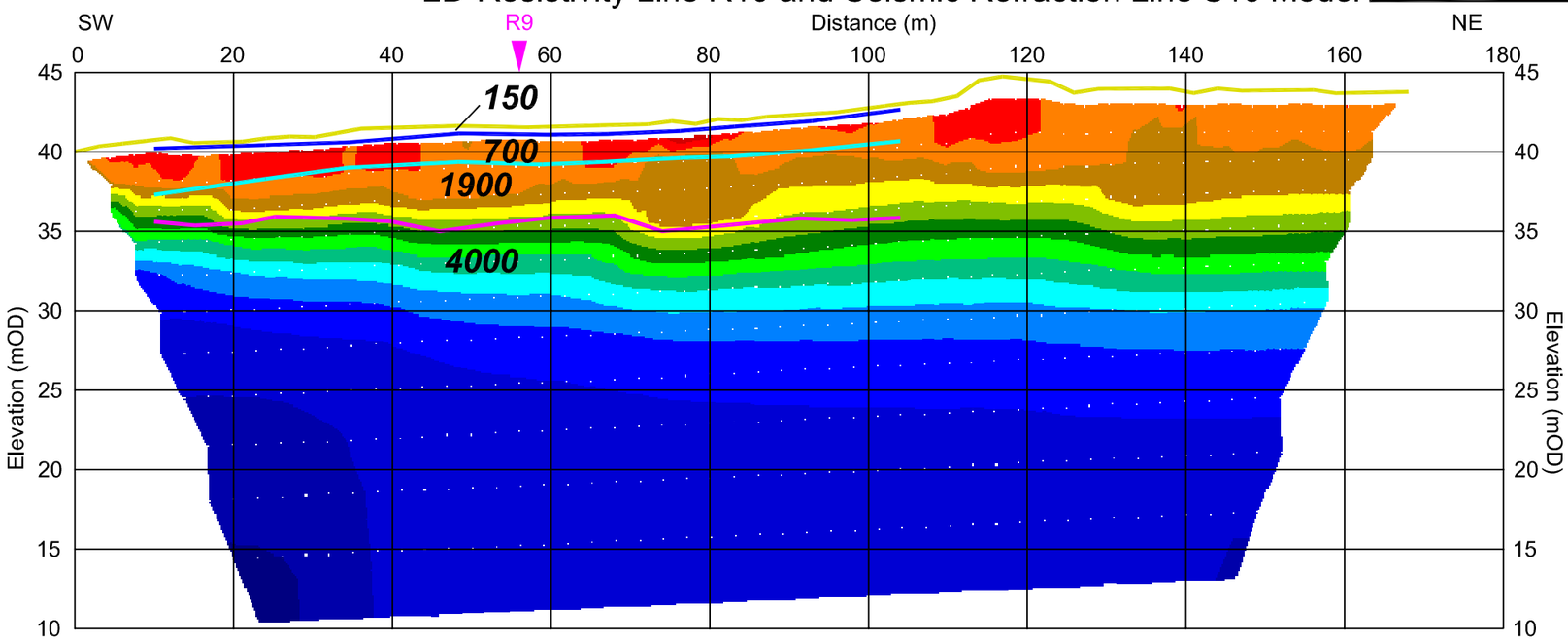
# T3

## 2D-Resistivity Line R9 and Seismic Refraction Line S9 Model




## 2D-Resistivity Line R10 and Seismic Refraction Line S10 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1c: Models of Geophysical Survey, Turbine 3 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 18/02/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

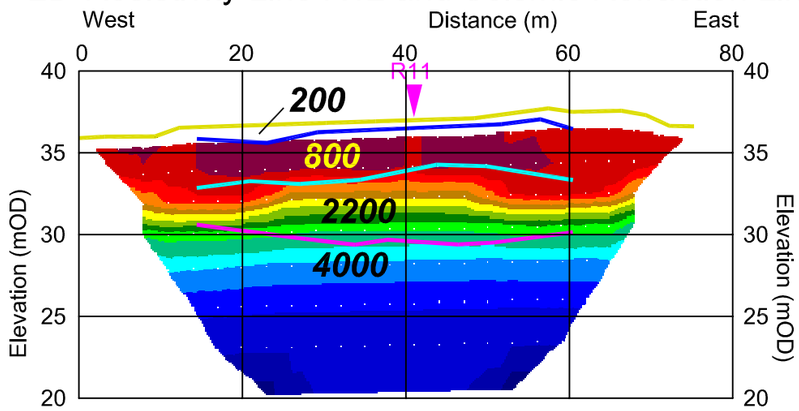
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

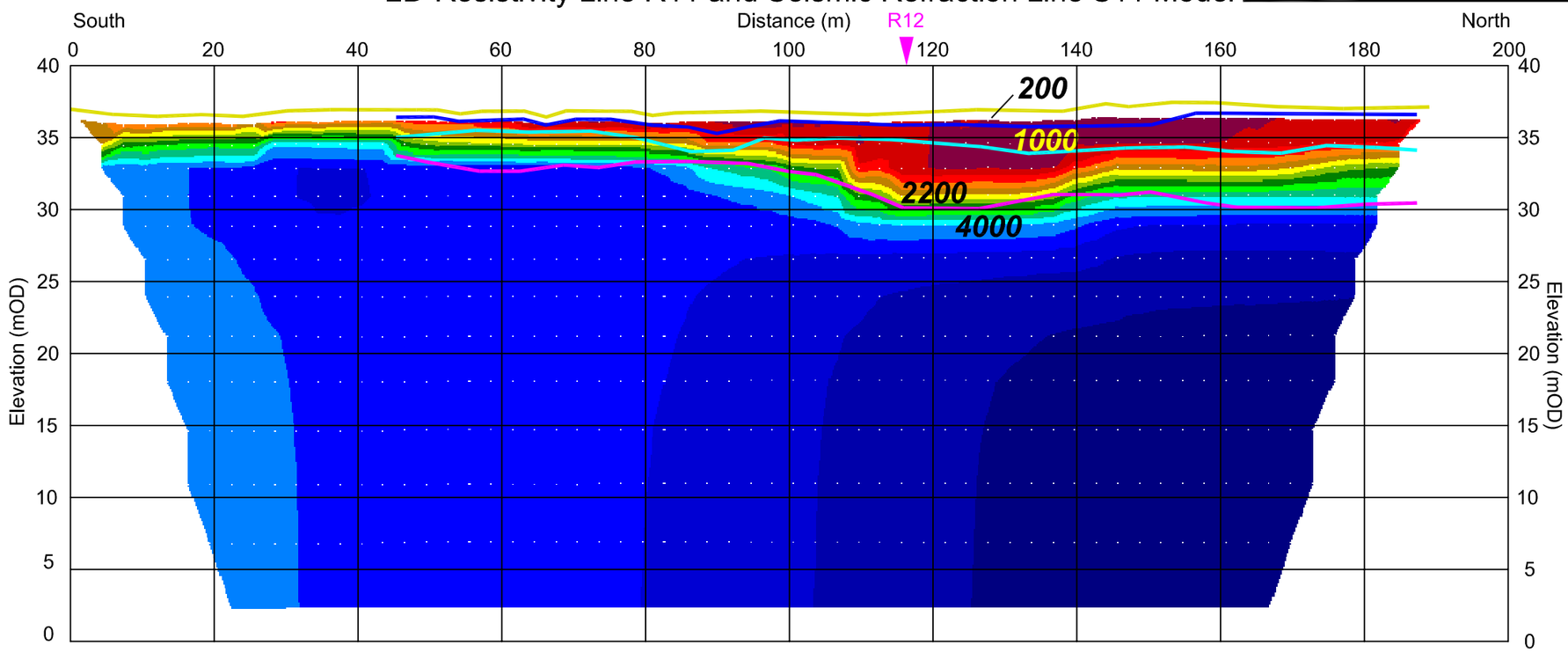
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

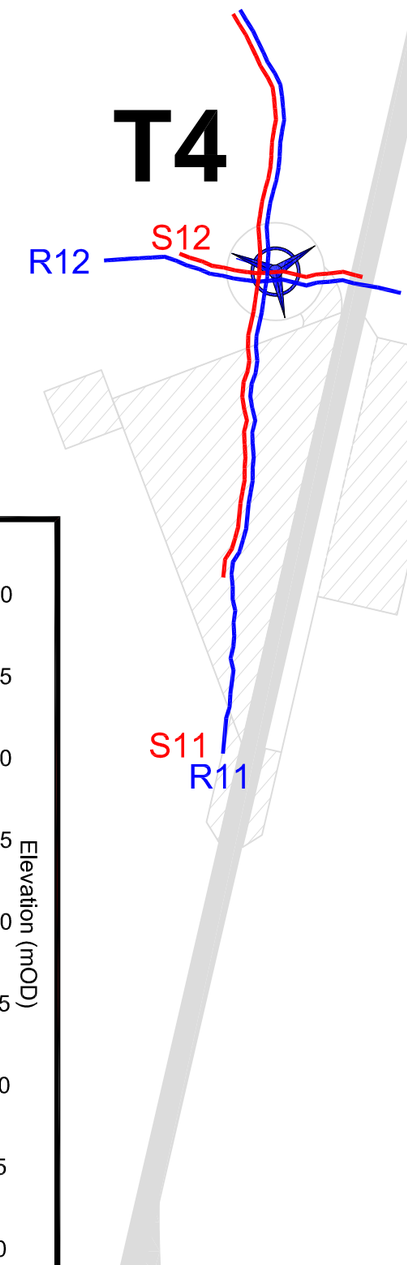
# T4

## 2D-Resistivity Line R12 and Seismic Refraction Line S12 Model




## 2D-Resistivity Line R11 and Seismic Refraction Line S11 Model





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| TITLE | Figure 1d: Models of Geophysical Survey, Turbine 4 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 18/02/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

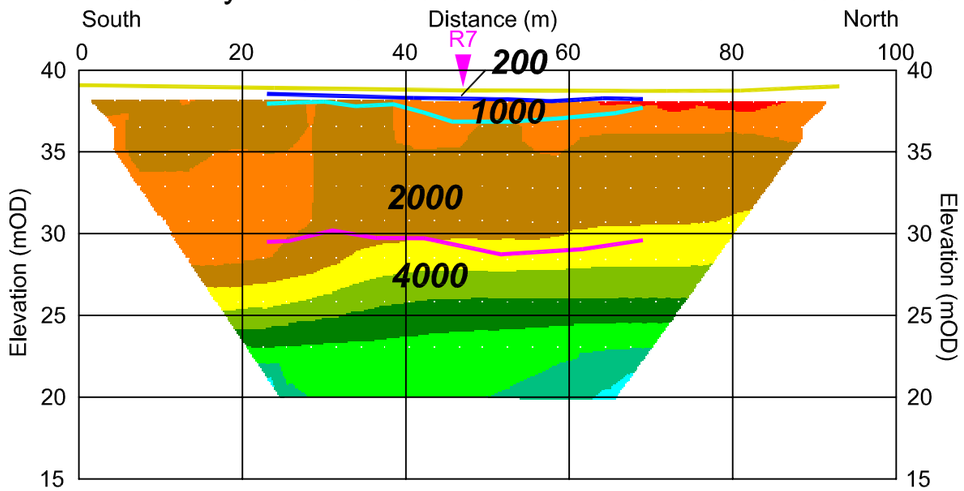
31.3 62.5 125 250 500 1000 2000 4000

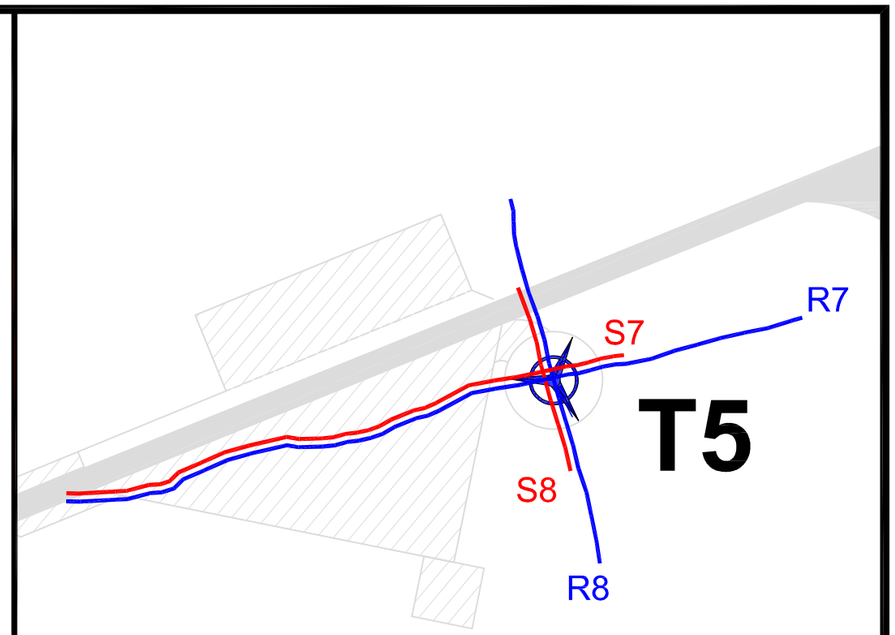
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

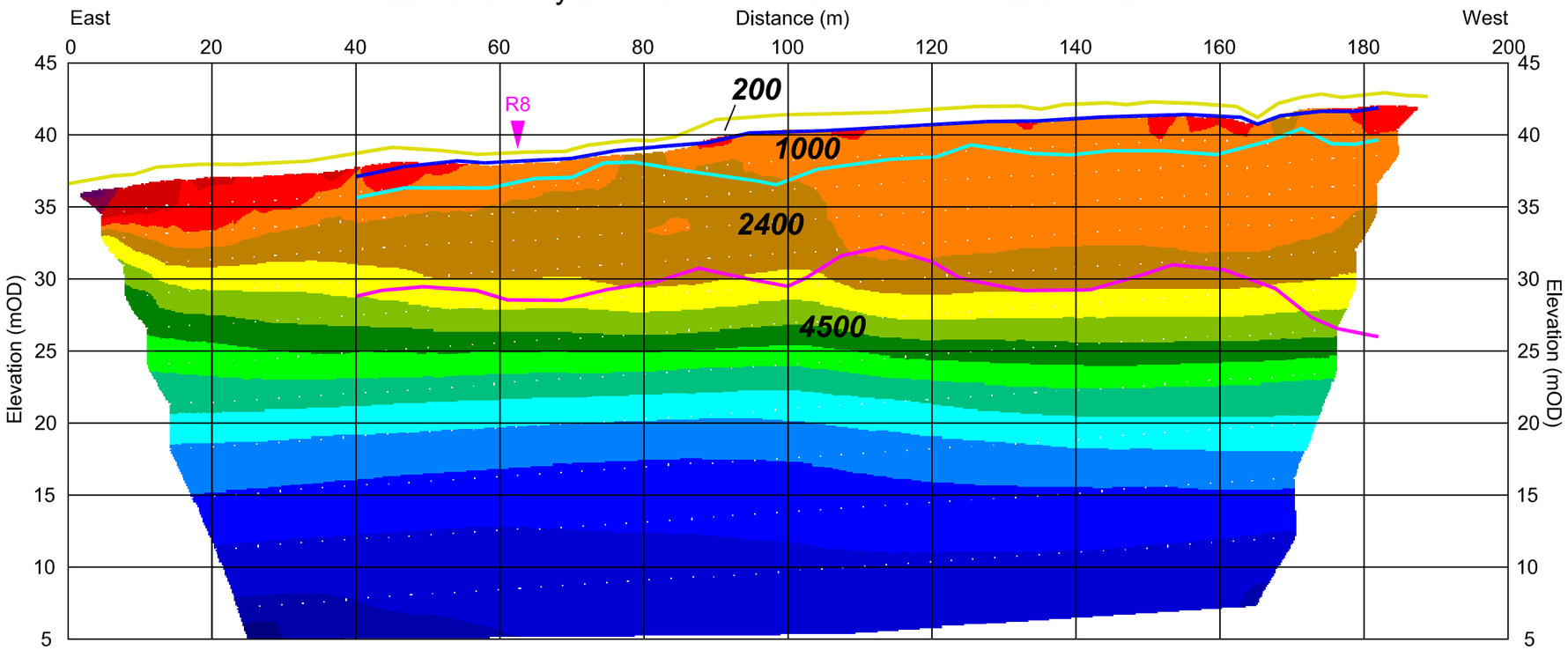
# T5

## 2D-Resistivity Line R8 and Seismic Refraction Line S8 Model




## 2D-Resistivity Line R7 and Seismic Refraction Line S7 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1e: Models of Geophysical Survey, Turbine 5 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 18/02/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

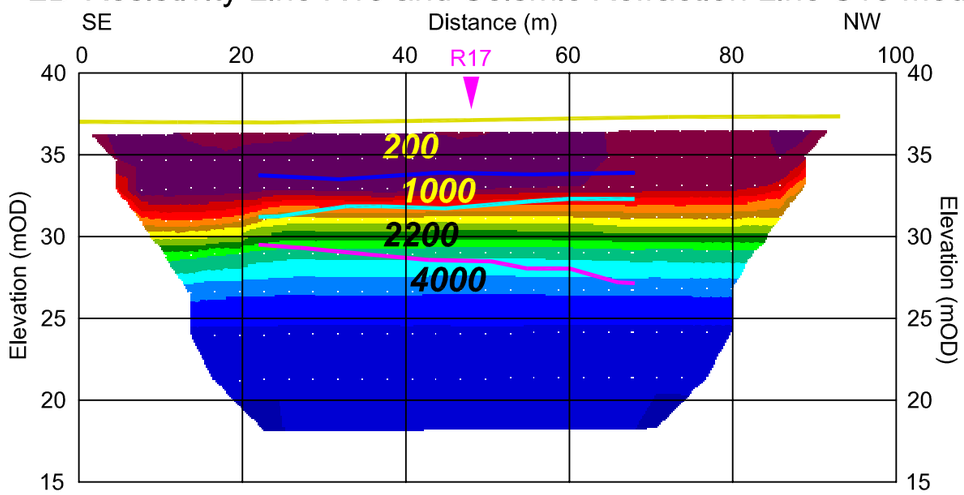
31.3 62.5 125 250 500 1000 2000 4000

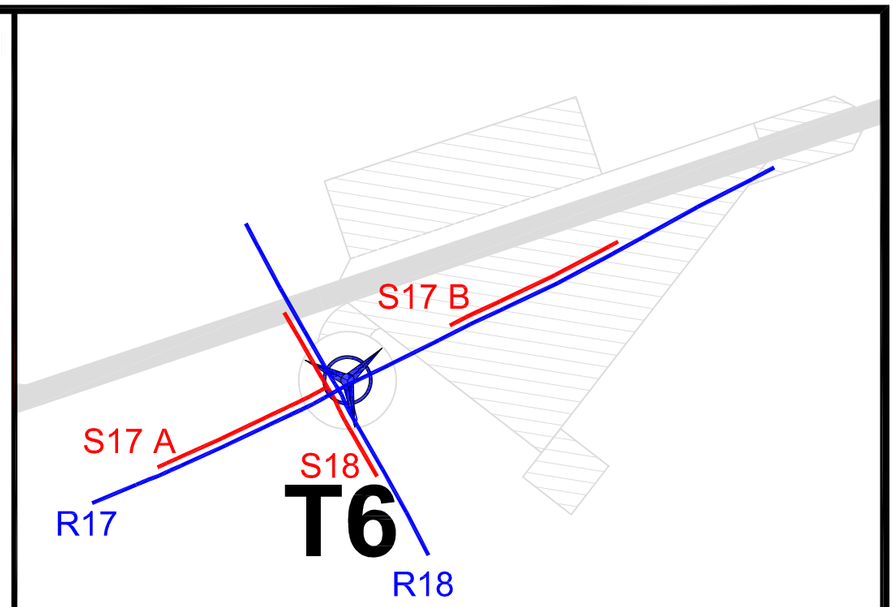
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

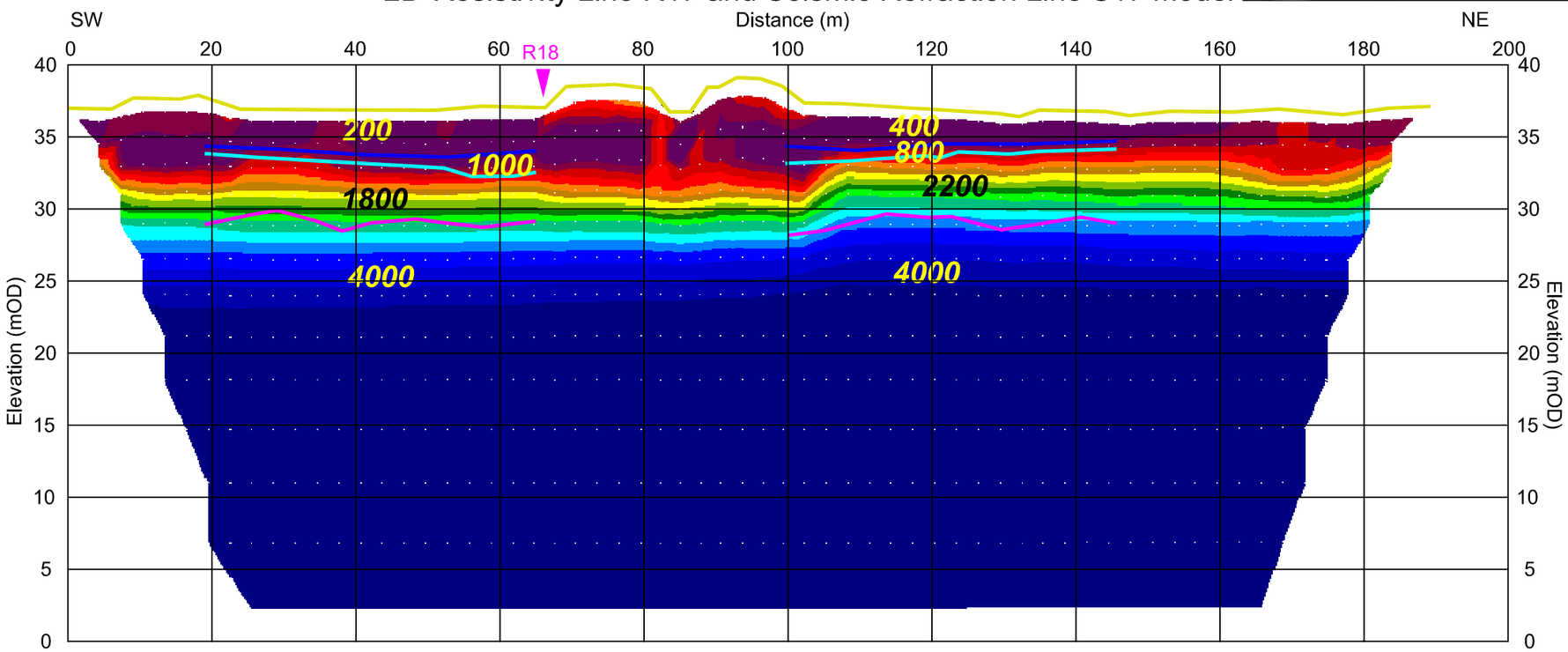
# T6

## 2D-Resistivity Line R18 and Seismic Refraction Line S18 Model




## 2D-Resistivity Line R17 and Seismic Refraction Line S17 Model





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| TITLE | Figure 1f: Models of Geophysical Survey, Turbine 6 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 18/02/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

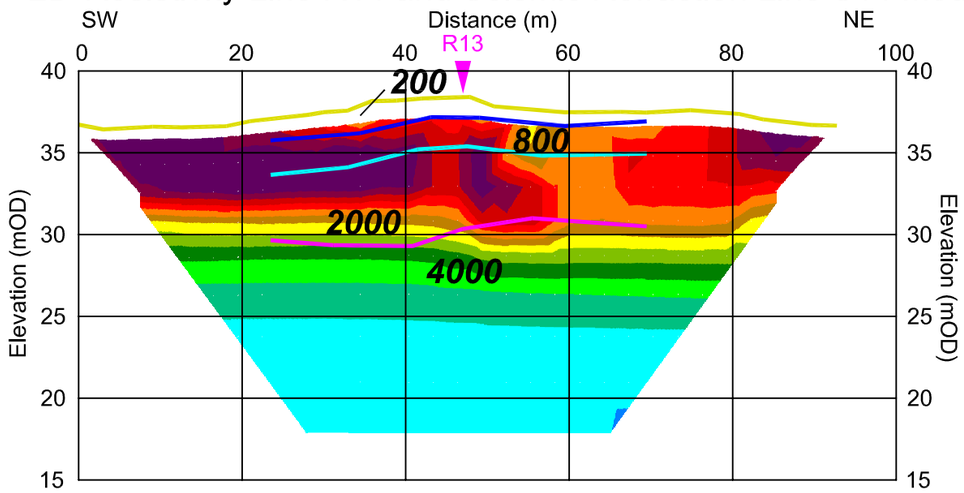
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

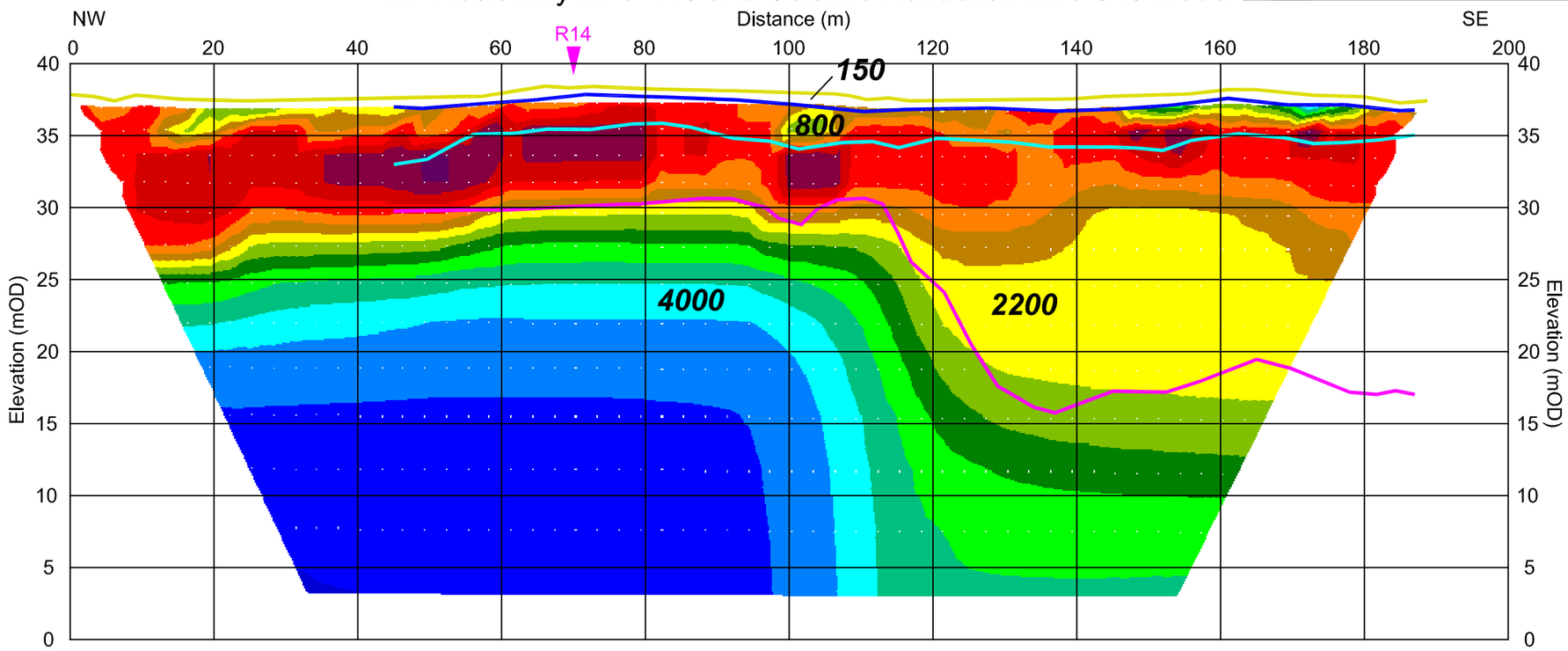
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

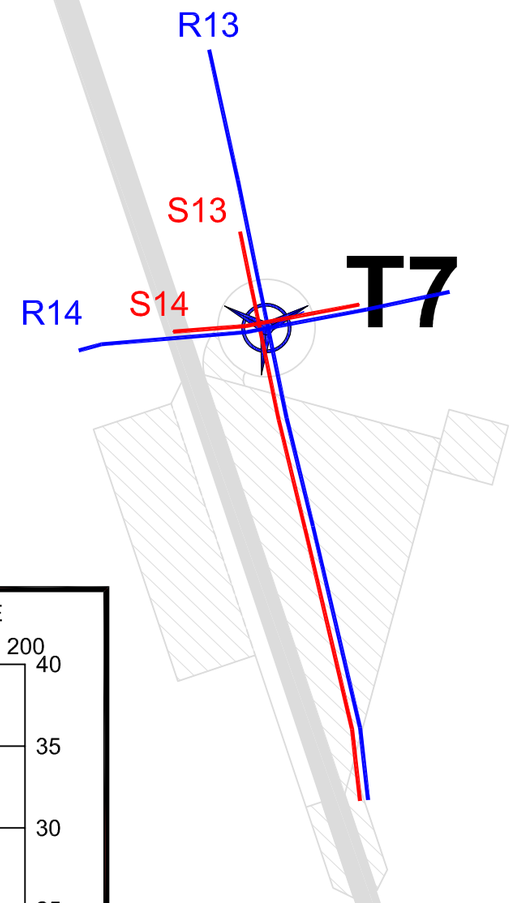
# T7

## 2D-Resistivity Line R14 and Seismic Refraction Line S14 Model




## 2D-Resistivity Line R13 and Seismic Refraction Line S13 Model





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| TITLE | Figure 1g: Models of Geophysical Survey, Turbine 7 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 18/02/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

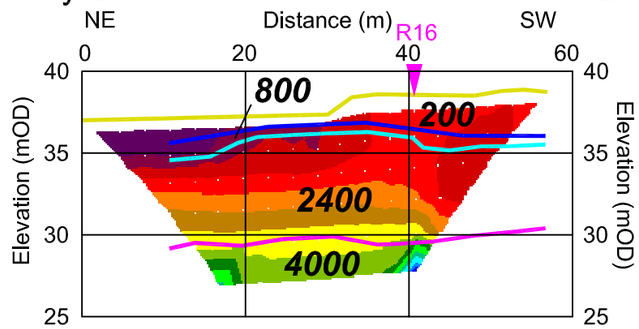
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

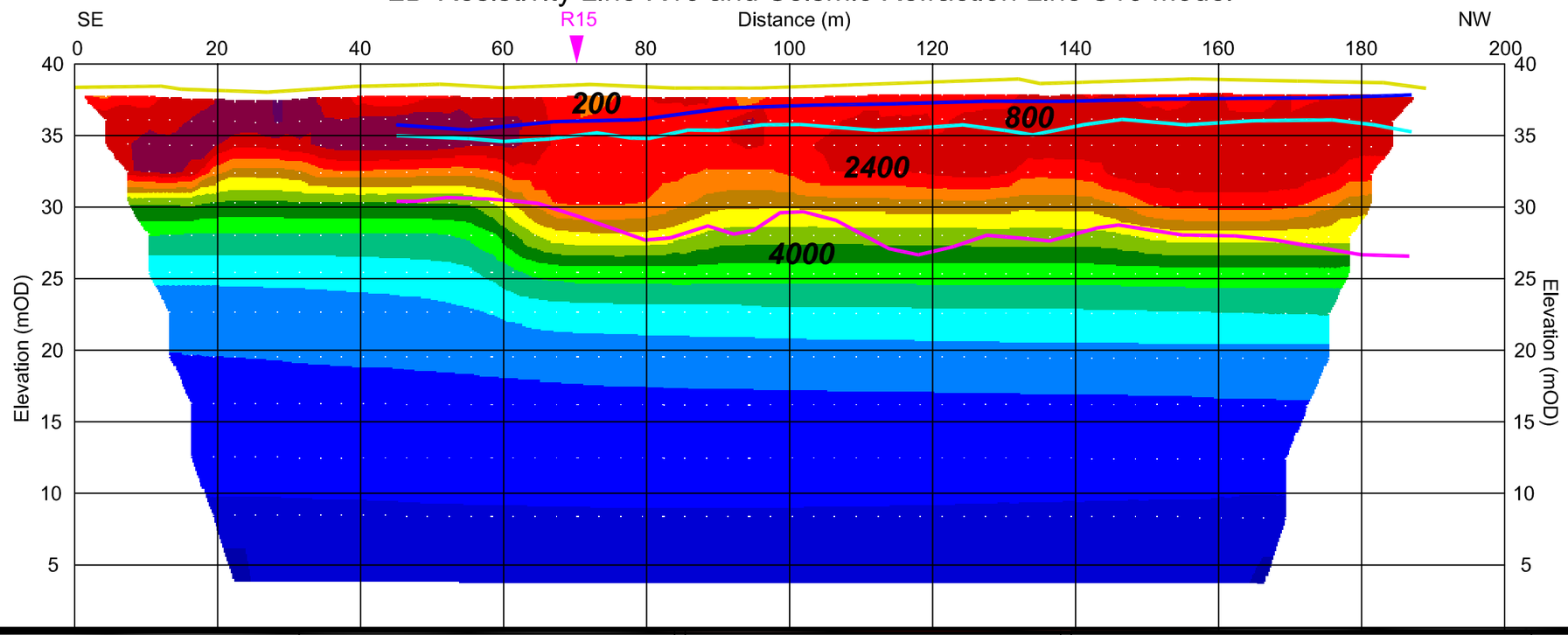
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- **1600** Seismic Velocity in m/s

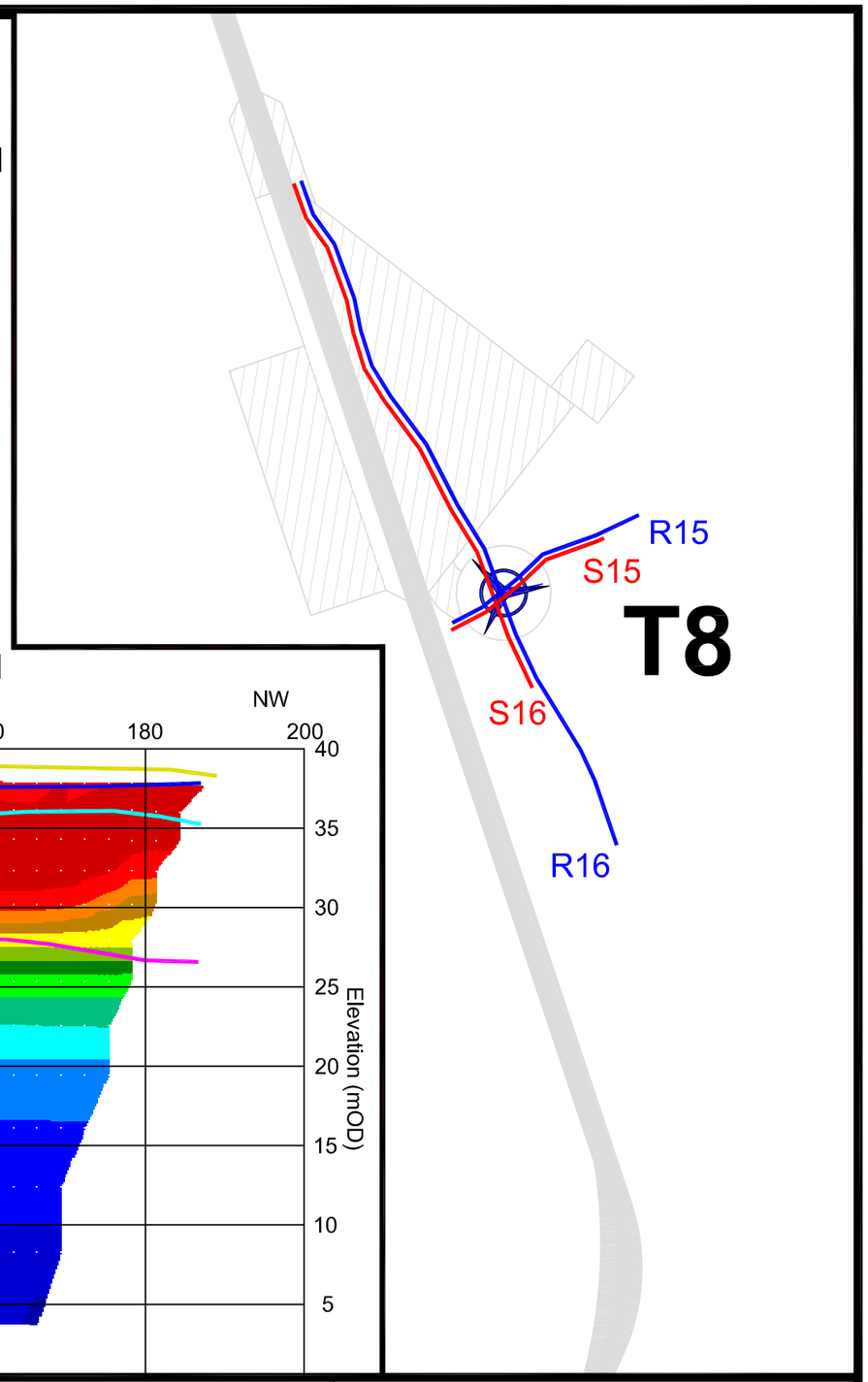
# T8

## 2D-Resistivity Line R15 and Seismic Refraction Line S15 Model




## 2D-Resistivity Line R16 and Seismic Refraction Line S16 Model





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| TITLE | Figure 2h: Model of Geophysical Survey, Turbine 8 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

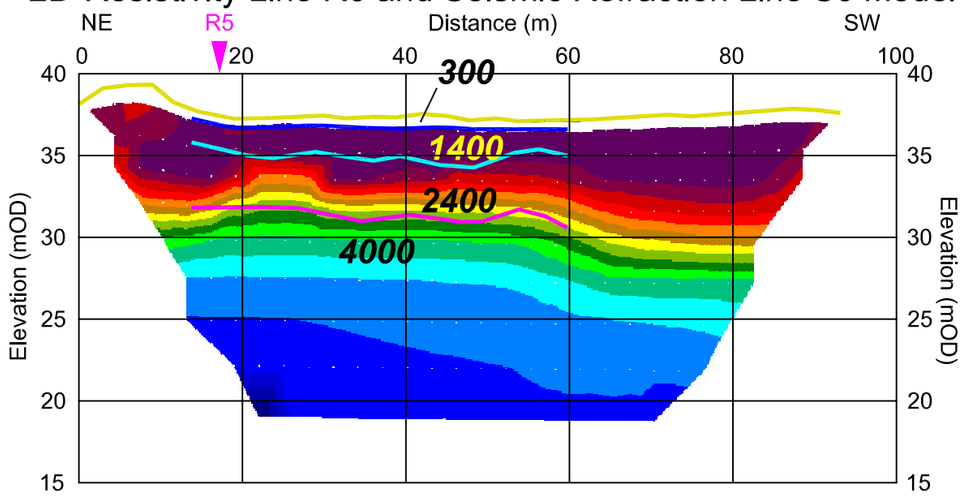
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

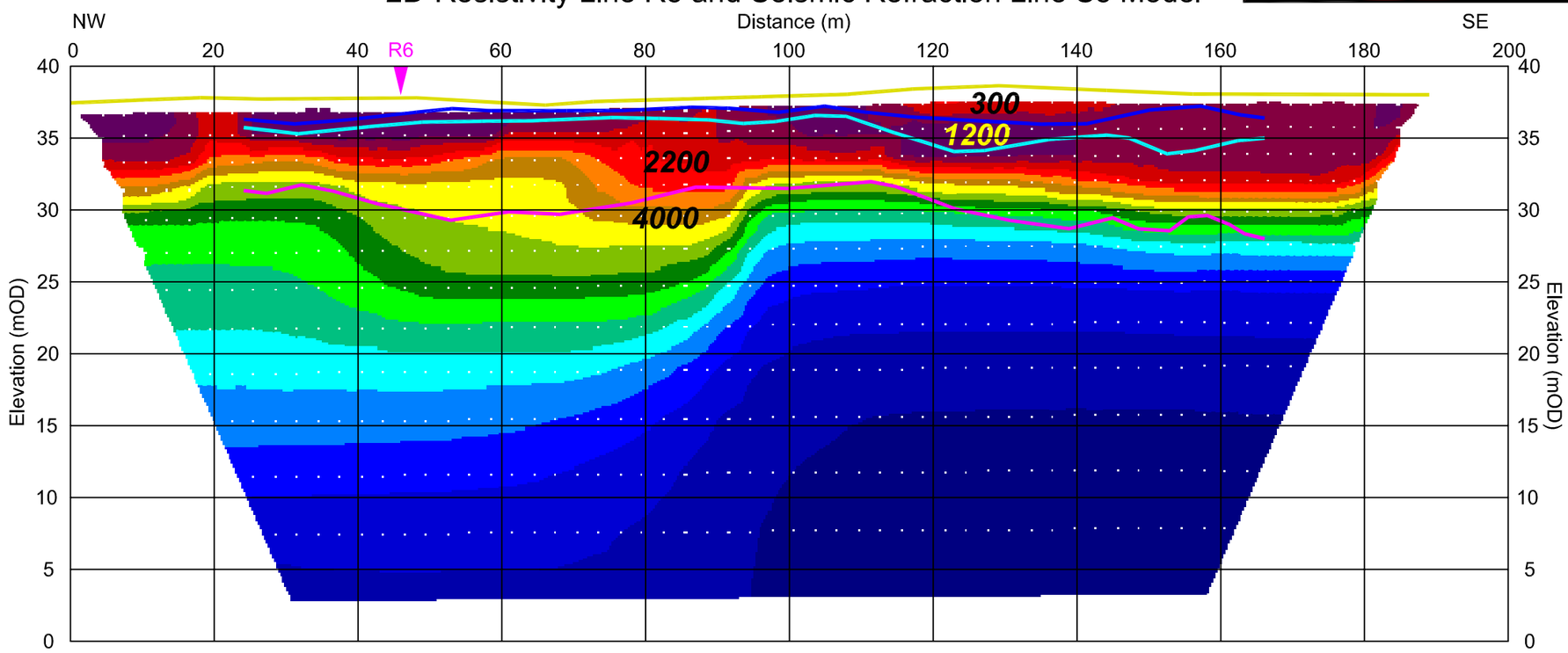
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

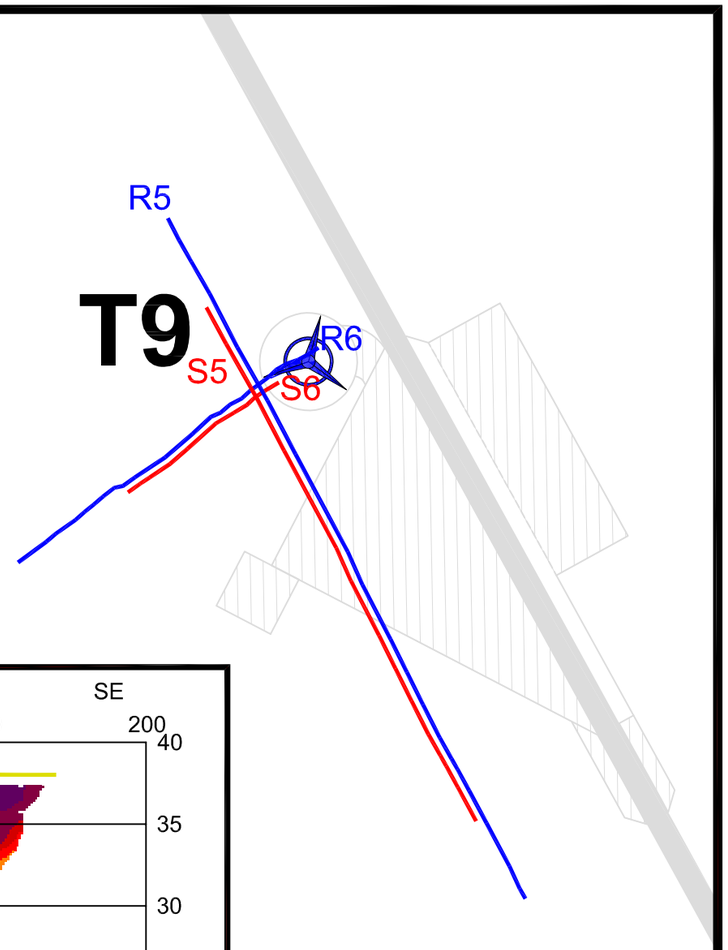
# T9

## 2D-Resistivity Line R6 and Seismic Refraction Line S6 Model




## 2D-Resistivity Line R5 and Seismic Refraction Line S5 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1i: Models of Geophysical Survey, Turbine 9 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 18/02/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

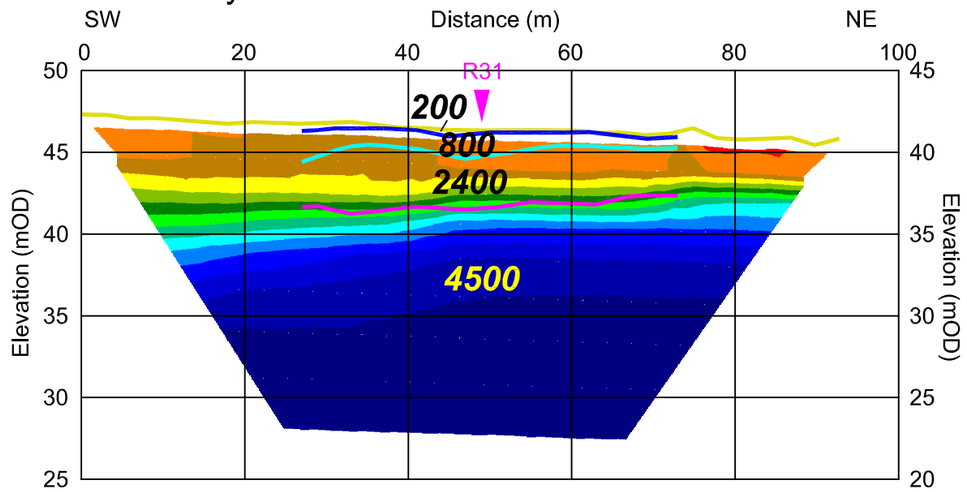
31.3 62.5 125 250 500 1000 2000 4000

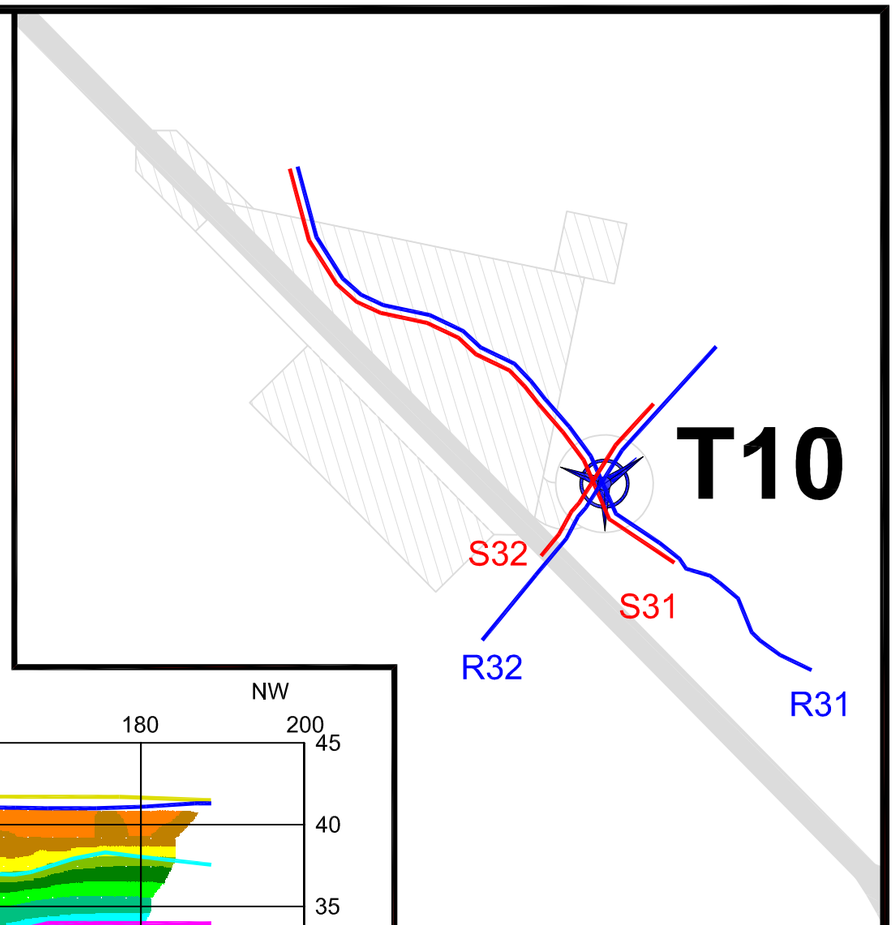
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- **1600** Seismic Velocity in m/s

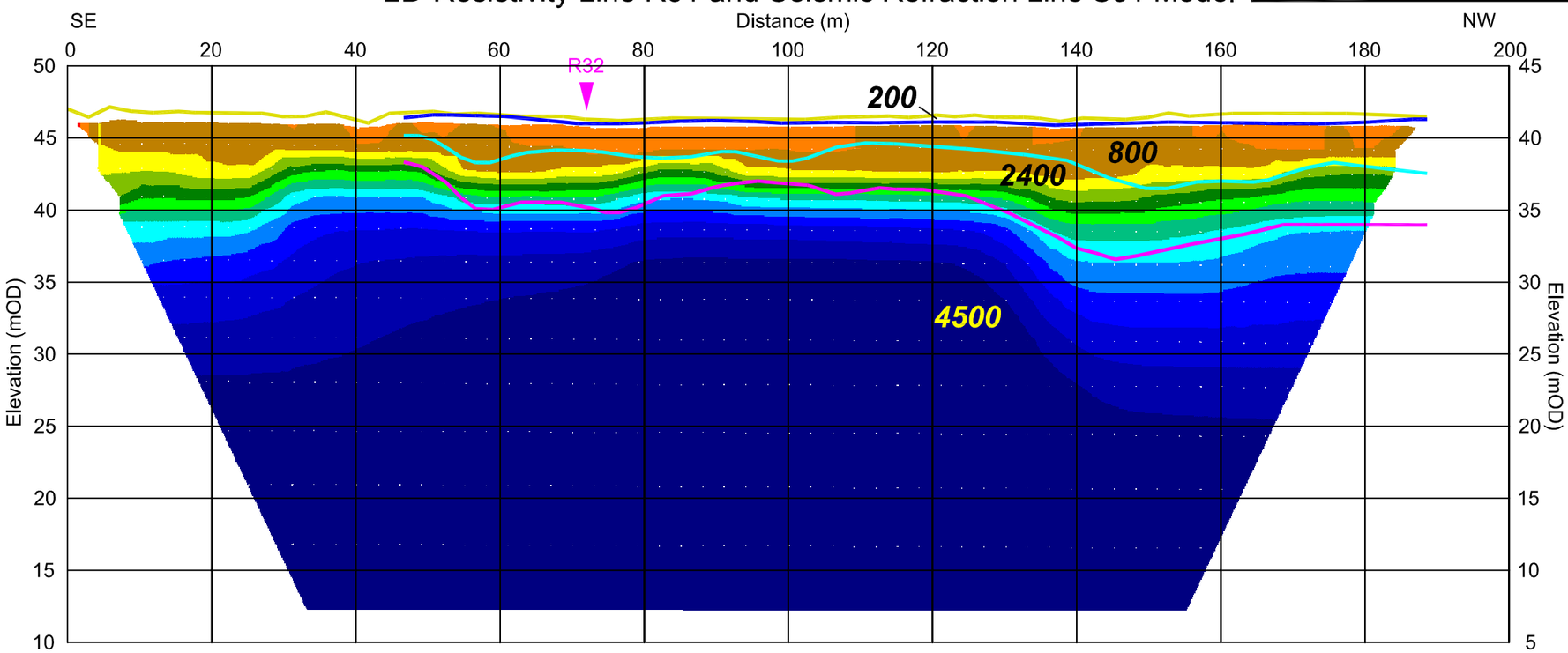
# T10

## 2D-Resistivity Line R32 and Seismic Refraction Line S32 Model




## 2D-Resistivity Line R31 and Seismic Refraction Line S31 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1j: Models of Geophysical Survey, Turbine 10 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

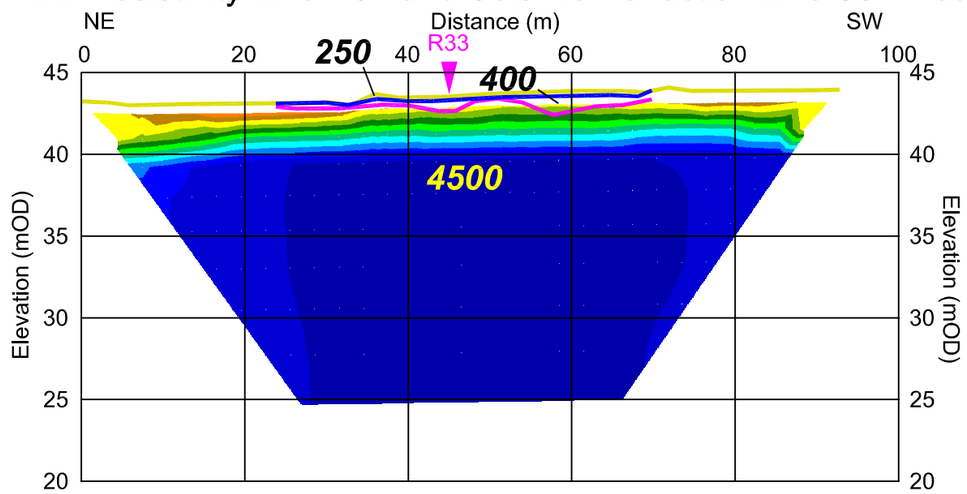
31.3 62.5 125 250 500 1000 2000 4000

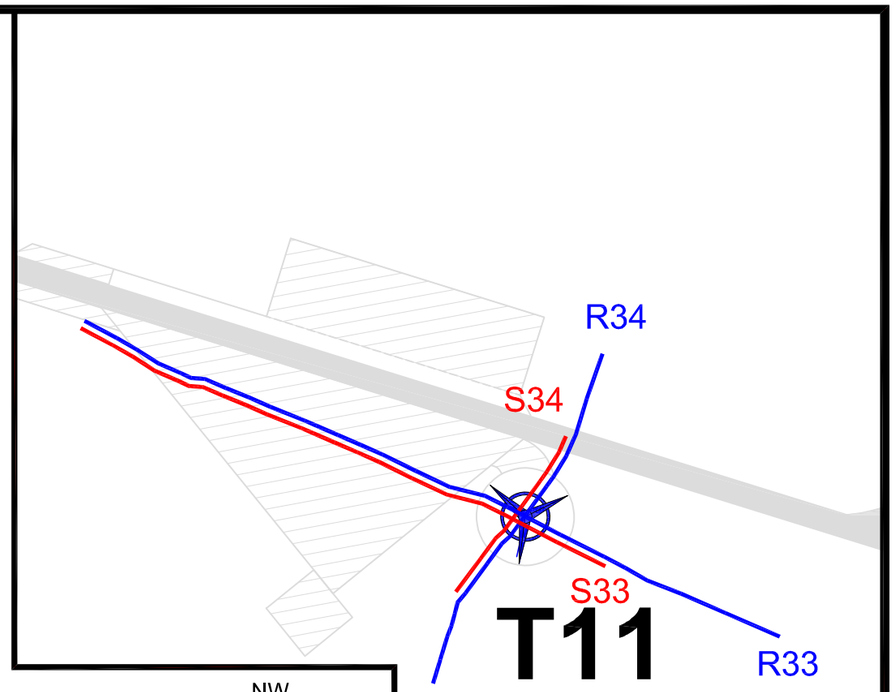
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

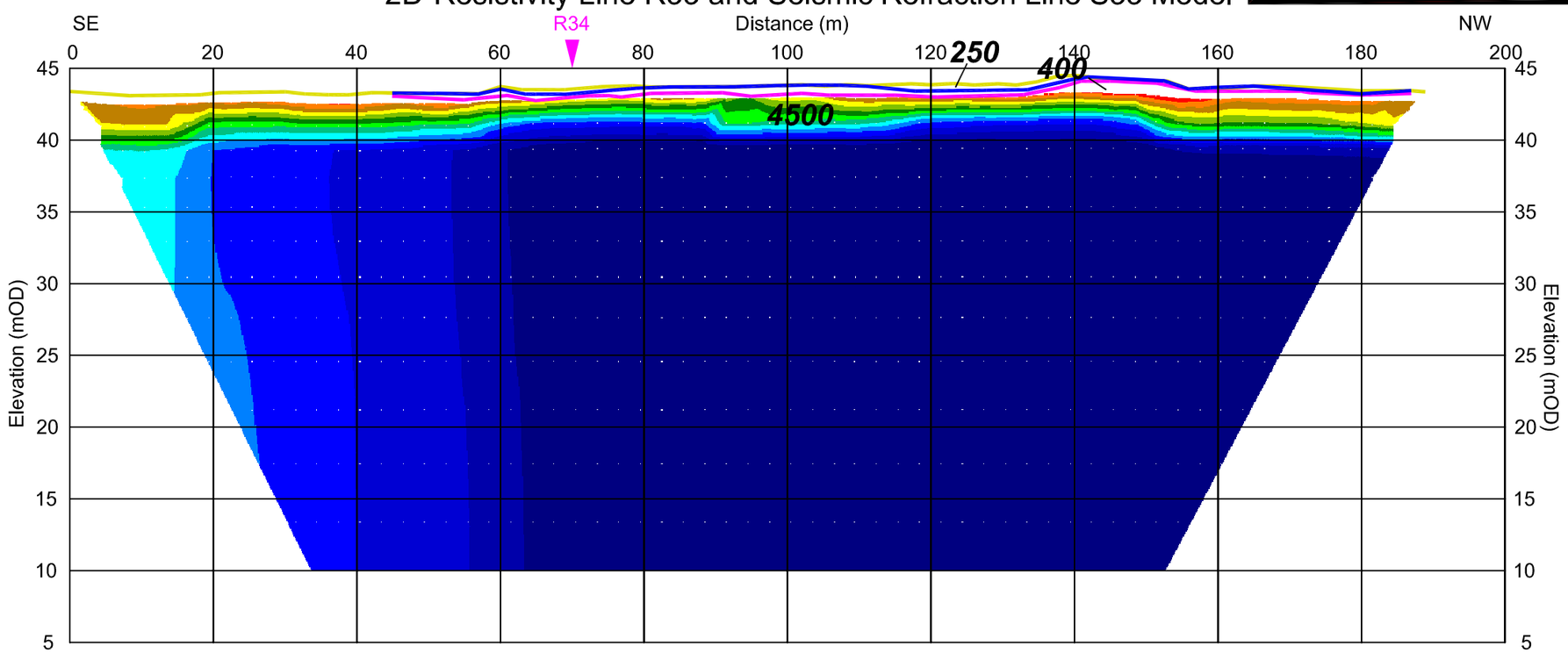
# T11

## 2D-Resistivity Line R34 and Seismic Refraction Line S34 Model




## 2D-Resistivity Line R33 and Seismic Refraction Line S33 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1k: Models of Geophysical Survey, Turbine 11 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

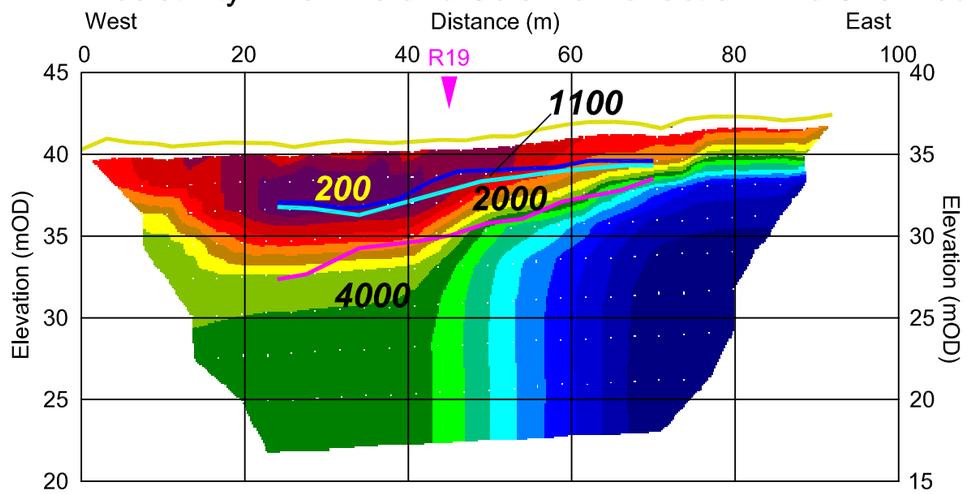
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

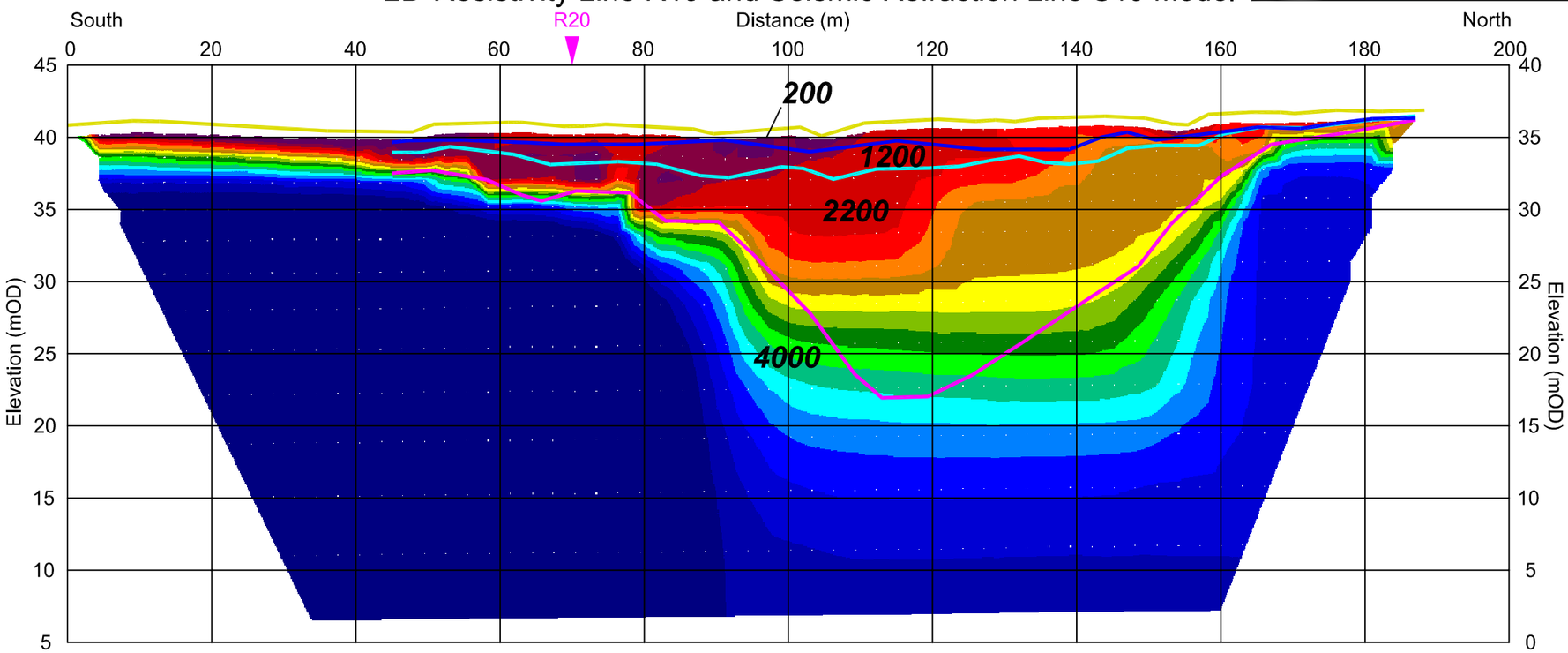
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

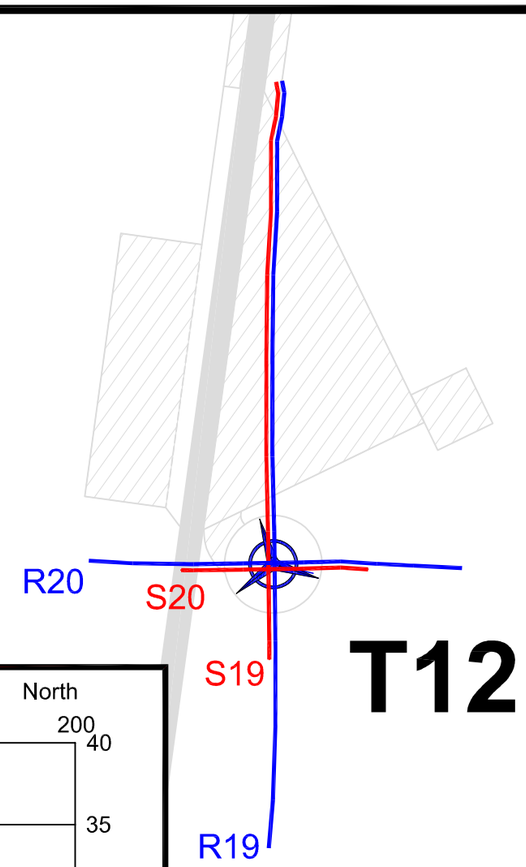
# T12

## 2D-Resistivity Line R20 and Seismic Refraction Line S20 Model




## 2D-Resistivity Line R19 and Seismic Refraction Line S19 Model




# T12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| TITLE | Figure 11: Models of Geophysical Survey, Turbine 12 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

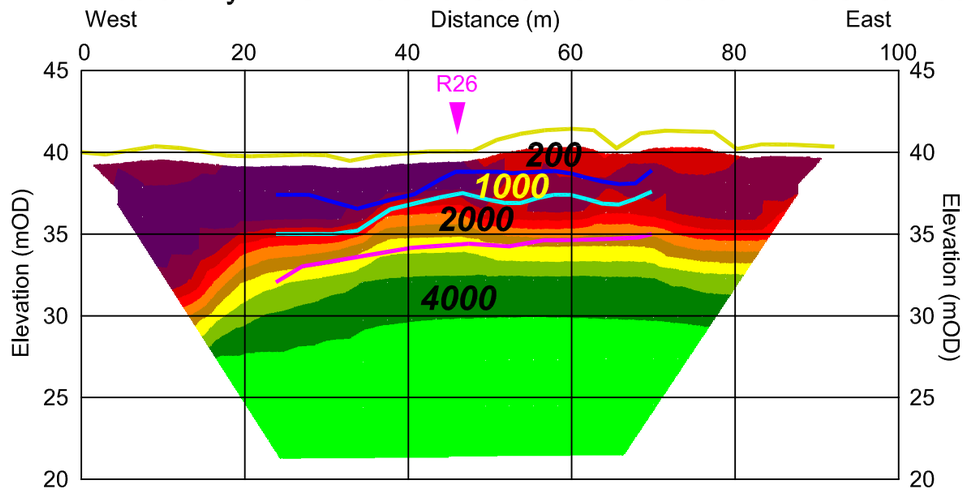
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

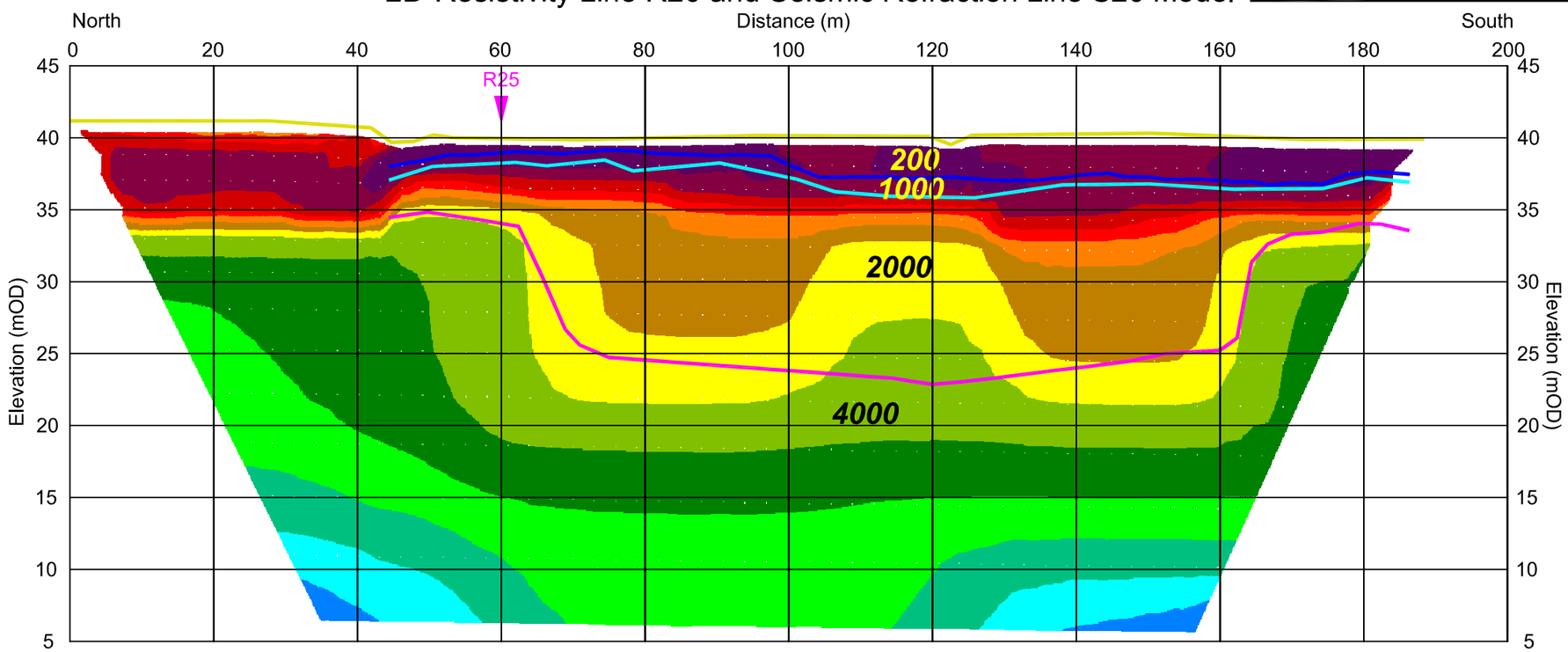
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- **1600** Seismic Velocity in m/s

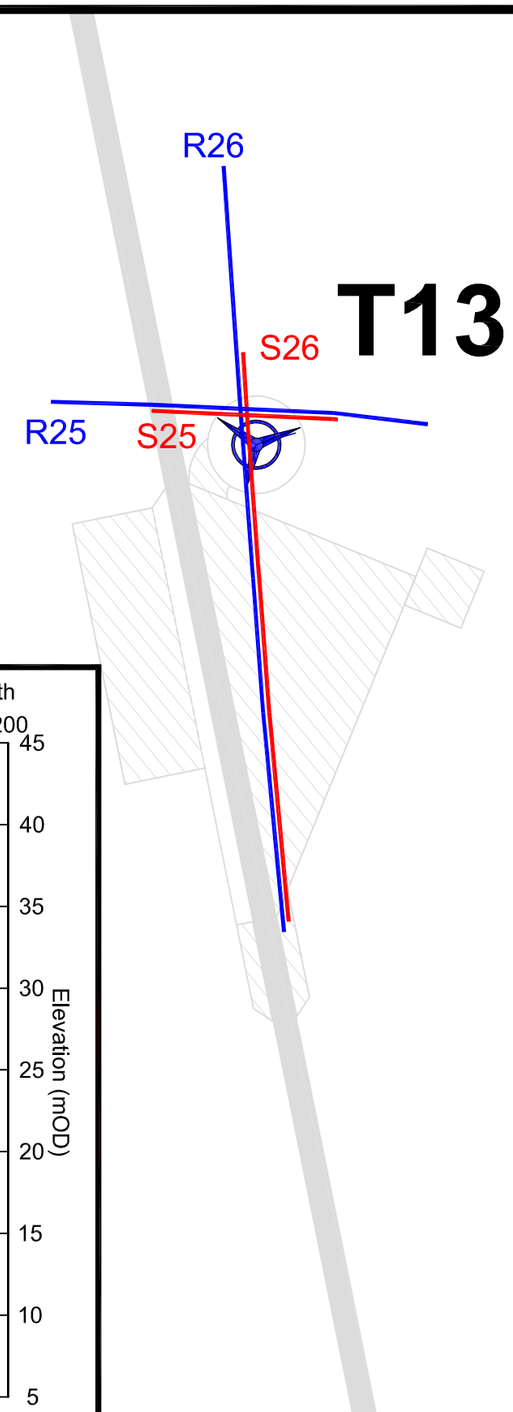
# T13

## 2D-Resistivity Line R25 and Seismic Refraction Line S25 Model




## 2D-Resistivity Line R26 and Seismic Refraction Line S26 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1m: Models of Geophysical Survey, Turbine 13 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

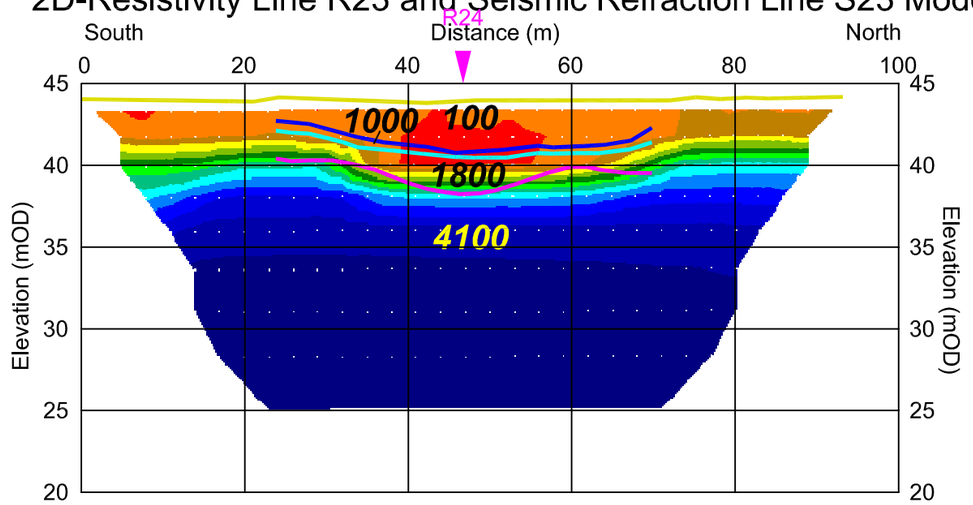
31.3 62.5 125 250 500 1000 2000 4000

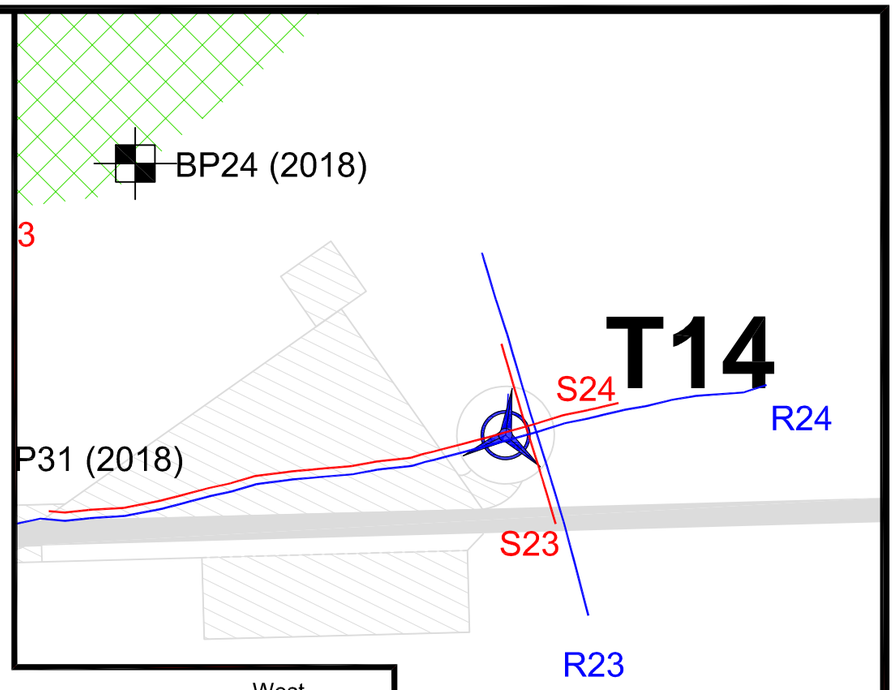
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- **1600** Seismic Velocity in m/s

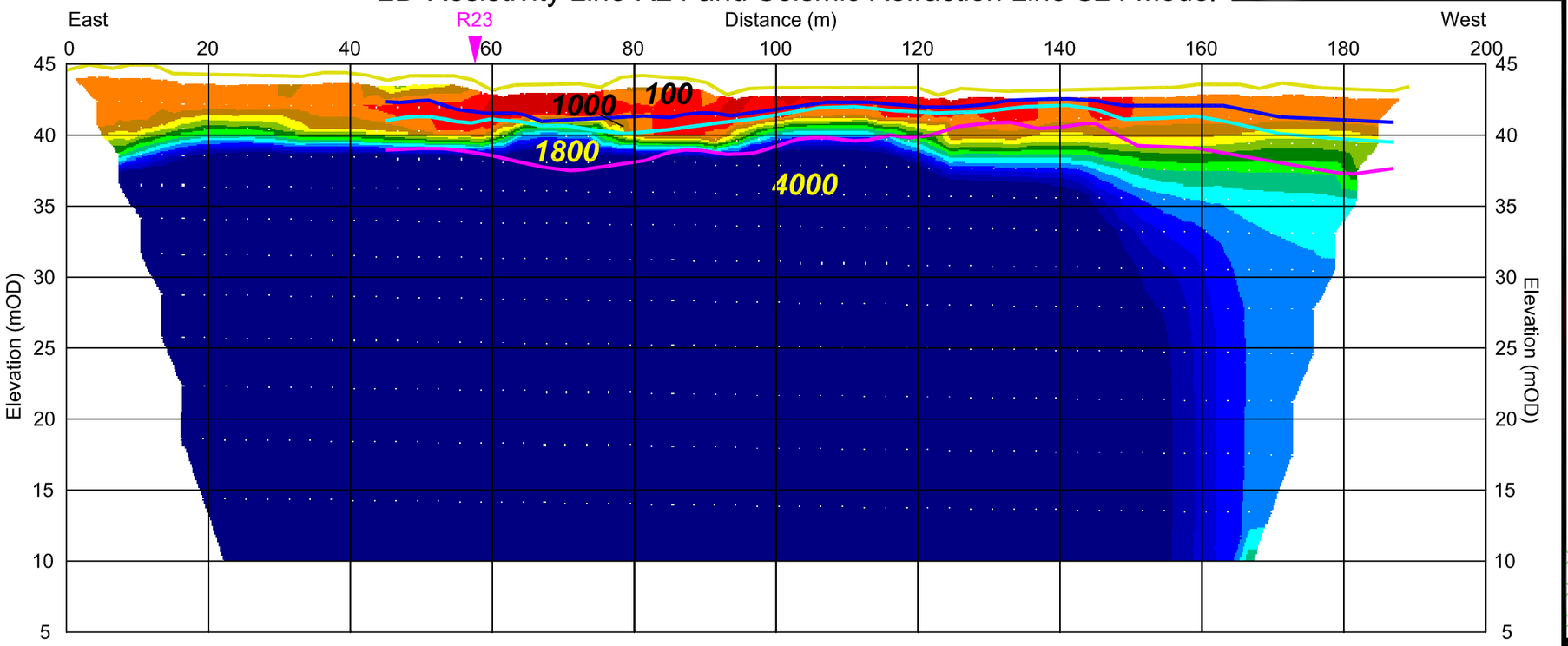
# T14

## 2D-Resistivity Line R23 and Seismic Refraction Line S23 Model




## 2D-Resistivity Line R24 and Seismic Refraction Line S24 Model

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| TITLE | Figure 1n: Models of Geophysical Survey, Turbine 14 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

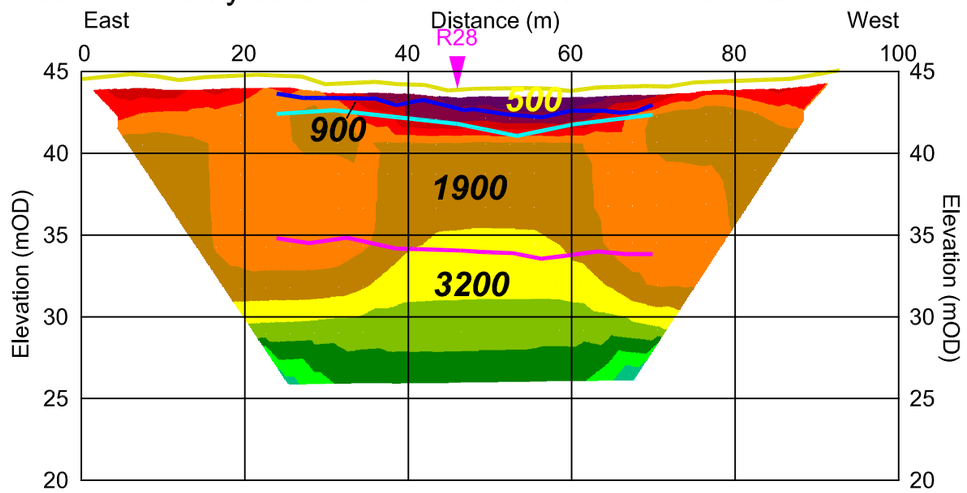
31.3 62.5 125 250 500 1000 2000 4000

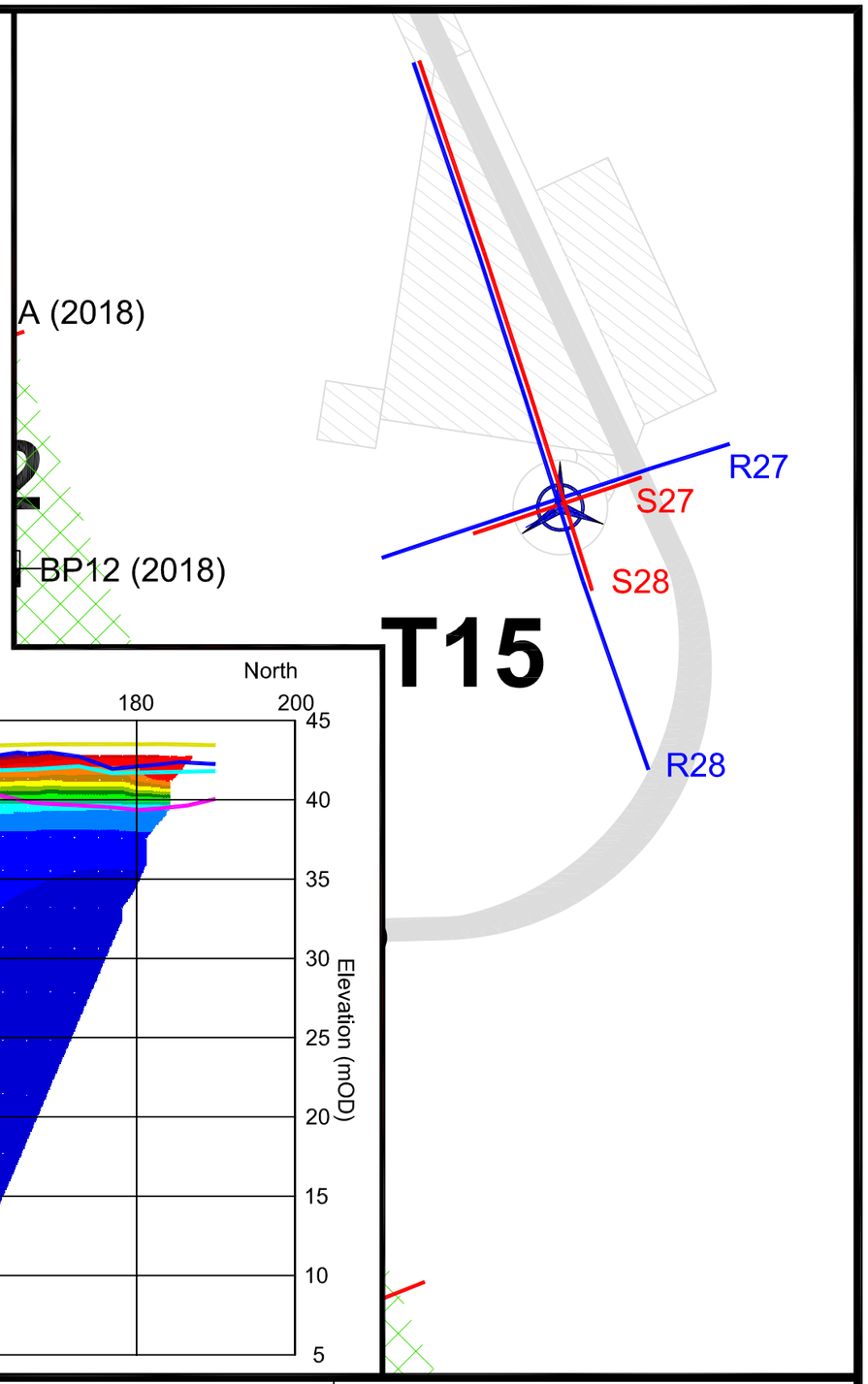
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- **1600** Seismic Velocity in m/s

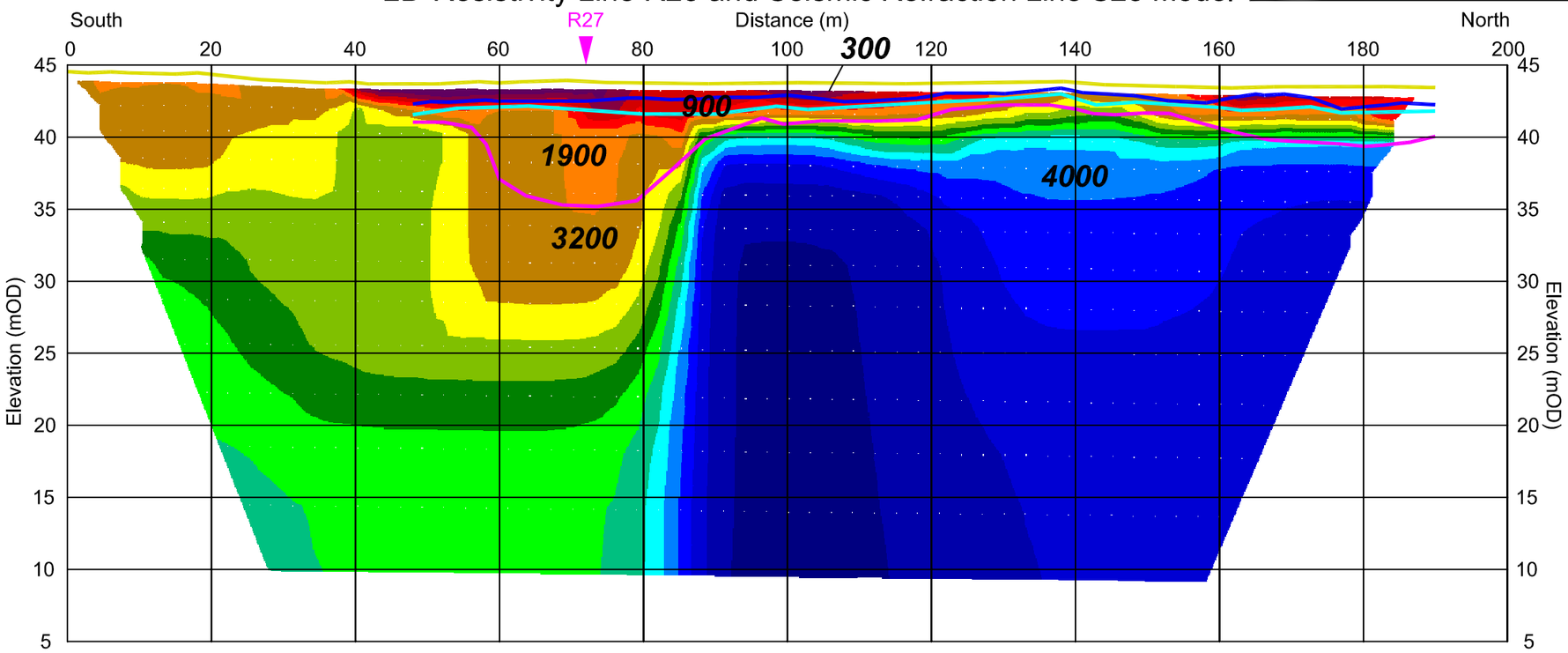
# T15

## 2D-Resistivity Line R27 and Seismic Refraction Line S27 Model




## 2D-Resistivity Line R28 and Seismic Refraction Line S28 Model





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| TITLE | Figure 1o: Models of Geophysical Survey, Turbine 15 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JC |
| DATE: | 08/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

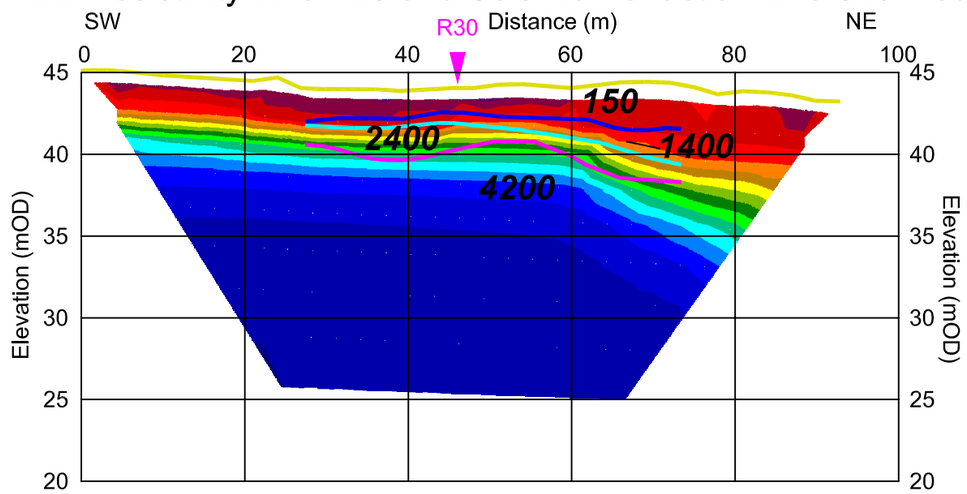
31.3 62.5 125 250 500 1000 2000 4000

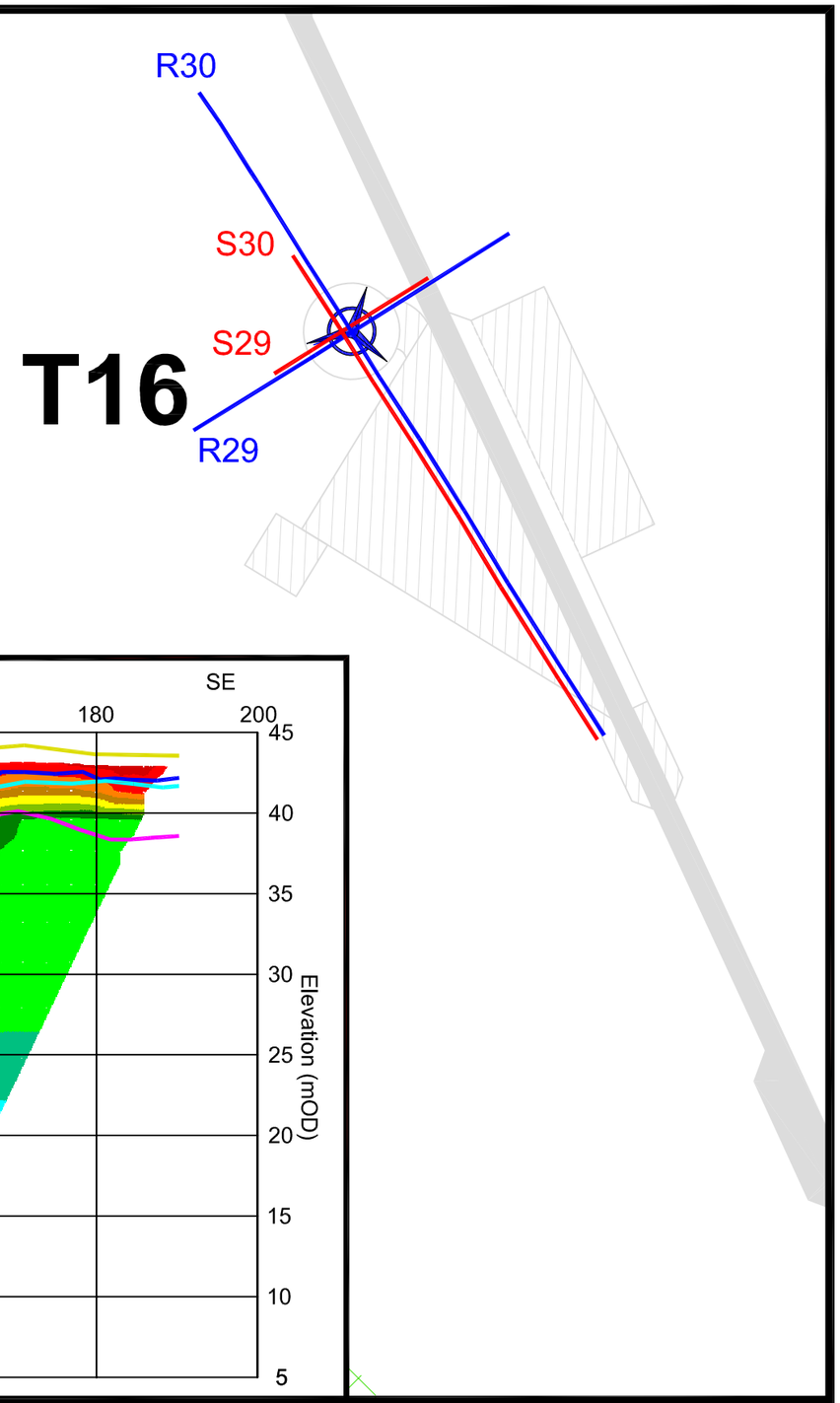
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

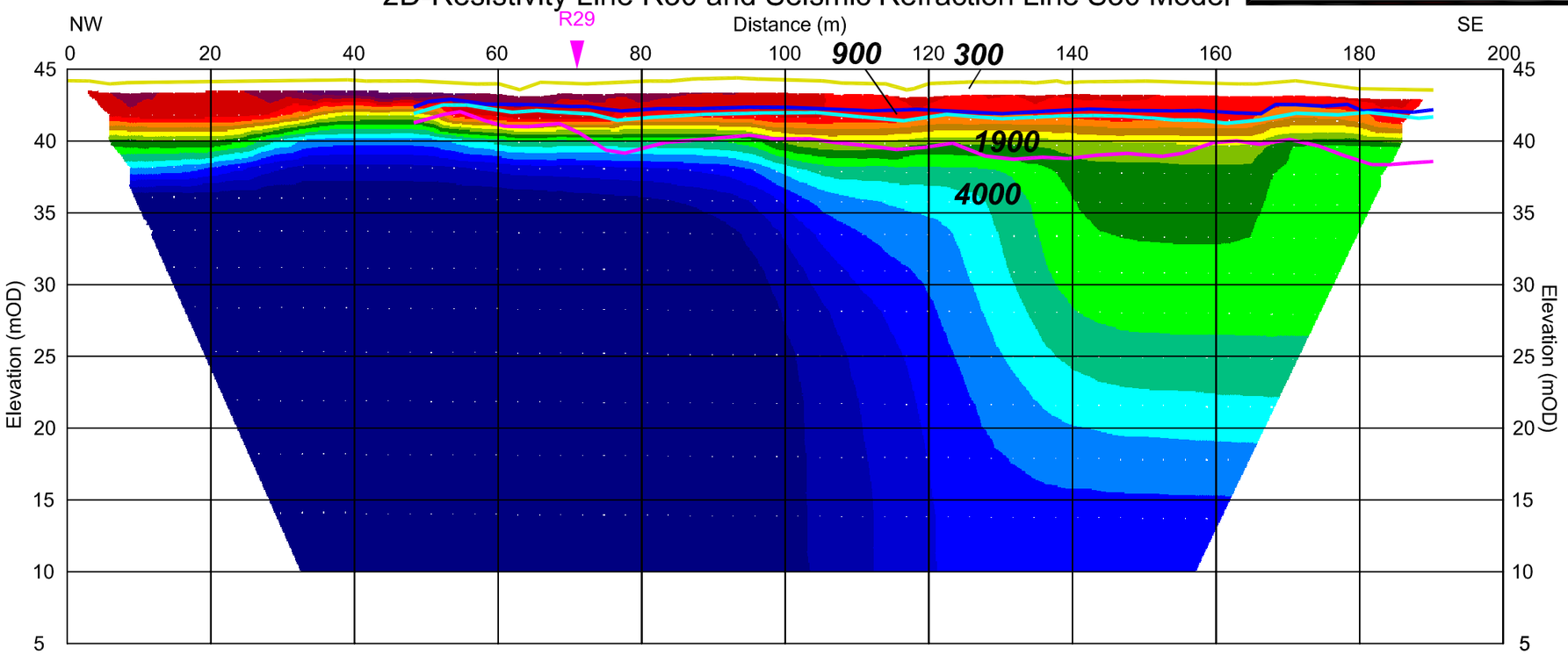
# T16

## 2D-Resistivity Line R29 and Seismic Refraction Line S29 Model




## 2D-Resistivity Line R30 and Seismic Refraction Line S30 Model





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| TITLE | Figure 1p: Models of Geophysical Survey, Turbine 16 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 08/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

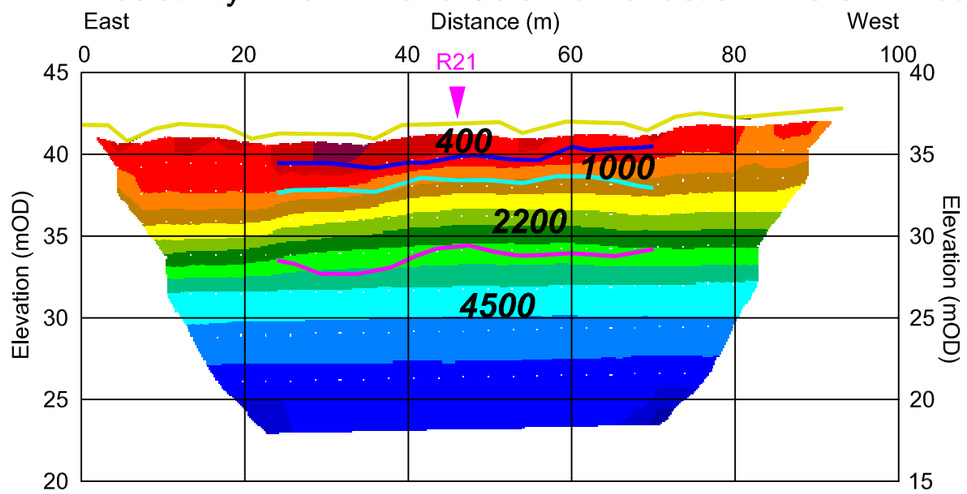
31.3 62.5 125 250 500 1000 2000 4000

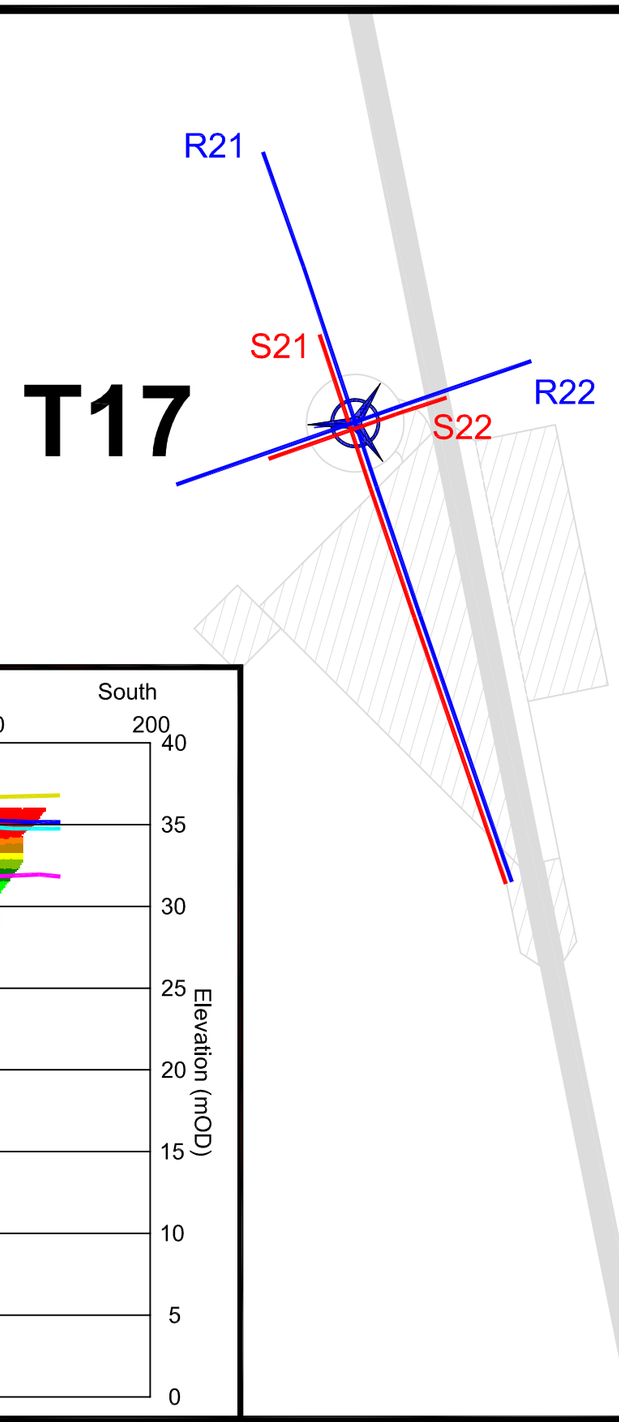
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

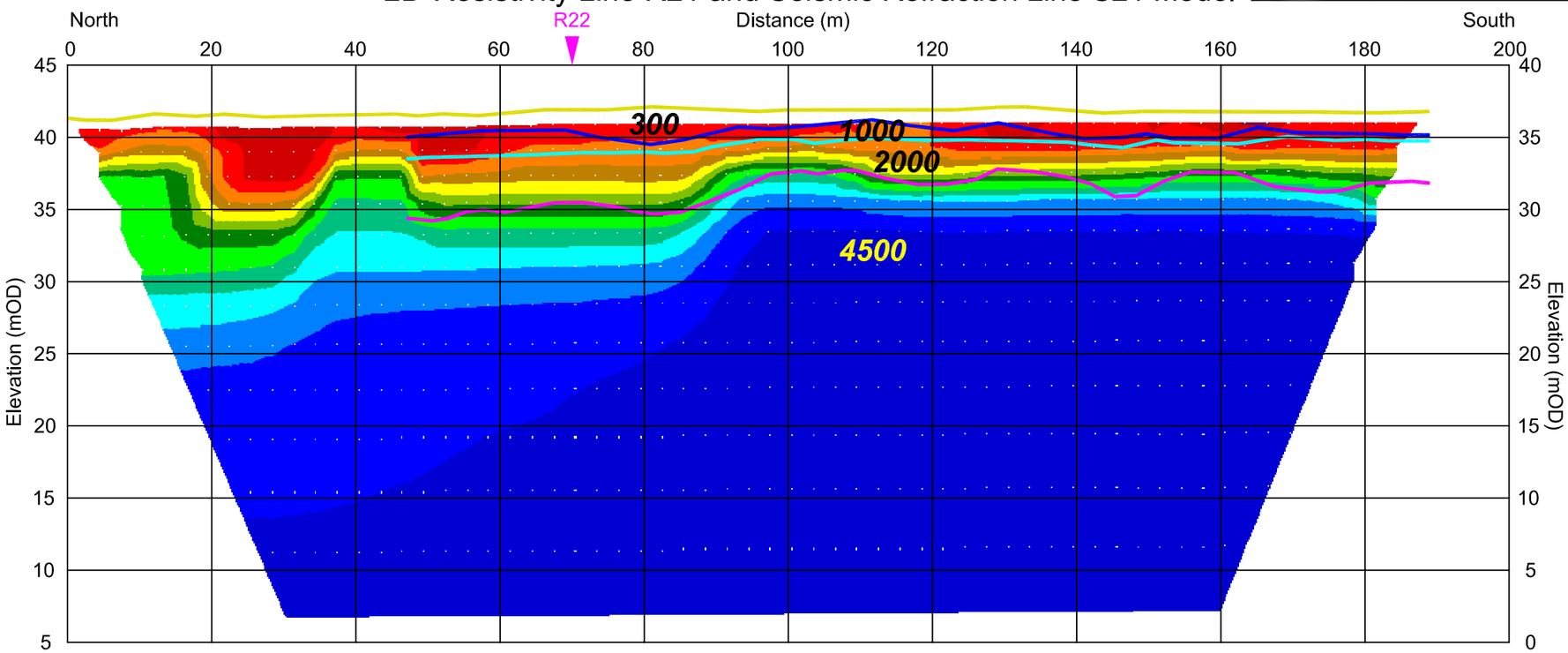
# T17

## 2D-Resistivity Line R22 and Seismic Refraction Line S22 Model




## 2D-Resistivity Line R21 and Seismic Refraction Line S21 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1q: Models of Geophysical Survey, Turbine 17 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 08/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

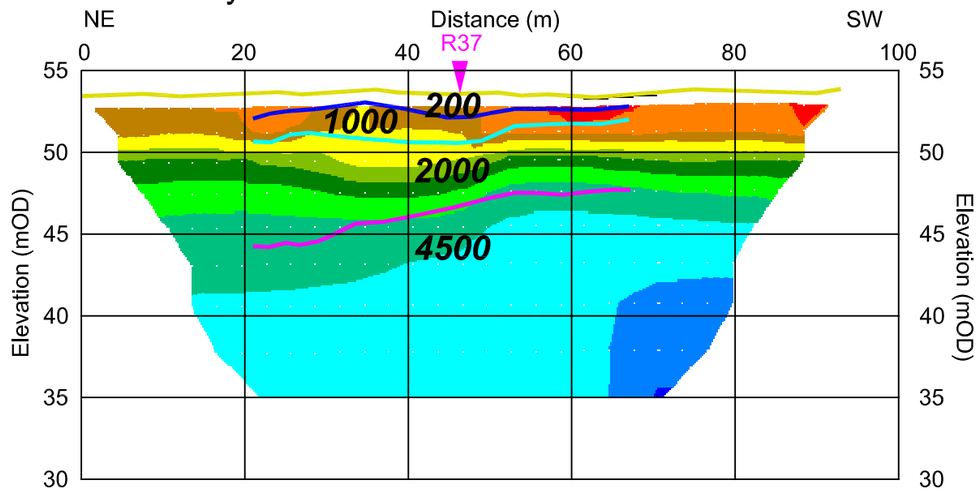
31.3 62.5 125 250 500 1000 2000 4000

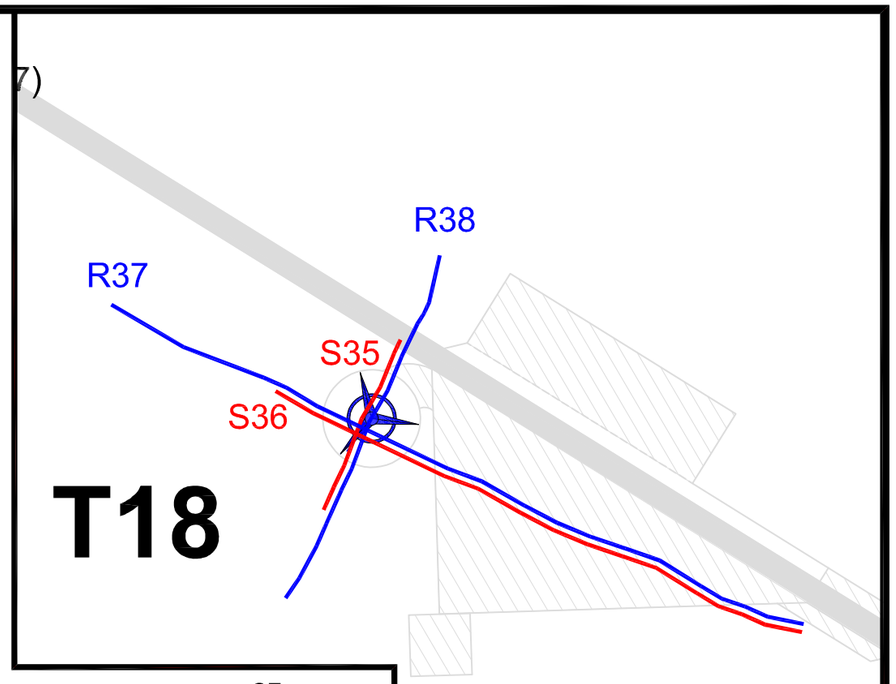
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

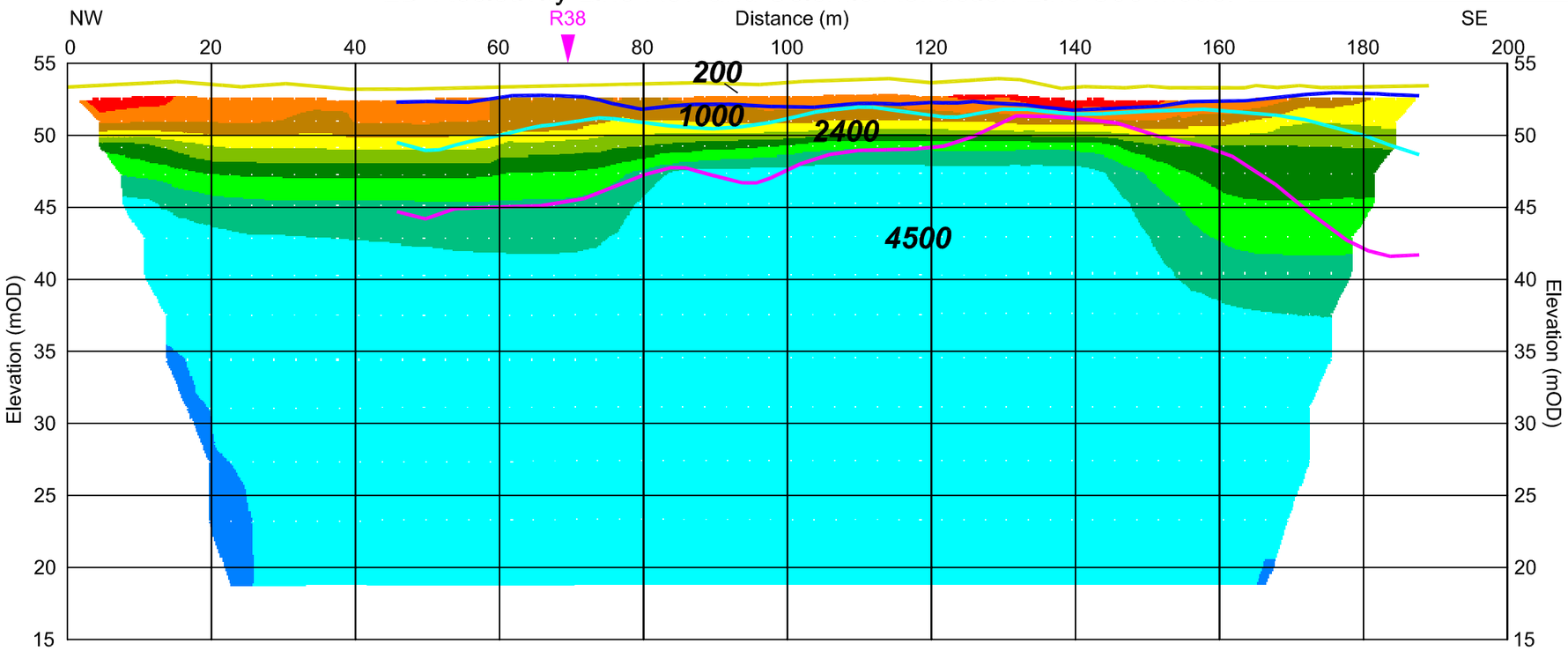
# T18

## 2D-Resistivity Line R38 and Seismic Refraction Line S35 Model




## 2D-Resistivity Line R37 and Seismic Refraction Line S36 Model





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| TITLE | Figure 1r: Models of Geophysical Survey, Turbine 18 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 15/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

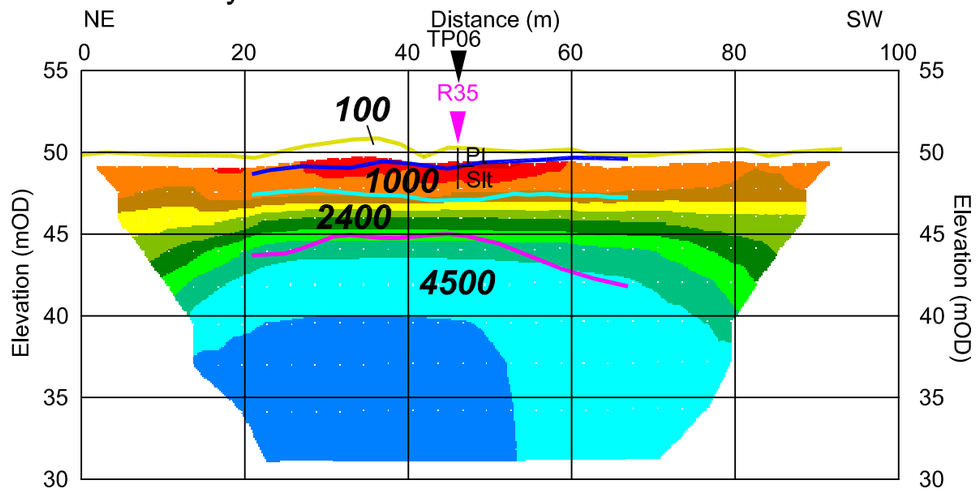
31.3 62.5 125 250 500 1000 2000 4000

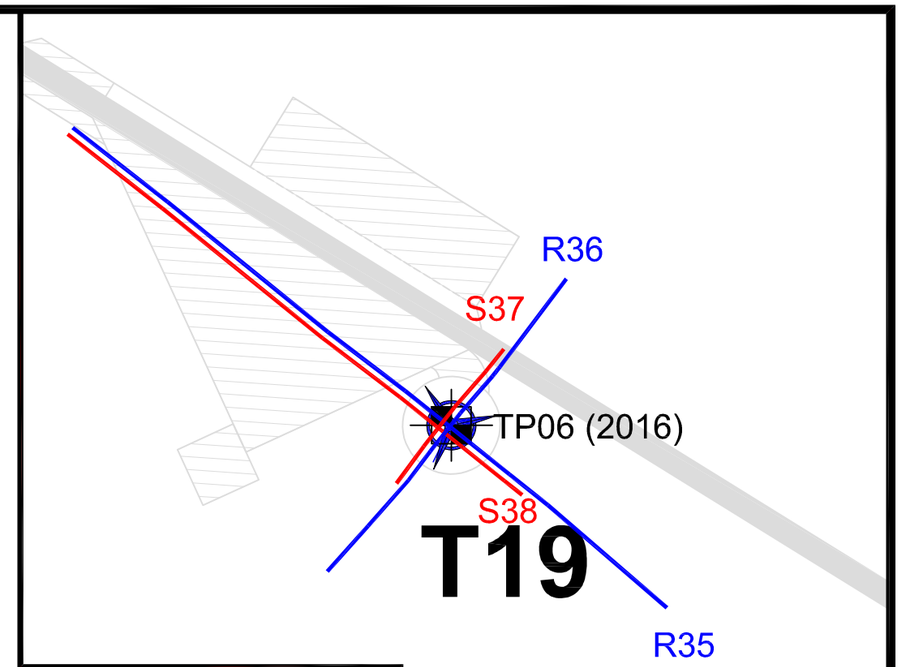
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

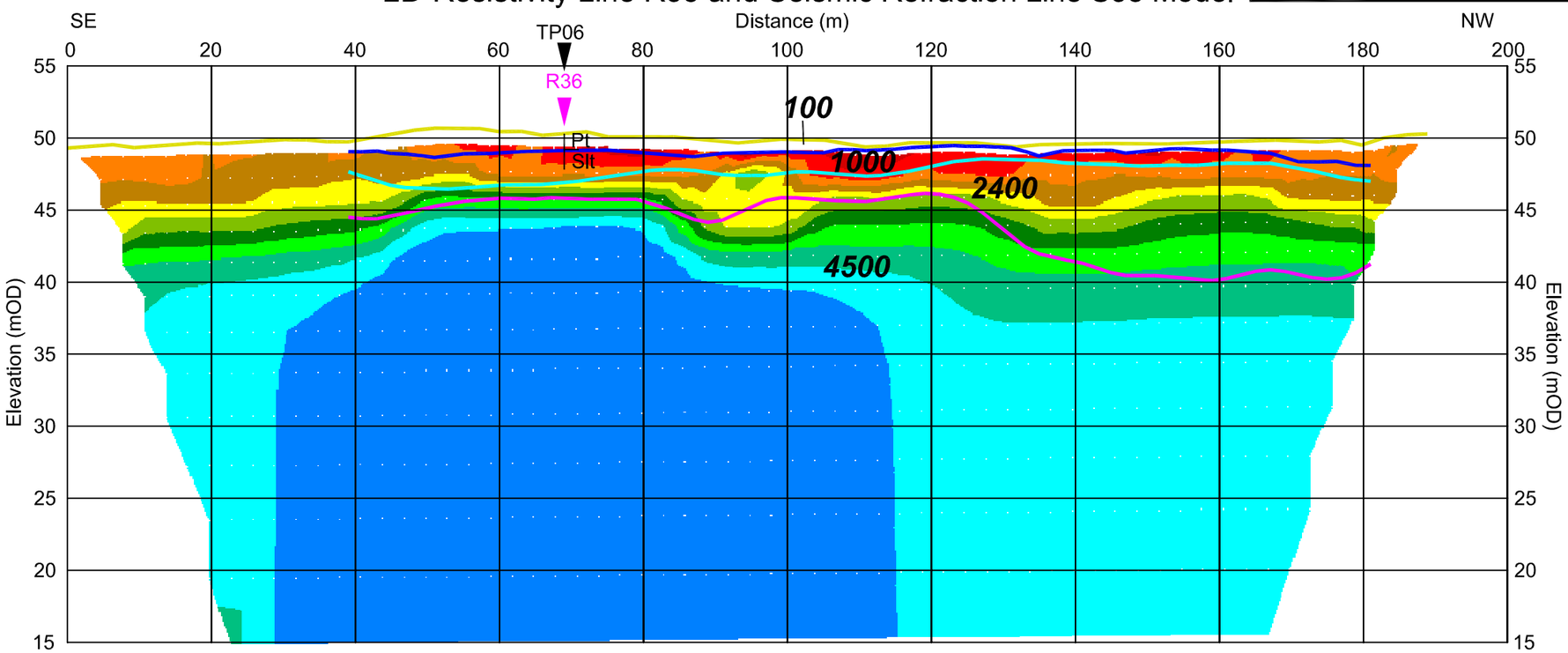
# T19

## 2D-Resistivity Line R36 and Seismic Refraction Line S37 Model




## 2D-Resistivity Line R35 and Seismic Refraction Line S38 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1s: Models of Geophysical Survey, Turbine 19 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 15/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

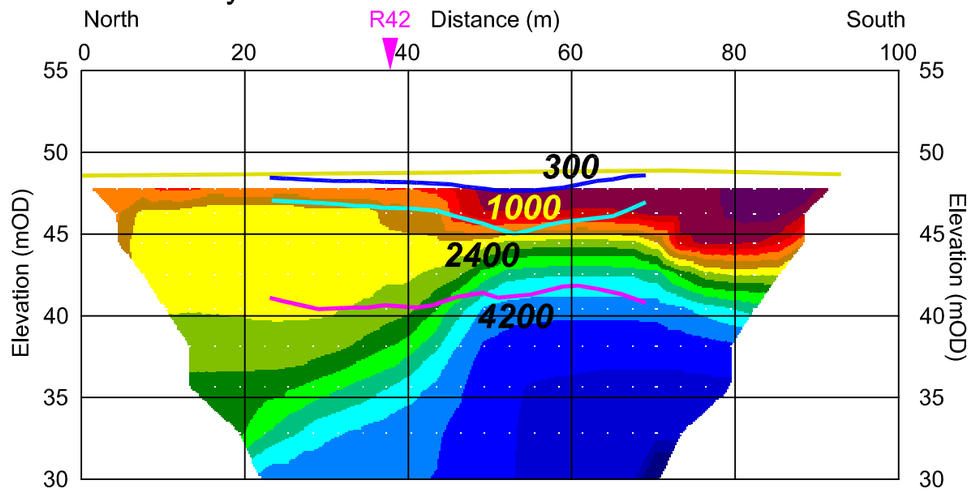
31.3 62.5 125 250 500 1000 2000 4000

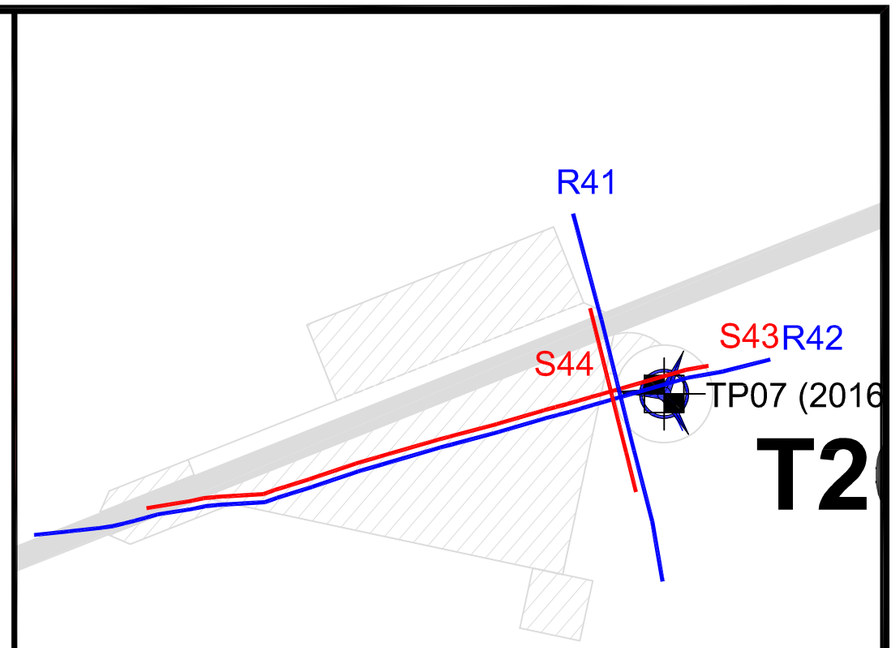
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

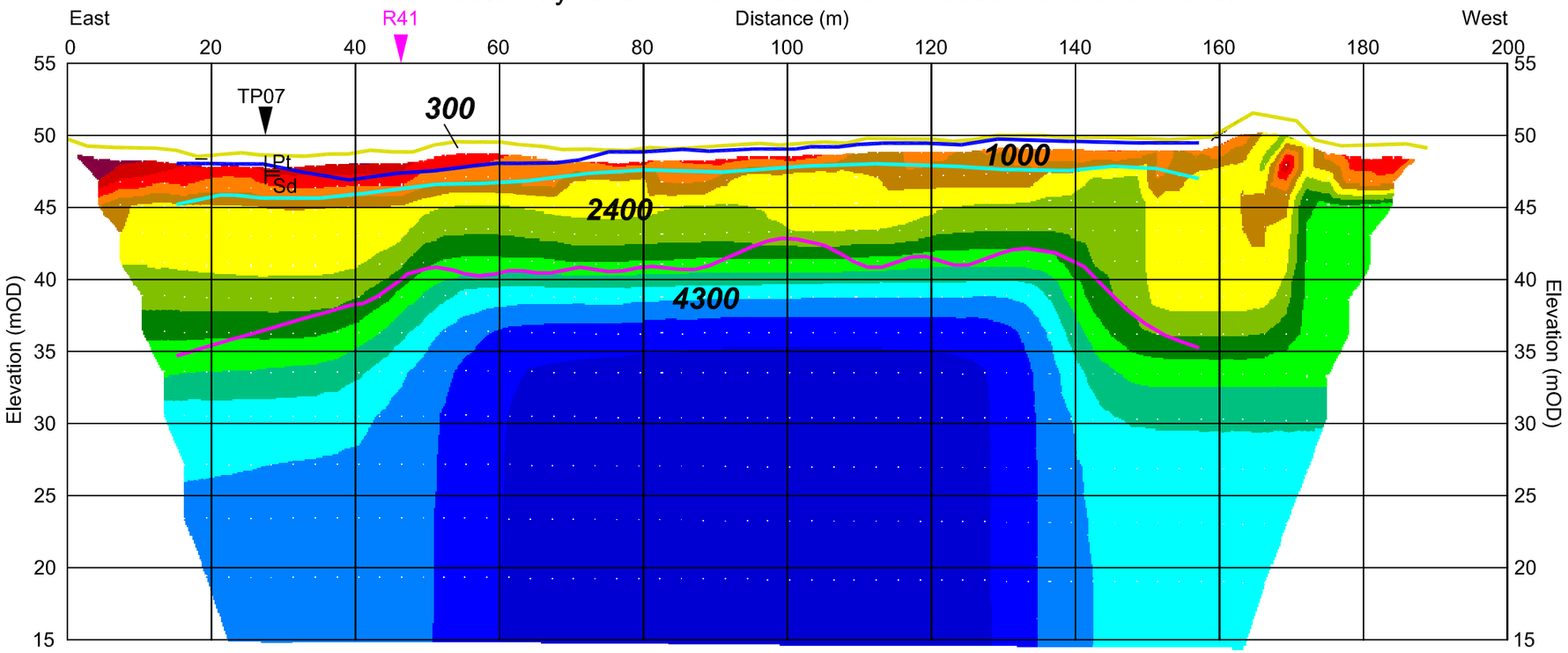
# T20

## 2D-Resistivity Line R41 and Seismic Refraction Line S44 Model




## 2D-Resistivity Line R42 and Seismic Refraction Line S43 Model





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1t: Models of Geophysical Survey, Turbine 20 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 15/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

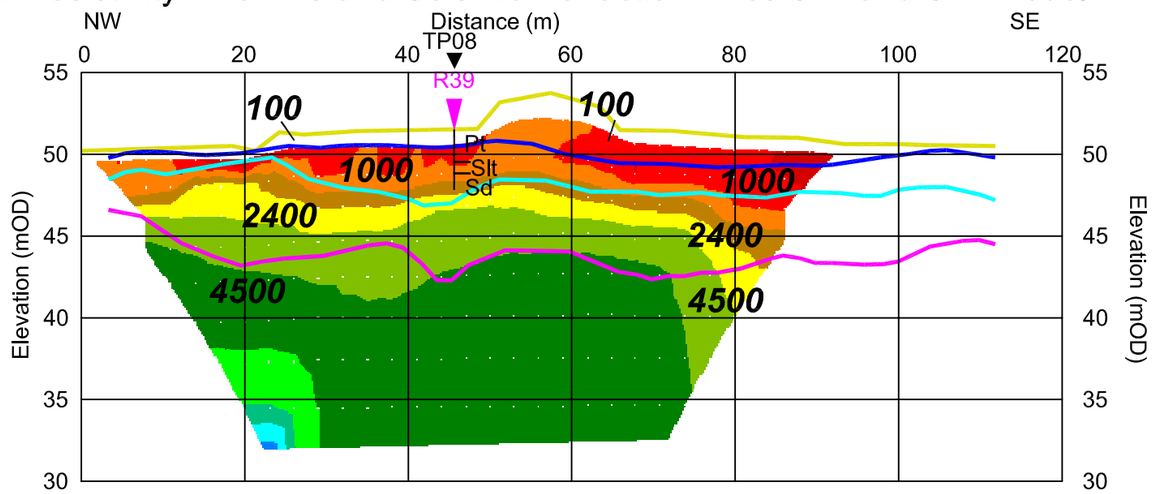
31.3 62.5 125 250 500 1000 2000 4000

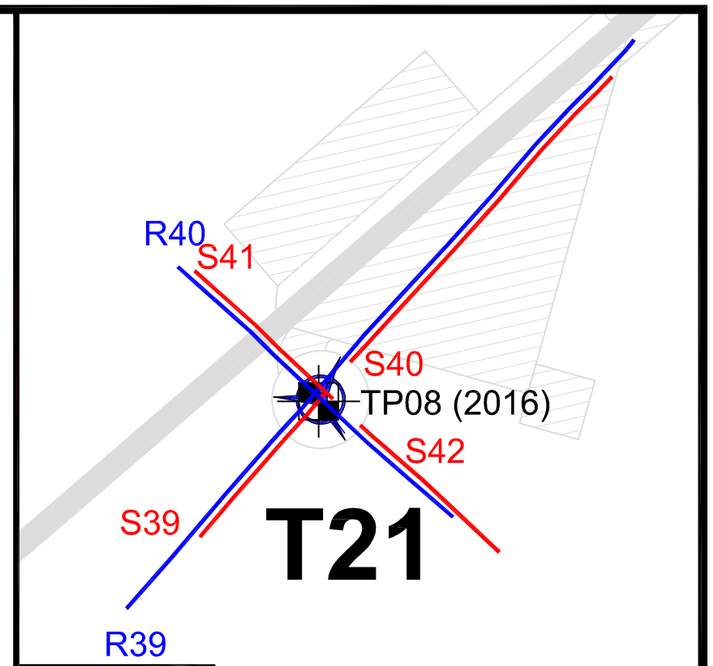
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- **1600** Seismic Velocity in m/s

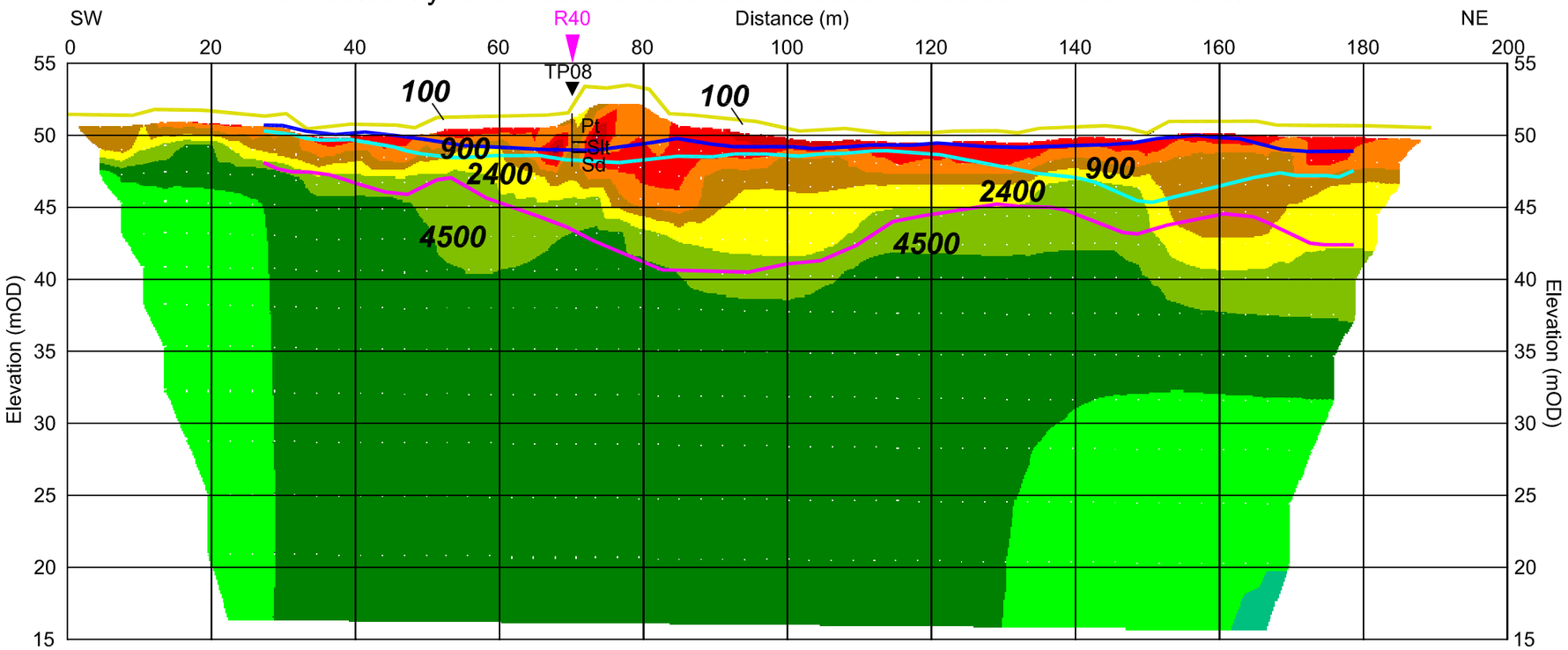
# T21

## 2D-Resistivity Line R40 and Seismic Refraction Lines S41 and S42 Model




## 2D-Resistivity Line R39 and Seismic Refraction Lines S39 and S40 Model





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|---|---|
| CLIENT | Irish Drilling Ltd. Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford Geophysical Survey |
| TITLE | Figure 1u: Models of Geophysical Survey, Turbine 21 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 15/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

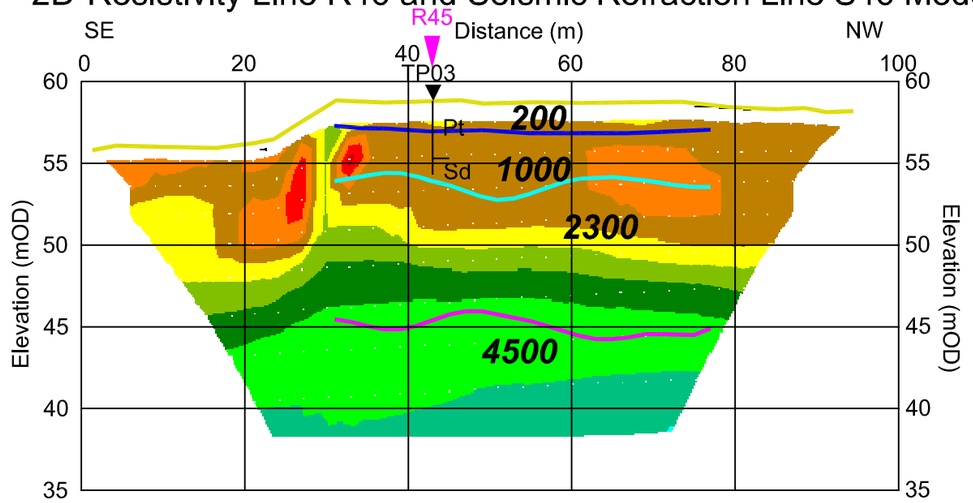
31.3 62.5 125 250 500 1000 2000 4000

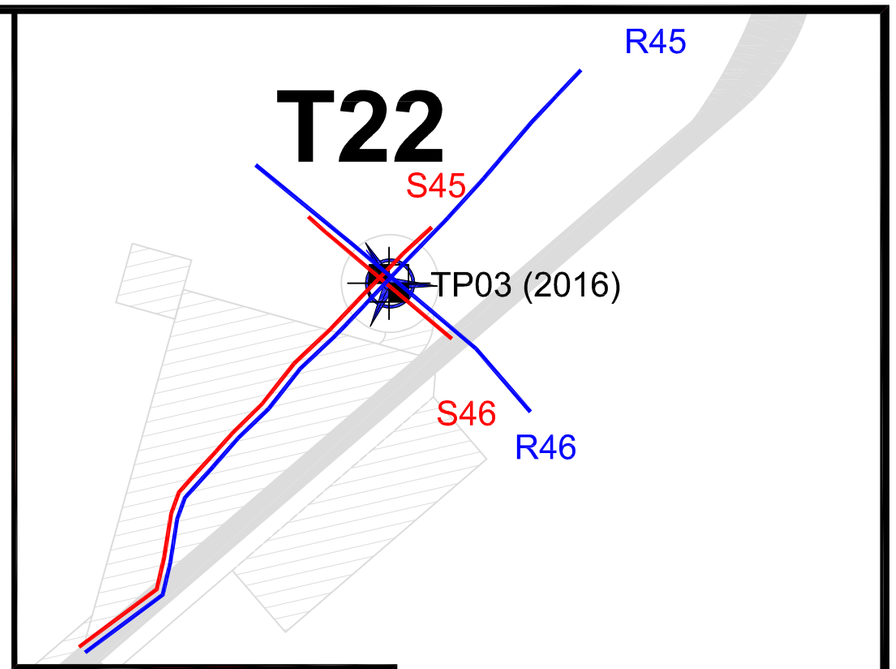
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

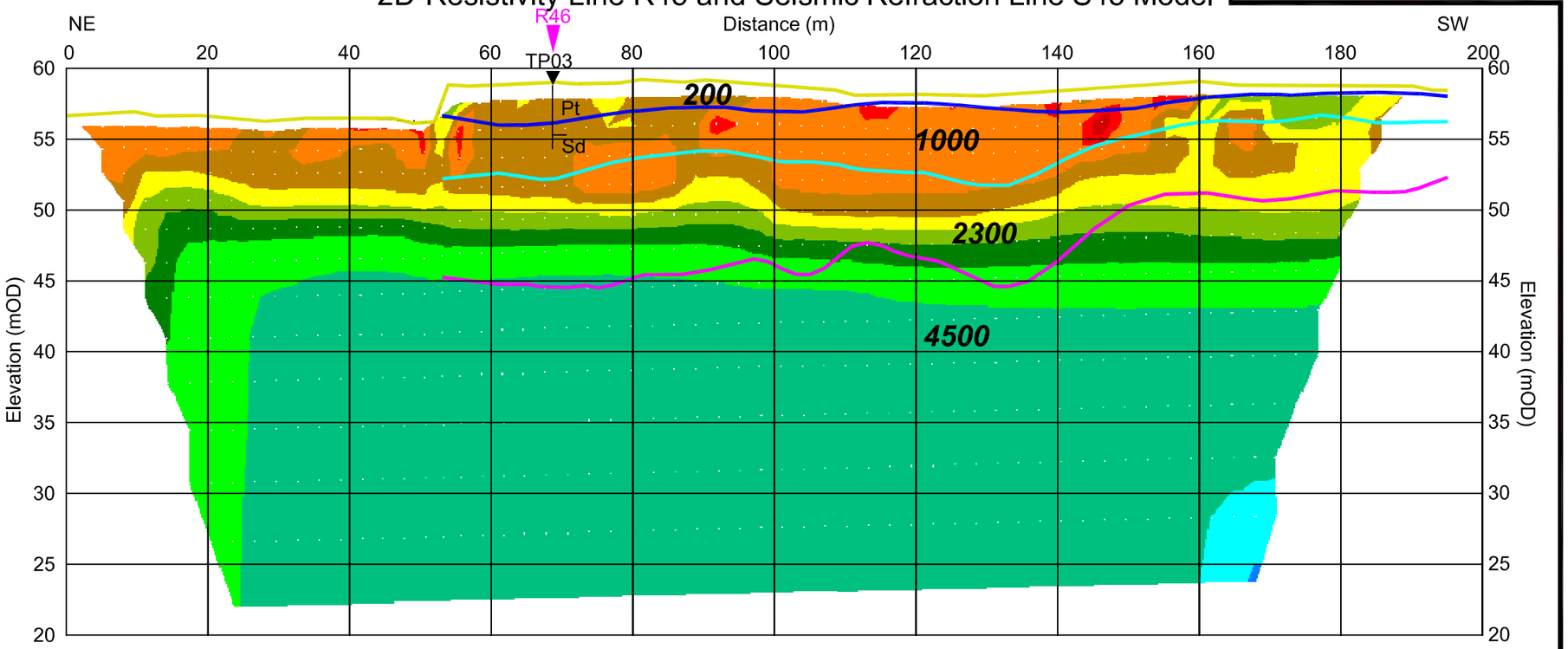
# T22

## 2D-Resistivity Line R46 and Seismic Refraction Line S46 Model




## 2D-Resistivity Line R45 and Seismic Refraction Line S45 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1v: Models of Geophysical Survey, Turbine 22 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 30/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

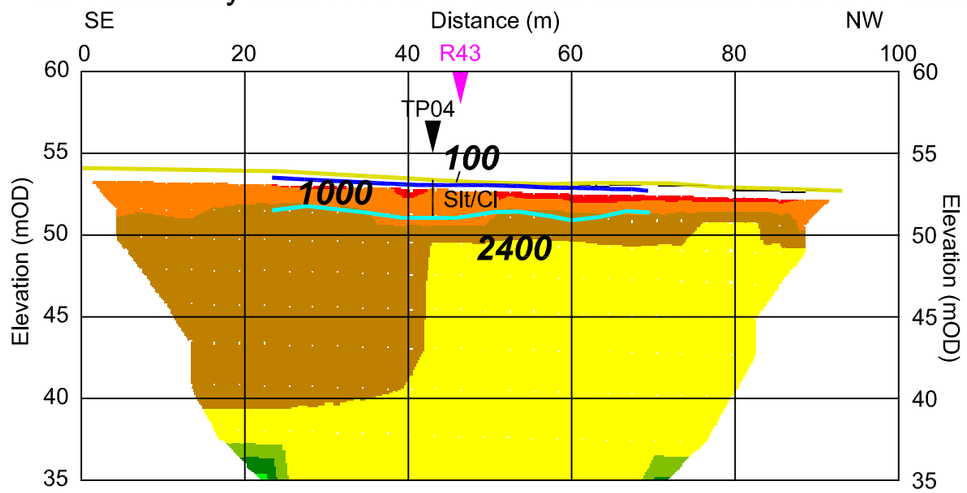
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

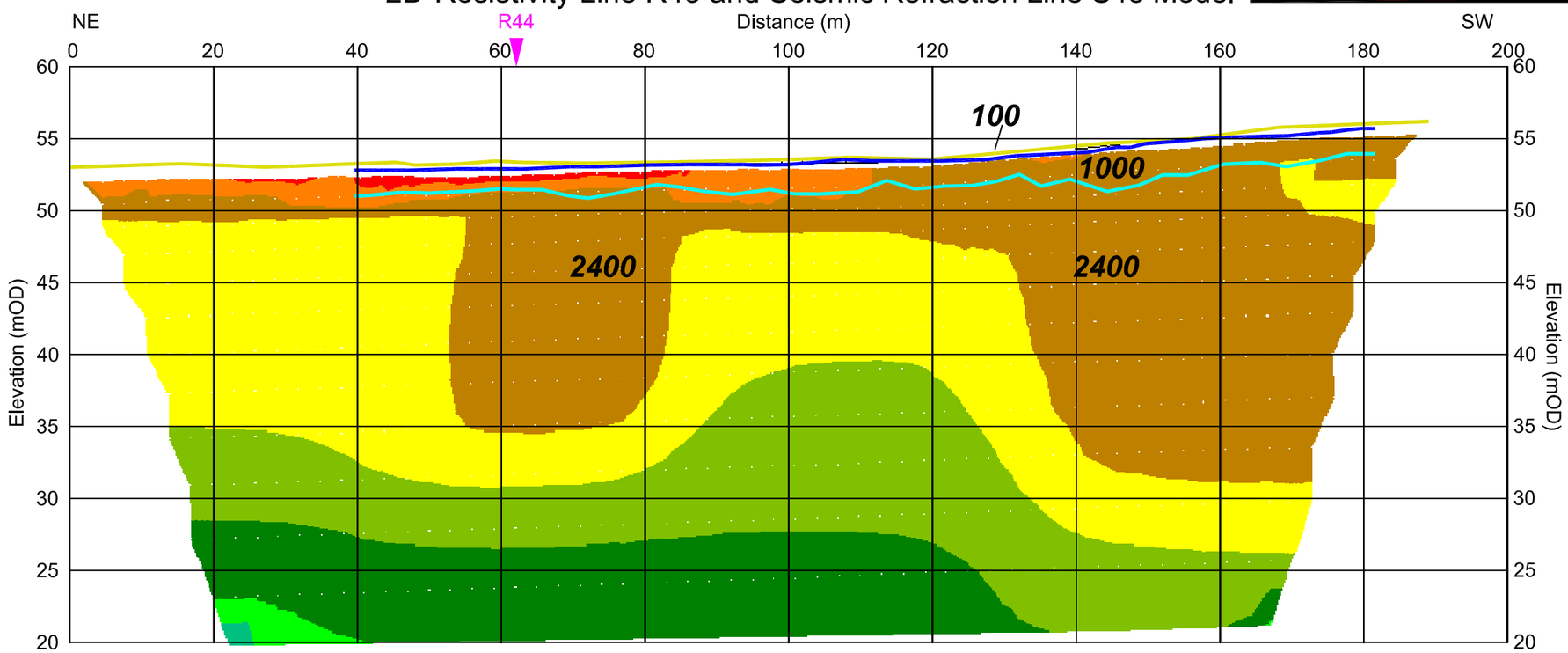
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

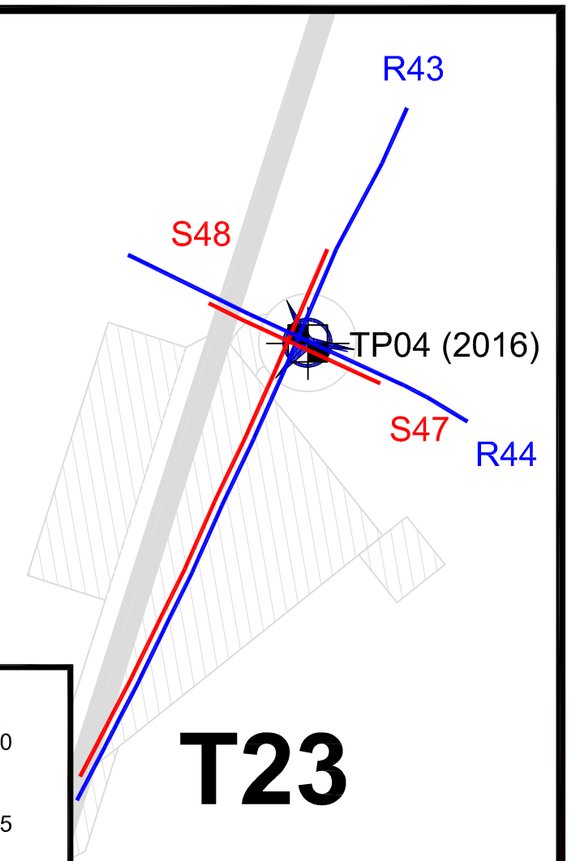
# T23

## 2D-Resistivity Line R44 and Seismic Refraction Line S47 Model




## 2D-Resistivity Line R43 and Seismic Refraction Line S48 Model




T23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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1w: Models of Geophysical Survey, Turbine 23 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 30/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

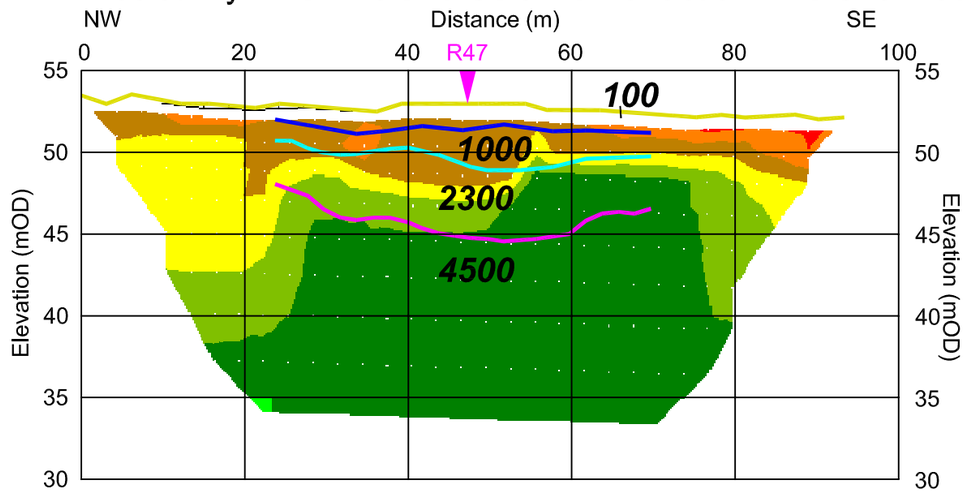
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

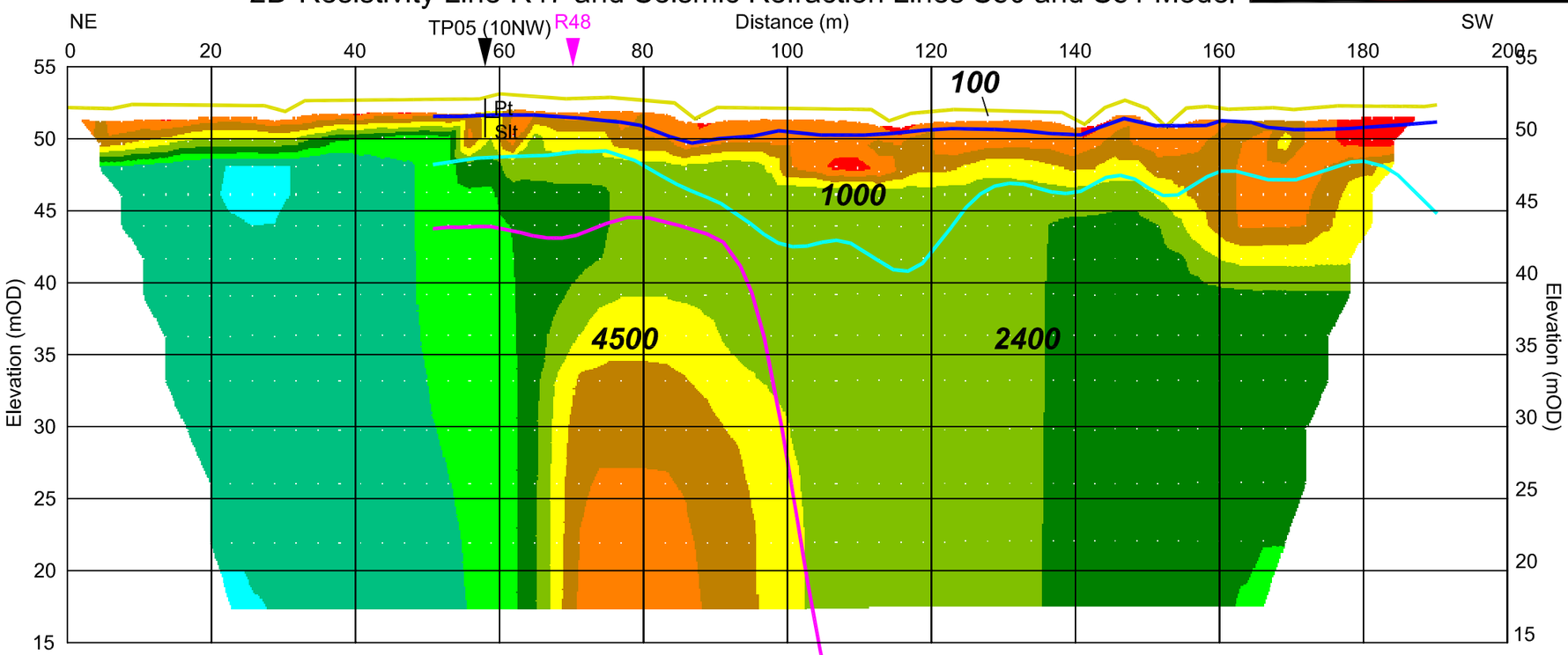
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

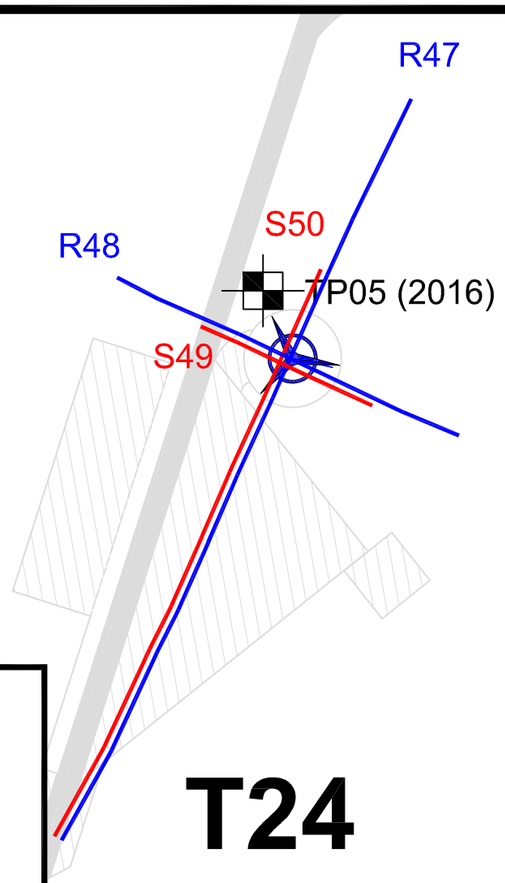
# T24

## 2D-Resistivity Line R48 and Seismic Refraction Line S49 Model




## 2D-Resistivity Line R47 and Seismic Refraction Lines S50 and S51 Model




# T24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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1x: Models of Geophysical Survey, Turbine 24 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 30/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

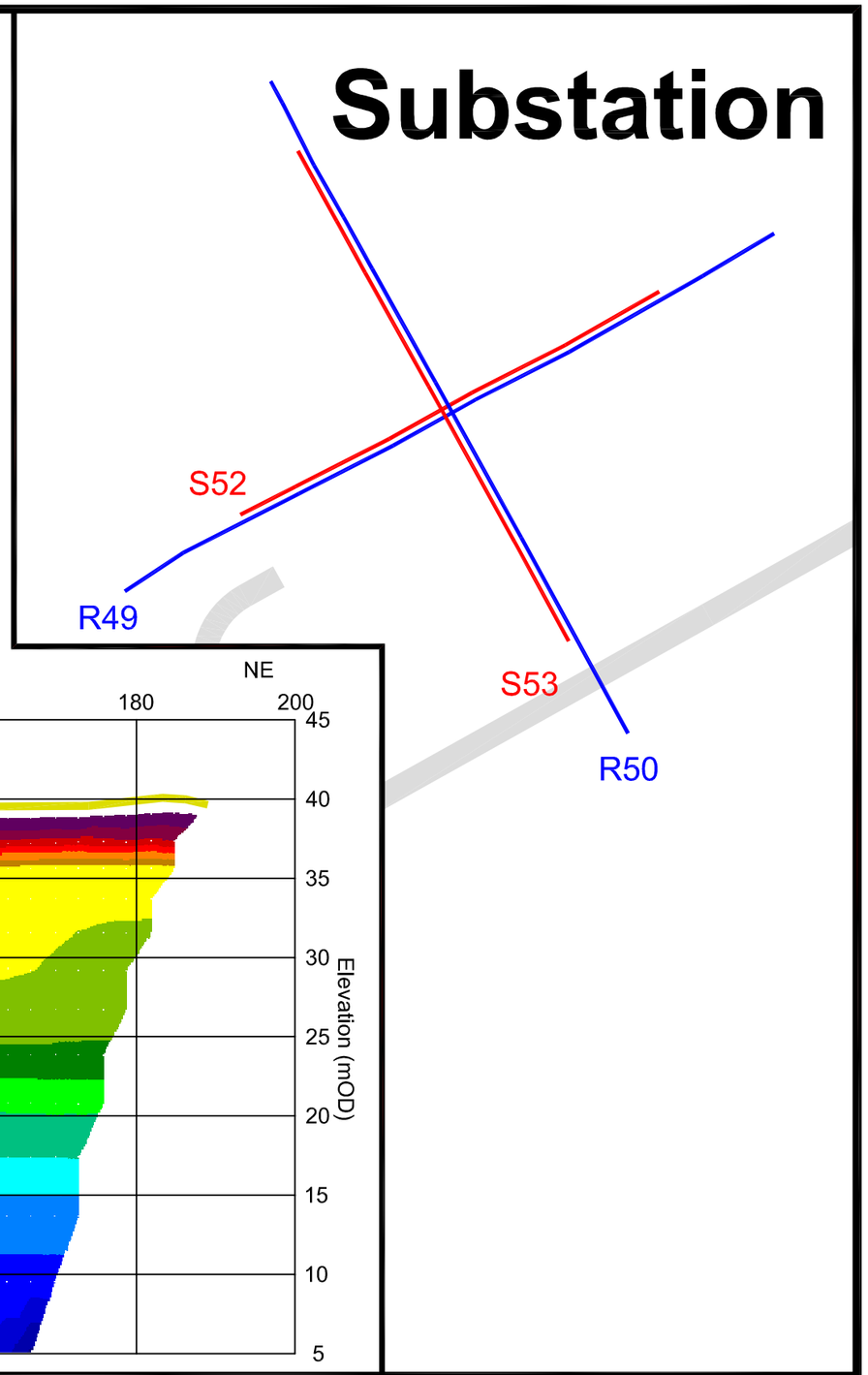
Resistivities (Ohmm) for 2D-Resistivity Model

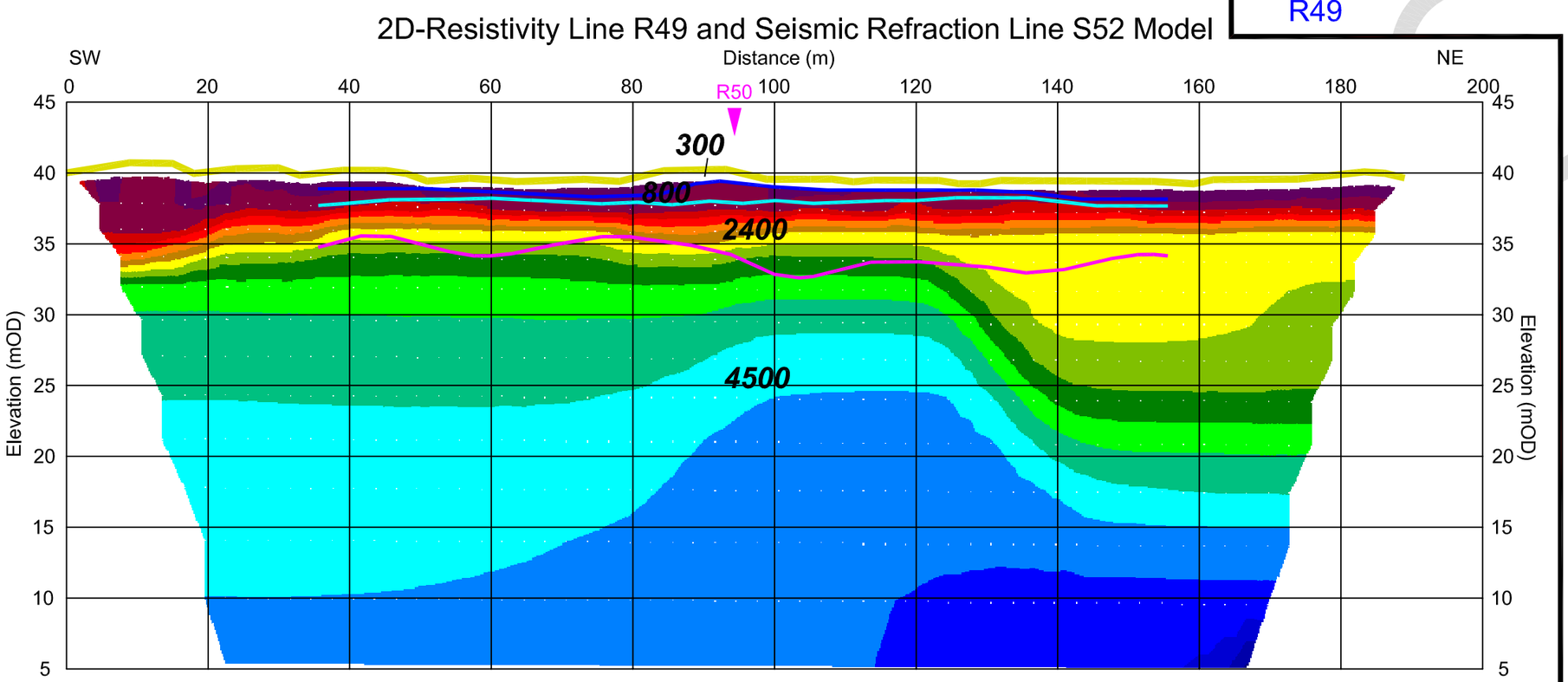
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- **1600** Seismic Velocity in m/s

# Substation





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1y: Models of Geophysical Survey, Substation |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 11/05/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

Geophysical Survey Locations:

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

2D-Resistivity Model Values:

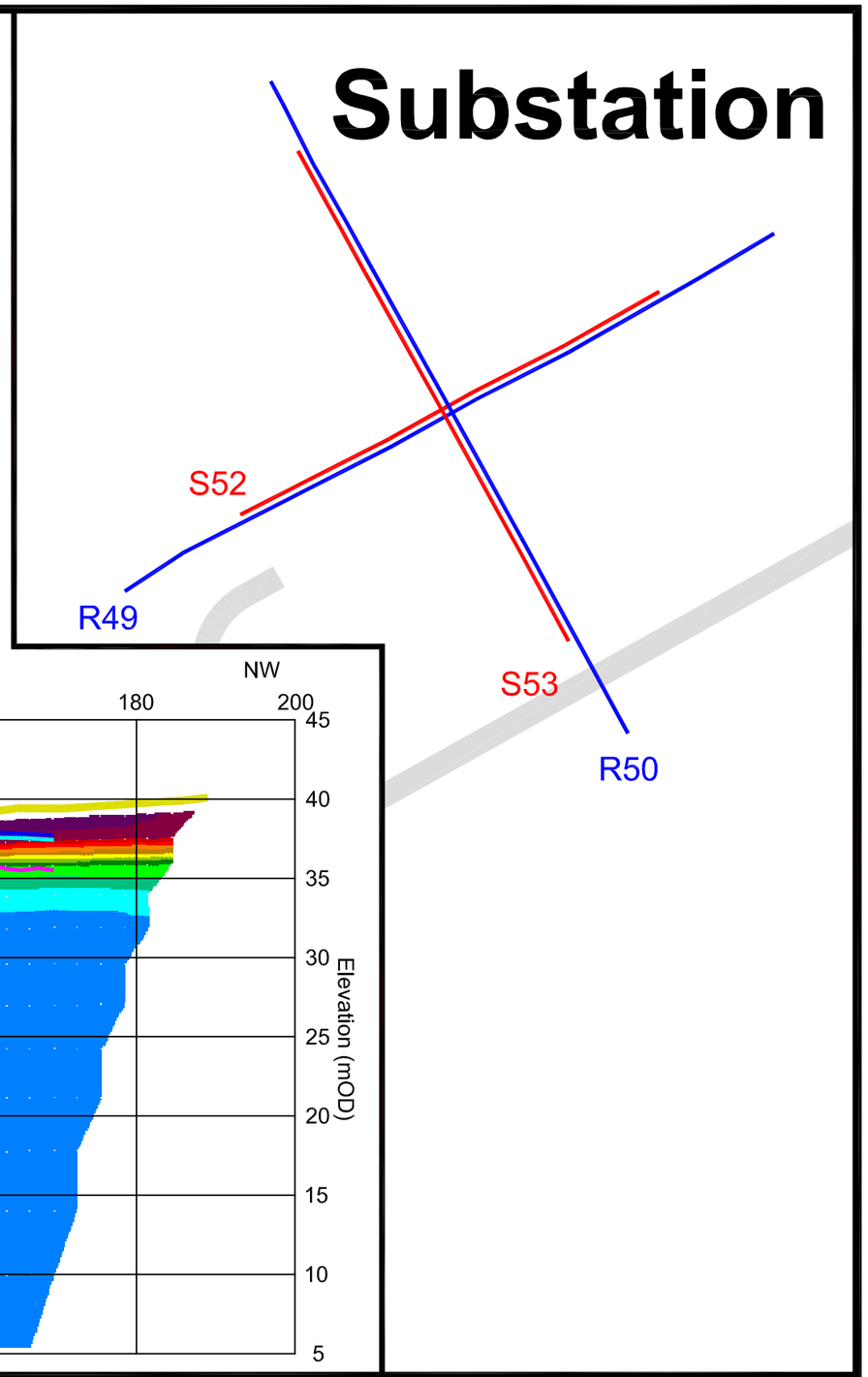
Resistivities (Ohmm) for 2D-Resistivity Model

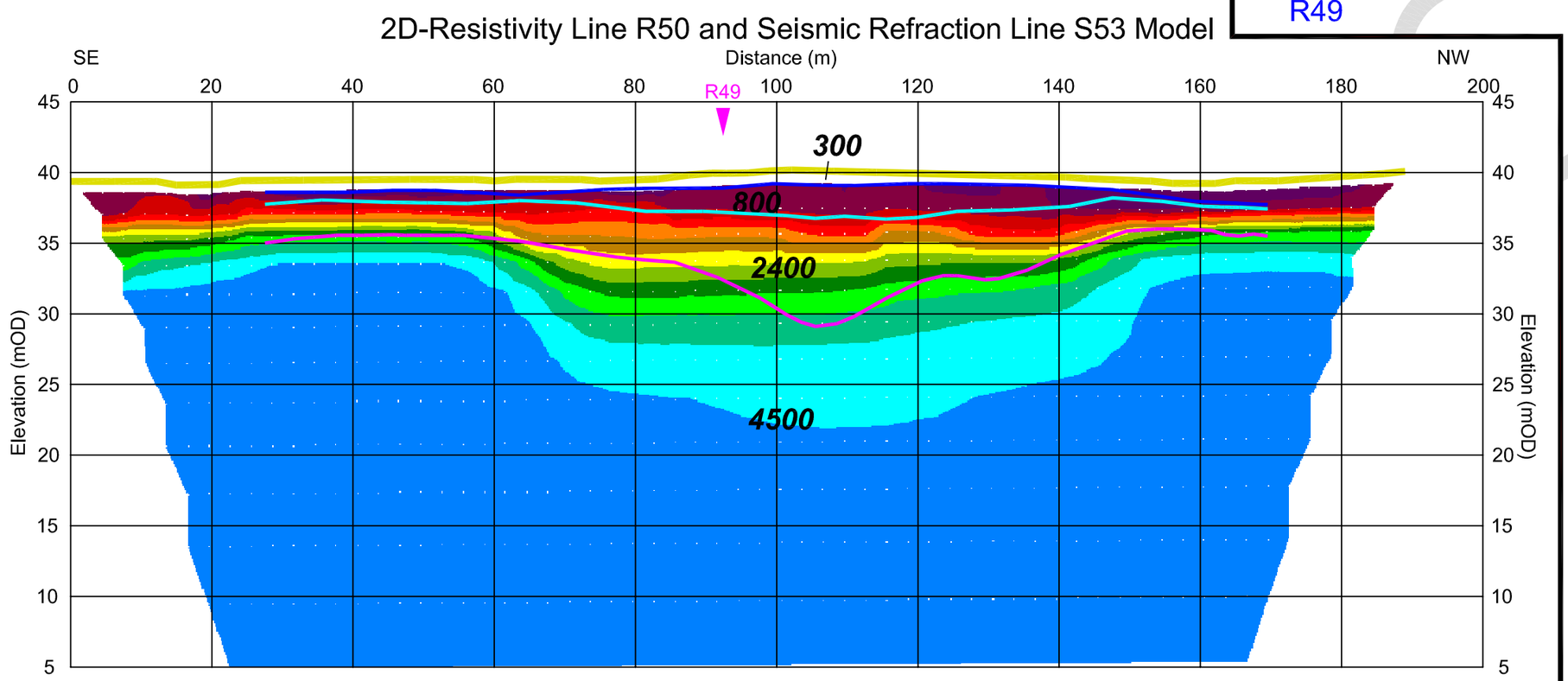
31.3 62.5 125 250 500 1000 2000 4000

Layers from Seismic Refraction Model:

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- **1600** Seismic Velocity in m/s

# Substation





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1z: Models of Geophysical Survey, Substation |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 11/05/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

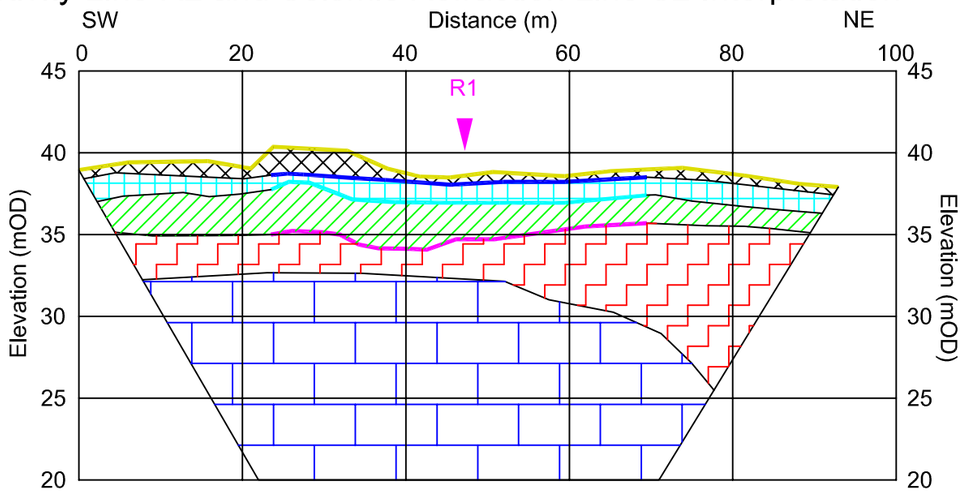
31.3 62.5 125 250 500 1000 2000 4000

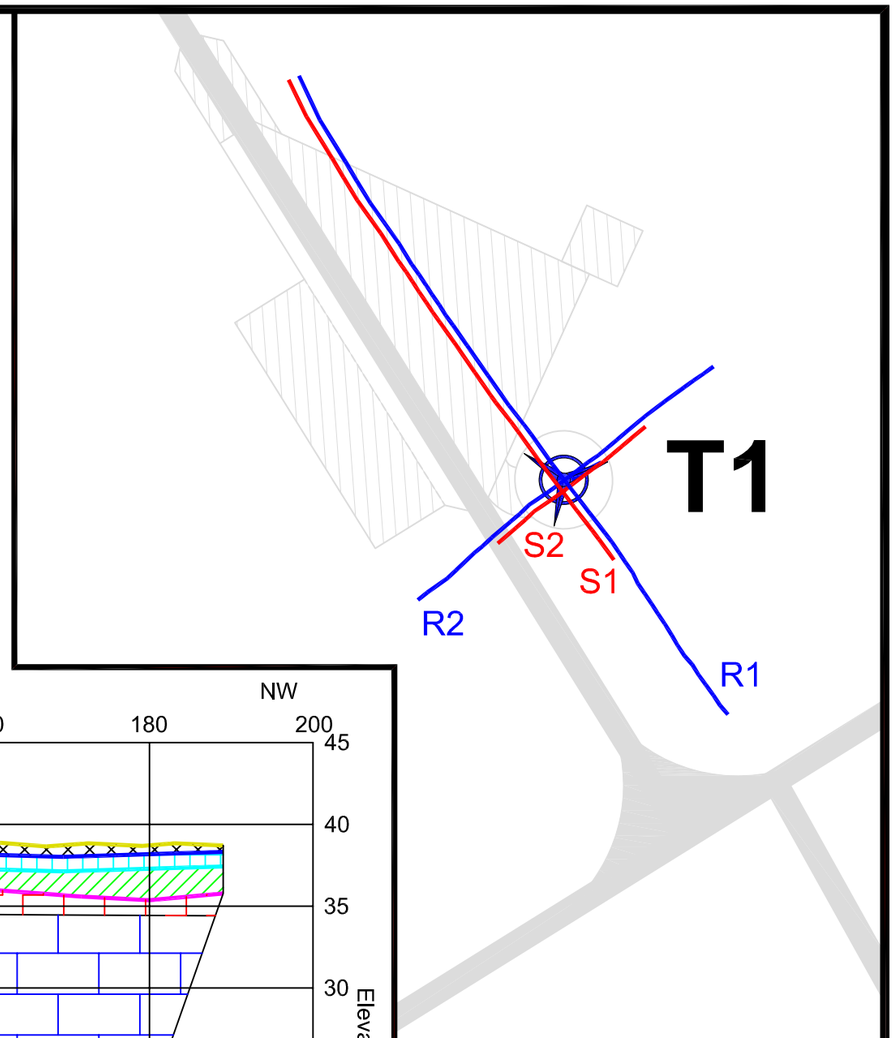
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- **1600** Seismic Velocity in m/s

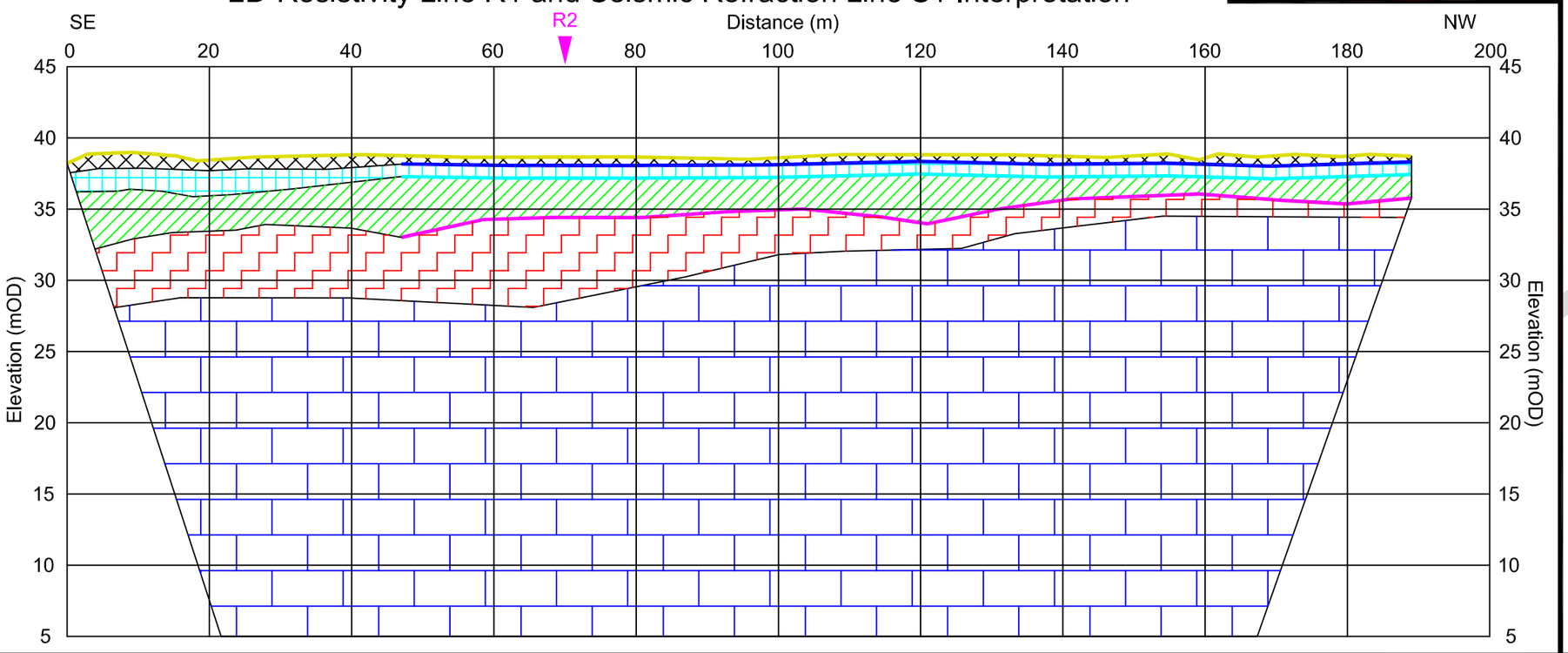
# T1

## 2D-Resistivity Line R2 and Seismic Refraction Line S2 Interpretation




## 2D-Resistivity Line R1 and Seismic Refraction Line S1 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2a: Interpretation of Geophysical Survey, Turbine 1 |

| | |
|---|---|
| SCALE: | Model:1:750, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: Interpretation Turbine Locations:

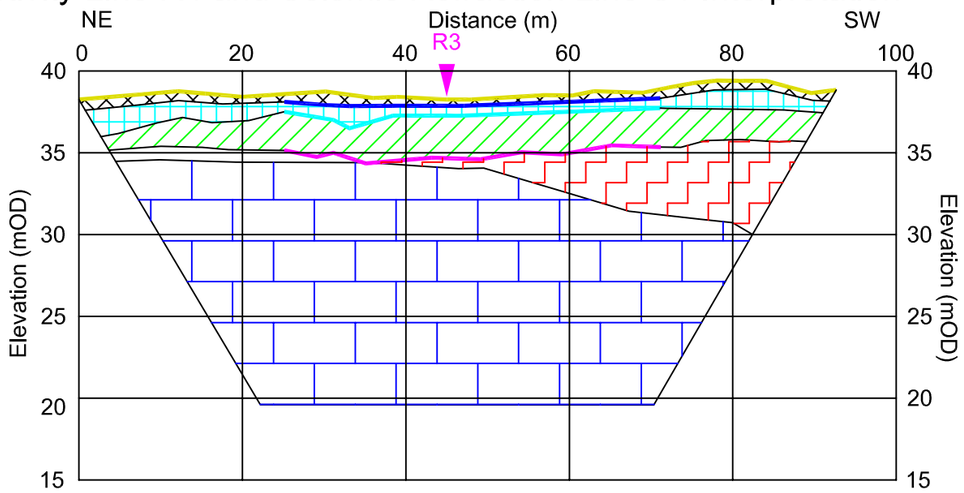
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

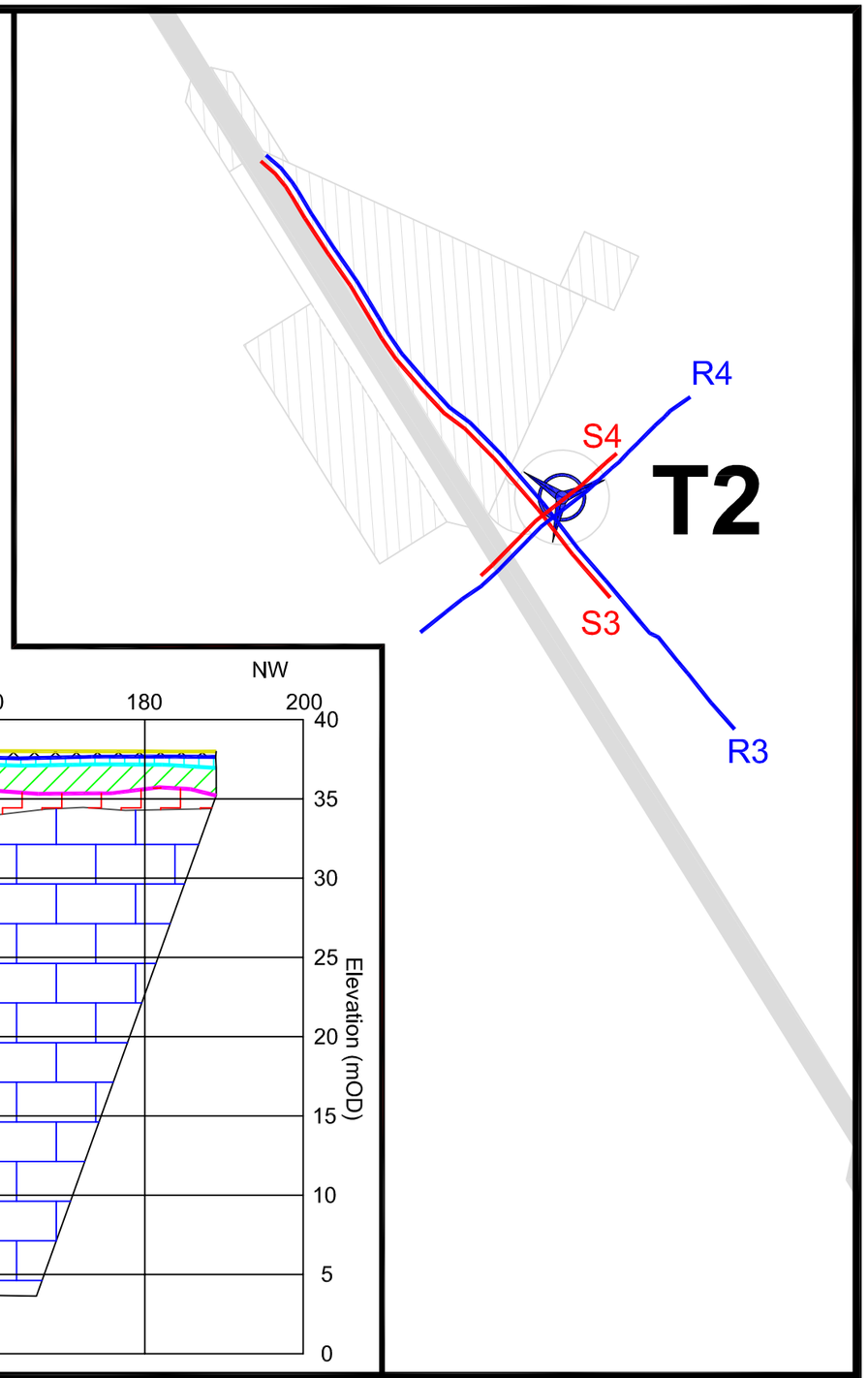
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

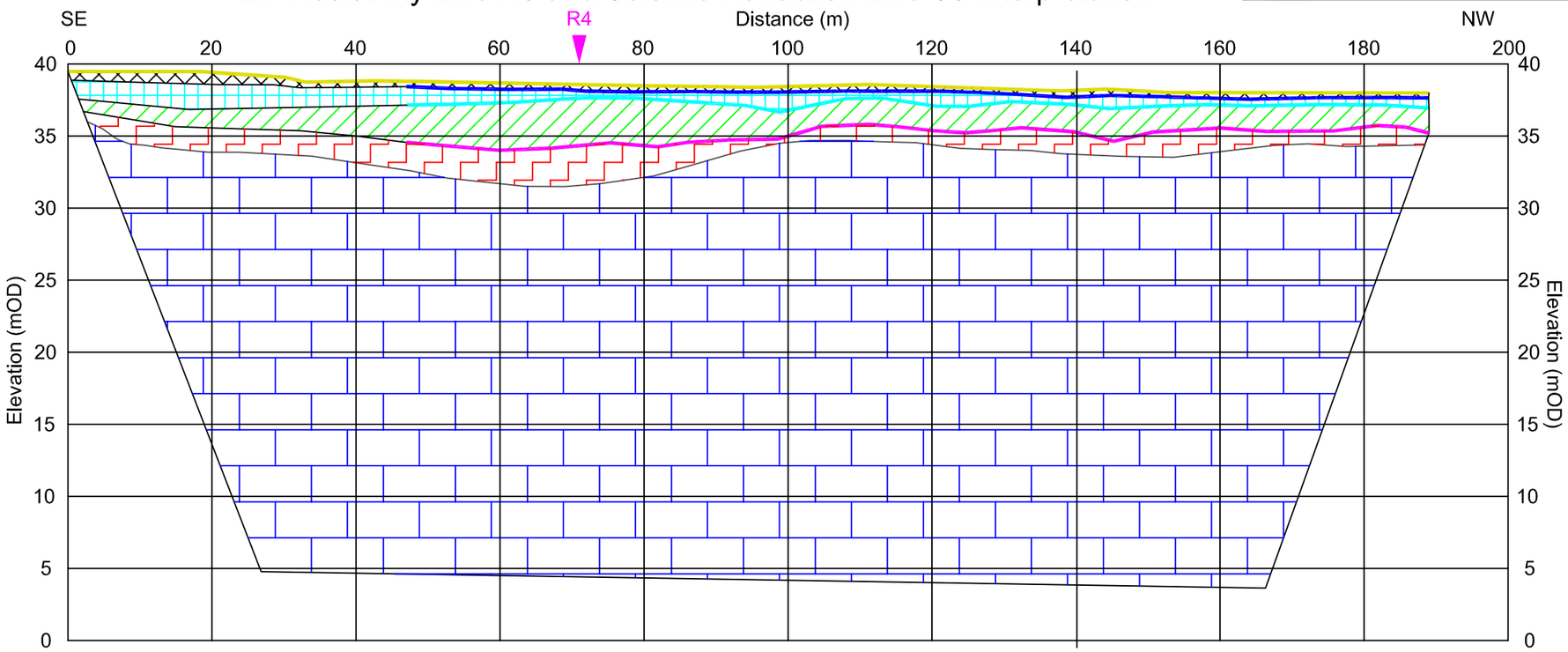
# T2

## 2D-Resistivity Line R4 and Seismic Refraction Line S4 Interpretation




## 2D-Resistivity Line R3 and Seismic Refraction Line S3 Interpretation





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2b: Interpretation of<br>Geophysical Survey, Turbine 2 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: **Interpretation Turbine Locations:**

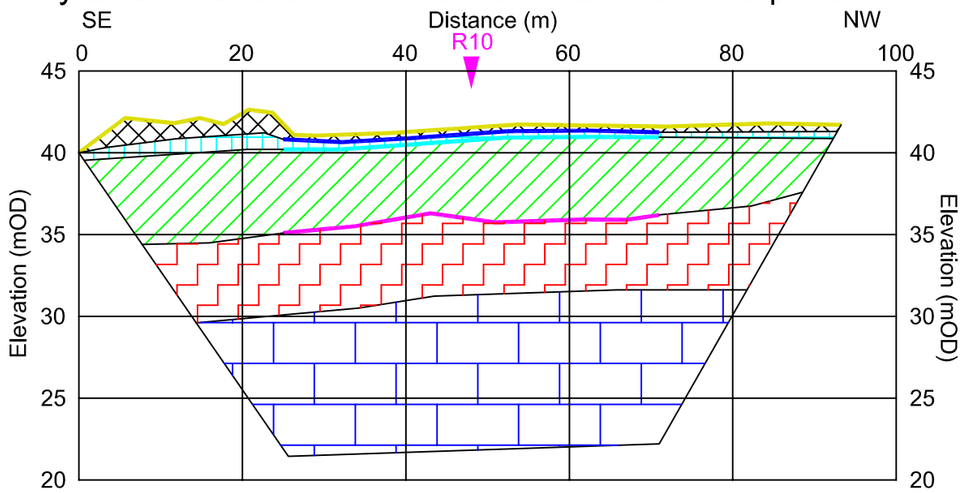
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

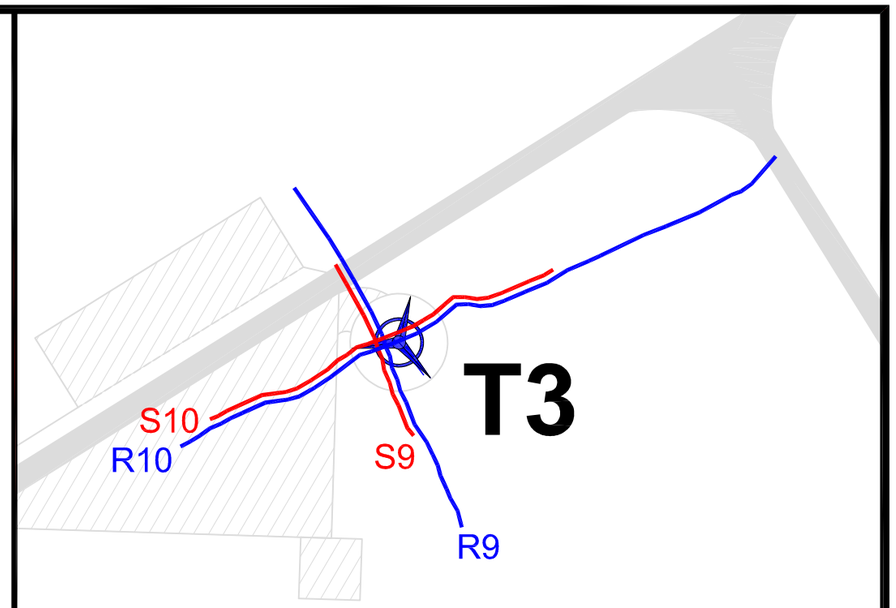
**Abbreviated GI Logs:**

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

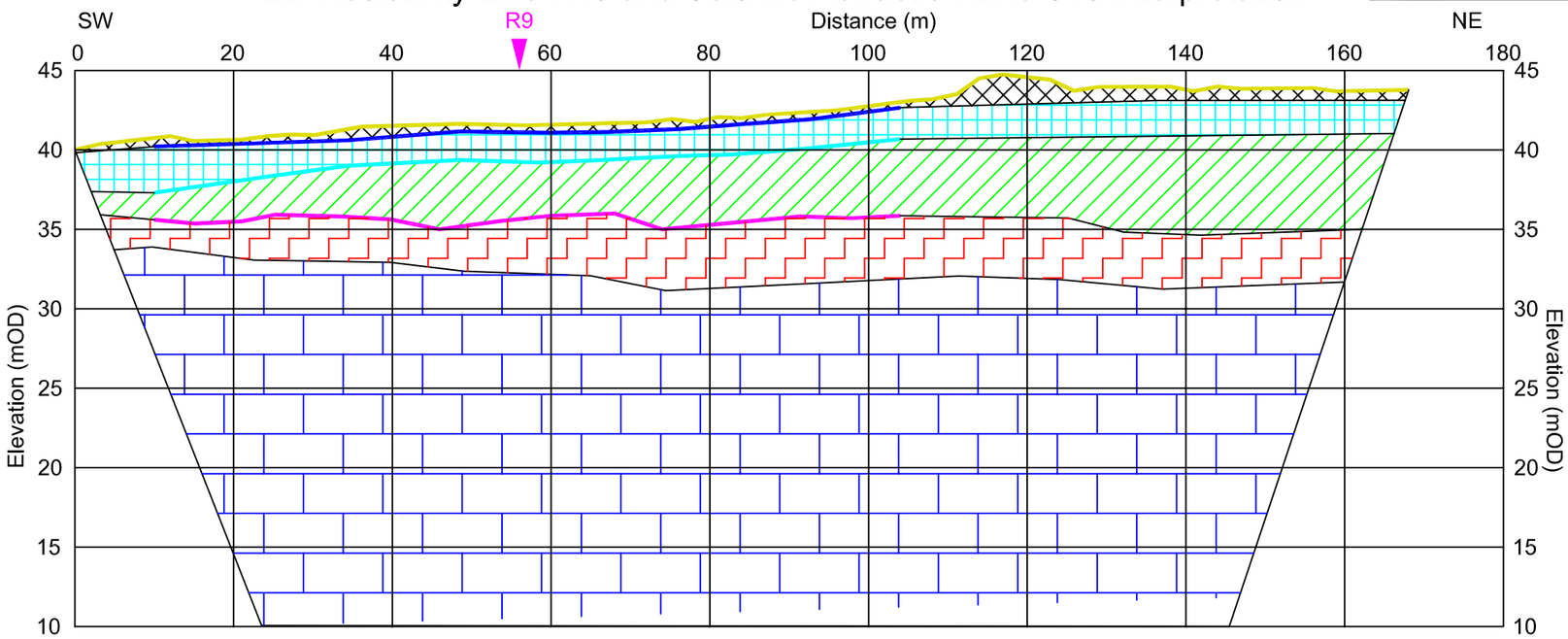
# T3

## 2D-Resistivity Line R9 and Seismic Refraction Line S9 Interpretation




## 2D-Resistivity Line R10 and Seismic Refraction Line S10 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2c: Interpretation of Geophysical Survey, Turbine 3 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: Interpretation Turbine Locations:

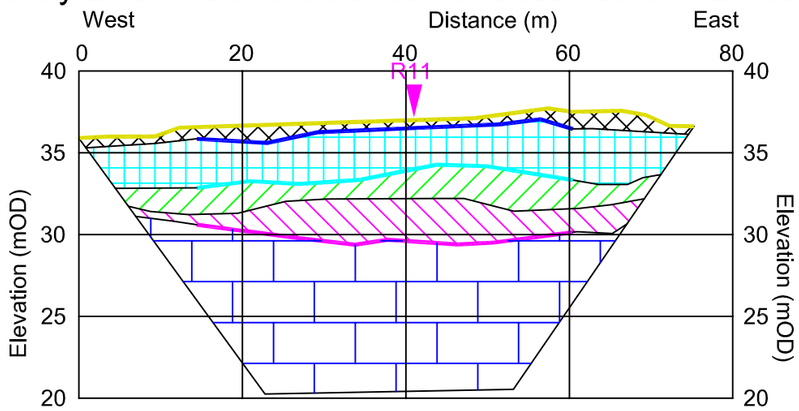
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

Abbreviated GI Logs:

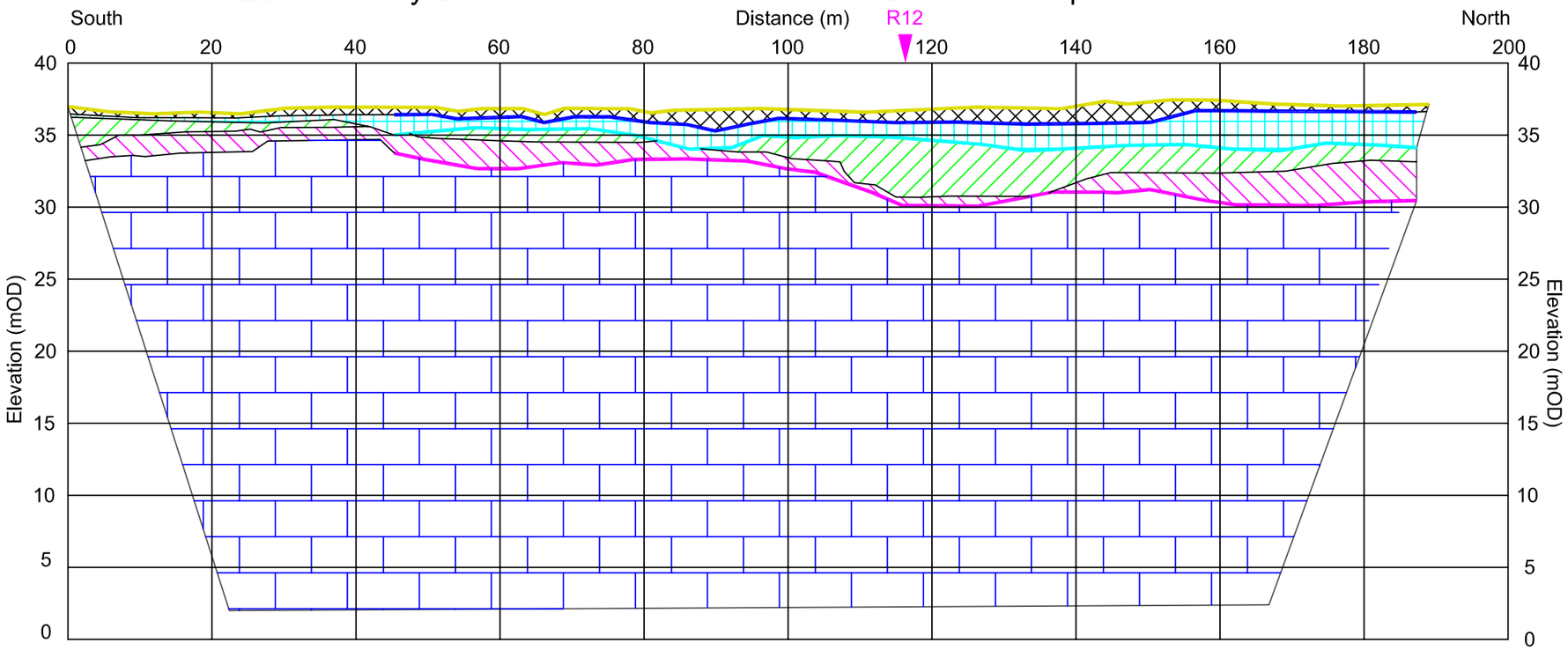
| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

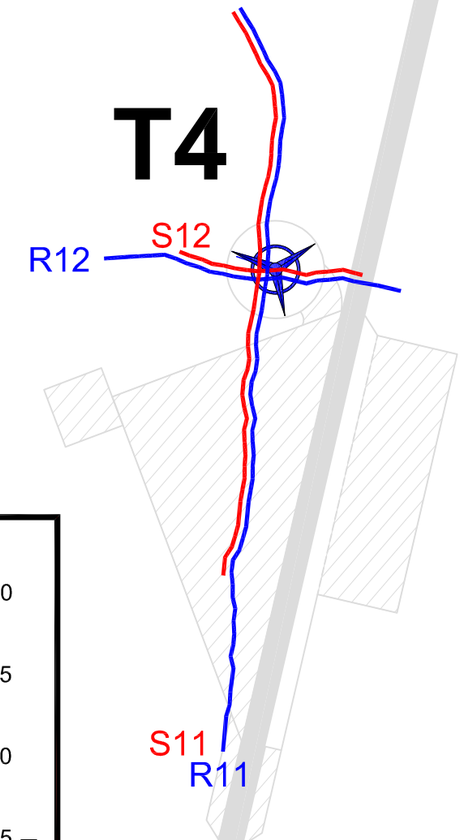
# T4

## 2D-Resistivity Line R12 and Seismic Refraction Line S12 Interpretation




## 2D-Resistivity Line R11 and Seismic Refraction Line S11 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2d: Interpretation of<br>Geophysical Survey, Turbine 4 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: **Interpretation Turbine Locations:**

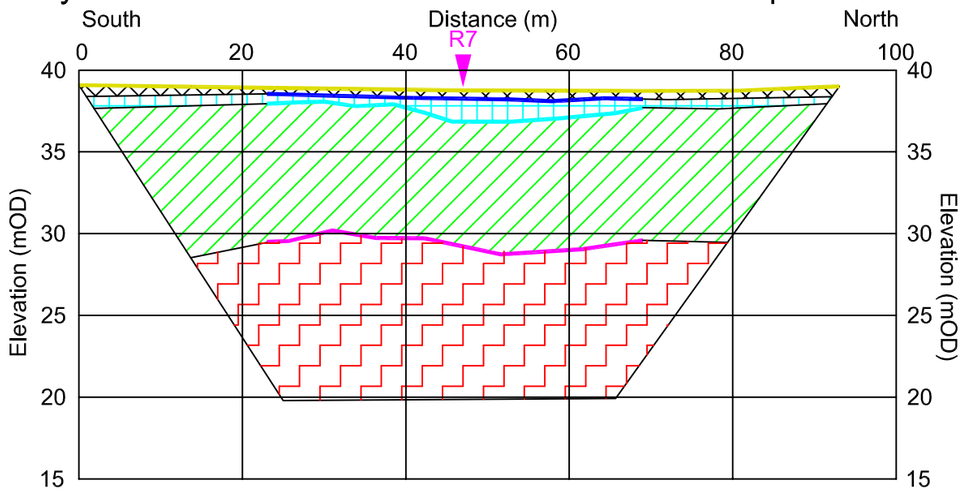
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

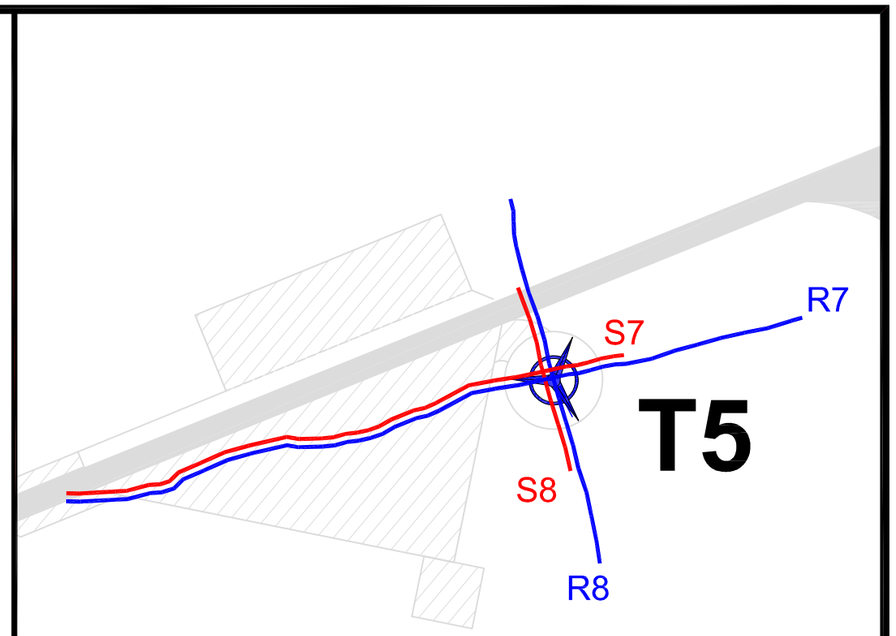
**Abbreviated GI Logs:**

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

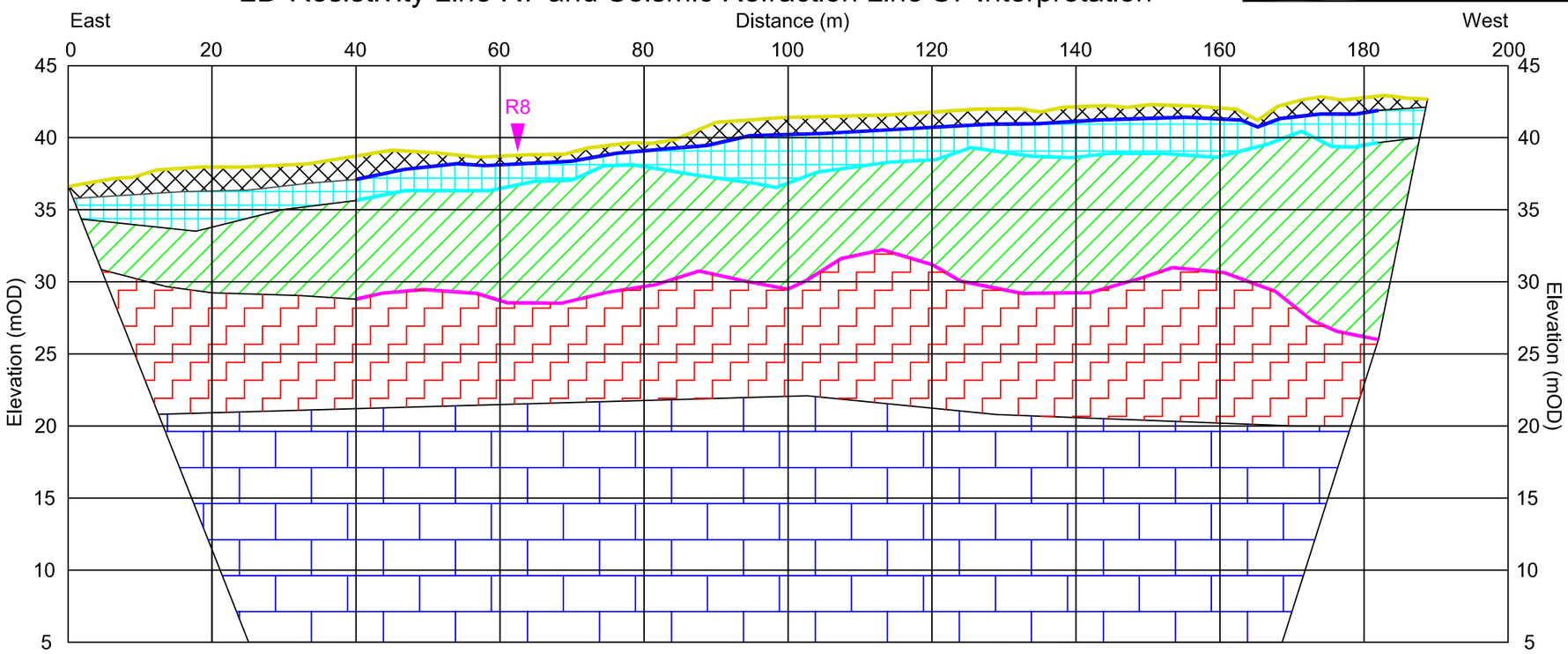
# T5

## 2D-Resistivity Line R8 and Seismic Refraction Line S8 Interpretation




## 2D-Resistivity Line R7 and Seismic Refraction Line S7 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2e: Interpretation of<br>Geophysical Survey, Turbine 5 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: **Interpretation Turbine Locations:**

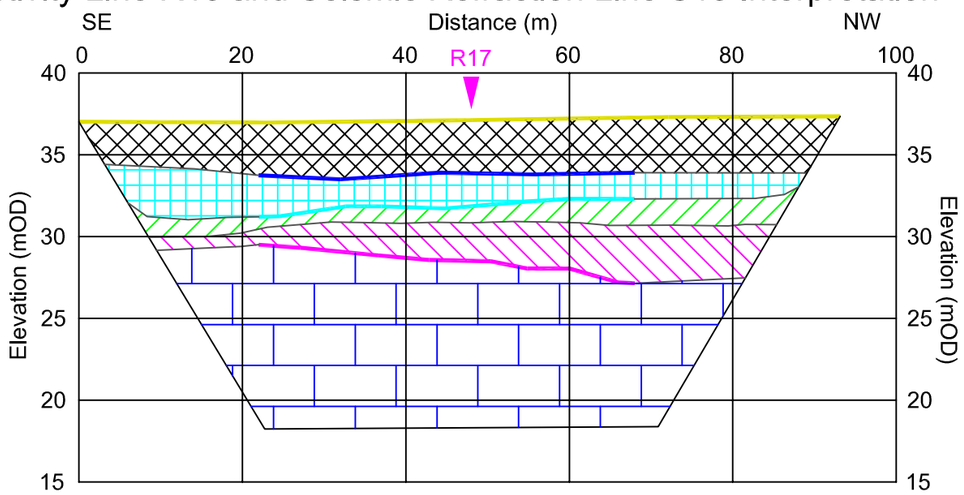
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

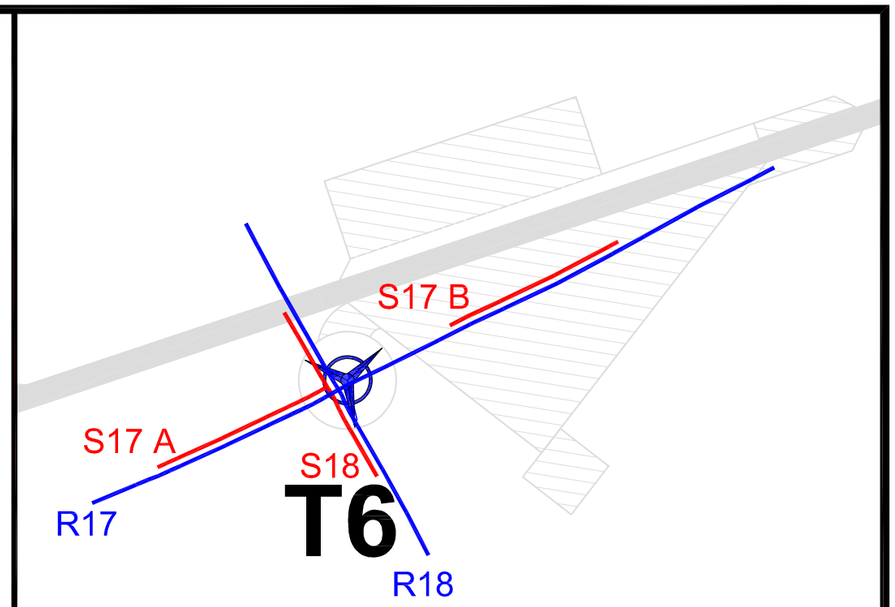
**Abbreviated GI Logs:**

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

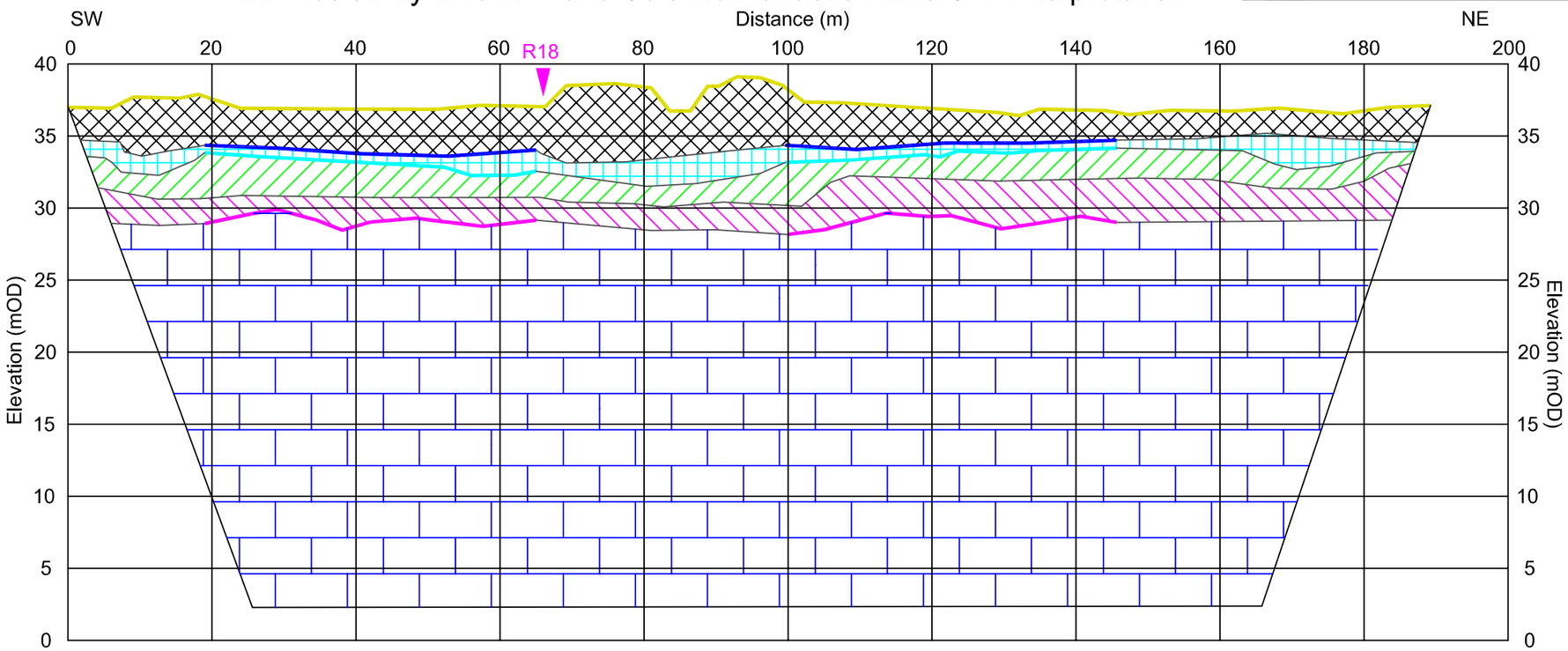
# T6

## 2D-Resistivity Line R18 and Seismic Refraction Line S18 Interpretation




## 2D-Resistivity Line R17 and Seismic Refraction Line S17 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2f: Interpretation of Geophysical Survey, Turbine 6 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: **Interpretation Turbine Locations:**

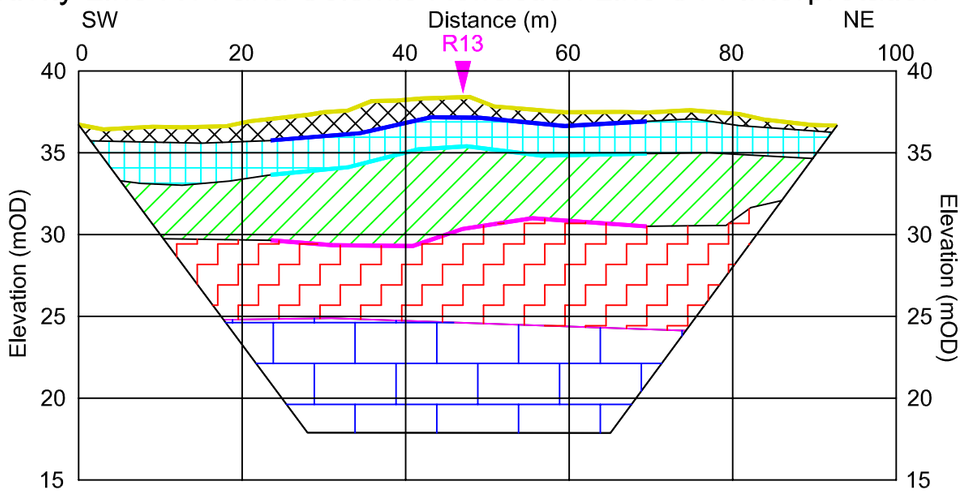
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

**Abbreviated GI Logs:**

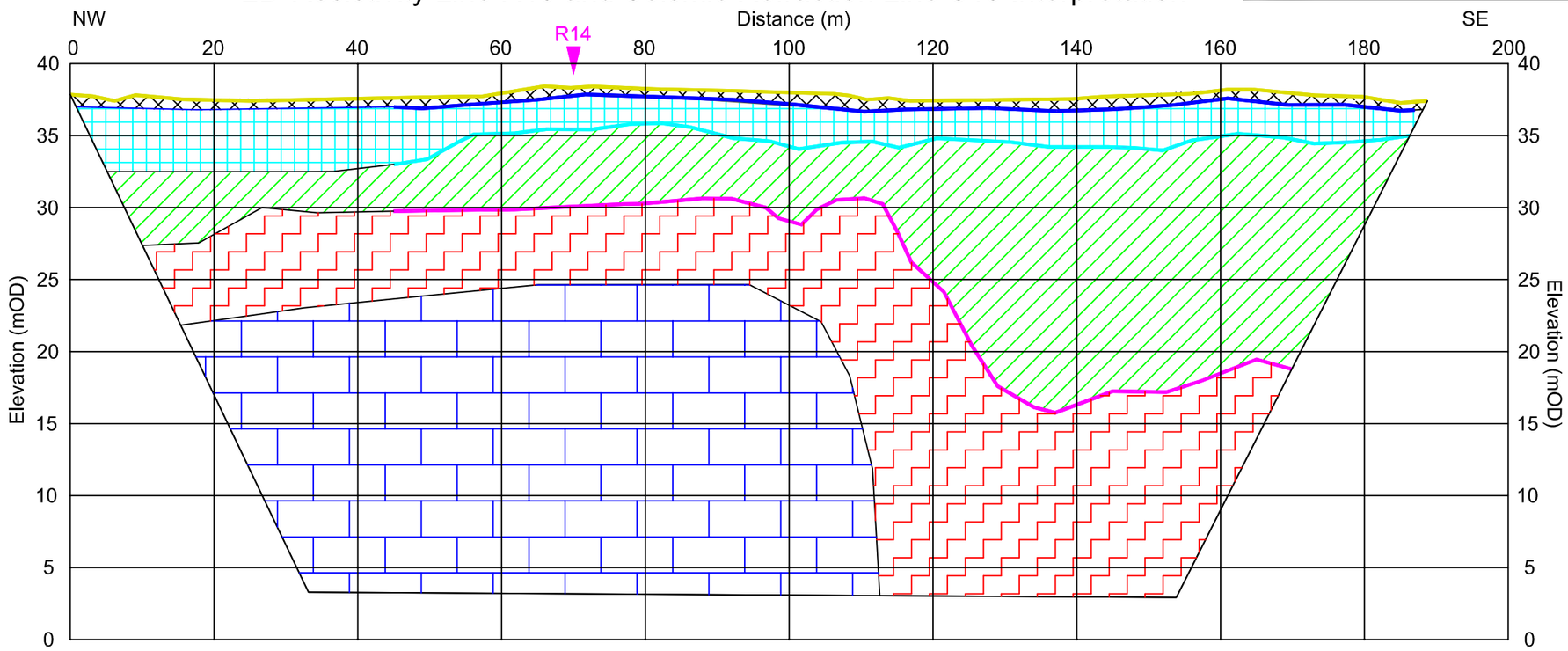
| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

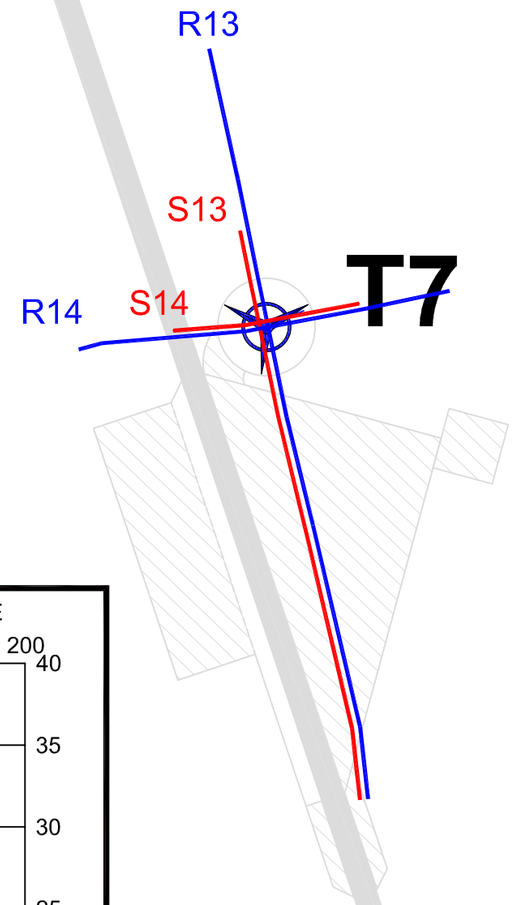
# T7

## 2D-Resistivity Line R14 and Seismic Refraction Line S14 Interpretation




## 2D-Resistivity Line R13 and Seismic Refraction Line S13 Interpretation





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2g: Interpretation of Geophysical Survey, Turbine 7 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: **Interpretation Turbine Locations:**

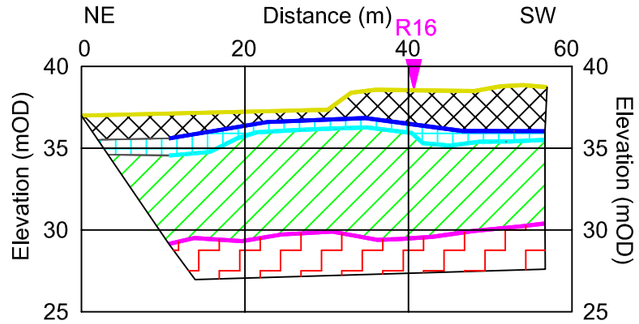
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

**Abbreviated GI Logs:**

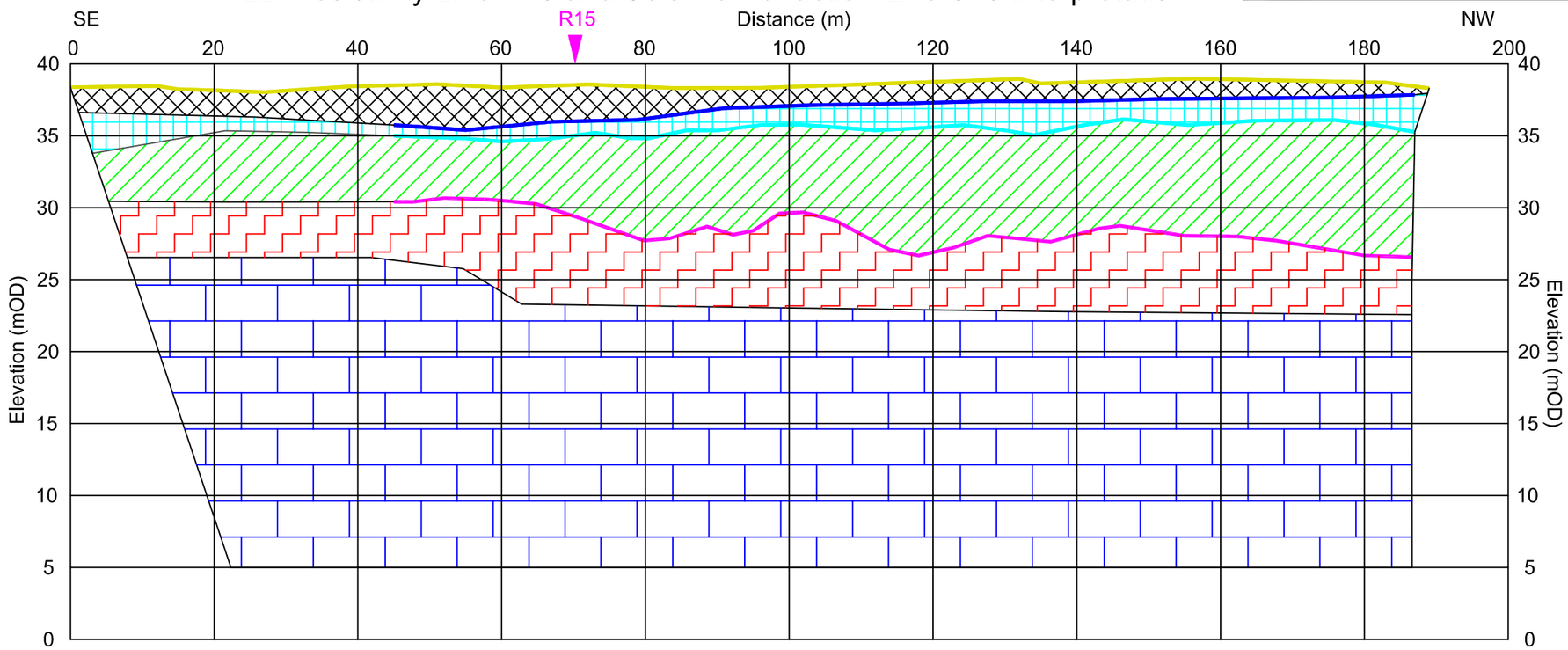
| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

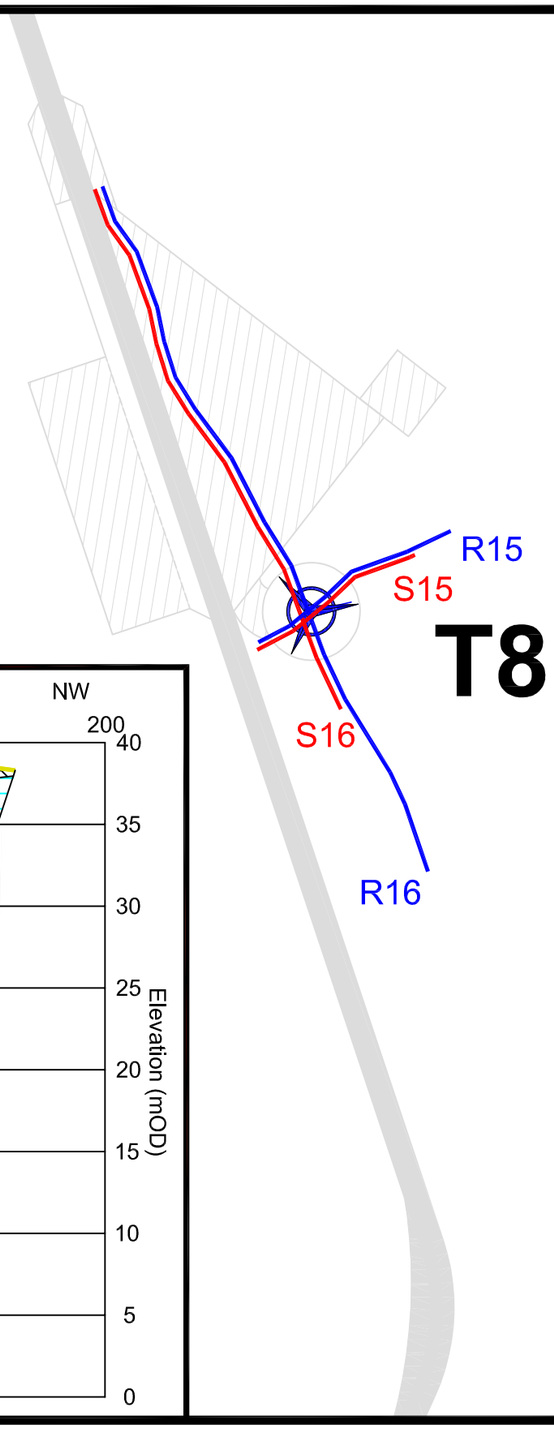
# T8

## 2D-Resistivity Line R15 and Seismic Refraction Line S15 Interpretation




## 2D-Resistivity Line R16 and Seismic Refraction Line S16 Interpretation





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2h: Interpretation of<br>Geophysical Survey, Turbine 8 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: Interpretation Turbine Locations:

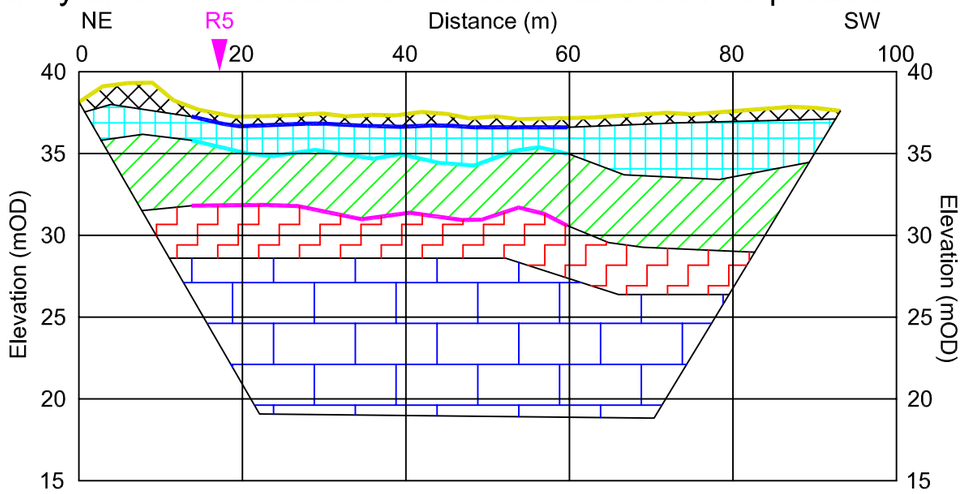
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

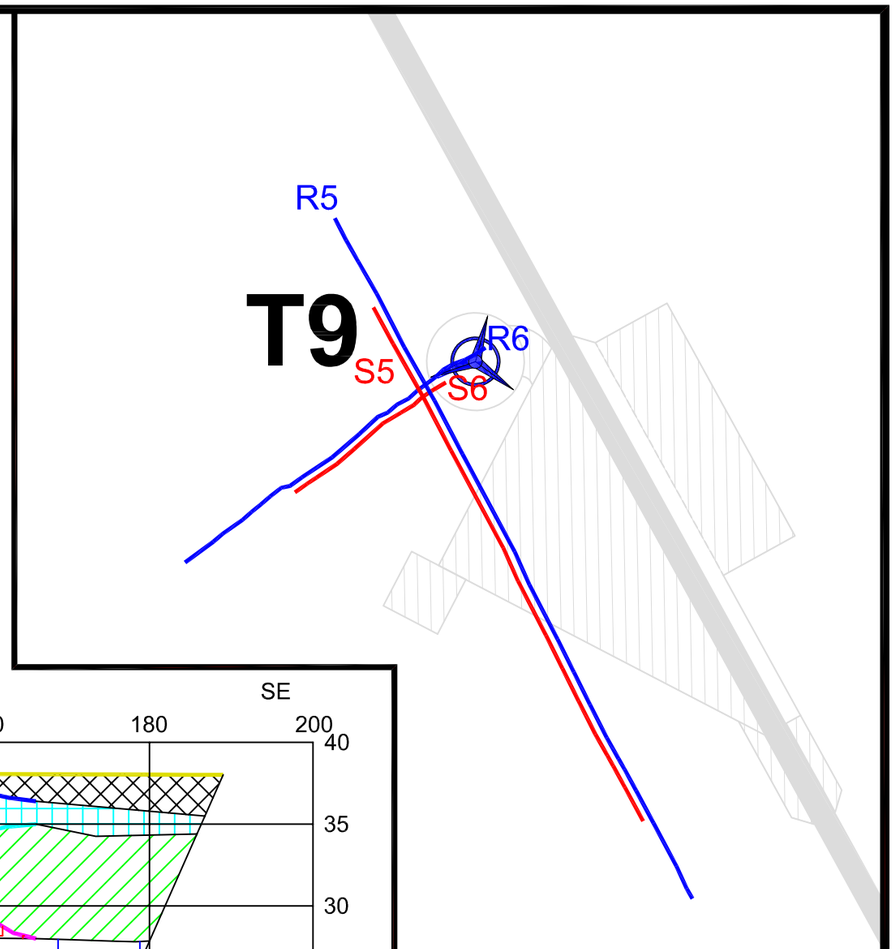
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

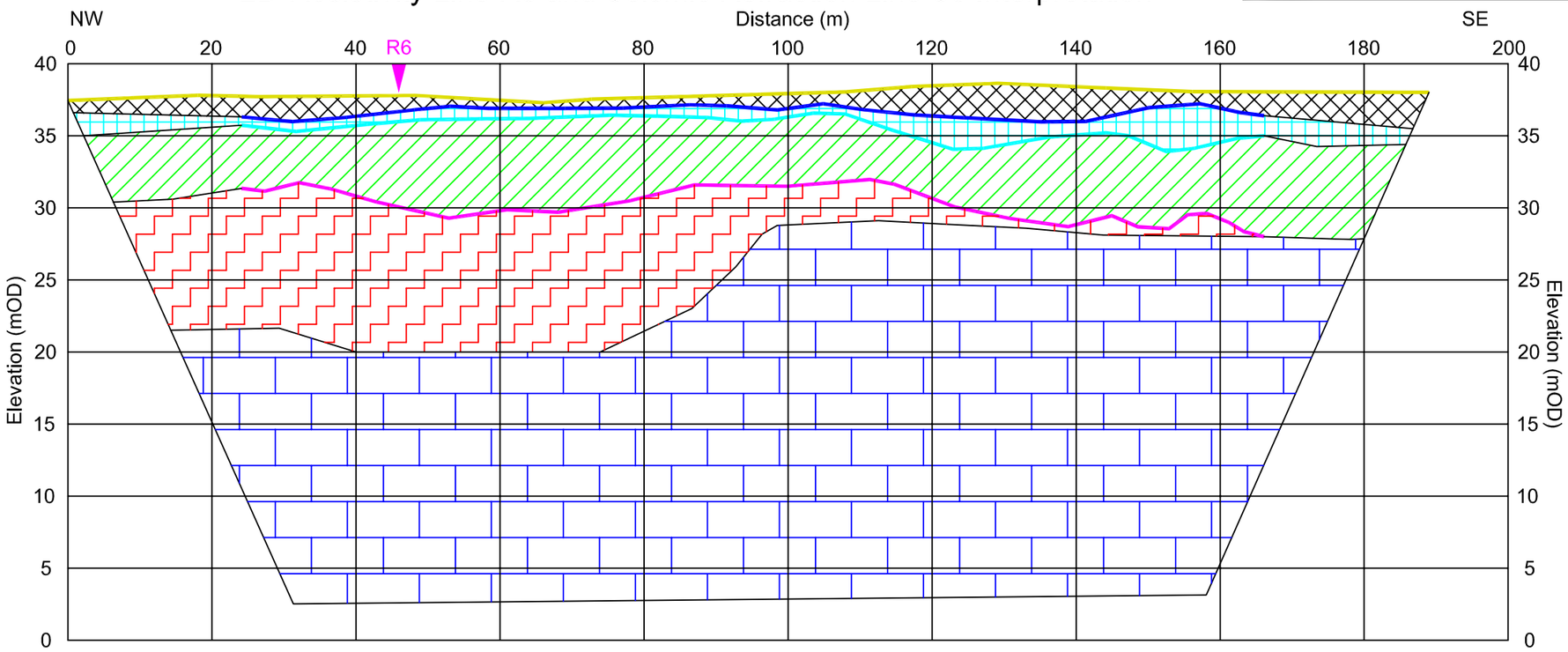
# T9

## 2D-Resistivity Line R6 and Seismic Refraction Line S6 Interpretation




## 2D-Resistivity Line R5 and Seismic Refraction Line S5 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2i: Interpretation of Geophysical Survey, Turbine 9 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: **Interpretation Turbine Locations:**

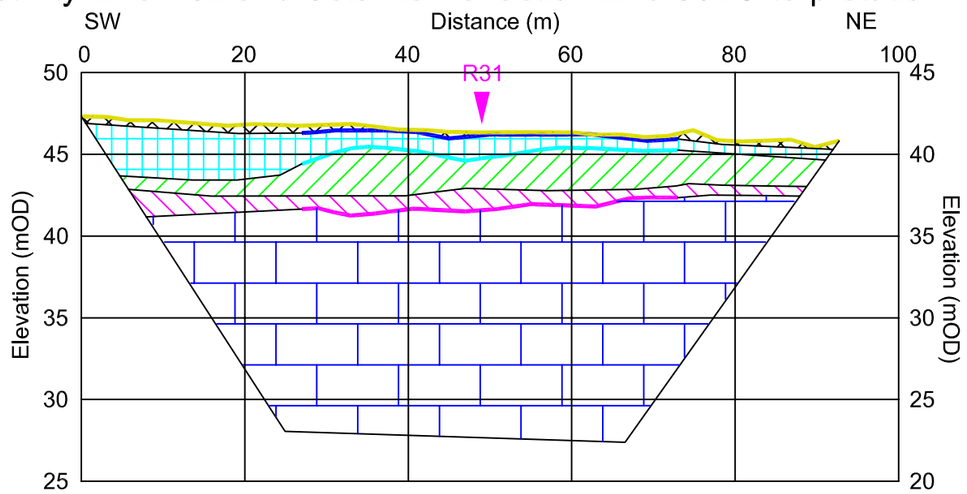
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

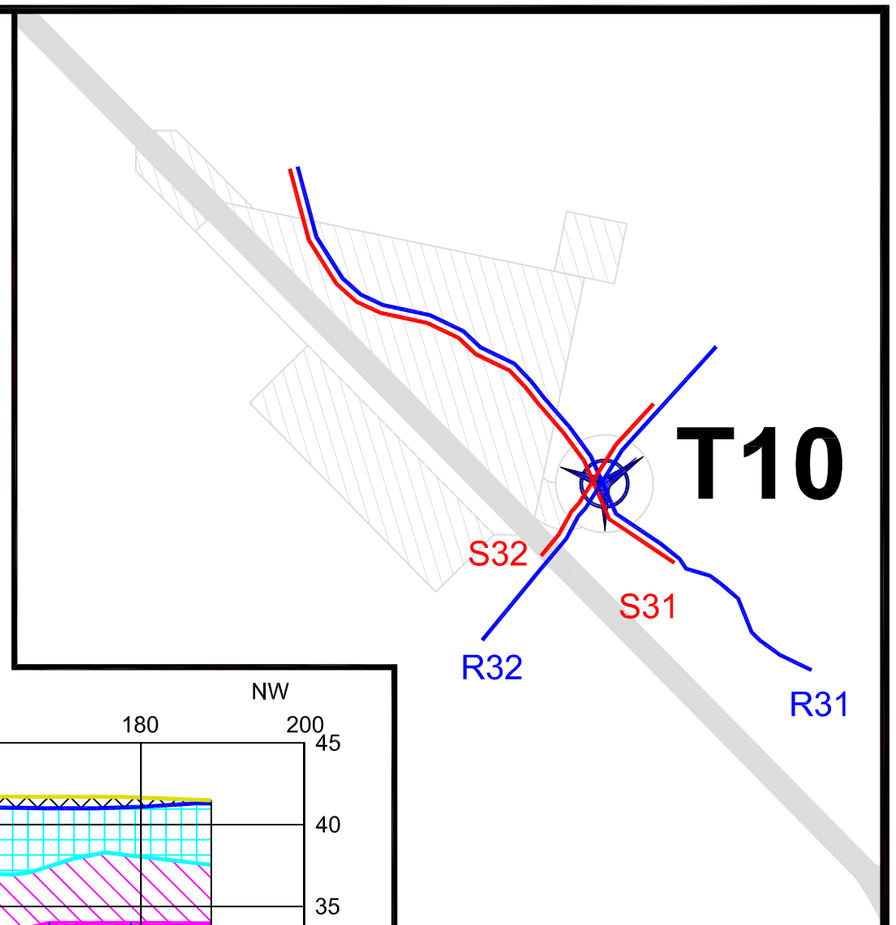
**Abbreviated GI Logs:**

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

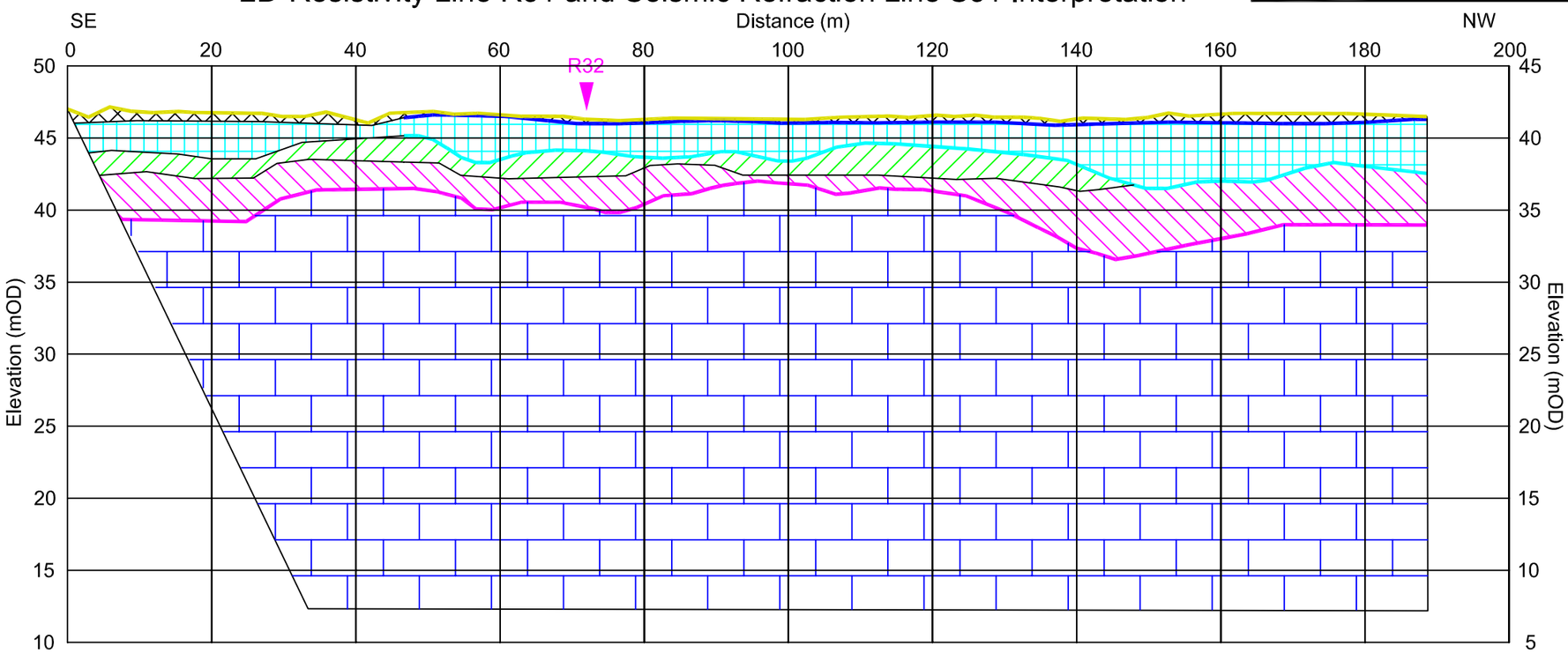
# T10

## 2D-Resistivity Line R32 and Seismic Refraction Line S32 Interpretation




## 2D-Resistivity Line R31 and Seismic Refraction Line S31 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2j: Interpretation of Geophysical Survey, Turbine 10 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: **Interpretation Turbine Locations:**

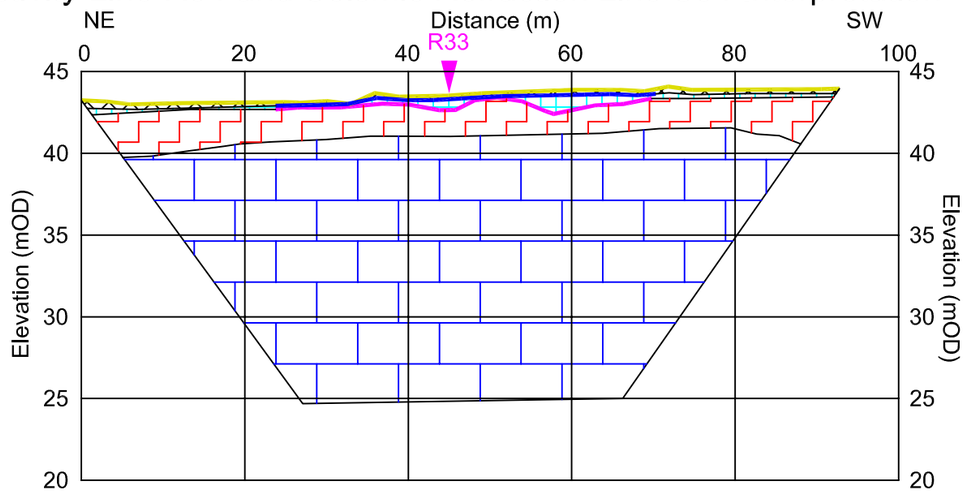
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

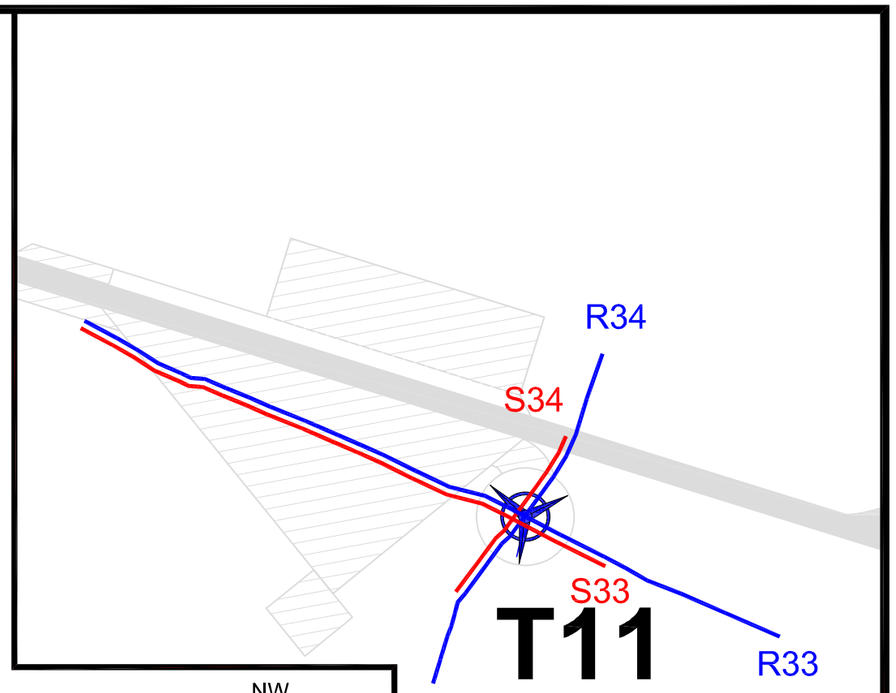
**Abbreviated GI Logs:**

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

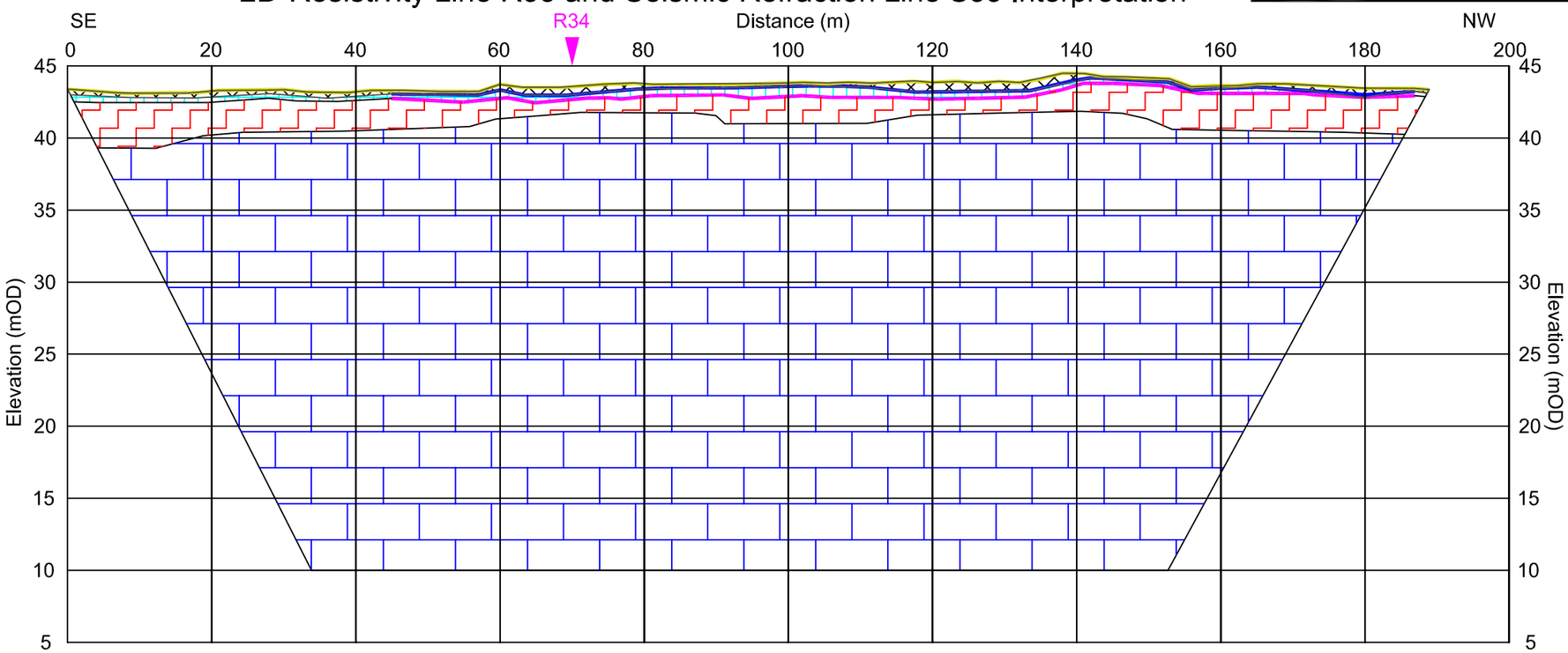
# T11

## 2D-Resistivity Line R34 and Seismic Refraction Line S34 Interpretation




## 2D-Resistivity Line R33 and Seismic Refraction Line S33 Interpretation





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2k: Interpretation of<br>Geophysical Survey, Turbine 11 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: **Interpretation Turbine Locations:**

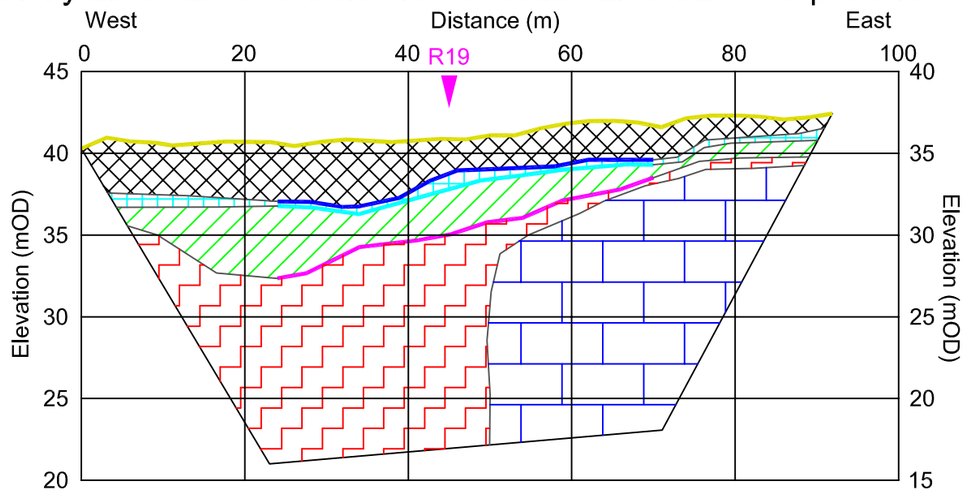
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

**Abbreviated GI Logs:**

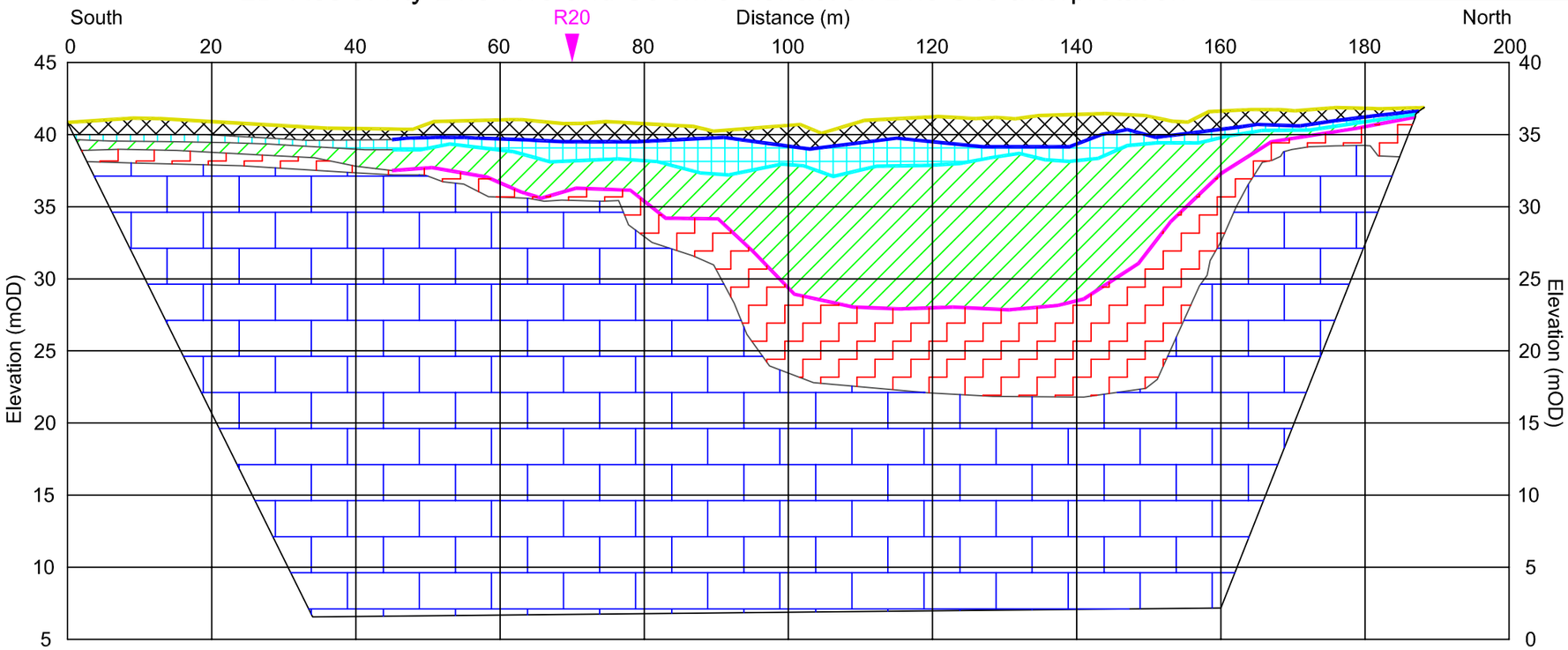
| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

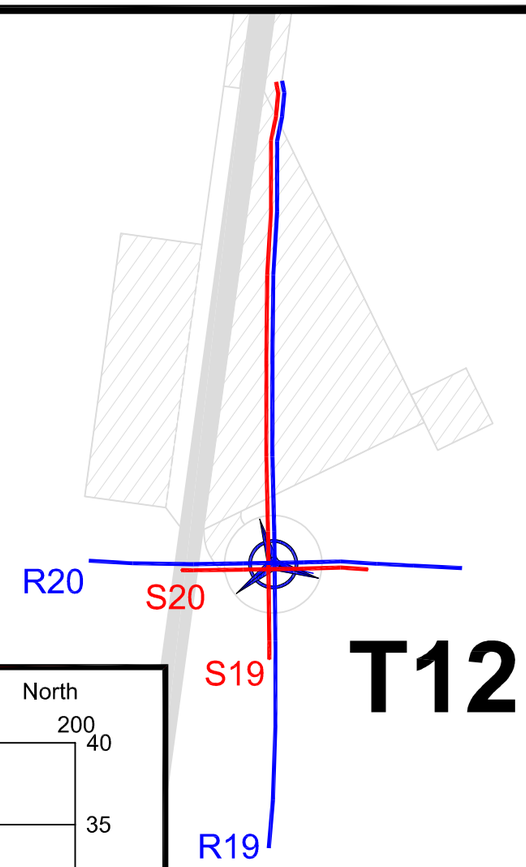
# T12

## 2D-Resistivity Line R20 and Seismic Refraction Line S20 Interpretation




## 2D-Resistivity Line R19 and Seismic Refraction Line S19 Interpretation




# T12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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2l: Interpretation of<br>Geophysical Survey, Turbine 12 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: **Interpretation Turbine Locations:**

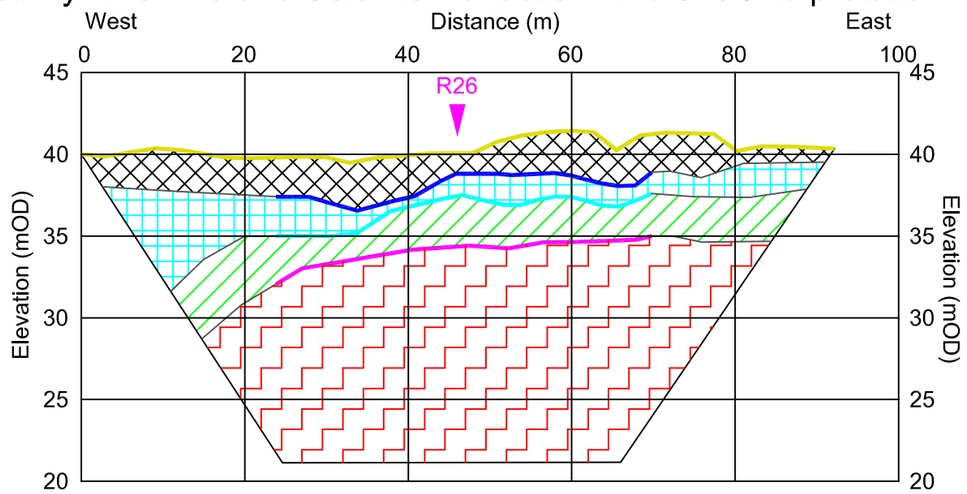
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

**Abbreviated GI Logs:**

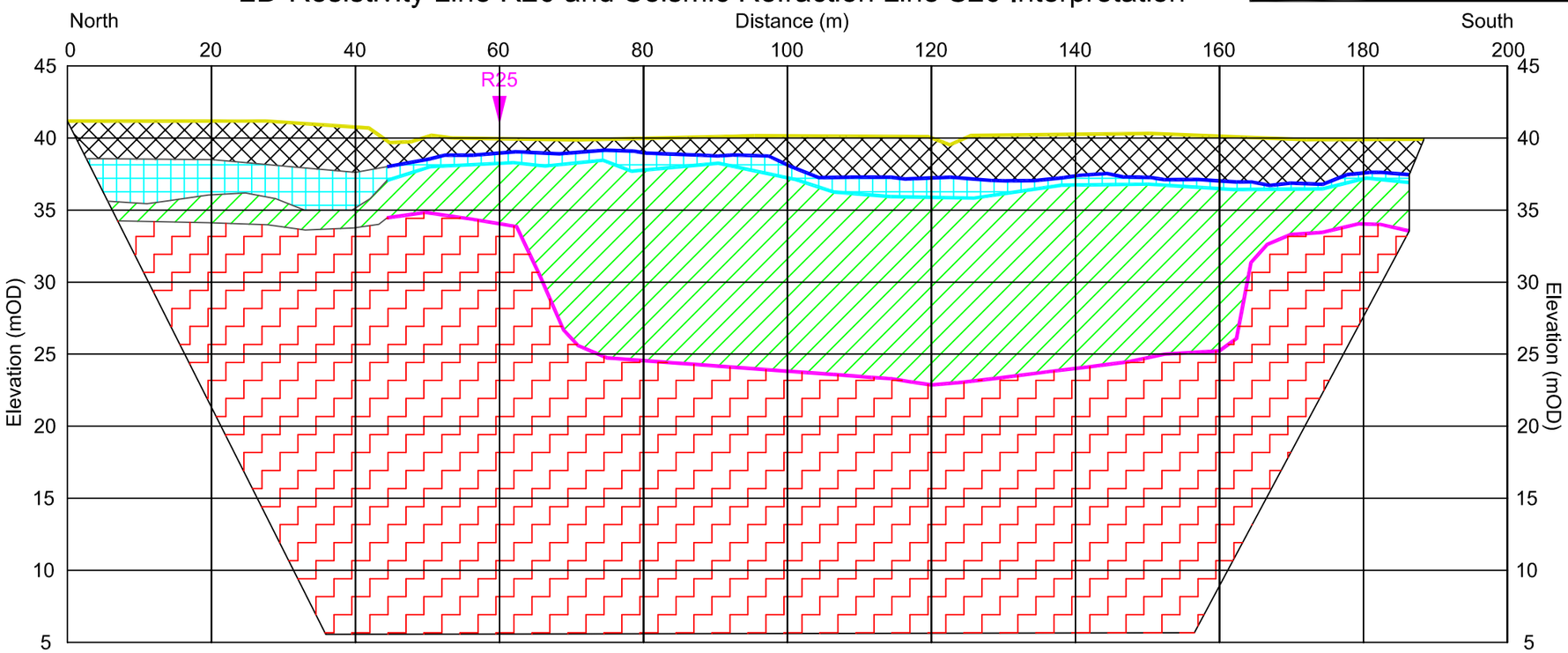
| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

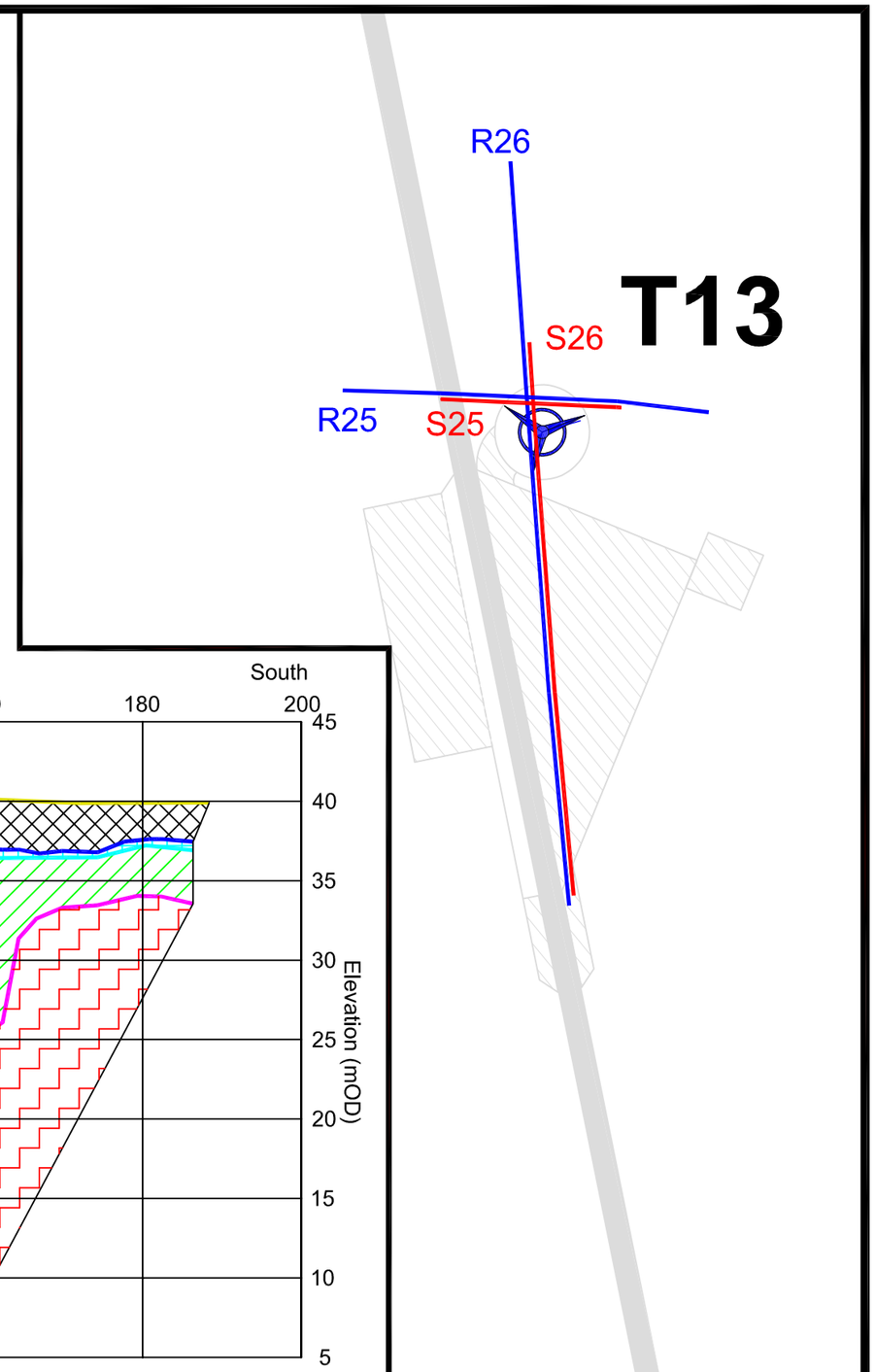
# T13

## 2D-Resistivity Line R25 and Seismic Refraction Line S25 Interpretation




## 2D-Resistivity Line R26 and Seismic Refraction Line S26 Interpretation





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2m: Interpretation of<br>Geophysical Survey, Turbine 13 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: **Interpretation Turbine Locations:**

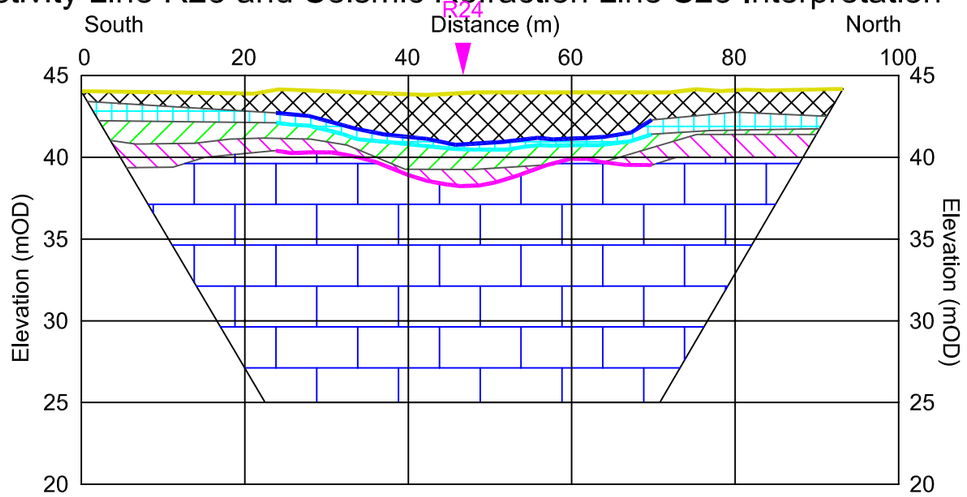
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

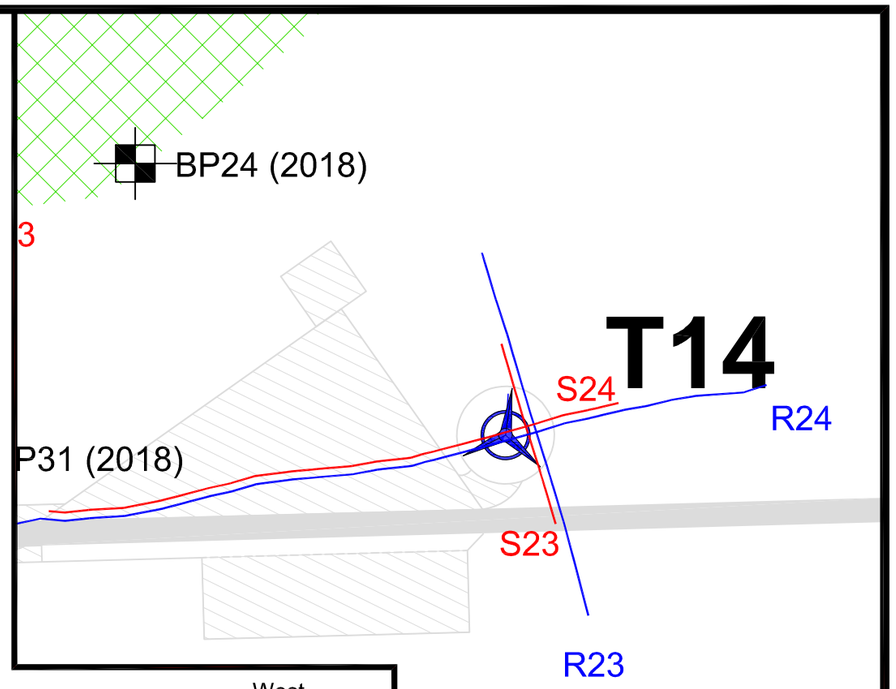
**Abbreviated GI Logs:**

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

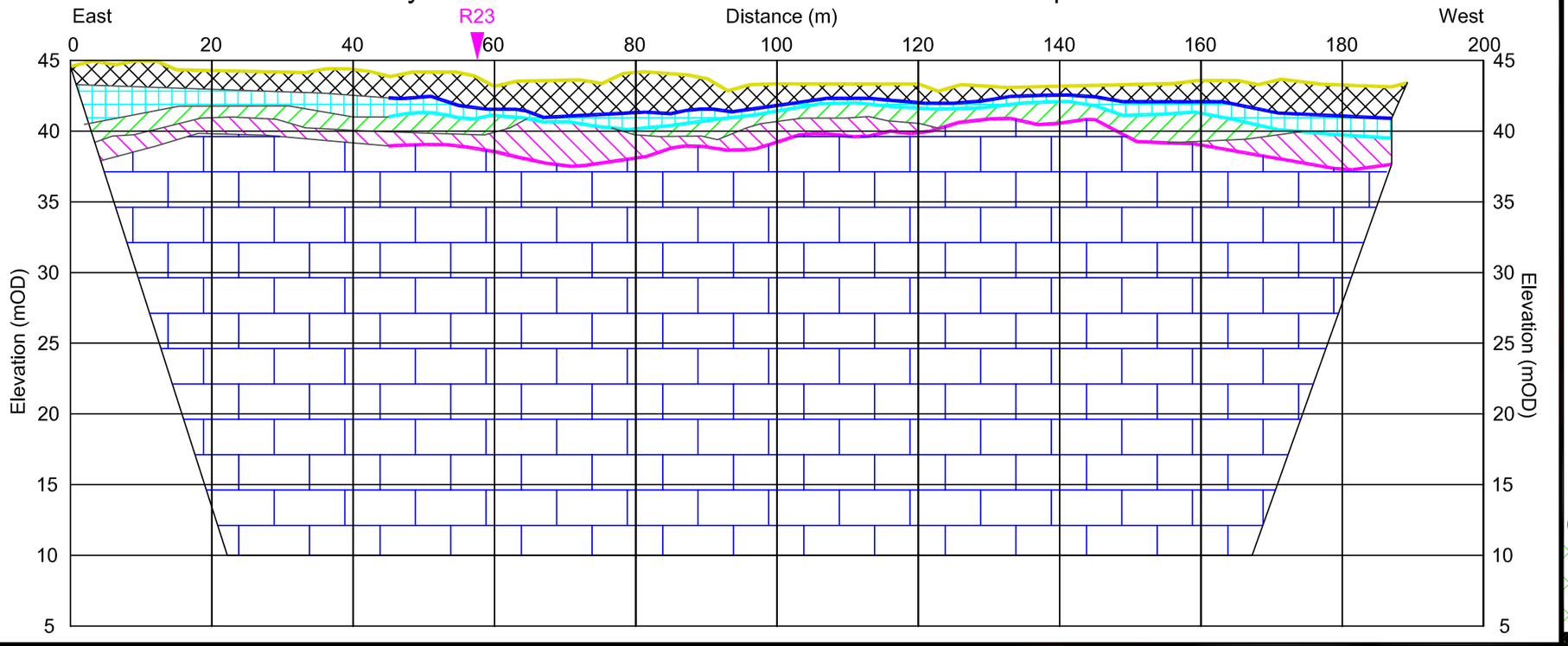
# T14

## 2D-Resistivity Line R23 and Seismic Refraction Line S23 Interpretation




## 2D-Resistivity Line R24 and Seismic Refraction Line S24 Interpretation




(2018)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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2n: Interpretation of Geophysical Survey, Turbine 14 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: Interpretation Turbine Locations:

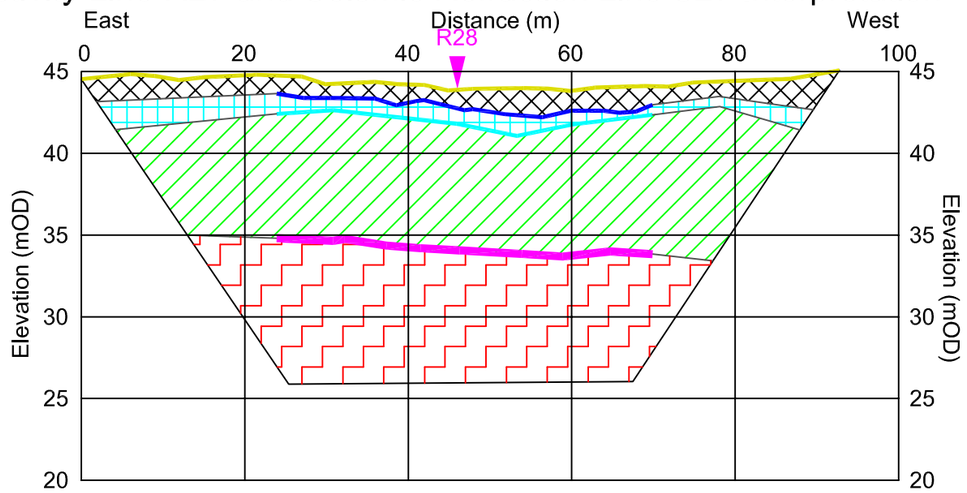
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

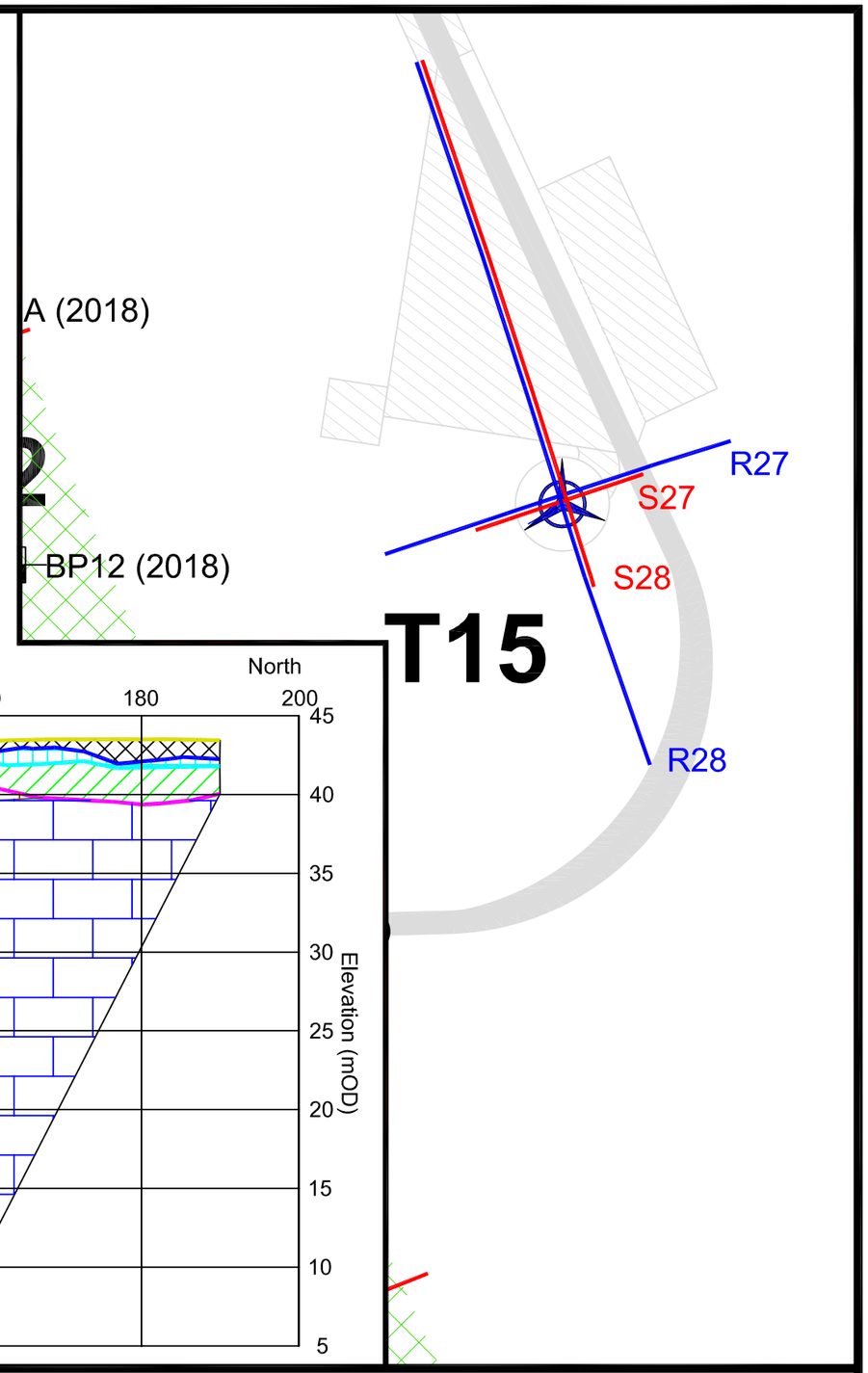
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

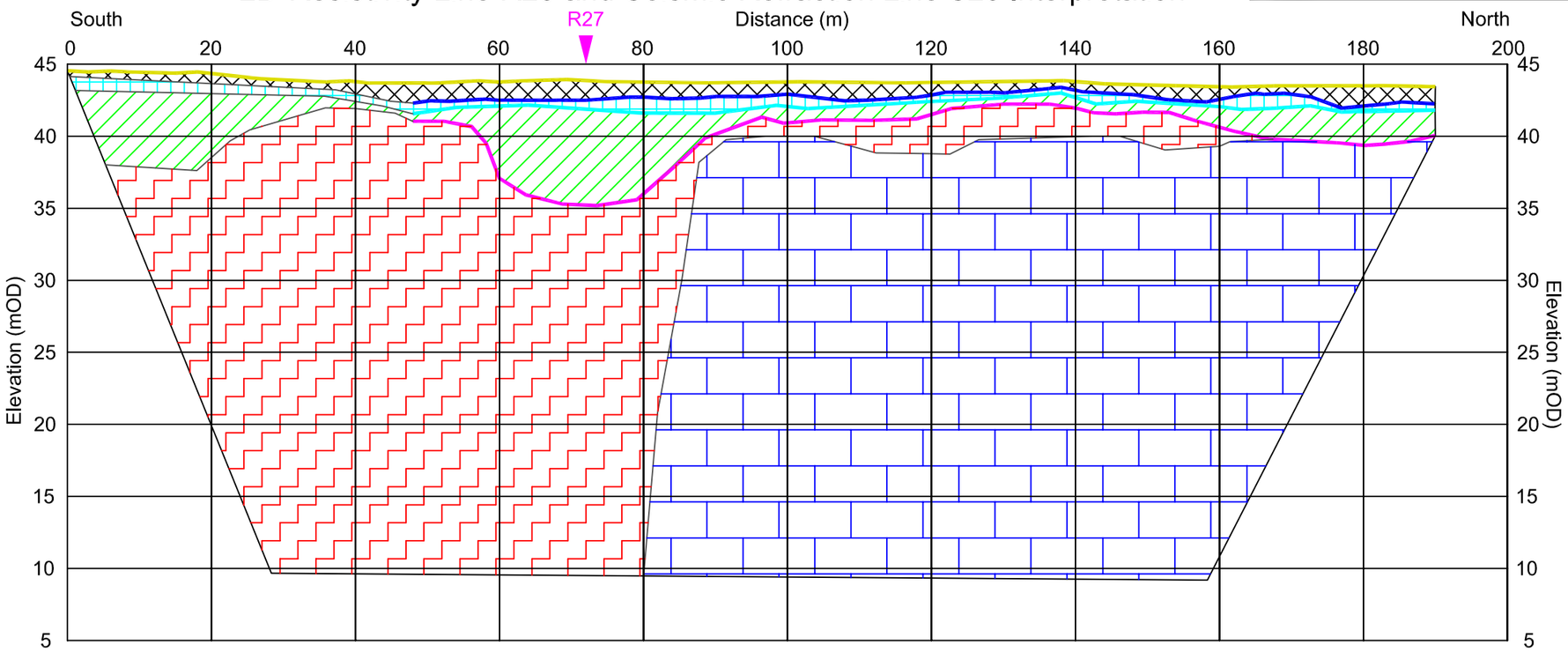
# T15

## 2D-Resistivity Line R27 and Seismic Refraction Line S27 Interpretation




## 2D-Resistivity Line R28 and Seismic Refraction Line S28 Interpretation





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2o: Interpretation of Geophysical Survey, Turbine 15 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JC |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: **Interpretation Turbine Locations:**

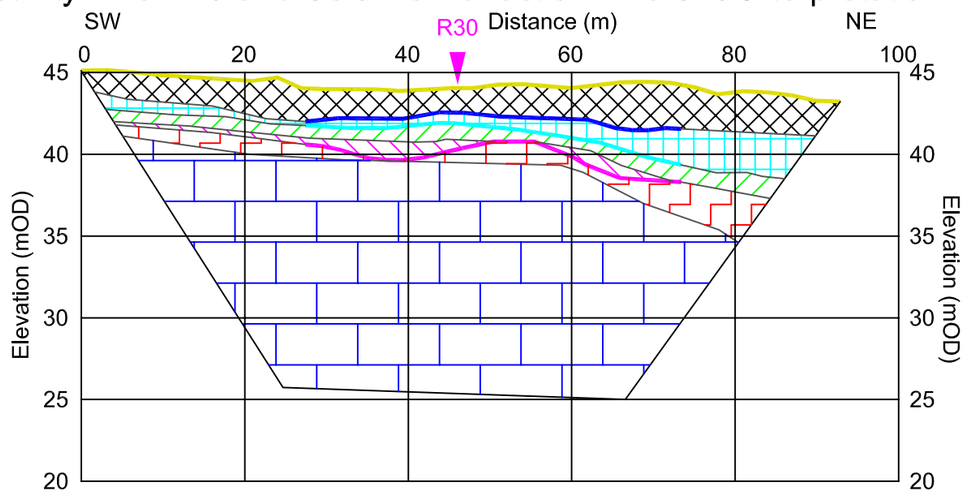
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

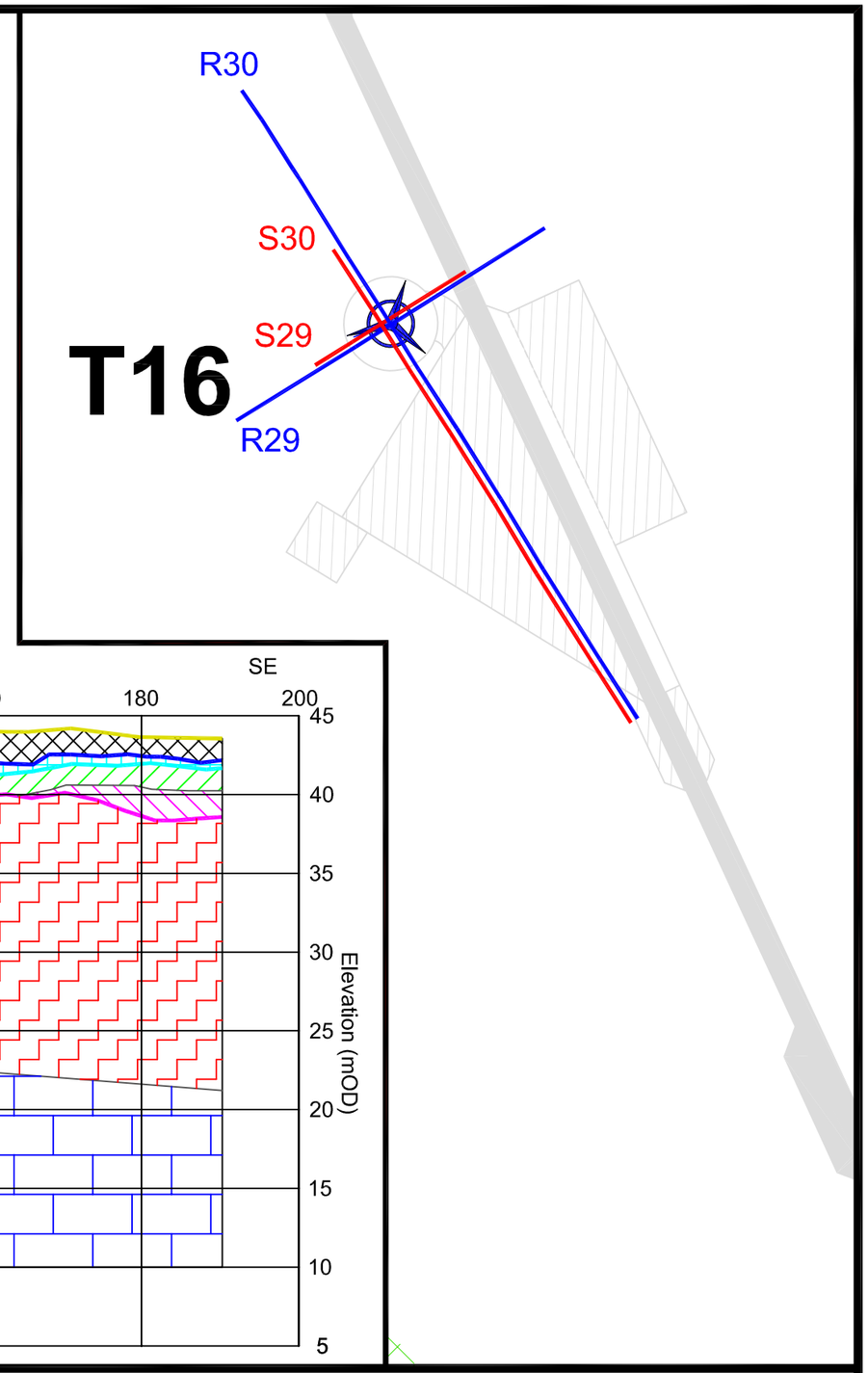
**Abbreviated GI Logs:**

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

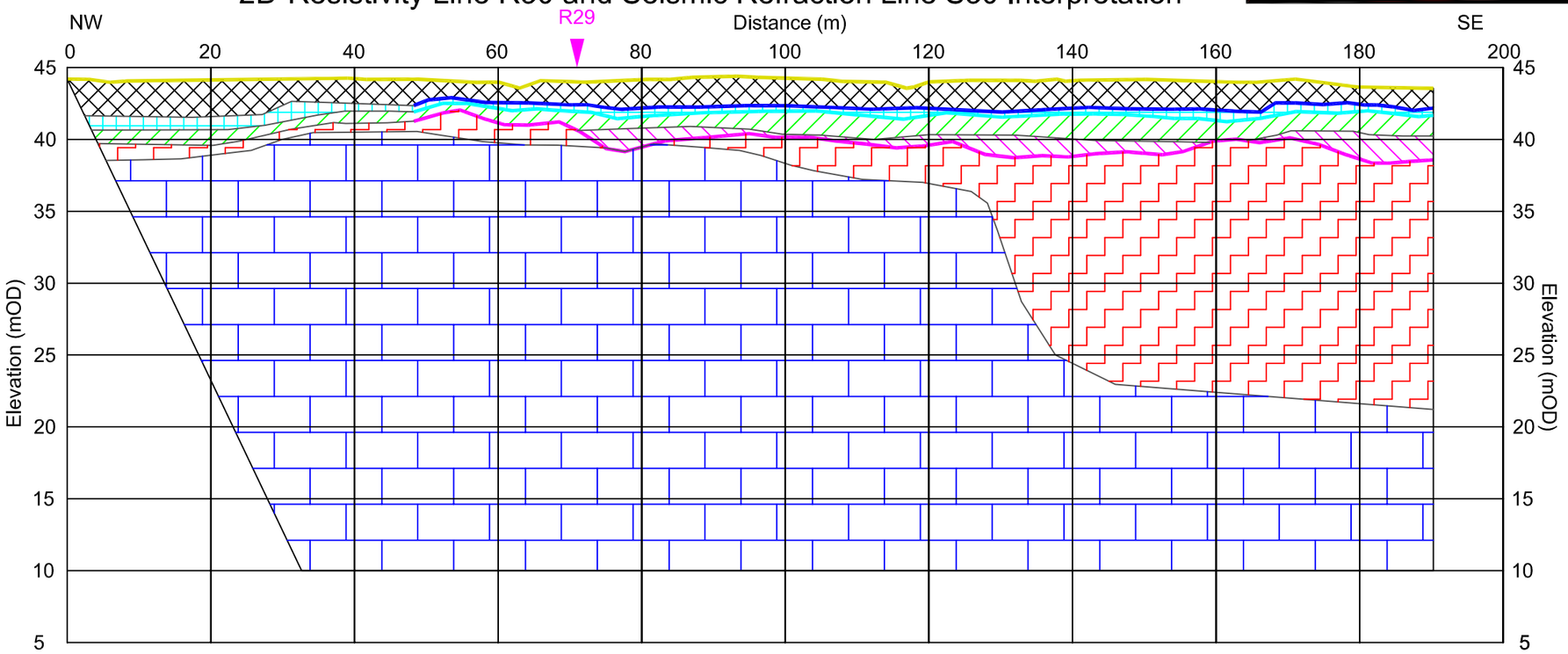
# T16

## 2D-Resistivity Line R29 and Seismic Refraction Line S29 Interpretation




## 2D-Resistivity Line R30 and Seismic Refraction Line S30 Interpretation





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2p: Interpretation of Geophysical Survey, Turbine 16 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 08/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: Interpretation Turbine Locations:

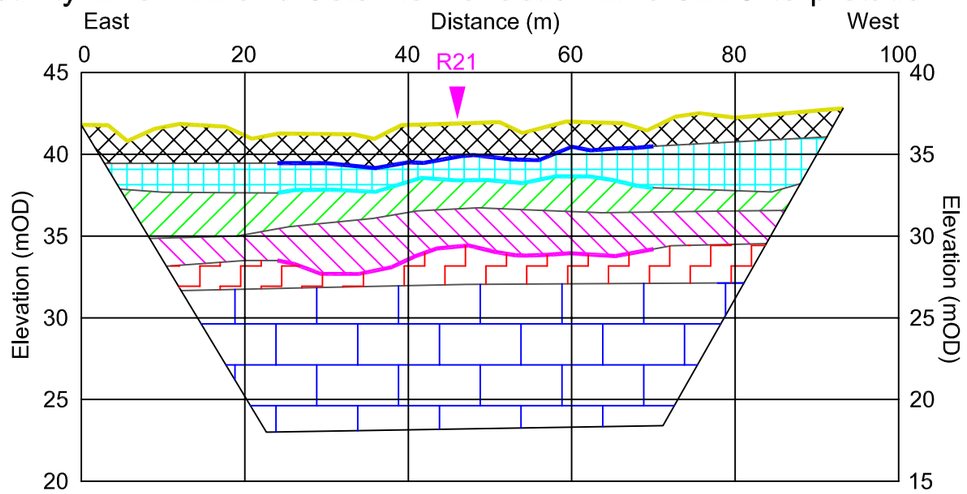
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

Abbreviated GI Logs:

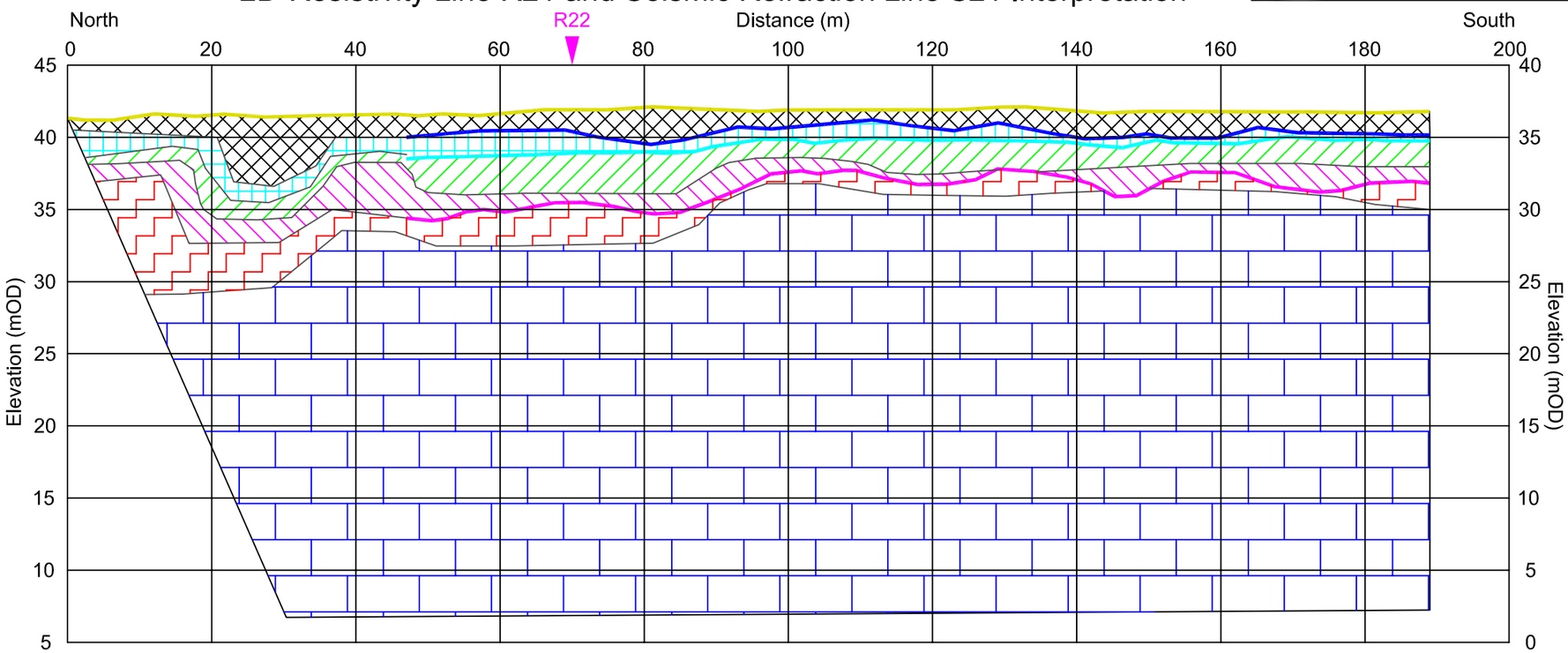
| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

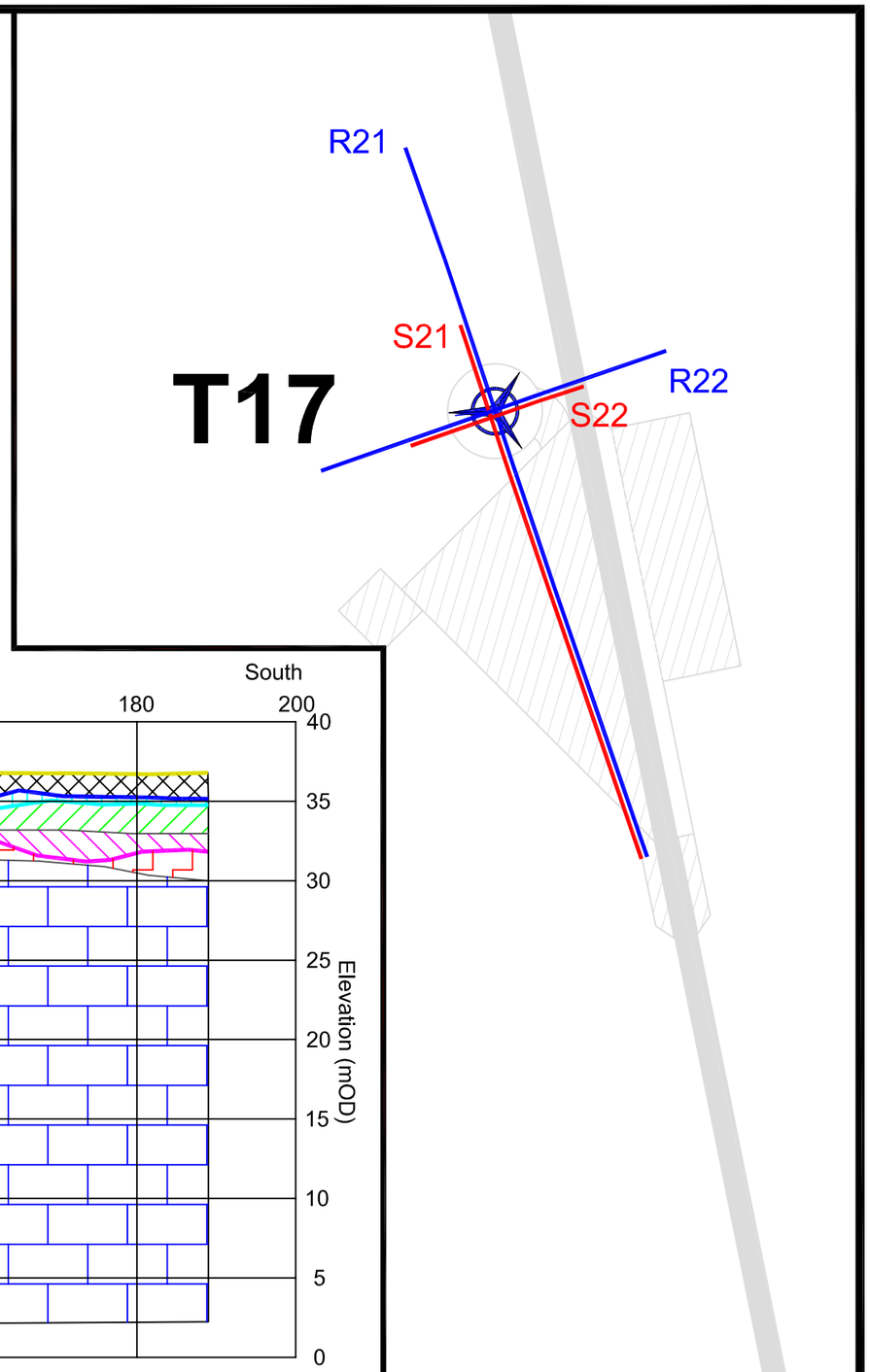
# T17

## 2D-Resistivity Line R22 and Seismic Refraction Line S22 Interpretation




## 2D-Resistivity Line R21 and Seismic Refraction Line S21 Interpretation





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2q: Interpretation of Geophysical Survey, Turbine 17 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: Interpretation Turbine Locations:

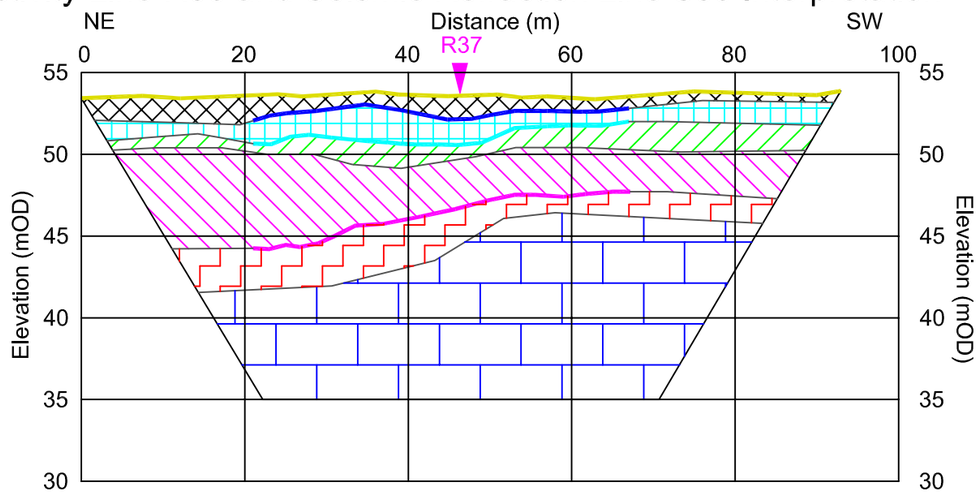
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

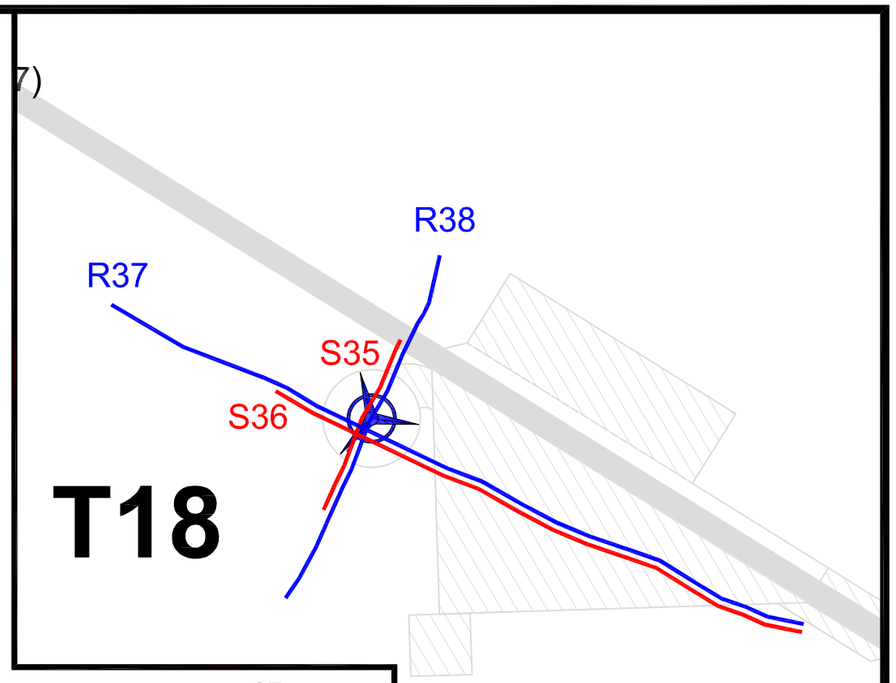
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

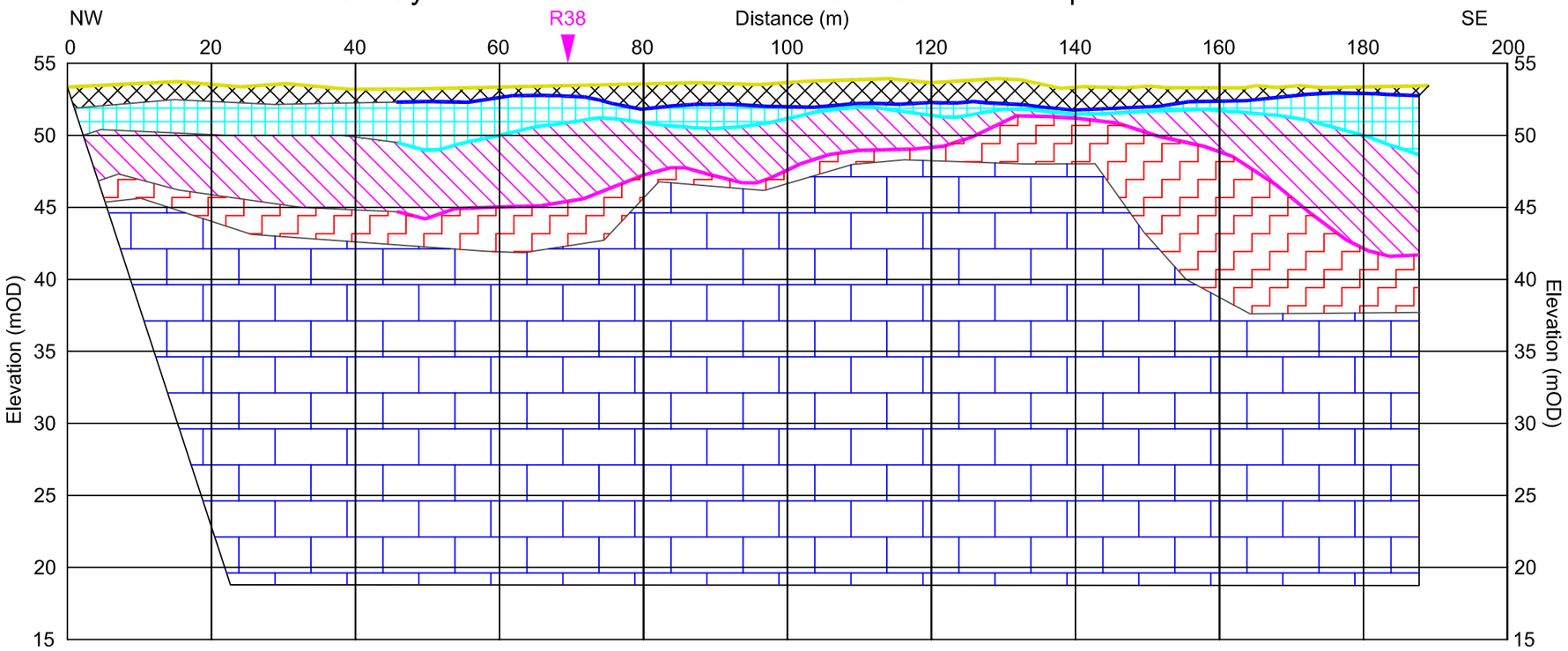
# T18

## 2D-Resistivity Line R38 and Seismic Refraction Line S35 Interpretation




## 2D-Resistivity Line R37 and Seismic Refraction Line S36 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2r: Interpretation of Geophysical Survey, Turbine 18 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: Interpretation Turbine Locations:

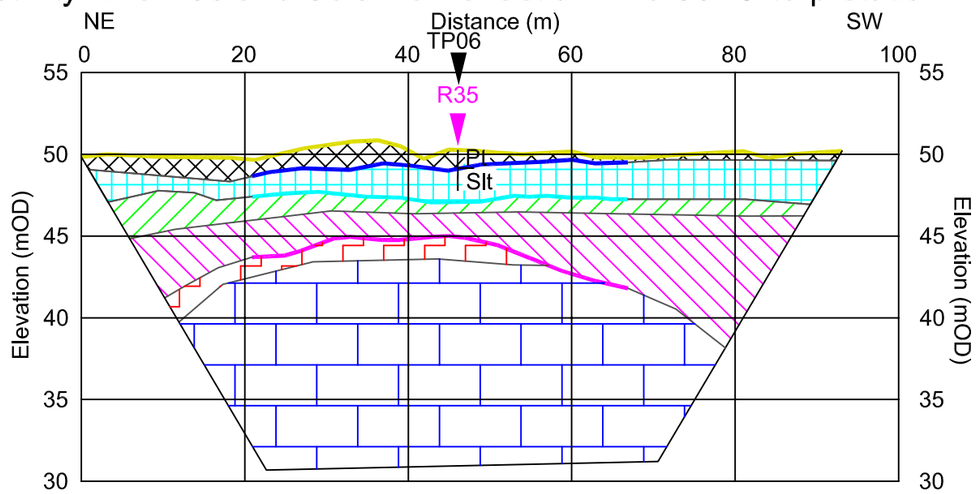
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

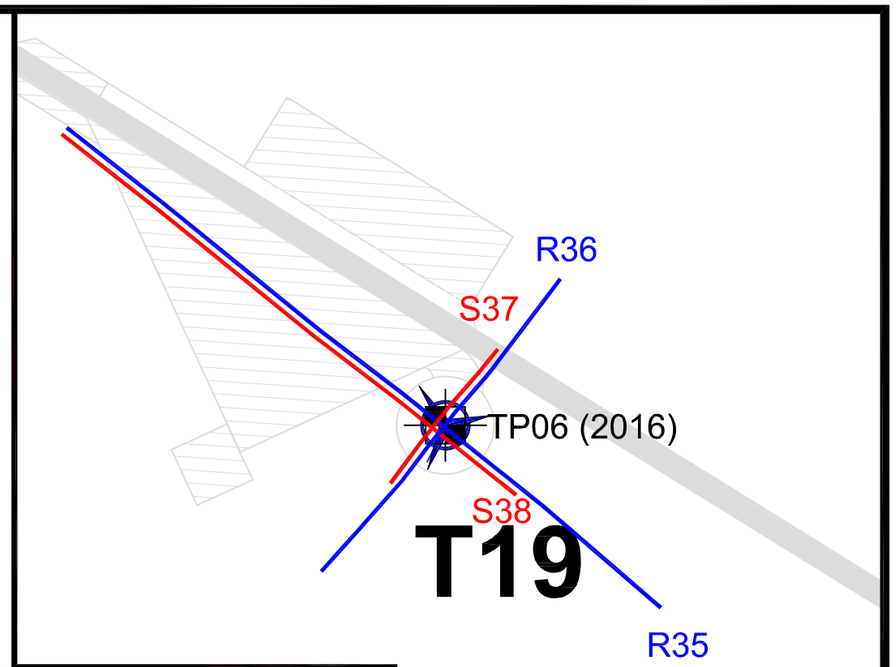
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

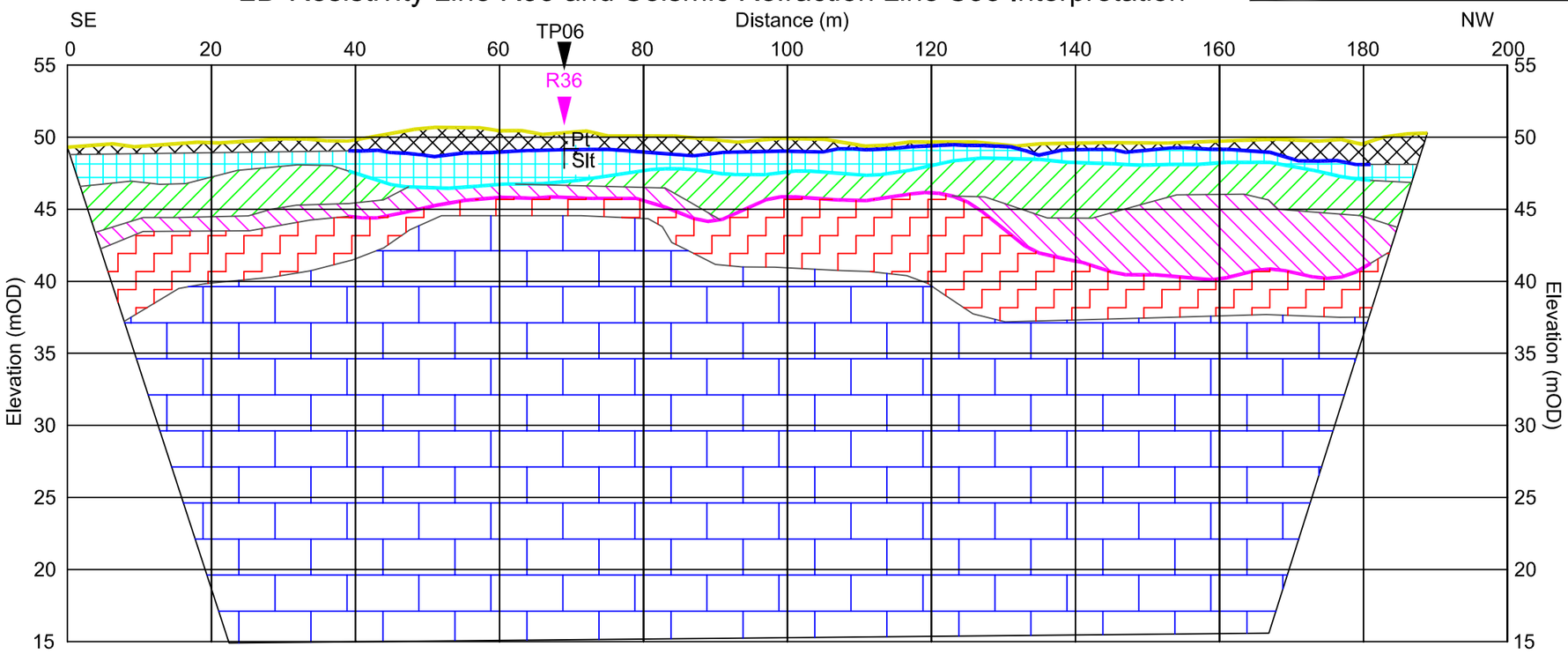
# T19

## 2D-Resistivity Line R36 and Seismic Refraction Line S37 Interpretation




## 2D-Resistivity Line R35 and Seismic Refraction Line S38 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2s: Interpretation of Geophysical Survey, Turbine 19 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: Interpretation Turbine Locations:

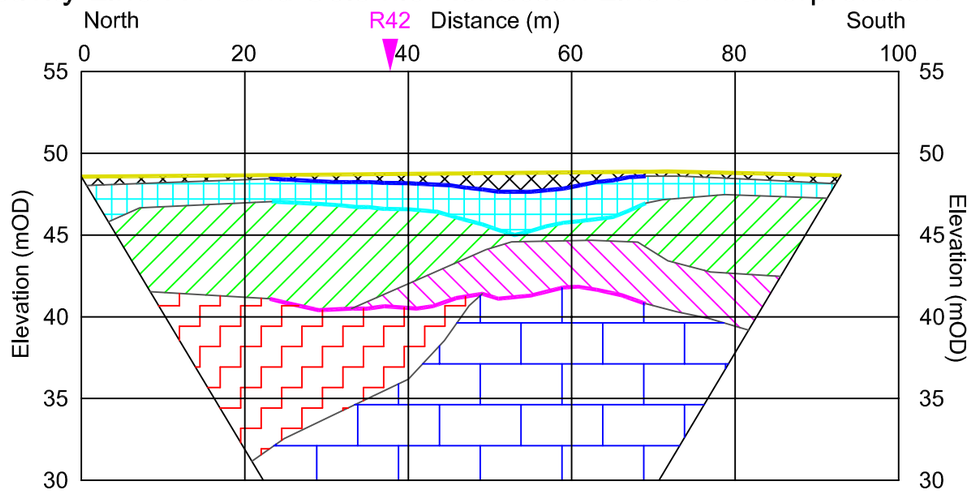
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

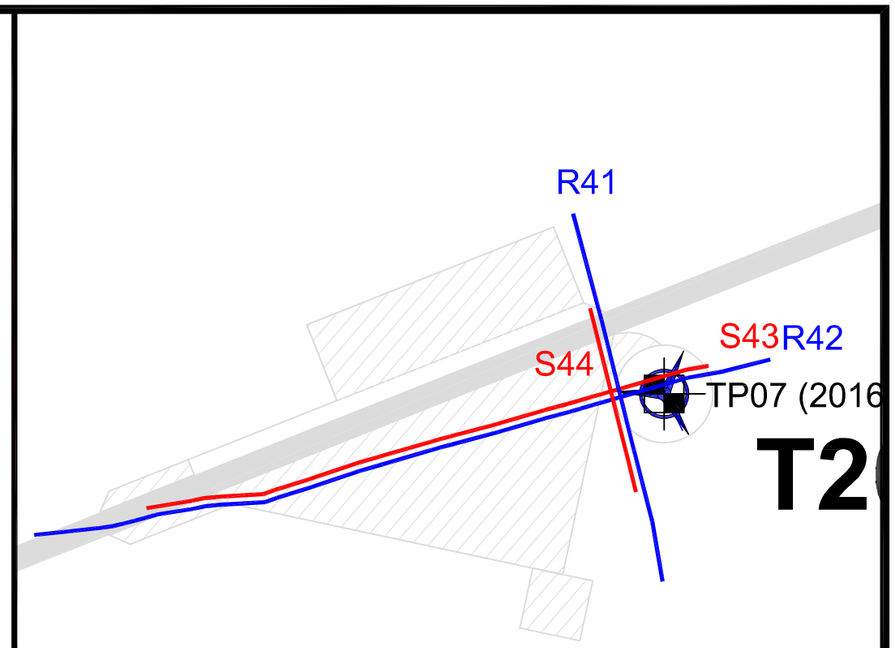
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

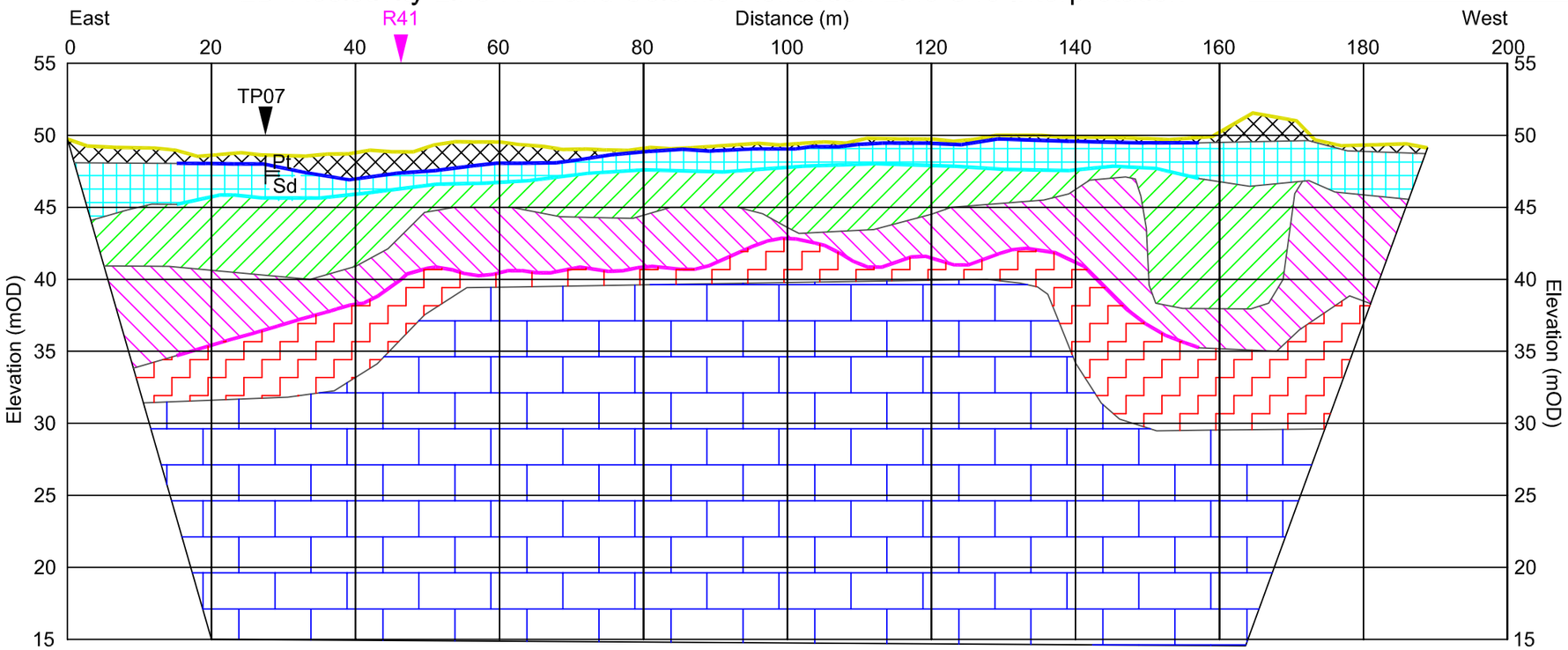
# T20

## 2D-Resistivity Line R41 and Seismic Refraction Line S44 Interpretation




## 2D-Resistivity Line R42 and Seismic Refraction Line S43 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2t: Interpretation of Geophysical Survey, Turbine 20 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: **Interpretation Turbine Locations:**

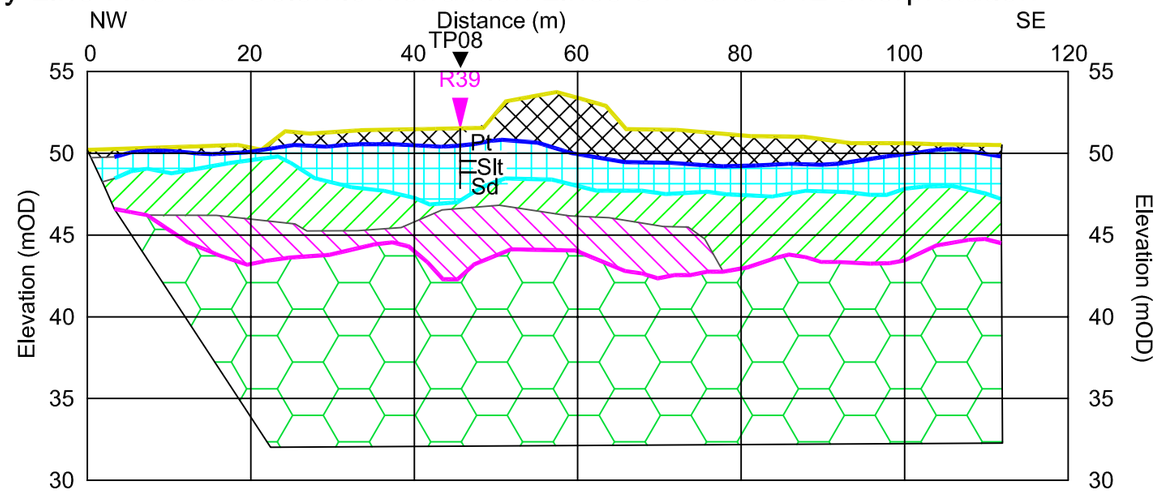
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

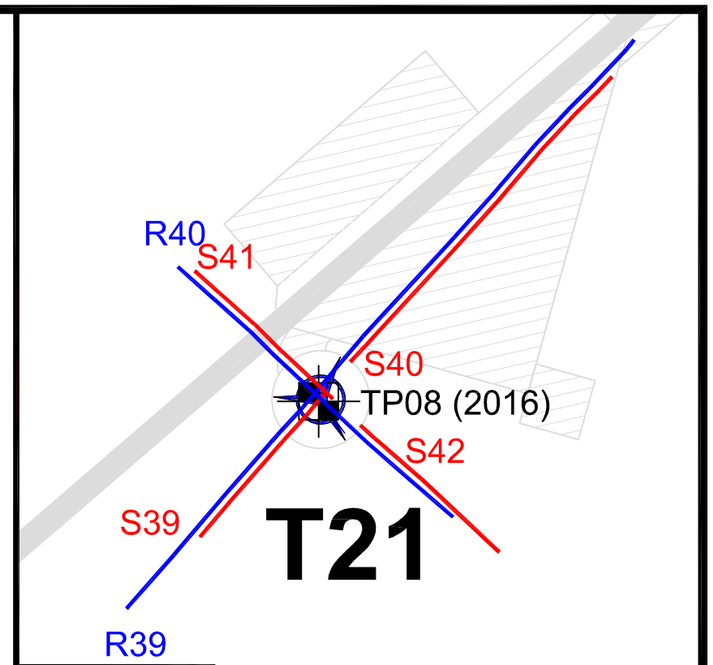
**Abbreviated GI Logs:**

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

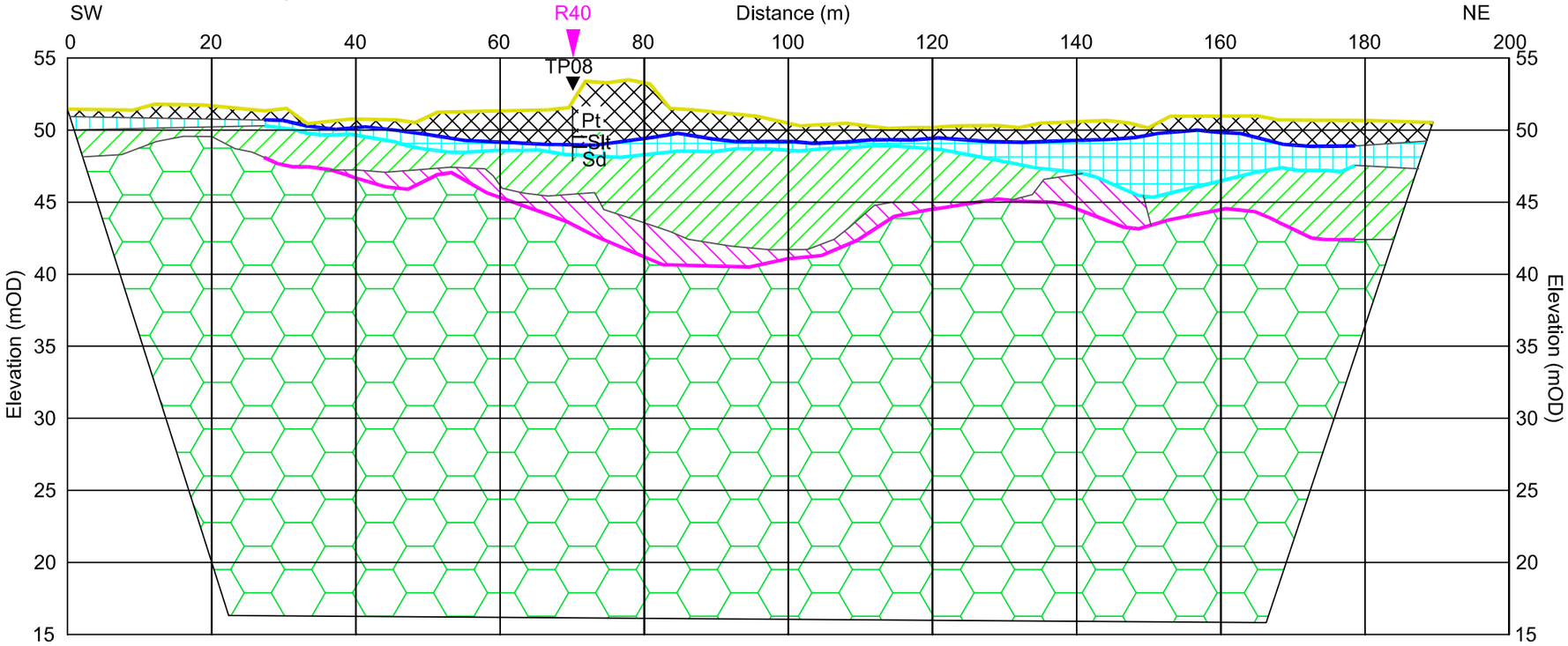
# T21

## 2D-Resistivity Line R40 and Seismic Refraction Lines S41 and S42 Interpretation




## 2D-Resistivity Line R39 and Seismic Refraction Lines S39 and S40 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1u: Interpretation of Geophysical Survey, Turbine 21 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: Interpretation Turbine Locations:

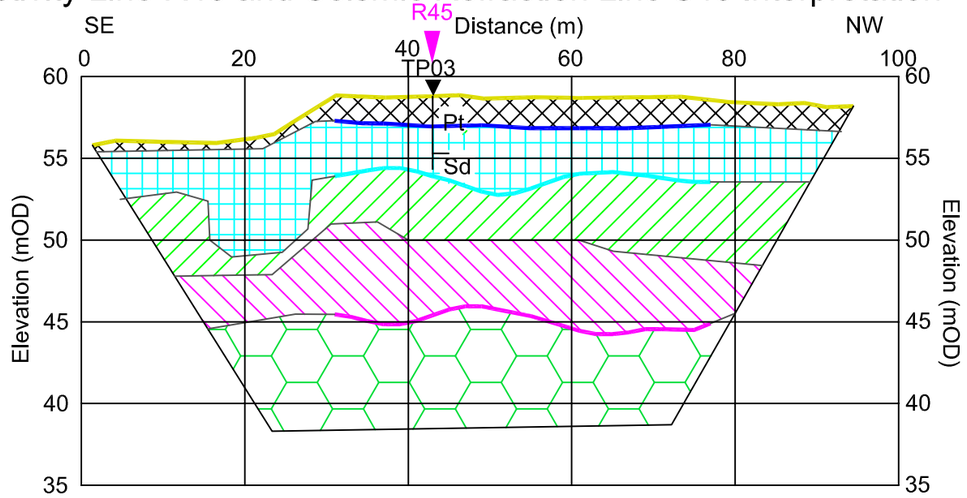
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

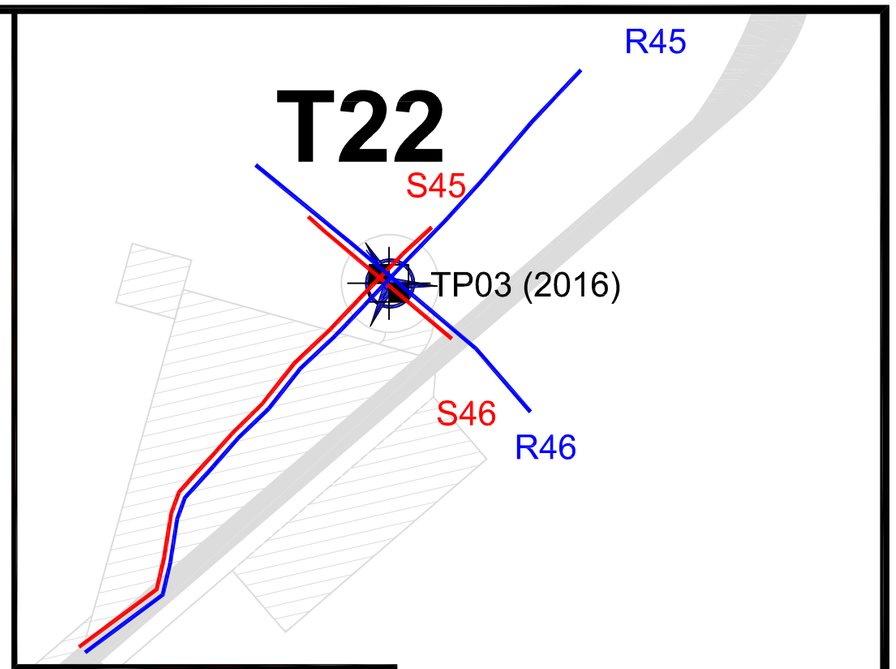
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

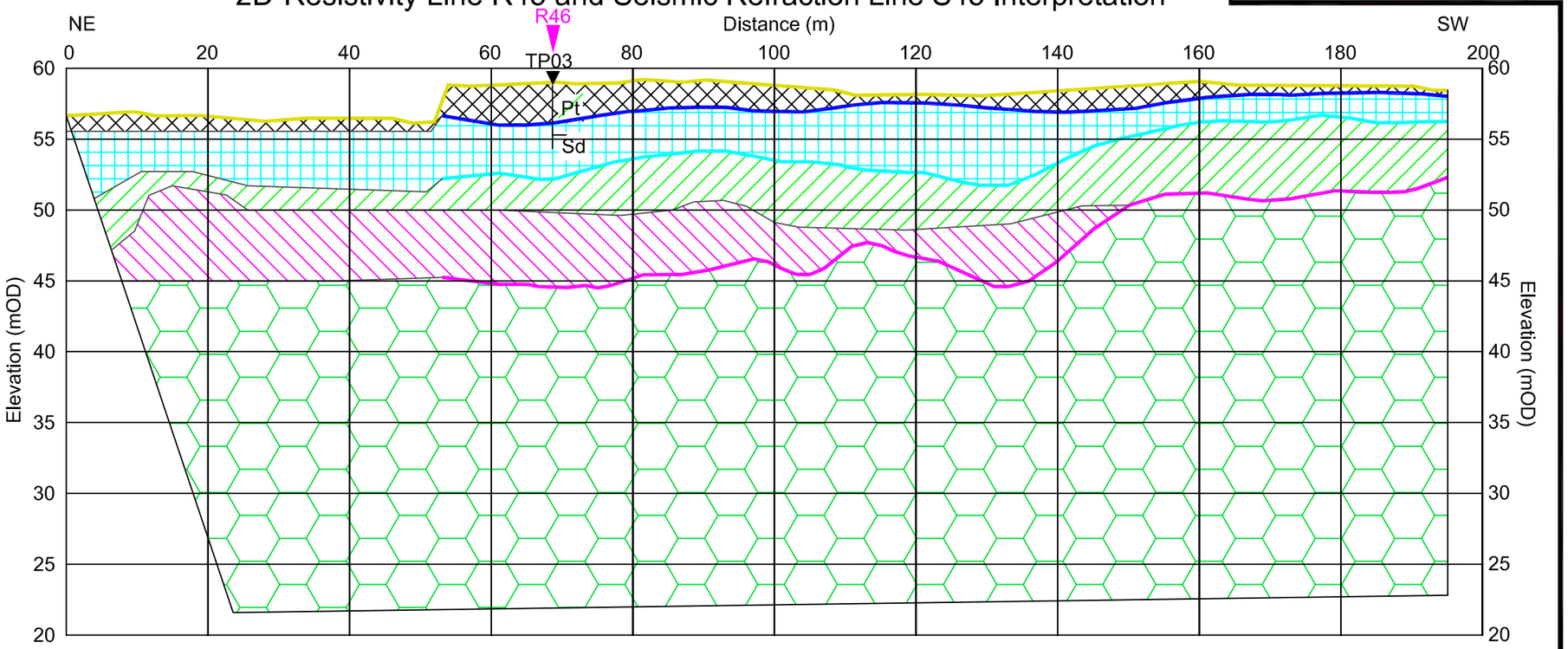
# T22

## 2D-Resistivity Line R46 and Seismic Refraction Line S46 Interpretation




## 2D-Resistivity Line R45 and Seismic Refraction Line S45 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2v: Interpretation of Geophysical Survey, Turbine 22 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: **Interpretation Turbine Locations:**

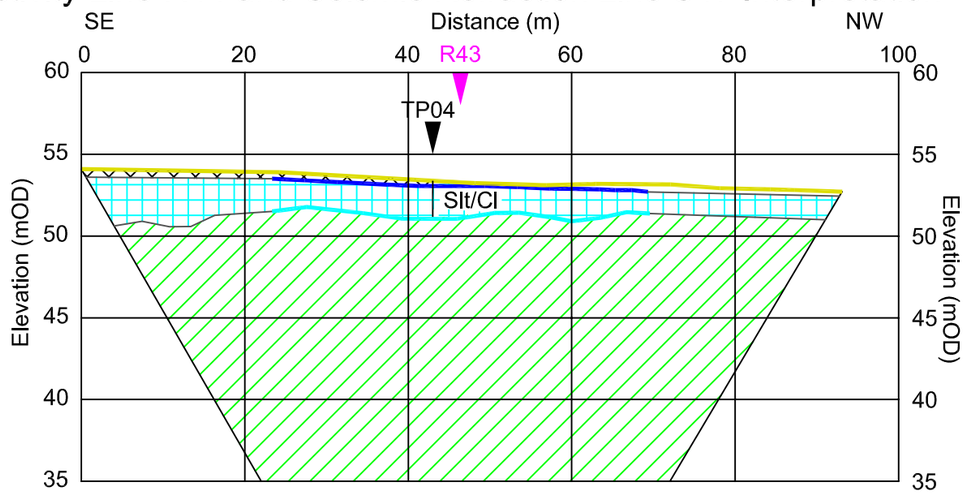
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

**Abbreviated GI Logs:**

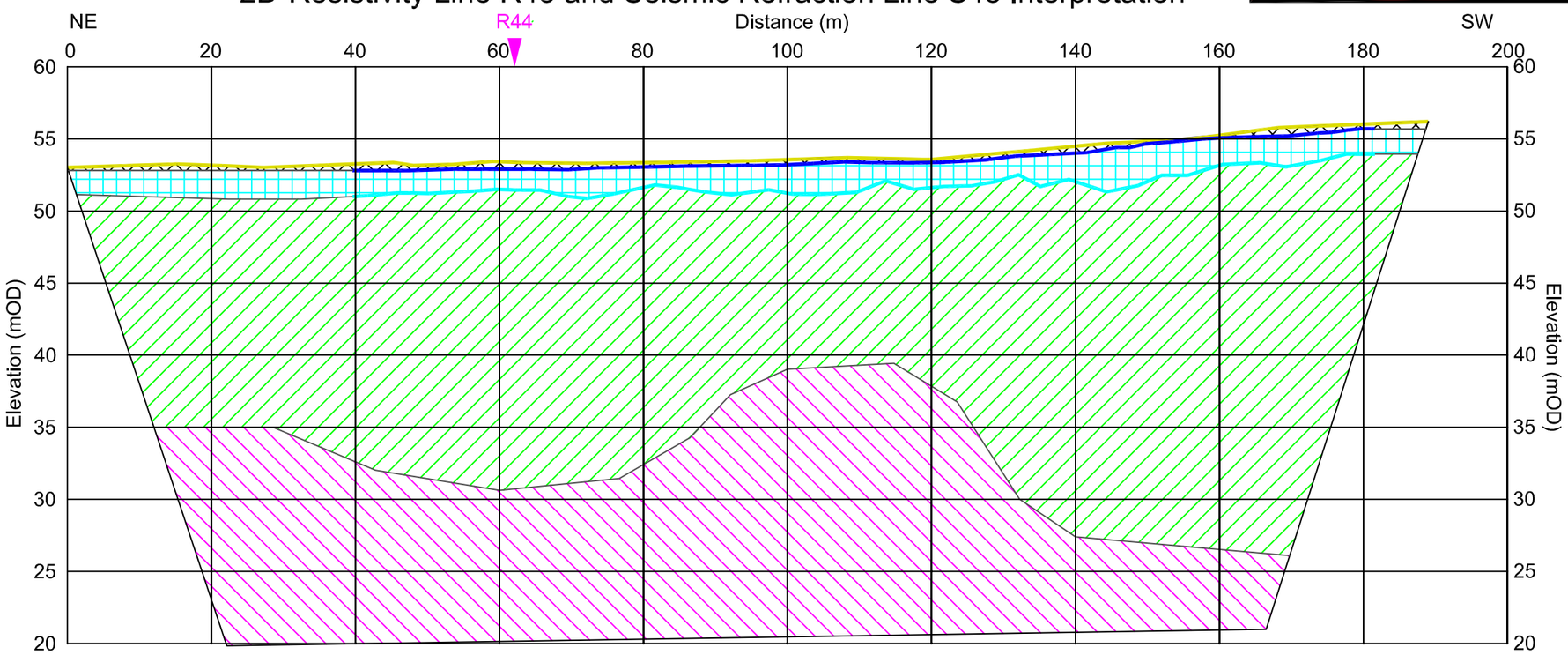
| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

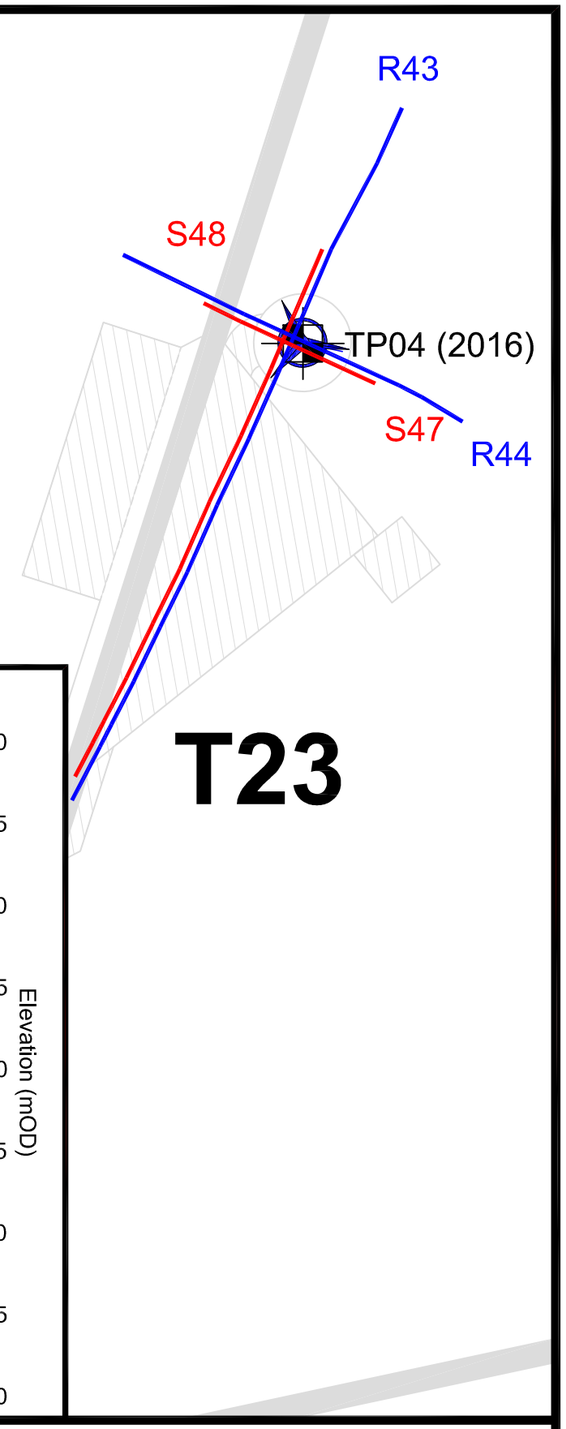
# T23

## 2D-Resistivity Line R44 and Seismic Refraction Line S47 Interpretation




## 2D-Resistivity Line R43 and Seismic Refraction Line S48 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2w: Interpretation of Geophysical Survey, Turbine 23 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND: Interpretation Turbine Locations:

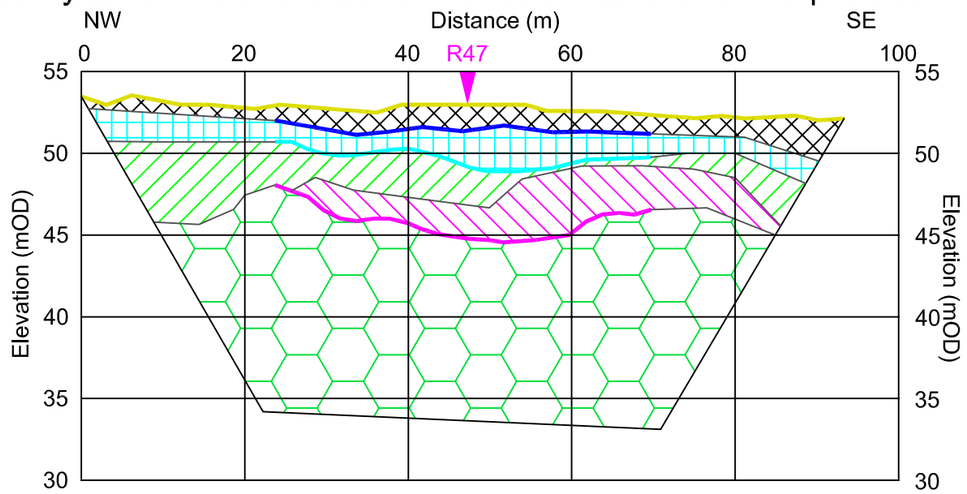
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

Abbreviated GI Logs:

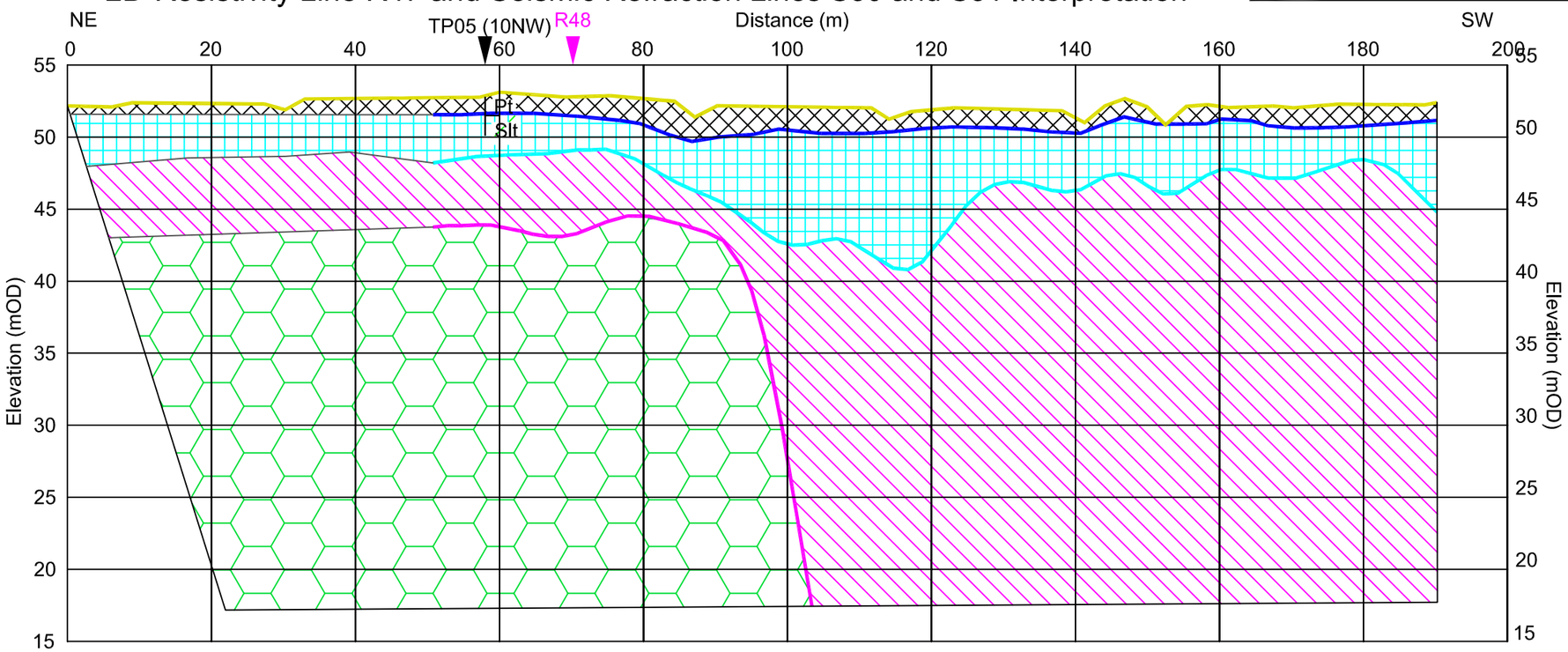
| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

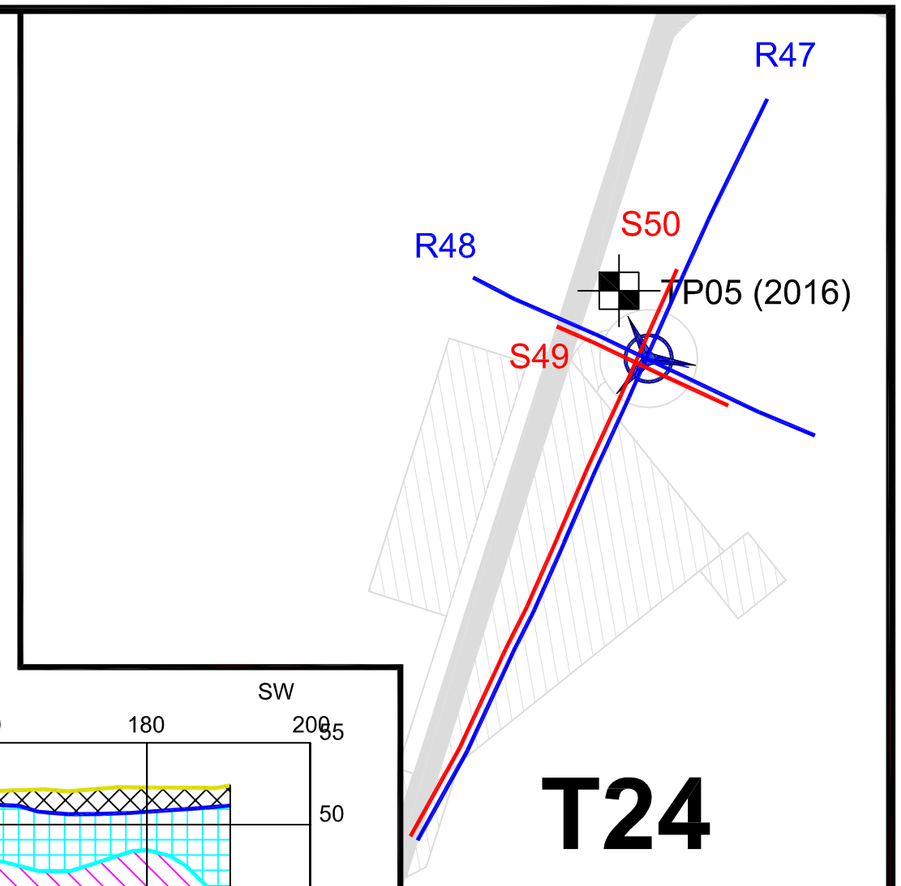
# T24

## 2D-Resistivity Line R48 and Seismic Refraction Line S49 Interpretation




## 2D-Resistivity Line R47 and Seismic Refraction Lines S50 and S51 Interpretation




# T24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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2x: Interpretation of Geophysical Survey, Turbine 24 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 01/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

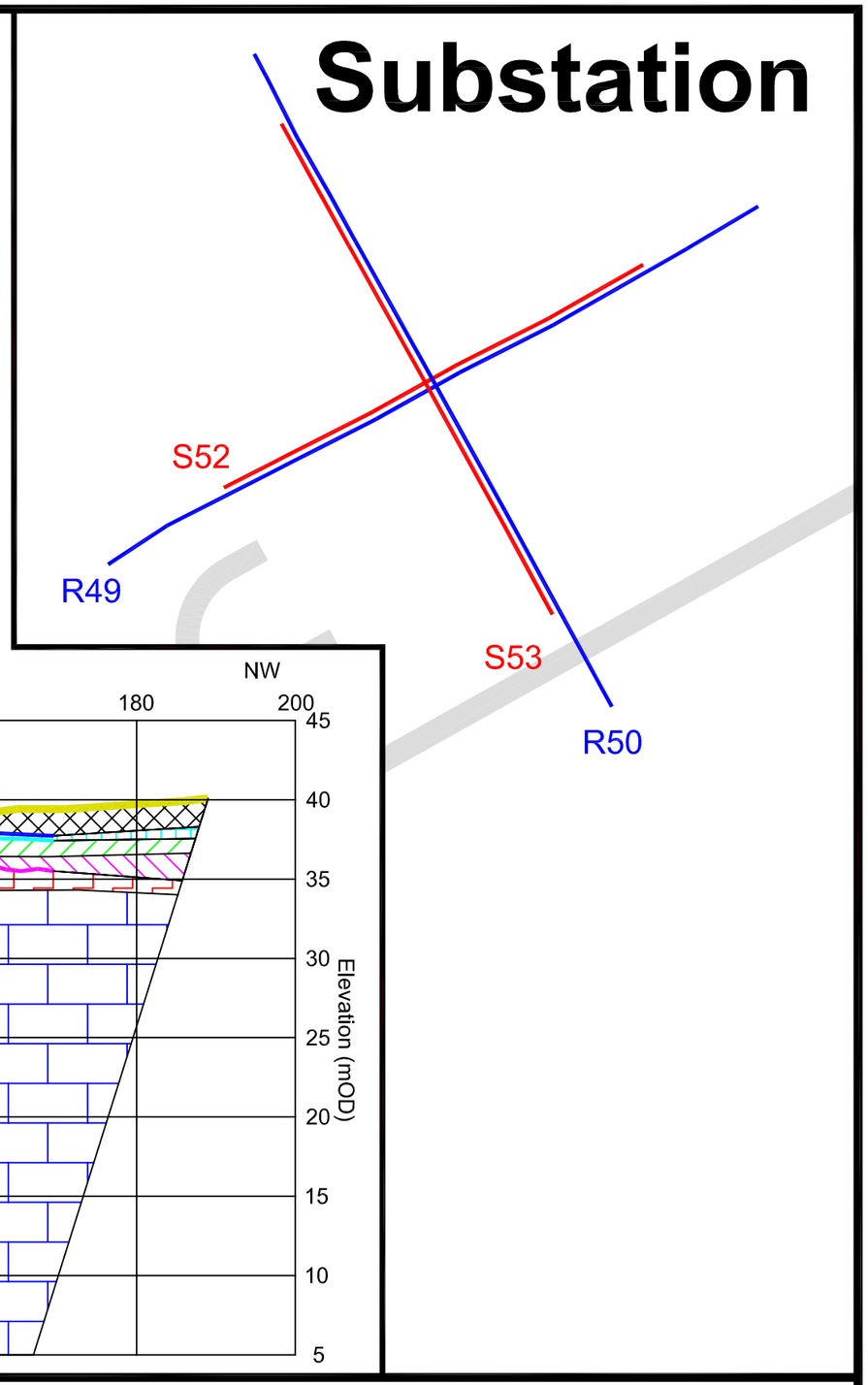
LEGEND: Interpretation Turbine Locations:

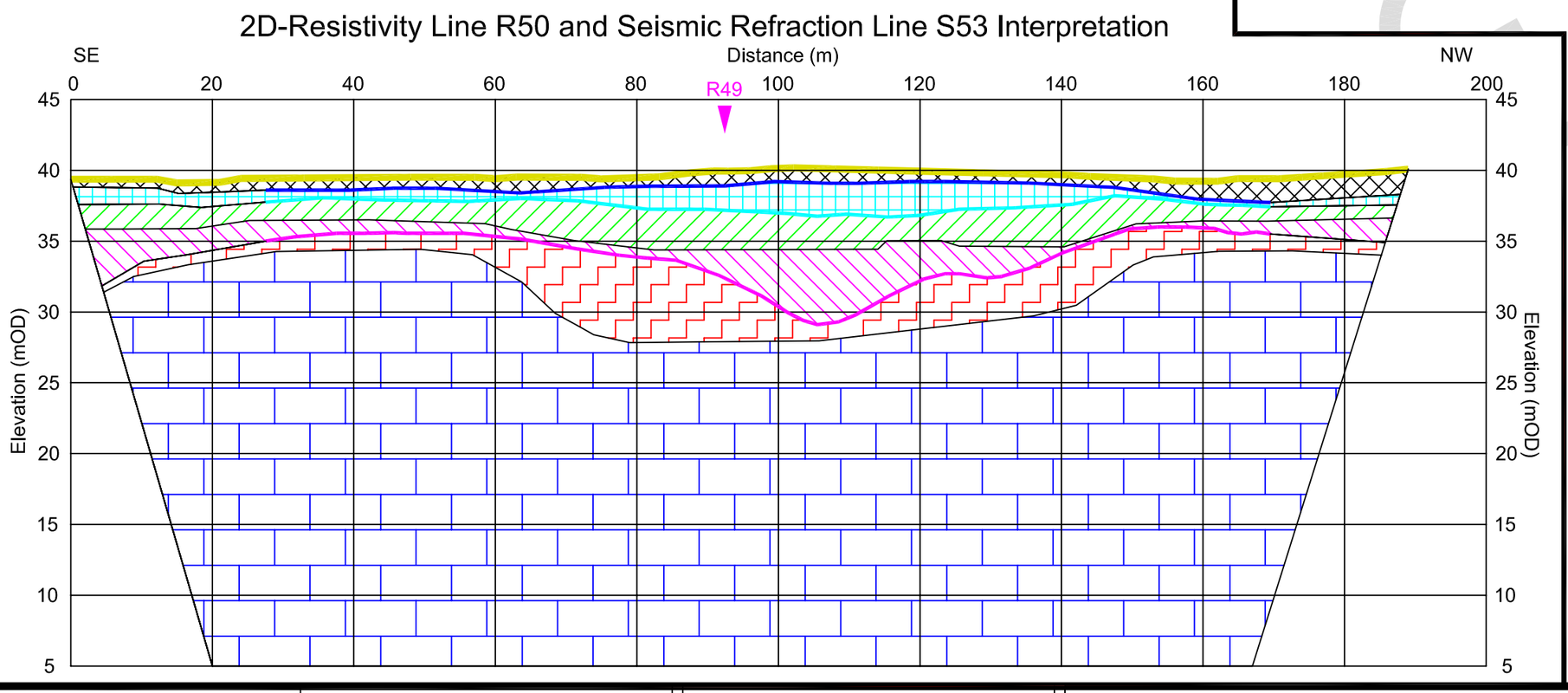
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

# Substation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2y: Interpretation of Geophysical Survey, Substation |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 11/05/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

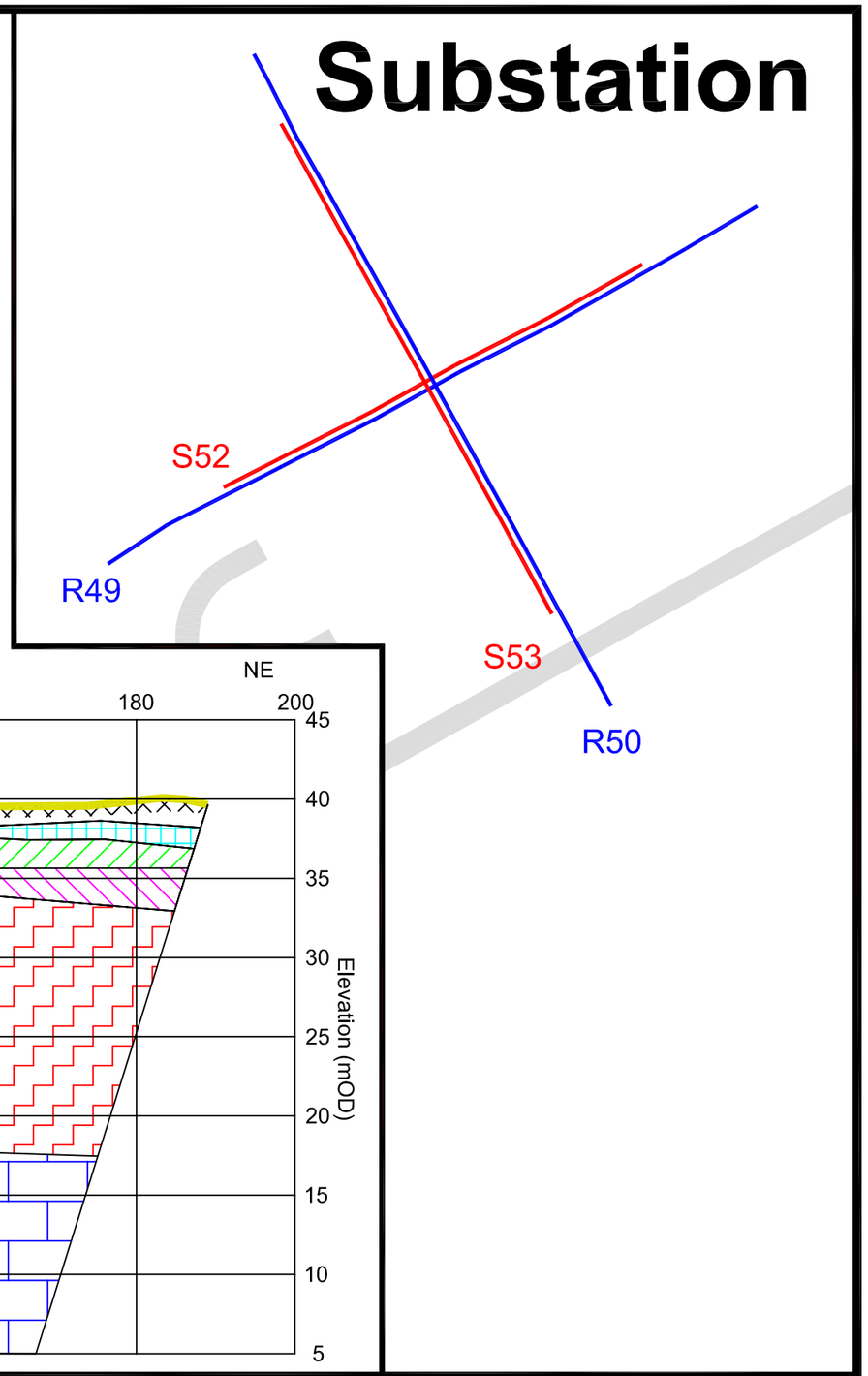
LEGEND: Interpretation Turbine Locations:

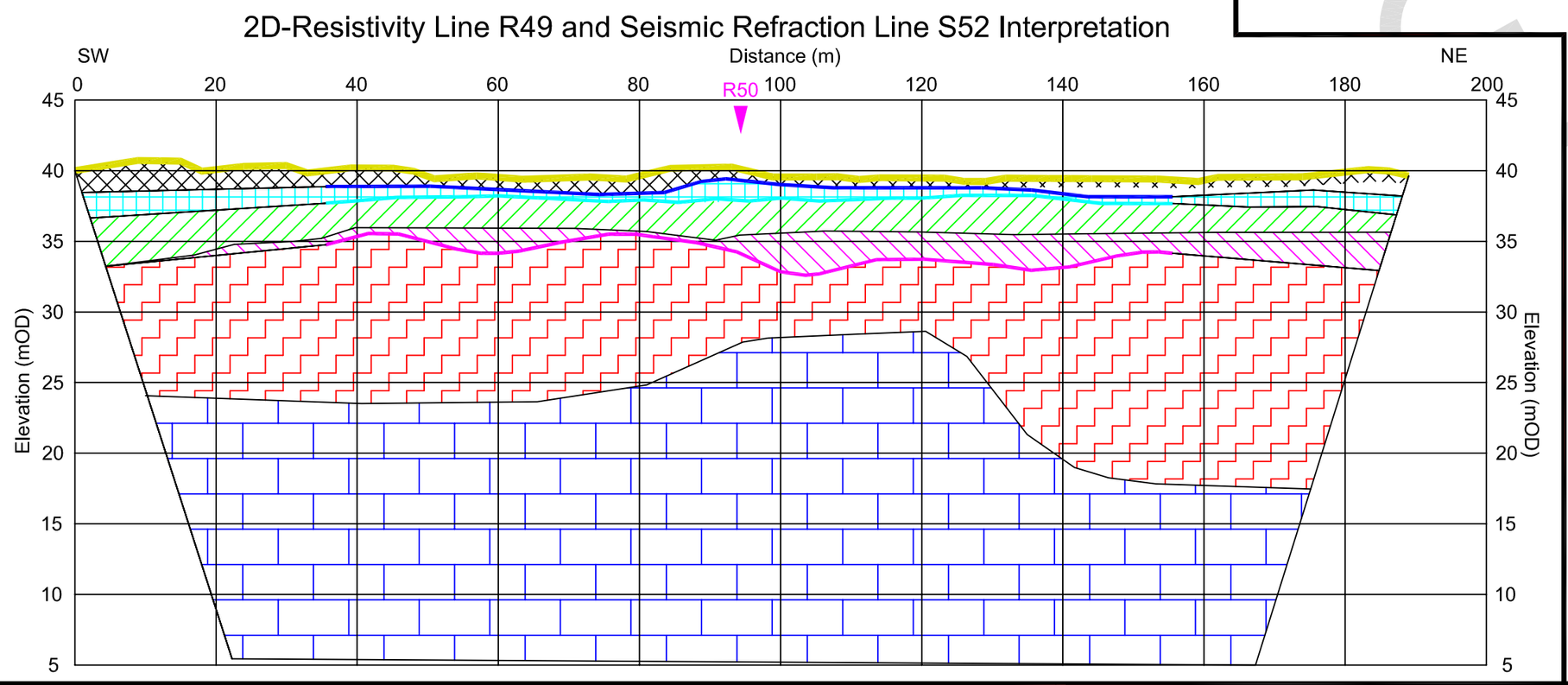
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

# Substation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2z: Interpretation of Geophysical Survey, Substation |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 11/05/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

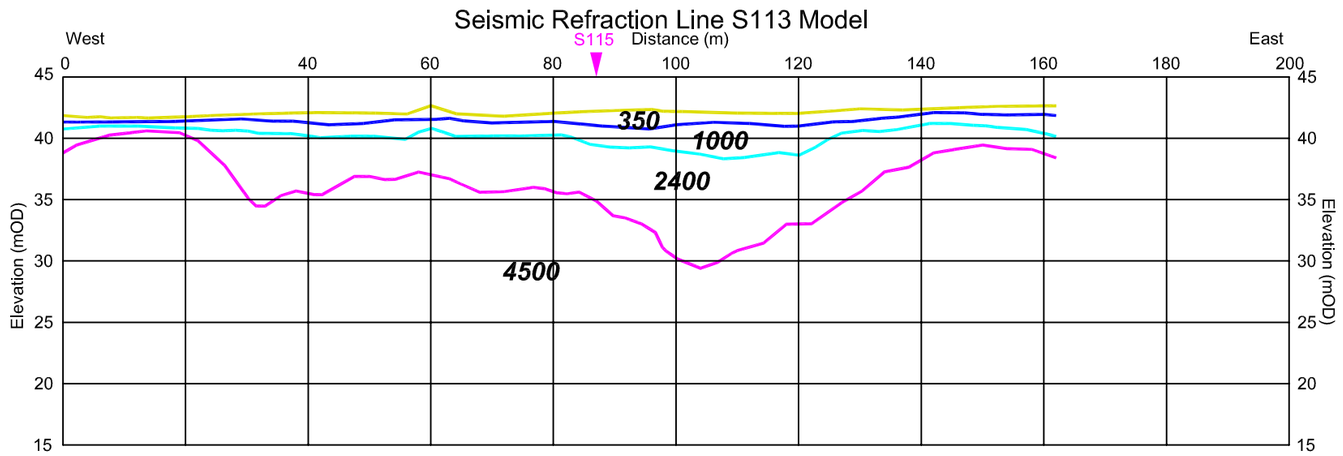
LEGEND: Interpretation Turbine Locations:

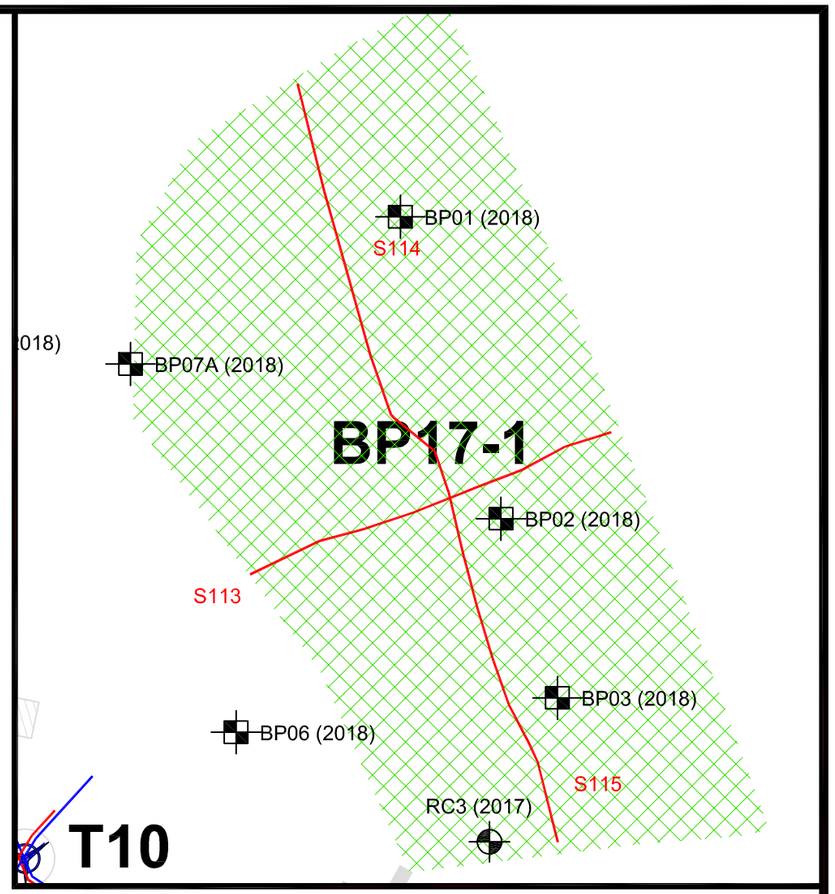
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone

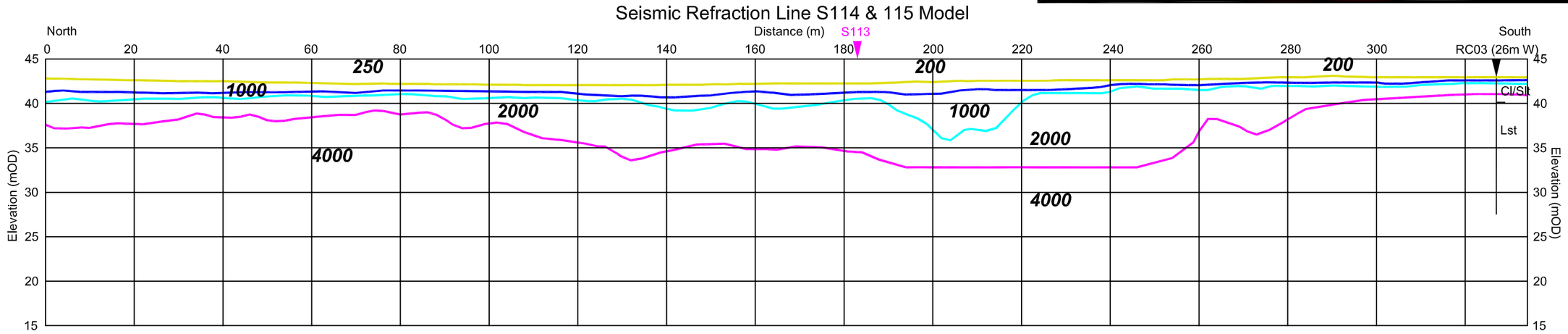
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

# Borrow Pit 17-1





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 3a: Models of Geophysical Survey, Borrow Pit 17-1 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:2500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 06/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

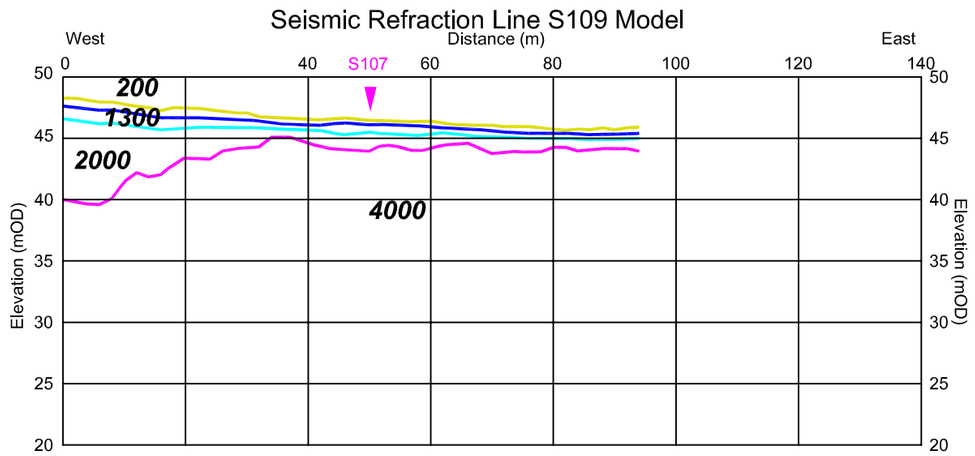
LEGEND: Geophysical Survey Locations:

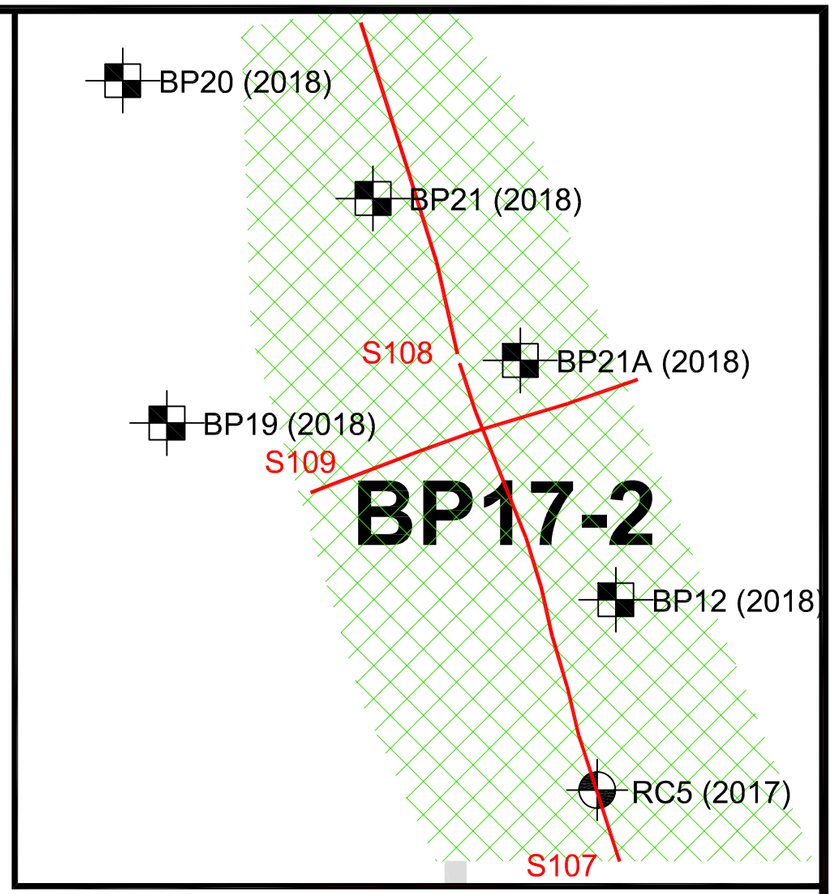
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

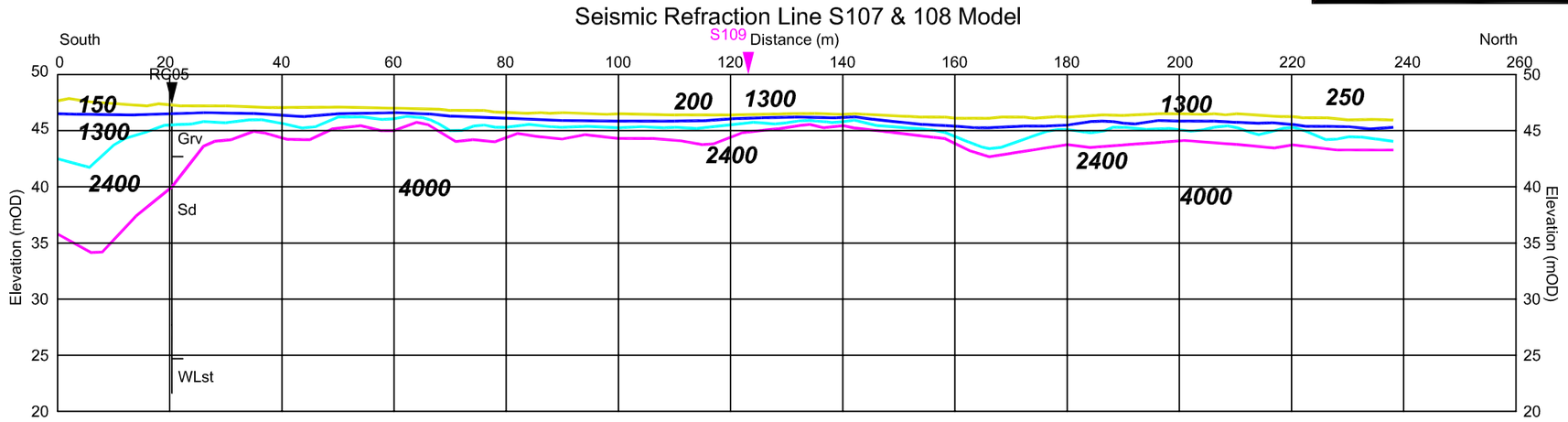
Layers from Seismic Refraction Model:

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

# Borrow Pit 17-2





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 3b: Models of Geophysical Survey, Borrow Pit 17-2 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 14/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

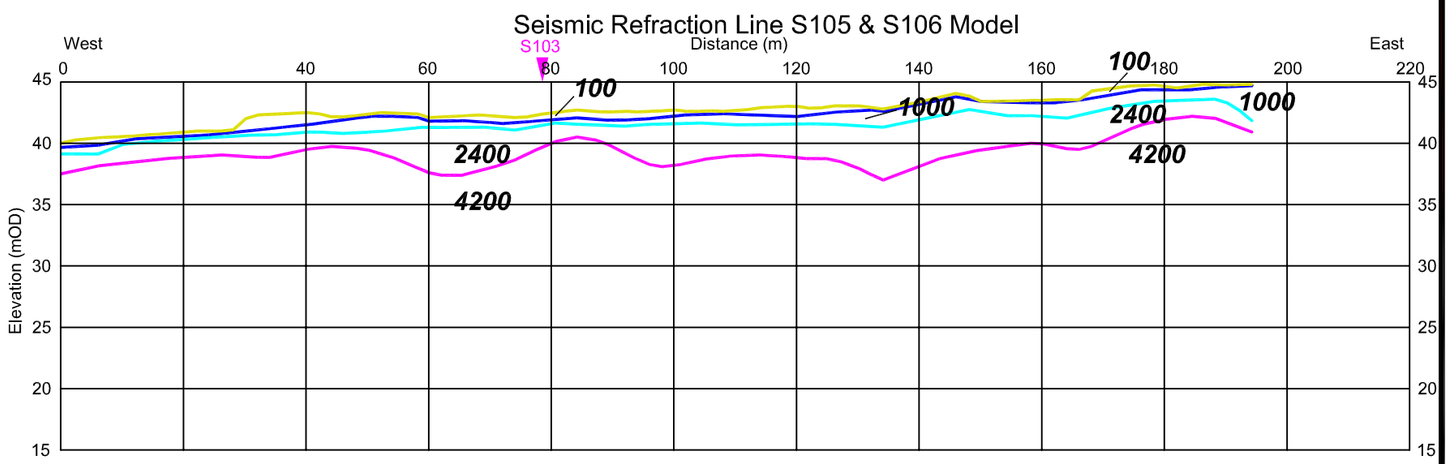
LEGEND: Geophysical Survey Locations:

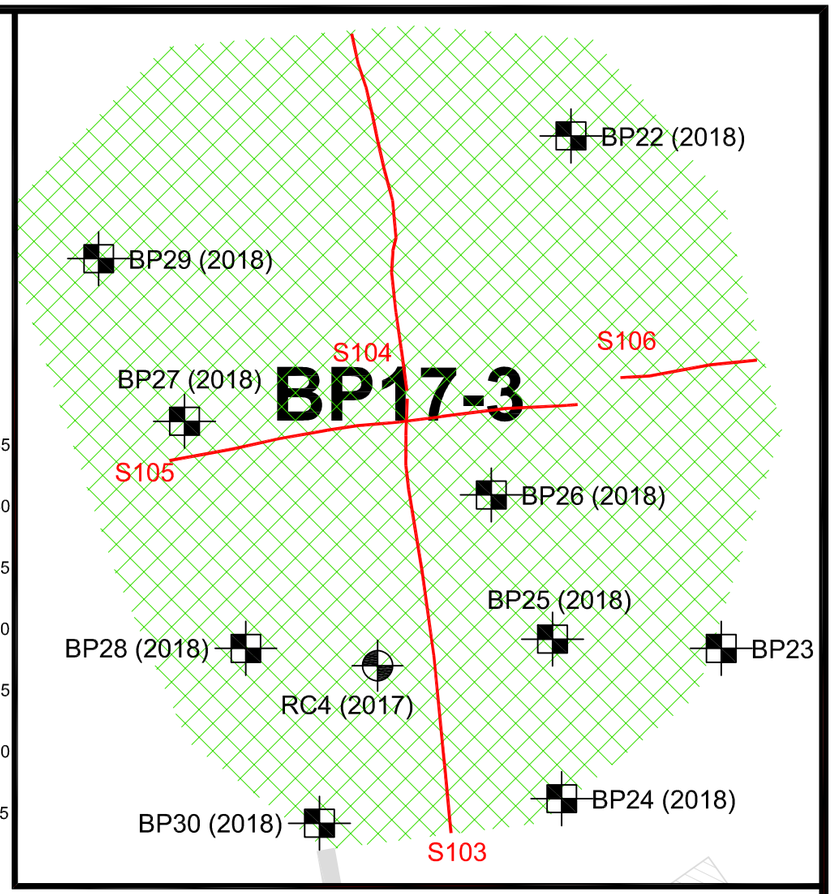
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

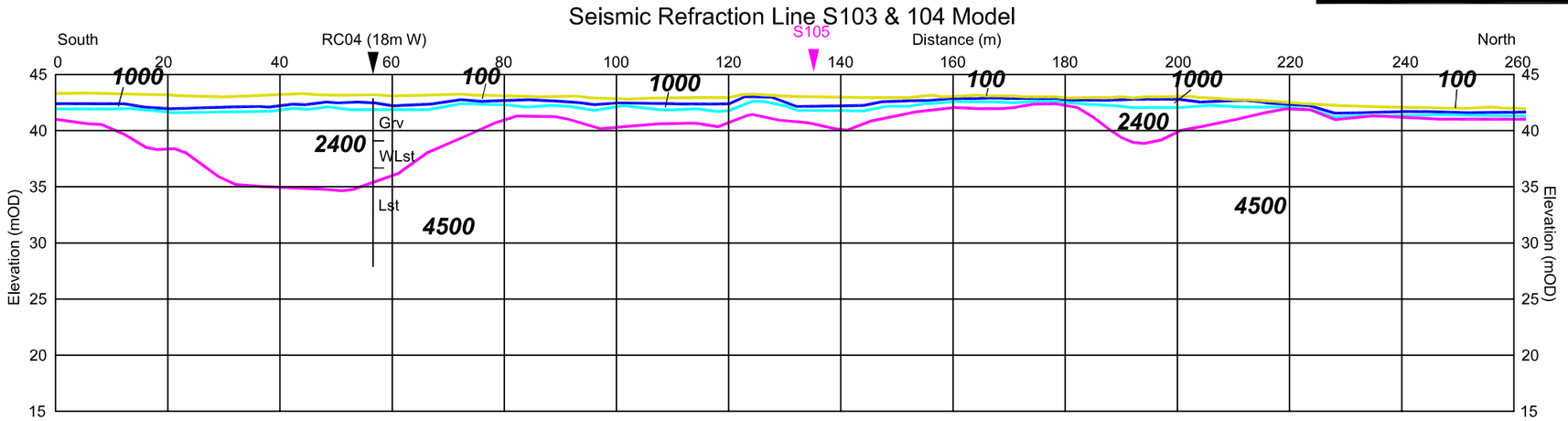
Layers from Seismic Refraction Model:

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

# Borrow Pit 17-3





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 3c: Models of Geophysical Survey, Borrow Pit 17-3 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:2000 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 14/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

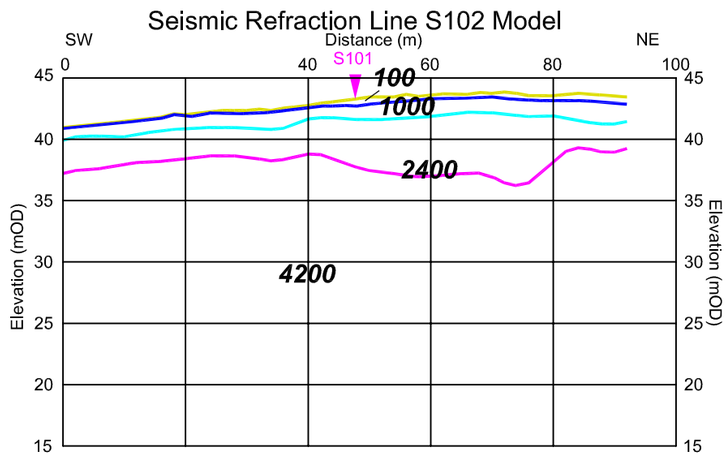
LEGEND: Geophysical Survey Locations:

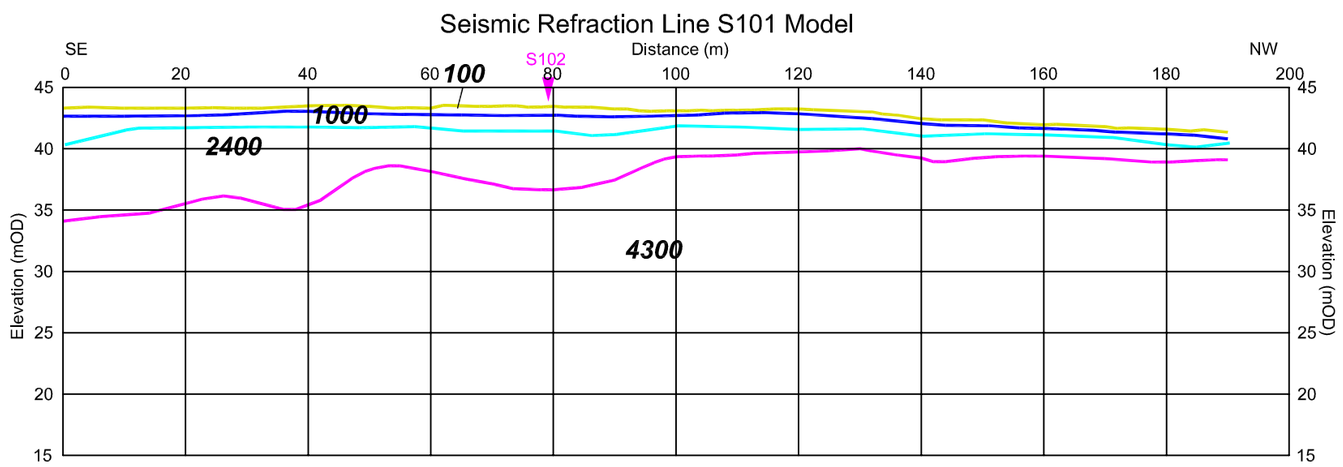
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

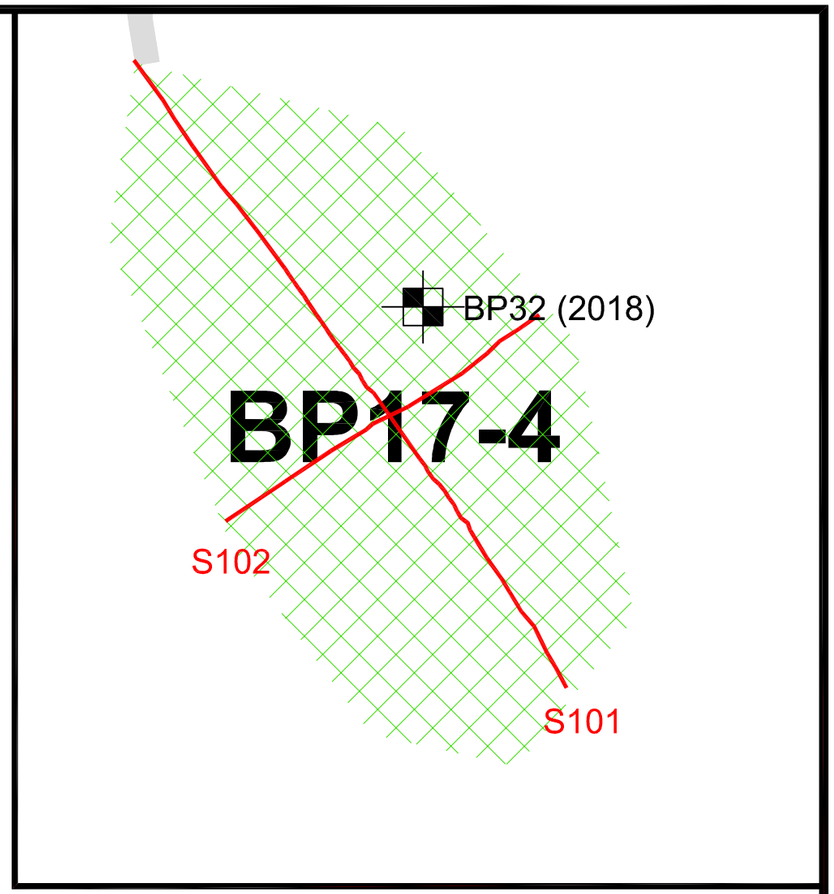
Layers from Seismic Refraction Model:

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

# Borrow Pit 17-4





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 3d: Models of Geophysical Survey, Borrow Pit 17-4 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 14/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

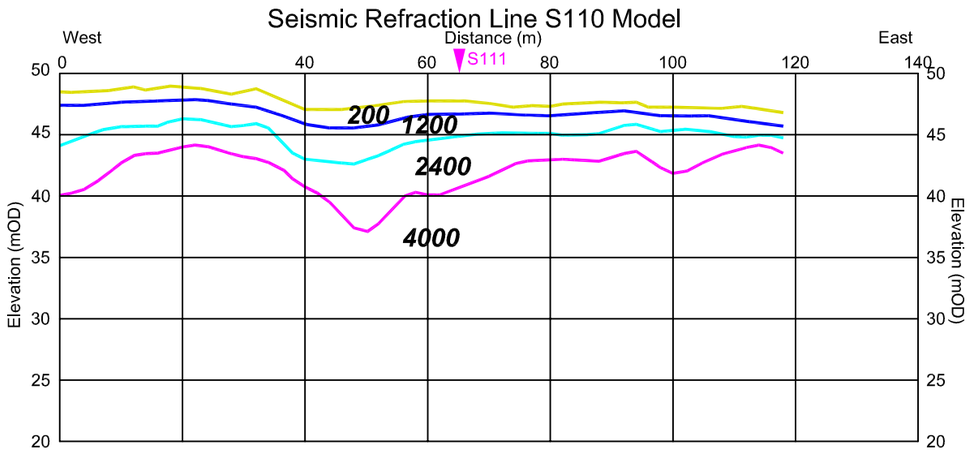
LEGEND: Geophysical Survey Locations:

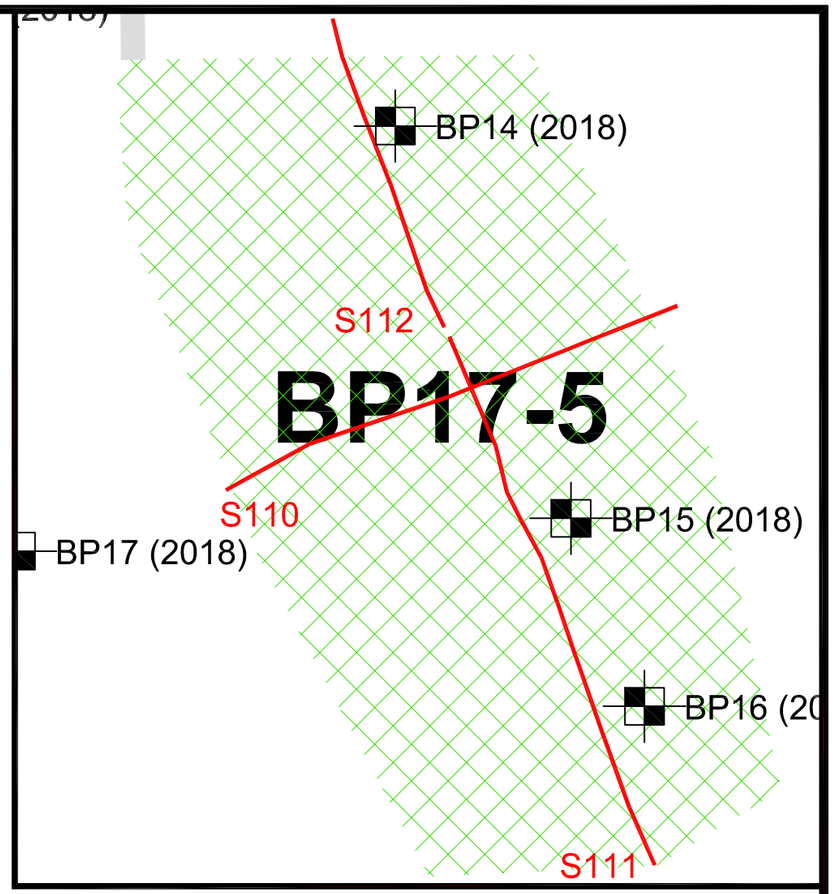
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

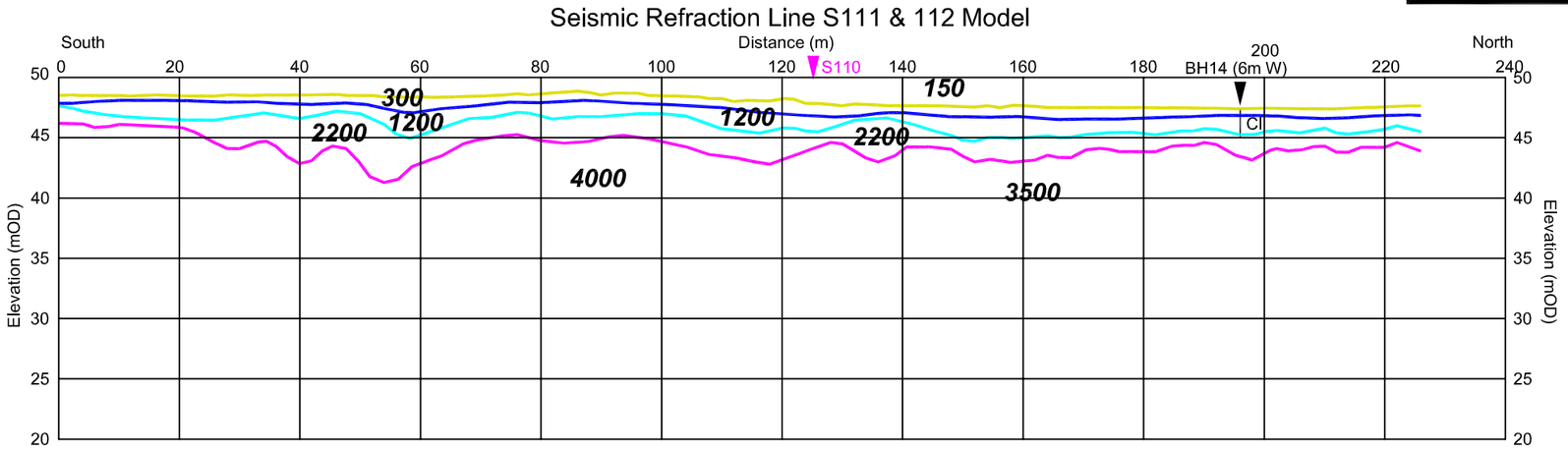
Layers from Seismic Refraction Model:

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

# Borrow Pit 17-5





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 3e: Models of Geophysical Survey, Borrow Pit 17-5 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 14/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

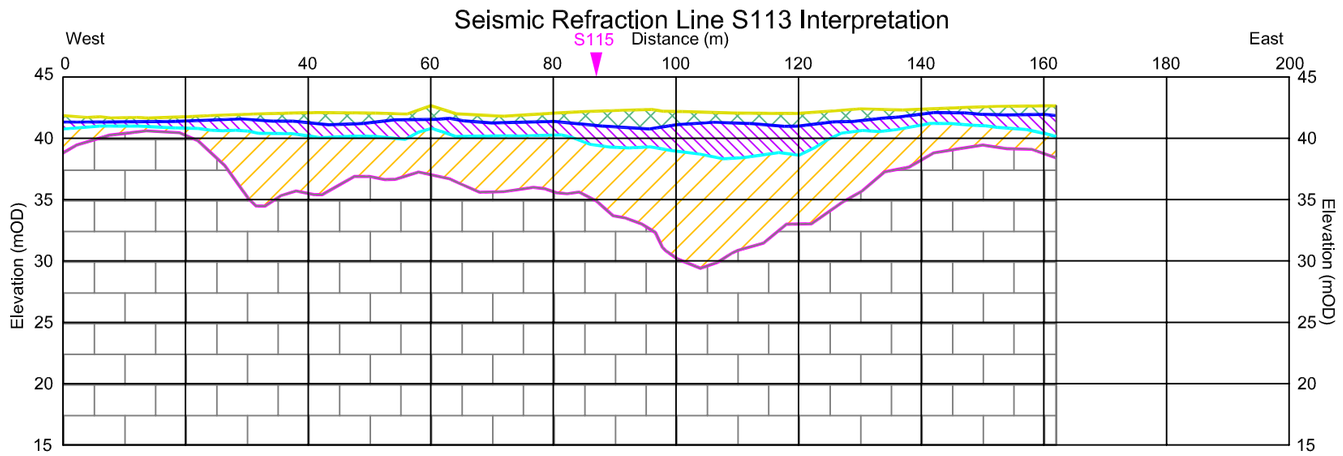
LEGEND: Geophysical Survey Locations:

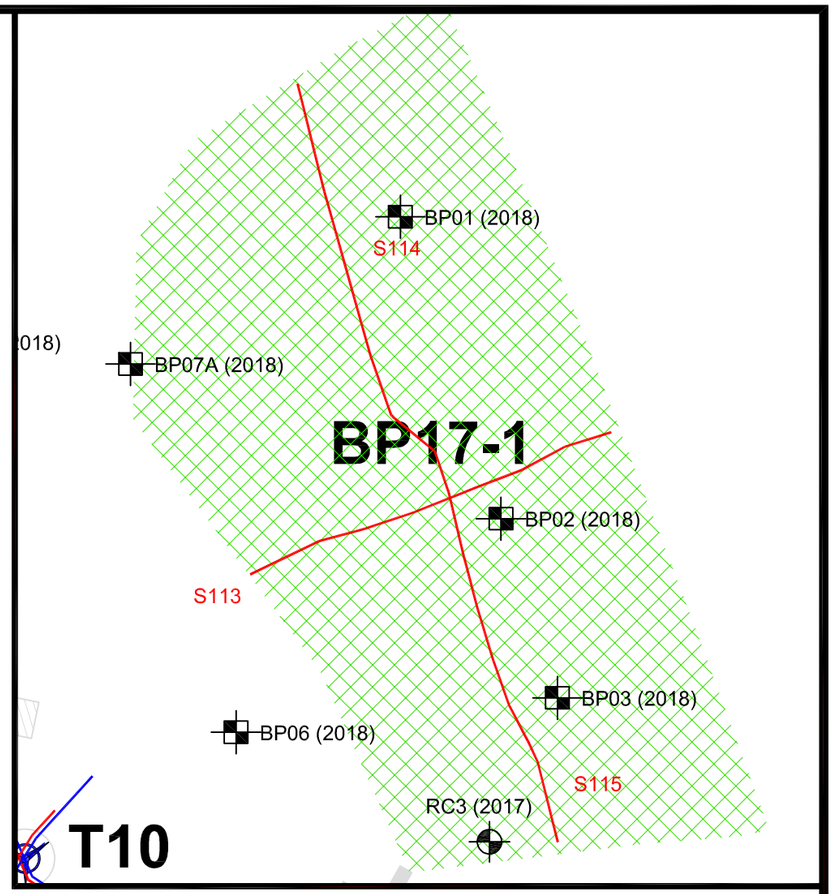
- S1 — Seismic Refraction Line
- RC1 — Rotary Core Hole
- TP1 — Trial Pit

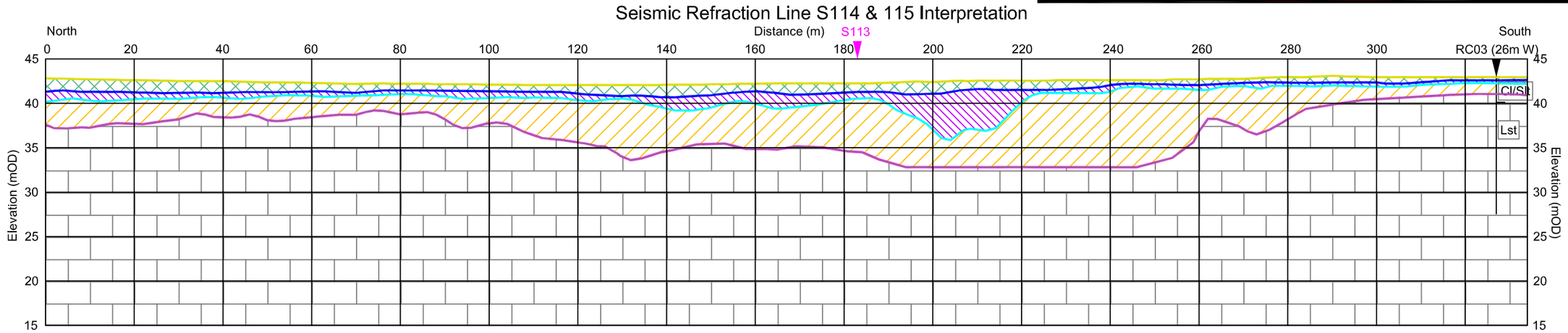
Layers from Seismic Refraction Model:

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

# Borrow Pit 17-1





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 4a: Interpretation of Geophys. Survey, Borrow Pit 17-1 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:2500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 06/03/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

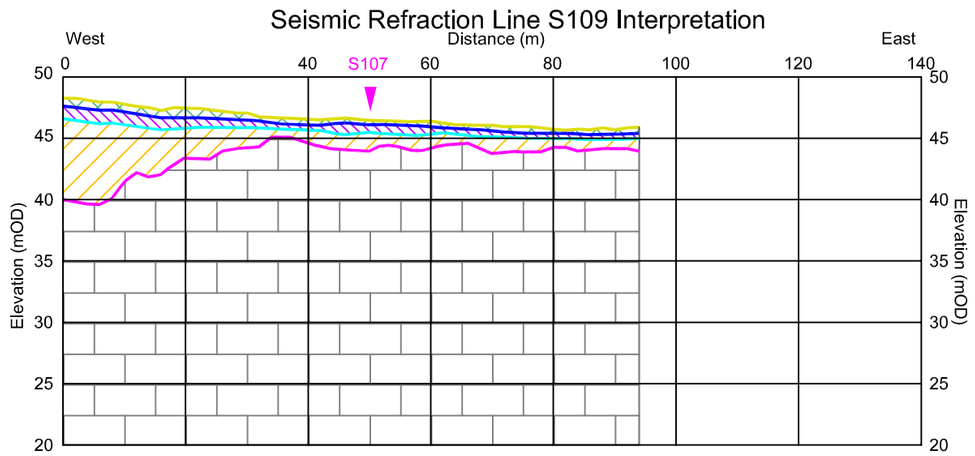
Interpretation Borrow Pit Locations:

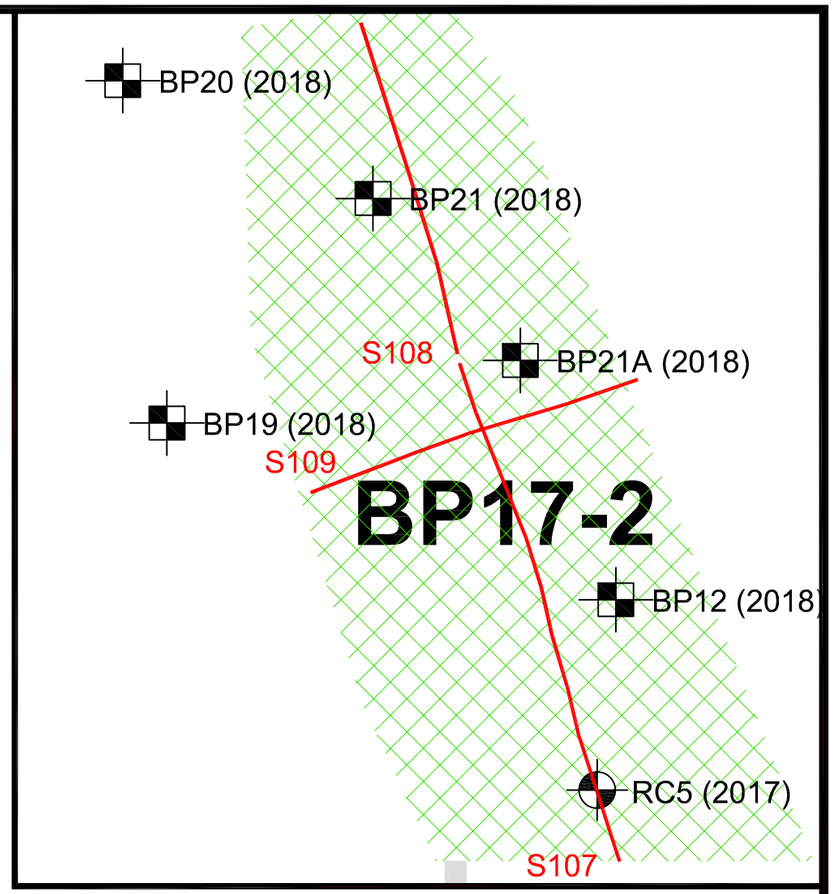
1 Soft Peat or Clay or Silt
2 Firm Clay or Silt
3 Stiff to very stiff or dense to very dense Overburden or poor highly weathered Rock
4 Fair to very good Limestone

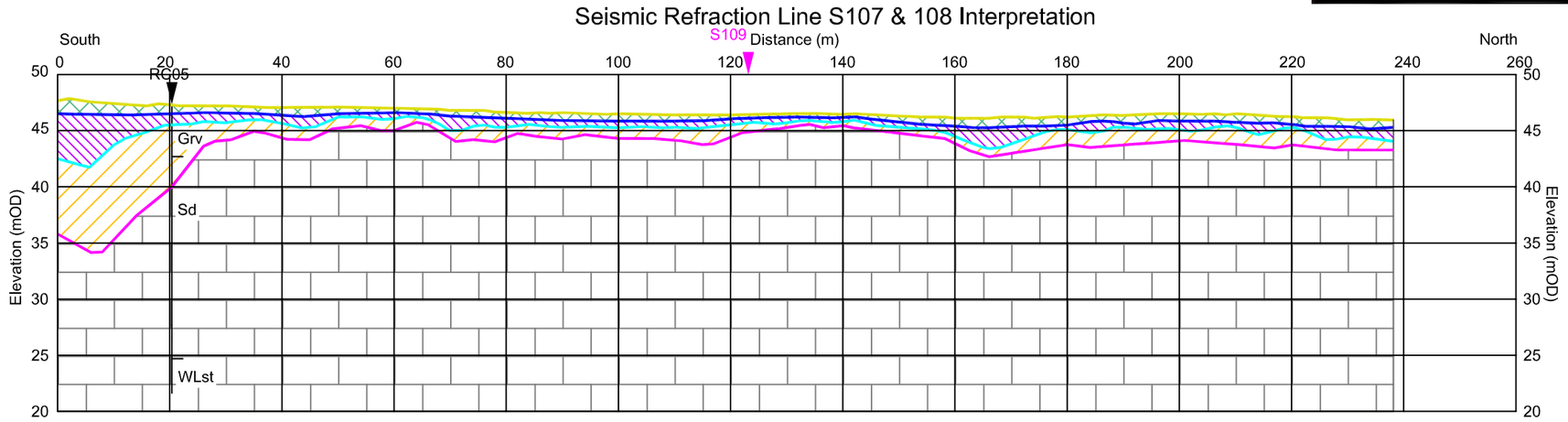
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

# Borrow Pit 17-2





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 4b: Interpretation of Geophys. Survey, Borrow Pit 17-2 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 14/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

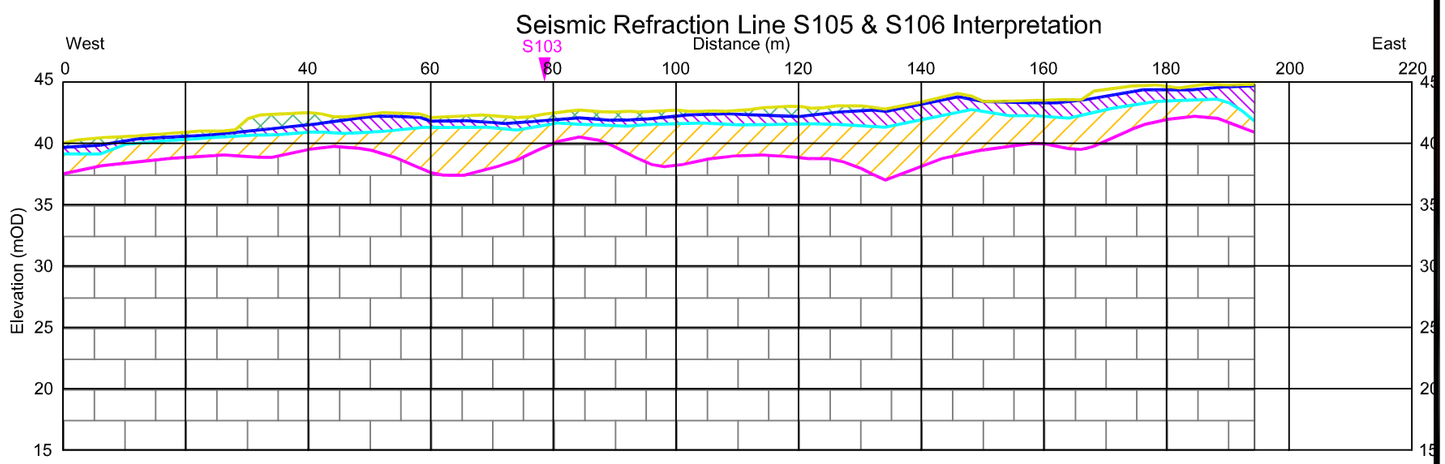
Interpretation Borrow Pit Locations:

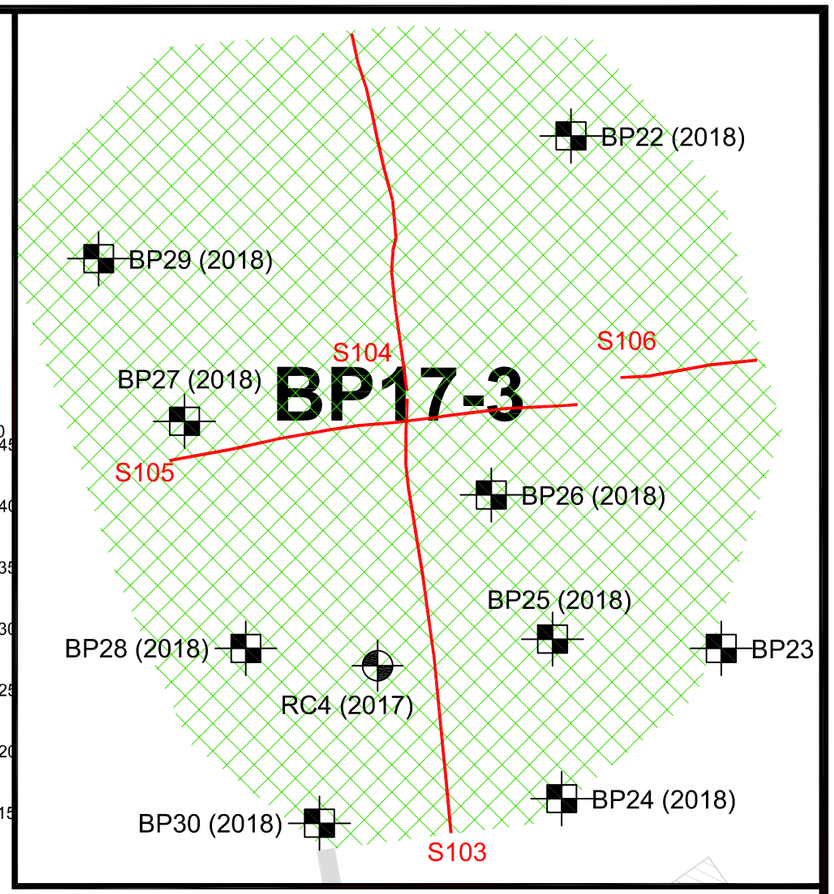
1 Soft Peat or Clay or Silt
2 Firm Clay or Silt
3 Stiff to very stiff or dense to very dense Overburden or poor highly weathered Rock
4 Fair to very good Limestone

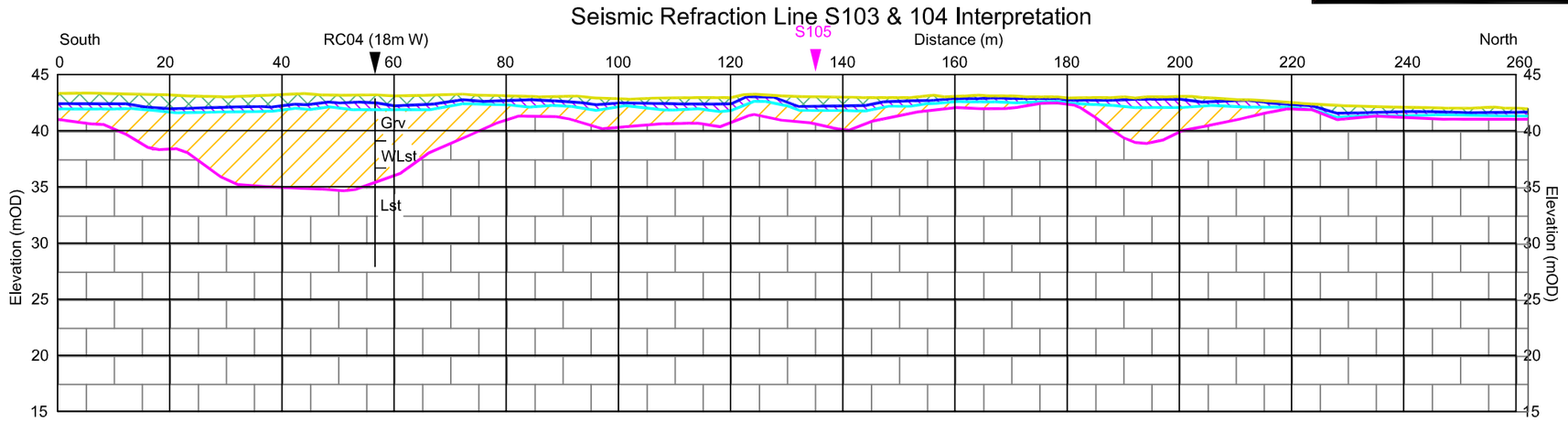
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

# Borrow Pit 17-3





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 4c: Interpretation of Geophys. Survey, Borrow Pit 17-3 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:2000 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 14/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

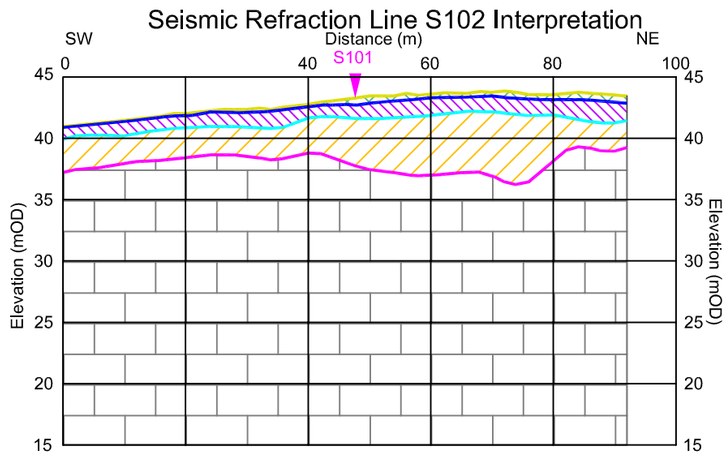
## Interpretation Borrow Pit Locations:

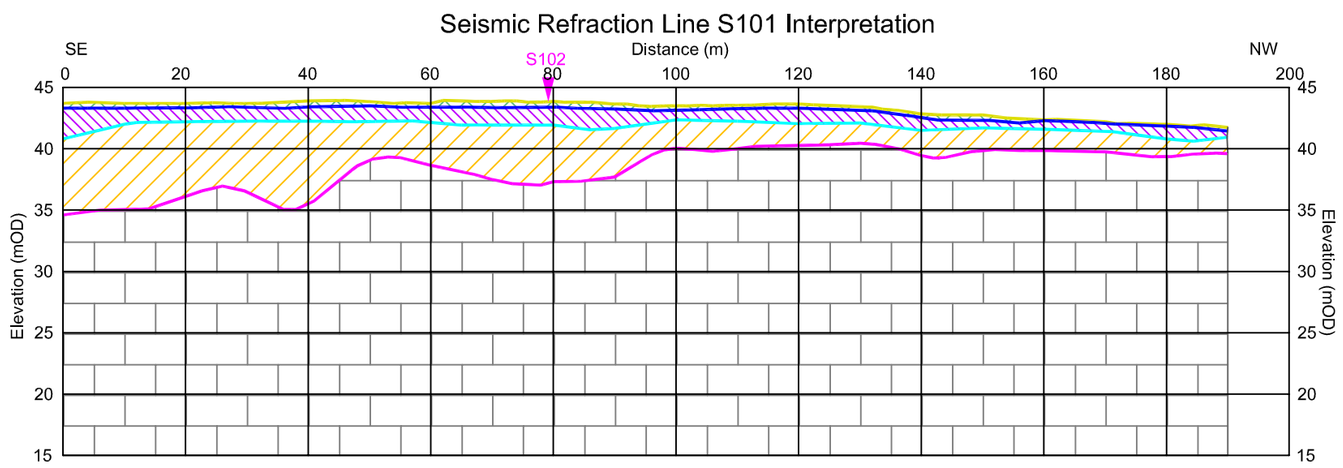
1 Soft Peat or Clay or Silt
2 Firm Clay or Silt
3 Stiff to very stiff or dense to very dense Overburden or poor highly weathered Rock
4 Fair to very good Limestone

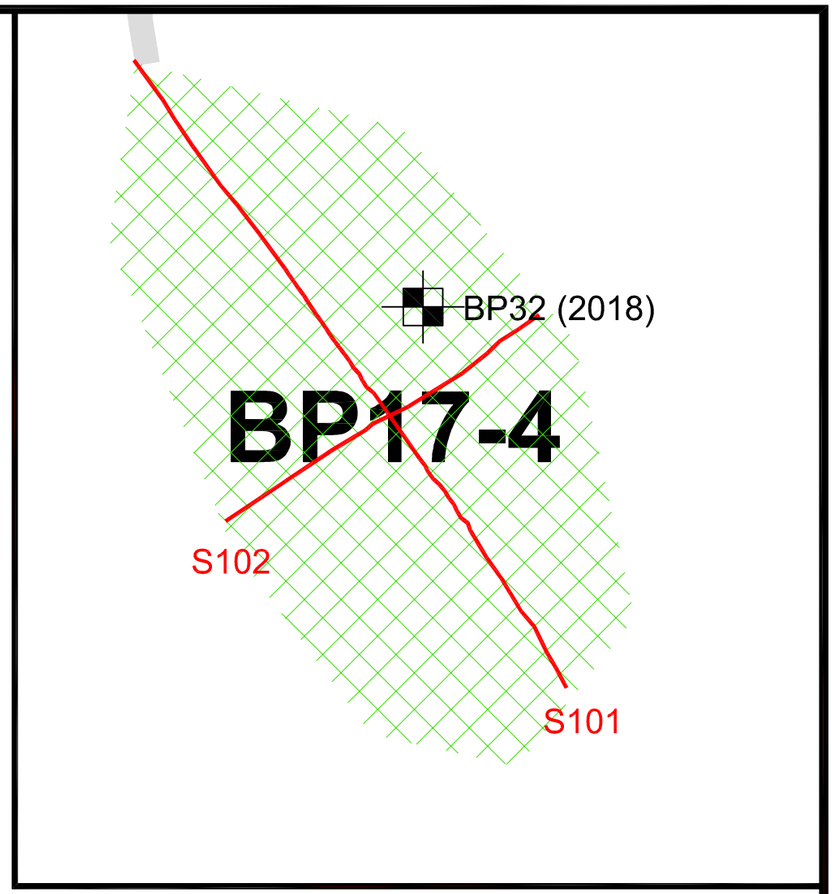
## Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

# Borrow Pit 17-4





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 4d: Interpretation of<br>Geophys.l Survey, Borrow Pit 17-4 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 14/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

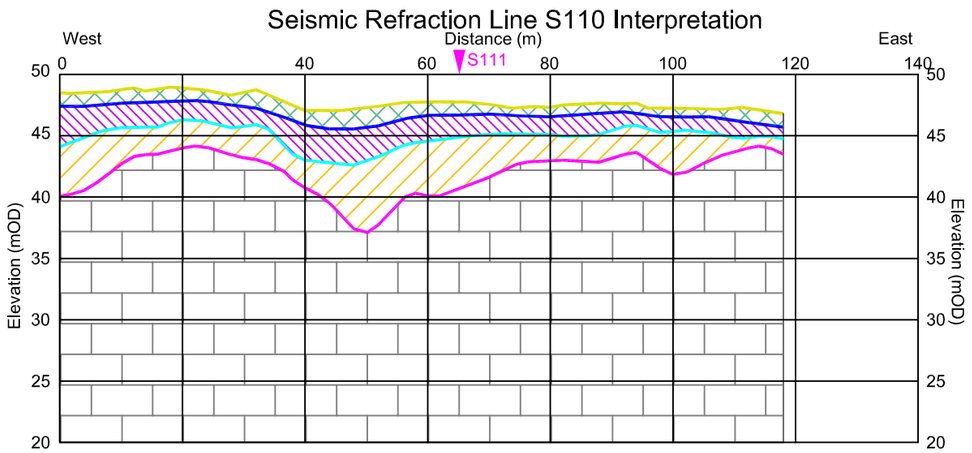
Interpretation Borrow Pit Locations:

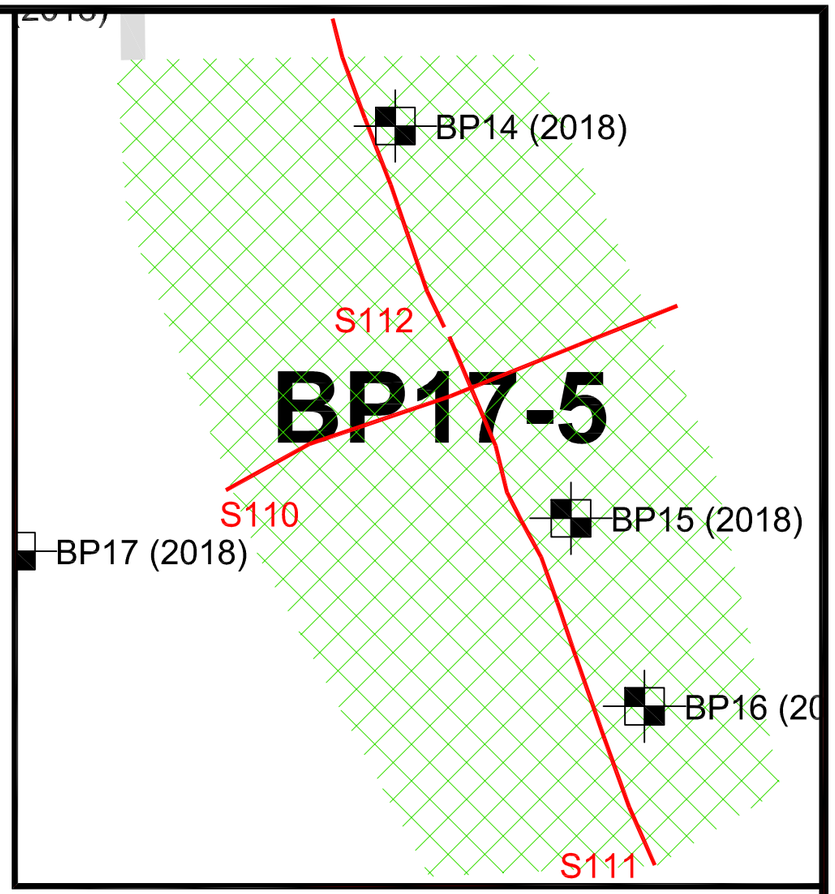
1 Soft Peat or Clay or Silt
2 Firm Clay or Silt
3 Stiff to very stiff or dense to very dense Overburden or poor highly weathered Rock
4 Fair to very good Limestone

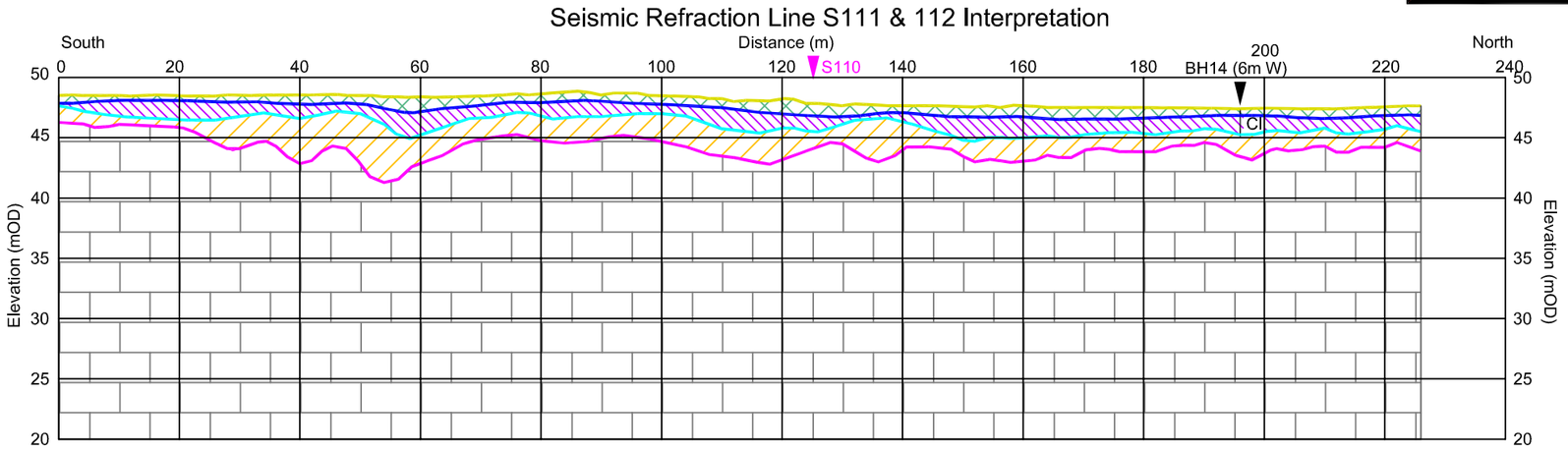
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

# Borrow Pit 17-5





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 4e: Interpretation of Geophys. Survey, Borrow Pit 17-5 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | HS |
| DATE: | 14/04/2021 |
| MGX FILE: | 6540d_MapsFigs.dwg |
| STATUS: | Draft |

LEGEND:

Interpretation Borrow Pit Locations:

1 Soft Peat or Clay or Silt
2 Firm Clay or Silt
3 Stiff to very stiff or dense to very dense Overburden or poor highly weathered Rock
4 Fair to very good Limestone

Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | | |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |

# Appendix 5A
# Electrical Resistivity Testing

Derryadd Windfarm

Co. Longford

# Electrical Resistivity Testing

Report Status: Final

*MGX Project Number: 6540*

*MGX File Ref: 6540v-005.doc*

12th July 2021

**Confidential Report To:**

**Irish Drilling Ltd.**
Old Galway Rd
Pollroebuck
Loughrea
Co. Galway


**Report submitted by:**
**Minerex Geophysics Limited**

Unit F4, Maynooth Business Campus
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**Issued by:**

Hartmut Krahn (Senior Geophysicist)


Minerex
Geophysics Limited

Subsurface Geophysical Investigations

# CONTENTS

1. INTRODUCTION ..... 1

1.1 Background ..... 1
1.2 Objectives ..... 1
1.3 Site Description ..... 1
1.4 Report ..... 1

2. TESTING ON SITE ..... 2

2.1 Methodology ..... 2
2.2 Measurements ..... 2
2.4 Site Work ..... 3

3. RESULTS ..... 4

4. REFERENCES ..... 5

## List of Tables, Maps and Figures:


| Title | Pages | Document Reference |
|---|---|---|
| Table 1: VES Survey Locations and Acquisition Parameters | 1 x A4 | 6540v-Tab1-VES.xls |
| Table 2: Ground Resistivity Testing Results | 50 x A4 | 6540v-Tab2-VES.xls |
| Figure 1: Resistivity Testing using the Wenner Array | In Text | In Text |

# 1. INTRODUCTION

## 1.1 Background

Minerex Geophysics Ltd. (MGX) conducted Vertical Electrical Sounding (VES) using the Wenner electrode configuration at proposed locations for 24 turbines and a substation for the Derryadd Windfarm project, Co. Longford. The 24 locations were spread between 3 peat bog farms, namely from North to South: Derryaroge, Derryadd and Lough Bannow. Derryaroge contains Turbine locations 1-9, Derryadd contains 10-17 and a proposed substation, and Lough Bannow contains 18-24. A map of turbine locations is available with the main geophysical report. The survey was commissioned by IDL who are the main ground investigation contractor for the project.

The purpose of the survey was to provide information to be used in the design and construction phases of the project.

These tests are conducted in order to increase the knowledge of the resistivity of the soil and rock and to assist with the design and installation of earthing systems and underground cabling systems. Soil resistivity depends on a number of factors like soil type, mineral content, temperature, moisture, salt content and compaction.

The methodology specified here encompasses onsite in–situ measurements and the presentation of the results, but does not include the design of the earthing or cabling system.

## 1.2 Objectives

The main objective of the geophysical survey was:

- To determine the electrical resistivity at a range of depths for each proposed turbine/substation locations

## 1.3 Site Description

The site is shown on Map 1 of the main geophysical report, and the area consists of farmed peat bog.

## 1.4 Report

This report includes tables of VES results. The indirect nature and the non-invasive survey methods must be taken into account when considering the results of this survey and Minerex Geophysics Limited, while using appropriate practice to execute the measurements and to present the data, give no guarantees in relation to the existing subsurface.

# 2. TESTING ON SITE

## 2.1 Methodology

The methodology consisted of using Vertical Electrical Sounding (VES) in the Wenner electrode configuration at a range of electrode spacing agreed with the client prior to the fieldwork. The increase in the electrode spacing leads to an increase in the depth. The VES method was used at all locations.

**VES - Vertical Electrical Sounding**

Objective: Determine the resistivity for ground, soil and rock to using 2 x 180m orthogonal spreads to for anisotropy.

Purpose: This test is generally done to deliver values for the design of an earthing or grounding system

Test Method: Four probe array in Wenner electrode configuration with expanding electrode spacing

Spacings: 1, 2, 3, 4, 5, 7, 10, 15, 20, 30, 40, 50 and 60m (less if there is not enough physical space)

Directions: The test is done at two orthogonal directions

Instrument: Tigre Resistivity Meter (high power)

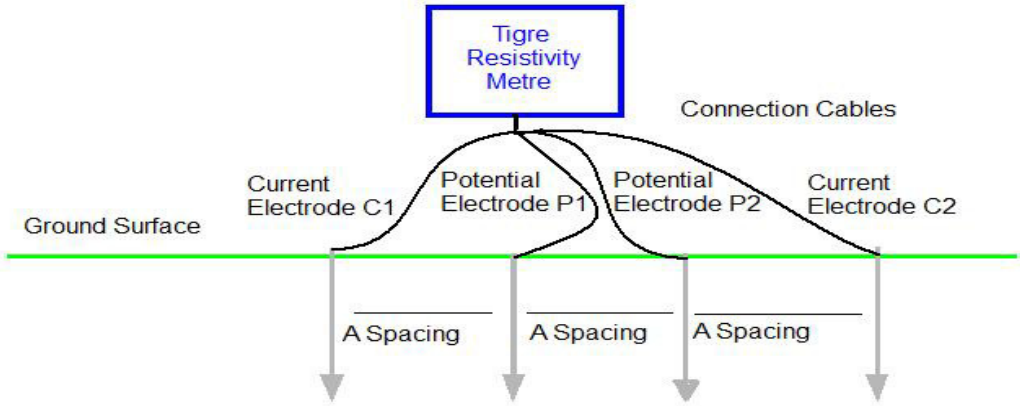
## 2.2 Measurements

Vertical Electrical Soundings were conducted at 25 locations across the site: 24 at proposed turbine locations, and one at a proposed substation location.

All measurements were acquired in accordance with Minerex Geophysics Ltd. procedures, protocols, QC procedures and in compliance with appropriate IEEE and British Standards. The relevant IEEE standards are 81-1983 part 1 – Guide to Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of Ground Systems (ANSI/IEEE Std 81-1983) for the resistivity testing (IEEE 1983).

The Vertical Electrical Sounding (VES) was conducted using a Tigre Resistivity Meter with variable current input, a suite of four cables and four stainless steel electrodes. This ‘four probe array’ is called a **Wenner Array** as the spacing (A) between the four electrodes was the same for each measurement. At each electrode spacing, the test resistance in Ohms (Ω) was recorded in a detailed field sheet for later office-based computing of ground resistivities.

Figure 1: Resistivity Testing using the Wenner Array.




## 2.3 Testing Equipment

All equipment used was portable and intrinsically safe. The method is non-destructive and non-intrusive. Only low voltage power requirements of 12V or less were needed on site and were supplied by batteries. The following equipment was used:

- An ALLIED Tigre Resistivity Meter
- A suite of cables with 4 reels and distance marks for resistivity readings
- Stainless Steel Electrodes
- Measuring tapes
- Handheld GPS

Equipment checks and QC procedures were applied prior to the commencement of data acquisition.

## 2.4 Site Work

The data acquisition was carried out between the 1st February to the 23rd of March 2021 in good weather conditions. Health and safety standards were adhered to at all times.

## 3. RESULTS

The recorded test resistance in Ω allows for the calculation of the resistivity value in Ωm for each individual electrode spacing.

The resistivity at a given electrode spacing was calculated using the following formula:

$\rho = 2^{*}\pi * A * R$

Where;

$\rho$ = Resistivity in Ωm

$\pi$ = Pi = 3.141592

A = electrode spacing in m

R = Measured Resistance value in Ω

The survey results with electrode spacing, resistances and resistivities are displayed in Table 2. Where the physical space was too short for the long VES lines the reason is stated in Table 2.

The resistivity values recorded at given electrode spacing can be allocated to approximate depth values. For the Wenner array, the average resistivity taken at a particular A-spacing is equal to the average resistivity for a depth range between the ground surface and the A-spacing. Therefore, the average resistivity value recorded in the last column of Table 1 and 2 corresponds to the depth range between 0m bgl and the value in the first column. The depth mentioned in this report is given for visualisation purpose but may change when using the resistivity values in the design of the earthing system.

## 4. REFERENCES

1. **IEEE, 1983.** ANSI/IEEE Std. 83-1983. IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potential of a Ground System. The Institute of Electrical and Electronics Engineers Inc.

# Table 1: VES Survey Locations and Acquisition Parameters

| VES Wenner Survey | | | | |
|---|---|---|---|---|
| **Site** | **Distance to Centre (m)** | **Length (m)** | **Direction** | **Comment** |
| Substation | 90 | 180 | SE-NW | |
| Substation | 60 | 120 | SW-NE | Water SW |
| Turbine 1 | 90 | 180 | SE-NW | |
| Turbine 1 | 75 | 150 | SW-NE | Deep Ditch NE |
| Turbine 2 | 90 | 180 | SE-NW | |
| Turbine 2 | 60 | 120 | SW-NE | Dense Vegetation SW |
| Turbine 3 | 90 | 180 | SE-NW | |
| Turbine 3 | 60 | 120 | SW-NE | Deep Ditch SW |
| Turbine 4 | 90 | 180 | S-N | |
| Turbine 4 | 22.5 | 45 | W-E | Deep Ditch E |
| Turbine 5 | 60 | 120 | E-W | Water |
| Turbine 5 | 90 | 180 | S-N | |
| Turbine 6 | 90 | 180 | SW-NE | |
| Turbine 6 | 90 | 180 | SE-NW | |
| Turbine 7 | 90 | 180 | NW-SE | |
| Turbine 7 | 30 | 60 | SW-NE | Water |
| Turbine 8 | 22.5 | 45 | SE-NW | Deep Ditch NE |
| Turbine 8 | 90 | 180 | NE-SW | |
| Turbine 9 | 90 | 180 | NW-SE | |
| Turbine 9 | 22.5 | 45 | NE-SW | Deep Ditch NE |
| Turbine 10 | 90 | 180 | SE-NW | |
| Turbine 10 | 90 | 180 | SW-NE | |
| Turbine 11 | 90 | 180 | SE-NW | |
| Turbine 11 | 90 | 180 | NE-SW | |
| Turbine 12 | 90 | 180 | S-N | |
| Turbine 12 | 90 | 180 | W-E | |
| Turbine 13 | 90 | 180 | S-N | |
| Turbine 13 | 60 | 120 | E-W | Water W |
| Turbine 14 | 90 | 180 | S-N | |
| Turbine 14 | 90 | 180 | E-W | |
| Turbine 15 | 90 | 180 | E-W | |
| Turbine 15 | 90 | 180 | S-N | |
| Turbine 16 | 90 | 180 | SW-NE | |
| Turbine 16 | 90 | 180 | NW-SE | |
| Turbine 17 | 90 | 180 | N-S | |
| Turbine 17 | 90 | 180 | E-W | |
| Turbine 18 | 90 | 180 | NW-SE | |
| Turbine 18 | 90 | 180 | NE-SW | |
| Turbine 19 | 90 | 180 | SE-NW | |
| Turbine 19 | 90 | 180 | NE-SW | |
| Turbine 20 | 90 | 180 | N-S | |
| Turbine 20 | 60 | 120 | E-W | Ditch |
| Turbine 21 | 90 | 180 | SW-NE | |
| Turbine 21 | 90 | 180 | NW-SE | |
| Turbine 22 | 90 | 180 | NE-SW | |
| Turbine 22 | 90 | 180 | SE-NW | |
| Turbine 23 | 75 | 150 | NE-SW | Dense Vegetation SE |
| Turbine 23 | 60 | 120 | SE-NW | Dense Vegetation NE |
| Turbine 24 | 90 | 180 | NE-SW | |
| Turbine 24 | 90 | 180 | NW-SE | |
| | **SUM** | **7995** | | |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Substation** | **SE-NW** | **205101** | **268591** | **17/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 7.856 | 49 |
| 2 | 1 | 3 | 3.408 | 43 |
| 3 | 1.5 | 4.5 | 2.299 | 43 |
| 4 | 2 | 6 | 2.077 | 52 |
| 5 | 2.5 | 7.5 | 1.885 | 59 |
| 7 | 3.5 | 10.5 | 1.774 | 78 |
| 10 | 5 | 15 | 1.714 | 108 |
| 15 | 7.5 | 22.5 | 1.704 | 161 |
| 20 | 10 | 30 | 1.694 | 213 |
| 30 | 15 | 45 | 1.643 | 310 |
| 40 | 20 | 60 | 1.623 | 408 |
| 50 | 25 | 75 | 1.361 | 428 |
| 60 | 30 | 90 | 1.512 | 570 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Substation** | **SW-NE** | **205101** | **268591** | **17/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 9.701 | 61 |
| 2 | 1 | 3 | 3.378 | 42 |
| 3 | 1.5 | 4.5 | 1.744 | 33 |
| 4 | 2 | 6 | 1.593 | 40 |
| 5 | 2.5 | 7.5 | 1.421 | 45 |
| 7 | 3.5 | 10.5 | 1.361 | 60 |
| 10 | 5 | 15 | 1.573 | 99 |
| 15 | 7.5 | 22.5 | 1.645 | 155 |
| 20 | 10 | 30 | 1.574 | 198 |
| 30 | 15 | 45 | 1.432 | 270 |
| 40 | 20 | 60 | 1.29 | 324 |
| | | | Water SW | |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 1** | **SE-NW** | **204045** | **269698** | **11/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 7.785 | 49 |
| 2 | 1 | 3 | 5.153 | 65 |
| 3 | 1.5 | 4.5 | 4.379 | 83 |
| 4 | 2 | 6 | 3.802 | 96 |
| 5 | 2.5 | 7.5 | 3.47 | 109 |
| 7 | 3.5 | 10.5 | 3.18 | 140 |
| 10 | 5 | 15 | 2.98 | 187 |
| 15 | 7.5 | 22.5 | 2.884 | 272 |
| 20 | 10 | 30 | 2.82 | 354 |
| 30 | 15 | 45 | 2.71 | 511 |
| 40 | 20 | 60 | 2.57 | 646 |
| 50 | 25 | 75 | 2.41 | 757 |
| 60 | 30 | 90 | 2.23 | 841 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 1** | **SW-NE** | **204045** | **269698** | **11/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 7.926 | 50 |
| 2 | 1 | 3 | 5.33 | 67 |
| 3 | 1.5 | 4.5 | 4.25 | 80 |
| 4 | 2 | 6 | 3.519 | 88 |
| 5 | 2.5 | 7.5 | 3.2 | 101 |
| 7 | 3.5 | 10.5 | 3.025 | 133 |
| 10 | 5 | 15 | 3.005 | 189 |
| 15 | 7.5 | 22.5 | 3.156 | 297 |
| 20 | 10 | 30 | 3.02 | 379 |
| 30 | 15 | 45 | 2.57 | 484 |
| 40 | 20 | 60 | 2.07 | 520 |
| 50 | 25 | 75 | 1.816 | 570 |
| | | | Deep Ditch NE | |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 2** | **SE-NW** | **203764** | **270150** | **11/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 9.74 | 61 |
| 2 | 1 | 3 | 6.65 | 84 |
| 3 | 1.5 | 4.5 | 5.022 | 95 |
| 4 | 2 | 6 | 4.02 | 101 |
| 5 | 2.5 | 7.5 | 3.63 | 114 |
| 7 | 3.5 | 10.5 | 3.267 | 144 |
| 10 | 5 | 15 | 3.054 | 192 |
| 15 | 7.5 | 22.5 | 2.53 | 238 |
| 20 | 10 | 30 | 2.103 | 264 |
| 30 | 15 | 45 | 2.043 | 385 |
| 40 | 20 | 60 | 2.087 | 525 |
| 50 | 25 | 75 | 2.26 | 710 |
| 60 | 30 | 90 | 2.25 | 848 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 2** | **SW-NE** | **203764** | **270150** | **11/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 10.86 | 68 |
| 2 | 1 | 3 | 7.017 | 88 |
| 3 | 1.5 | 4.5 | 5.082 | 96 |
| 4 | 2 | 6 | 3.66 | 92 |
| 5 | 2.5 | 7.5 | 3.417 | 107 |
| 7 | 3.5 | 10.5 | 3.387 | 149 |
| 10 | 5 | 15 | 2.784 | 175 |
| 15 | 7.5 | 22.5 | 2.808 | 265 |
| 20 | 10 | 30 | 2.994 | 376 |
| 30 | 15 | 45 | 3.144 | 593 |
| | | | Dense Vegetation SW | |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 3** | **SE-NW** | **203671** | **270696** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 16.2 | 102 |
| 2 | 1 | 3 | 8.27 | 104 |
| 3 | 1.5 | 4.5 | 5.728 | 108 |
| 4 | 2 | 6 | 5.224 | 131 |
| 5 | 2.5 | 7.5 | 4.709 | 148 |
| 7 | 3.5 | 10.5 | 4.134 | 182 |
| 10 | 5 | 15 | 3.64 | 229 |
| 15 | 7.5 | 22.5 | 3.398 | 320 |
| 20 | 10 | 30 | 2.847 | 358 |
| 30 | 15 | 45 | 3.277 | 618 |
| 40 | 20 | 60 | 3.227 | 811 |
| 50 | 25 | 75 | 3.06 | 961 |
| 60 | 30 | 90 | 2.914 | 1099 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 3** | **SW-NE** | **203671** | **270696** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 16.33 | 103 |
| 2 | 1 | 3 | 9.07 | 114 |
| 3 | 1.5 | 4.5 | 5.26 | 99 |
| 4 | 2 | 6 | 4.35 | 109 |
| 5 | 2.5 | 7.5 | 4.32 | 136 |
| 7 | 3.5 | 10.5 | 3.32 | 146 |
| 10 | 5 | 15 | 3.08 | 194 |
| 15 | 7.5 | 22.5 | 2.75 | 259 |
| 20 | 10 | 30 | 2.77 | 348 |
| 30 | 15 | 45 | 2.37 | 447 |
| 40 | 20 | 60 | 2.41 | 606 |
| | | | Deep Ditch SW | |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 4** | **S-N** | **203228** | **271306** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 9.27 | 58 |
| 2 | 1 | 3 | 3.681 | 46 |
| 3 | 1.5 | 4.5 | 2.69 | 51 |
| 4 | 2 | 6 | 2.64 | 66 |
| 5 | 2.5 | 7.5 | 2.027 | 64 |
| 7 | 3.5 | 10.5 | 1.865 | 82 |
| 10 | 5 | 15 | 1.966 | 124 |
| 15 | 7.5 | 22.5 | 2.168 | 204 |
| 20 | 10 | 30 | 1.88 | 236 |
| 30 | 15 | 45 | 2.51 | 473 |
| 40 | 20 | 60 | 2.42 | 608 |
| 50 | 25 | 75 | 2.349 | 738 |
| 60 | 30 | 90 | 2.279 | 859 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 4** | **W-E** | **203228** | **271306** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 8.531 | 54 |
| 2 | 1 | 3 | 3.721 | 47 |
| 3 | 1.5 | 4.5 | 2.874 | 54 |
| 4 | 2 | 6 | 2.369 | 60 |
| 5 | 2.5 | 7.5 | 2.178 | 68 |
| 7 | 3.5 | 10.5 | 2.037 | 90 |
| 10 | 5 | 15 | 1.996 | 125 |
| 15 | 7.5 | 22.5 | 2.047 | 193 |
| | | | Deep Ditch E | |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 5** | **E-W** | **203936** | **271719** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 14.28 | 90 |
| 2 | 1 | 3 | 9.438 | 119 |
| 3 | 1.5 | 4.5 | 6.231 | 117 |
| 4 | 2 | 6 | 5.082 | 128 |
| 5 | 2.5 | 7.5 | 3.933 | 124 |
| 7 | 3.5 | 10.5 | 2.795 | 123 |
| 10 | 5 | 15 | 2.063 | 130 |
| 15 | 7.5 | 22.5 | 1.563 | 147 |
| 20 | 10 | 30 | 1.467 | 184 |
| 30 | 15 | 45 | 1.352 | 255 |
| 40 | 20 | 60 | 1.278 | 321 |
| | | | WATER | |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 5** | **S-N** | **203936** | **271719** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 14.64 | 92 |
| 2 | 1 | 3 | 7.836 | 98 |
| 3 | 1.5 | 4.5 | 5.718 | 108 |
| 4 | 2 | 6 | 4.659 | 117 |
| 5 | 2.5 | 7.5 | 3.87 | 122 |
| 7 | 3.5 | 10.5 | 2.91 | 128 |
| 10 | 5 | 15 | 2.136 | 134 |
| 15 | 7.5 | 22.5 | 1.71 | 161 |
| 20 | 10 | 30 | 1.53 | 192 |
| 30 | 15 | 45 | 1.39 | 262 |
| 40 | 20 | 60 | 1.306 | 328 |
| 50 | 25 | 75 | 1.236 | 388 |
| 60 | 30 | 90 | 1.161 | 438 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 6** | **SW-NE** | **204091** | **271202** | **17/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 16.14 | 101 |
| 2 | 1 | 3 | 10.76 | 135 |
| 3 | 1.5 | 4.5 | 3.697 | 70 |
| 4 | 2 | 6 | 1.939 | 49 |
| 5 | 2.5 | 7.5 | 1.665 | 52 |
| 7 | 3.5 | 10.5 | 1.178 | 52 |
| 10 | 5 | 15 | 1.127 | 71 |
| 15 | 7.5 | 22.5 | 1.069 | 101 |
| 20 | 10 | 30 | 1.107 | 139 |
| 30 | 15 | 45 | 1.159 | 218 |
| 40 | 20 | 60 | 1.543 | 388 |
| 50 | 25 | 75 | 1.452 | 456 |
| 60 | 30 | 90 | 1.381 | 521 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 6** | **SE-NW** | **204091** | **271202** | **17/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 8.592 | 54 |
| 2 | 1 | 3 | 2.501 | 31 |
| 3 | 1.5 | 4.5 | 1.613 | 30 |
| 4 | 2 | 6 | 1.371 | 34 |
| 5 | 2.5 | 7.5 | 1.351 | 42 |
| 7 | 3.5 | 10.5 | 1.311 | 58 |
| 10 | 5 | 15 | 1.079 | 68 |
| 15 | 7.5 | 22.5 | 1.109 | 105 |
| 20 | 10 | 30 | 1.169 | 147 |
| 30 | 15 | 45 | 1.22 | 230 |
| 40 | 20 | 60 | 1.26 | 317 |
| 50 | 25 | 75 | 1.3 | 408 |
| 60 | 30 | 90 | 1.3 | 490 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 7** | **NW-SE** | **204457** | **270810** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 12.1 | 76 |
| 2 | 1 | 3 | 5.859 | 74 |
| 3 | 1.5 | 4.5 | 3.6 | 68 |
| 4 | 2 | 6 | 2.541 | 64 |
| 5 | 2.5 | 7.5 | 2.047 | 64 |
| 7 | 3.5 | 10.5 | 1.603 | 71 |
| 10 | 5 | 15 | 1.371 | 86 |
| 15 | 7.5 | 22.5 | 1.311 | 124 |
| 20 | 10 | 30 | 1.27 | 160 |
| 30 | 15 | 45 | 1.169 | 220 |
| 40 | 20 | 60 | 1.089 | 274 |
| 50 | 25 | 75 | 1.089 | 342 |
| 60 | 30 | 90 | 1.058 | 399 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 7** | **SW-NE** | **204457** | **270810** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 12.4 | 78 |
| 2 | 1 | 3 | 6.03 | 76 |
| 3 | 1.5 | 4.5 | 3.196 | 60 |
| 4 | 2 | 6 | 2.349 | 59 |
| 5 | 2.5 | 7.5 | 2.077 | 65 |
| 7 | 3.5 | 10.5 | 1.361 | 60 |
| 10 | 5 | 15 | 1.2 | 75 |
| 15 | 7.5 | 22.5 | 1.099 | 104 |
| 20 | 10 | 30 | 1.22 | 153 |
| | | | Water | |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 8** | **SE-NW** | **204627** | **270299** | **17/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 18.18 | 114 |
| 2 | 1 | 3 | 7.775 | 98 |
| 3 | 1.5 | 4.5 | 4.316 | 81 |
| 4 | 2 | 6 | 2.985 | 75 |
| 5 | 2.5 | 7.5 | 2.43 | 76 |
| 7 | 3.5 | 10.5 | 1.936 | 85 |
| 10 | 5 | 15 | 1.764 | 111 |
| 15 | 7.5 | 22.5 | 1.583 | 149 |
| 20 | 10 | 30 | 1.522 | 191 |
| 30 | 15 | 45 | 1.421 | 268 |
| 40 | 20 | 60 | 1.351 | 340 |
| 50 | 25 | 75 | 1.311 | 412 |
| 60 | 30 | 90 | 1.311 | 494 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 8** | **NE-SW** | **204627** | **270299** | **17/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 14.72 | 92 |
| 2 | 1 | 3 | 9.893 | 124 |
| 3 | 1.5 | 4.5 | 3.902 | 74 |
| 4 | 2 | 6 | 3.428 | 86 |
| 5 | 2.5 | 7.5 | 2.743 | 86 |
| 7 | 3.5 | 10.5 | 2.38 | 105 |
| 10 | 5 | 15 | 1.966 | 124 |
| | | | Deep ditch | |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 9** | **NW-SE** | **204643** | **269739** | **11/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 7.17 | 45 |
| 2 | 1 | 3 | 2.1 | 26 |
| 3 | 1.5 | 4.5 | 1.47 | 28 |
| 4 | 2 | 6 | 1.19 | 30 |
| 5 | 2.5 | 7.5 | 0.94 | 30 |
| 7 | 3.5 | 10.5 | 0.87 | 38 |
| 10 | 5 | 15 | 0.807 | 51 |
| 15 | 7.5 | 22.5 | 0.801 | 75 |
| 20 | 10 | 30 | 0.792 | 100 |
| 30 | 15 | 45 | 0.735 | 139 |
| 40 | 20 | 60 | 0.726 | 182 |
| 50 | 25 | 75 | 0.708 | 222 |
| 60 | 30 | 90 | 0.626 | 236 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 9** | **NE-SW** | **204643** | **269739** | **11/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 6.684 | 42 |
| 2 | 1 | 3 | 2.0028 | 25 |
| 3 | 1.5 | 4.5 | 1.3038 | 25 |
| 4 | 2 | 6 | 1.1163 | 28 |
| 5 | 2.5 | 7.5 | 1.089 | 34 |
| 7 | 3.5 | 10.5 | 0.8499 | 37 |
| 10 | 5 | 15 | 0.717 | 45 |
| | | | Deep Ditch NE | |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 10** | **SE-NW** | **205672** | **268516** | **16/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 25.41 | 160 |
| 2 | 1 | 3 | 9.298 | 117 |
| 3 | 1.5 | 4.5 | 7.039 | 133 |
| 4 | 2 | 6 | 6.333 | 159 |
| 5 | 2.5 | 7.5 | 6.262 | 197 |
| 7 | 3.5 | 10.5 | 5.829 | 256 |
| 10 | 5 | 15 | 5.597 | 352 |
| 15 | 7.5 | 22.5 | 5.345 | 504 |
| 20 | 10 | 30 | 5.304 | 667 |
| 30 | 15 | 45 | 5.042 | 950 |
| 40 | 20 | 60 | 4.75 | 1194 |
| 50 | 25 | 75 | 4.719 | 1482 |
| 60 | 30 | 90 | 4.54 | 1711 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 10** | **SW-NE** | **205672** | **268516** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 23.46 | 147 |
| 2 | 1 | 3 | 9.318 | 117 |
| 3 | 1.5 | 4.5 | 7.29 | 137 |
| 4 | 2 | 6 | 6.676 | 168 |
| 5 | 2.5 | 7.5 | 6.192 | 195 |
| 7 | 3.5 | 10.5 | 6.037 | 266 |
| 10 | 5 | 15 | 6 | 377 |
| 15 | 7.5 | 22.5 | 5.677 | 535 |
| 20 | 10 | 30 | 5.415 | 680 |
| 30 | 15 | 45 | 5.294 | 998 |
| 40 | 20 | 60 | 5.173 | 1300 |
| 50 | 25 | 75 | 5.748 | 1806 |
| 60 | 30 | 90 | 5.912 | 2229 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 11** | **SE-NW** | **206100** | **268268** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 24.7 | 155 |
| 2 | 1 | 3 | 19.39 | 244 |
| 3 | 1.5 | 4.5 | 20.32 | 383 |
| 4 | 2 | 6 | 19.45 | 489 |
| 5 | 2.5 | 7.5 | 18.65 | 586 |
| 7 | 3.5 | 10.5 | 17.62 | 775 |
| 10 | 5 | 15 | 16.35 | 1027 |
| 15 | 7.5 | 22.5 | 14.95 | 1409 |
| 20 | 10 | 30 | 13.46 | 1691 |
| 30 | 15 | 45 | 10.895 | 2054 |
| 40 | 20 | 60 | 8.963 | 2253 |
| 50 | 25 | 75 | 7.856 | 2468 |
| 60 | 30 | 90 | 7.0236 | 2648 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 11** | **NE-SW** | **206100** | **268268** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 27.01 | 170 |
| 2 | 1 | 3 | 20.61 | 259 |
| 3 | 1.5 | 4.5 | 21.12 | 398 |
| 4 | 2 | 6 | 21.02 | 528 |
| 5 | 2.5 | 7.5 | 19.06 | 599 |
| 7 | 3.5 | 10.5 | 18.38 | 808 |
| 10 | 5 | 15 | 16.04 | 1008 |
| 15 | 7.5 | 22.5 | 14.32 | 1350 |
| 20 | 10 | 30 | 12.79 | 1607 |
| 30 | 15 | 45 | 10.46 | 1972 |
| 40 | 20 | 60 | 9.1 | 2287 |
| 50 | 25 | 75 | 8.186 | 2572 |
| 60 | 30 | 90 | 6.968 | 2627 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 12** | **S-N** | **205694** | **267751** | **22/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 8.521 | 54 |
| 2 | 1 | 3 | 3.731 | 47 |
| 3 | 1.5 | 4.5 | 2.319 | 44 |
| 4 | 2 | 6 | 1.916 | 48 |
| 5 | 2.5 | 7.5 | 1.874 | 59 |
| 7 | 3.5 | 10.5 | 1.724 | 76 |
| 10 | 5 | 15 | 1.653 | 104 |
| 15 | 7.5 | 22.5 | 1.734 | 163 |
| 20 | 10 | 30 | 1.895 | 238 |
| 30 | 15 | 45 | 2.218 | 418 |
| 40 | 20 | 60 | 2.48 | 623 |
| 50 | 25 | 75 | 2.652 | 833 |
| 60 | 30 | 90 | 2.591 | 977 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 12** | **W-E** | **205694** | **267751** | **22/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 9.742 | 61 |
| 2 | 1 | 3 | 3.802 | 48 |
| 3 | 1.5 | 4.5 | 2.551 | 48 |
| 4 | 2 | 6 | 1.734 | 44 |
| 5 | 2.5 | 7.5 | 1.825 | 57 |
| 7 | 3.5 | 10.5 | 1.785 | 79 |
| 10 | 5 | 15 | 1.906 | 120 |
| 15 | 7.5 | 22.5 | 2.057 | 194 |
| 20 | 10 | 30 | 2.289 | 288 |
| 30 | 15 | 45 | 2.228 | 420 |
| 40 | 20 | 60 | 2.319 | 583 |
| 50 | 25 | 75 | 2.24 | 704 |
| 60 | 30 | 90 | 1.966 | 741 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 13** | **S-N** | **205962** | **266512** | **24/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 6.414 | 40 |
| 2 | 1 | 3 | 2.733 | 34 |
| 3 | 1.5 | 4.5 | 1.966 | 37 |
| 4 | 2 | 6 | 1.643 | 41 |
| 5 | 2.5 | 7.5 | 1.532 | 48 |
| 7 | 3.5 | 10.5 | 1.421 | 62 |
| 10 | 5 | 15 | 1.311 | 82 |
| 15 | 7.5 | 22.5 | 1.179 | 111 |
| 20 | 10 | 30 | 1.119 | 141 |
| 30 | 15 | 45 | 1.04 | 196 |
| 40 | 20 | 60 | 1.028 | 258 |
| 50 | 25 | 75 | 1 | 314 |
| 60 | 30 | 90 | 1.002 | 378 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 13** | **E-W** | **205962** | **266512** | **24/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 7.281 | 46 |
| 2 | 1 | 3 | 2.783 | 35 |
| 3 | 1.5 | 4.5 | 1.684 | 32 |
| 4 | 2 | 6 | 1.603 | 40 |
| 5 | 2.5 | 7.5 | 1.492 | 47 |
| 7 | 3.5 | 10.5 | 1.371 | 60 |
| 10 | 5 | 15 | 1.401 | 88 |
| 15 | 7.5 | 22.5 | 1.22 | 115 |
| 20 | 10 | 30 | 1.13 | 142 |
| 30 | 15 | 45 | 1.02 | 192 |
| 40 | 20 | 60 | 1.058 | 266 |
| | | | Water | |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 14** | **S-N** | **206398** | **266174** | **24/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 24.2 | 152 |
| 2 | 1 | 3 | 10.08 | 127 |
| 3 | 1.5 | 4.5 | 5.708 | 108 |
| 4 | 2 | 6 | 4.245 | 107 |
| 5 | 2.5 | 7.5 | 3.983 | 125 |
| 7 | 3.5 | 10.5 | 4.003 | 176 |
| 10 | 5 | 15 | 4.185 | 263 |
| 15 | 7.5 | 22.5 | 4.366 | 411 |
| 20 | 10 | 30 | 4.215 | 530 |
| 30 | 15 | 45 | 4.023 | 758 |
| 40 | 20 | 60 | 3.731 | 938 |
| 50 | 25 | 75 | 3.711 | 1166 |
| 60 | 30 | 90 | 3.701 | 1395 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 14** | **E-W** | **206398** | **266174** | **24/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 14.5 | 91 |
| 2 | 1 | 3 | 6.646 | 84 |
| 3 | 1.5 | 4.5 | 5.47 | 103 |
| 4 | 2 | 6 | 4.579 | 115 |
| 5 | 2.5 | 7.5 | 4.084 | 128 |
| 7 | 3.5 | 10.5 | 4.1 | 180 |
| 10 | 5 | 15 | 4.013 | 252 |
| 15 | 7.5 | 22.5 | 4.235 | 399 |
| 20 | 10 | 30 | 4.397 | 553 |
| 30 | 15 | 45 | 4.356 | 821 |
| 40 | 20 | 60 | 4.104 | 1031 |
| 50 | 25 | 75 | 3.691 | 1160 |
| 60 | 30 | 90 | 3.428 | 1292 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 15** | **E-W** | **207017** | **266275** | **09/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 5.708 | 36 |
| 2 | 1 | 3 | 2.581 | 32 |
| 3 | 1.5 | 4.5 | 2.138 | 40 |
| 4 | 2 | 6 | 2.077 | 52 |
| 5 | 2.5 | 7.5 | 1.976 | 62 |
| 7 | 3.5 | 10.5 | 2.017 | 89 |
| 10 | 5 | 15 | 1.724 | 108 |
| 15 | 7.5 | 22.5 | 1.371 | 129 |
| 20 | 10 | 30 | 1.24 | 156 |
| 30 | 15 | 45 | 1.23 | 232 |
| 40 | 20 | 60 | 1.331 | 335 |
| 50 | 25 | 75 | 1.442 | 453 |
| 60 | 30 | 90 | 1.553 | 585 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 15** | **S-N** | **207017** | **266275** | **09/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 6.867 | 43 |
| 2 | 1 | 3 | 2.823 | 35 |
| 3 | 1.5 | 4.5 | 2.198 | 41 |
| 4 | 2 | 6 | 1.986 | 50 |
| 5 | 2.5 | 7.5 | 1.966 | 62 |
| 7 | 3.5 | 10.5 | 1.734 | 76 |
| 10 | 5 | 15 | 1.633 | 103 |
| 15 | 7.5 | 22.5 | 1.643 | 155 |
| 20 | 10 | 30 | 1.724 | 217 |
| 30 | 15 | 45 | 1.694 | 319 |
| 40 | 20 | 60 | 1.865 | 469 |
| 50 | 25 | 75 | 1.664 | 523 |
| 60 | 30 | 90 | 1.512 | 570 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 16** | **SW-NE** | **206831** | **266677** | **09/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 8.31 | 52 |
| 2 | 1 | 3 | 3.66 | 46 |
| 3 | 1.5 | 4.5 | 3.943 | 74 |
| 4 | 2 | 6 | 3.61 | 91 |
| 5 | 2.5 | 7.5 | 3.58 | 112 |
| 7 | 3.5 | 10.5 | 2.995 | 132 |
| 10 | 5 | 15 | 2.934 | 184 |
| 15 | 7.5 | 22.5 | 2.833 | 267 |
| 20 | 10 | 30 | 2.874 | 361 |
| 30 | 15 | 45 | 2.884 | 544 |
| 40 | 20 | 60 | 2.904 | 730 |
| 50 | 25 | 75 | 2.681 | 842 |
| 60 | 30 | 90 | 2.541 | 958 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 16** | **NW-SE** | **206831** | **266677** | **09/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 9.288 | 58 |
| 2 | 1 | 3 | 3.963 | 50 |
| 3 | 1.5 | 4.5 | 3.075 | 58 |
| 4 | 2 | 6 | 3.549 | 89 |
| 5 | 2.5 | 7.5 | 3.63 | 114 |
| 7 | 3.5 | 10.5 | 2.954 | 130 |
| 10 | 5 | 15 | 2.884 | 181 |
| 15 | 7.5 | 22.5 | 2.944 | 277 |
| 20 | 10 | 30 | 3.005 | 378 |
| 30 | 15 | 45 | 2.864 | 540 |
| 40 | 20 | 60 | 2.682 | 674 |
| 50 | 25 | 75 | 2.581 | 811 |
| 60 | 30 | 90 | 2.47 | 931 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 17** | **N-S** | **206107** | **265592** | **24/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 14.2 | 89 |
| 2 | 1 | 3 | 5.51 | 69 |
| 3 | 1.5 | 4.5 | 4.17 | 79 |
| 4 | 2 | 6 | 3.64 | 91 |
| 5 | 2.5 | 7.5 | 3.438 | 108 |
| 7 | 3.5 | 10.5 | 3.257 | 143 |
| 10 | 5 | 15 | 3.136 | 197 |
| 15 | 7.5 | 22.5 | 3.075 | 290 |
| 20 | 10 | 30 | 2.954 | 371 |
| 30 | 15 | 45 | 2.692 | 507 |
| 40 | 20 | 60 | 2.601 | 654 |
| 50 | 25 | 75 | 2.622 | 824 |
| 60 | 30 | 90 | 2.601 | 981 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 17** | **E-W** | **206107** | **265592** | **24/02/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 14.01 | 88 |
| 2 | 1 | 3 | 6.313 | 79 |
| 3 | 1.5 | 4.5 | 4.366 | 82 |
| 4 | 2 | 6 | 3.822 | 96 |
| 5 | 2.5 | 7.5 | 3.479 | 109 |
| 7 | 3.5 | 10.5 | 3.086 | 136 |
| 10 | 5 | 15 | 2.914 | 183 |
| 15 | 7.5 | 22.5 | 2.894 | 273 |
| 20 | 10 | 30 | 2.914 | 366 |
| 30 | 15 | 45 | 2.813 | 530 |
| 40 | 20 | 60 | 2.66 | 669 |
| 50 | 25 | 75 | 2.51 | 789 |
| 60 | 30 | 90 | 2.4 | 905 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 18** | **NW-SE** | **207977** | **264543** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 14.32 | 90 |
| 2 | 1 | 3 | 9.651 | 121 |
| 3 | 1.5 | 4.5 | 8.36 | 158 |
| 4 | 2 | 6 | 7.967 | 200 |
| 5 | 2.5 | 7.5 | 6.219 | 195 |
| 7 | 3.5 | 10.5 | 5.728 | 252 |
| 10 | 5 | 15 | 5.048 | 317 |
| 15 | 7.5 | 22.5 | 4.489 | 423 |
| 20 | 10 | 30 | 4.175 | 525 |
| 30 | 15 | 45 | 3.529 | 665 |
| 40 | 20 | 60 | 3.166 | 796 |
| 50 | 25 | 75 | 2.884 | 906 |
| 60 | 30 | 90 | 2.672 | 1007 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 18** | **NE-SW** | **207977** | **264543** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 14.42 | 91 |
| 2 | 1 | 3 | 9.832 | 124 |
| 3 | 1.5 | 4.5 | 8.007 | 151 |
| 4 | 2 | 6 | 7.2 | 181 |
| 5 | 2.5 | 7.5 | 5.092 | 160 |
| 7 | 3.5 | 10.5 | 5.718 | 251 |
| 10 | 5 | 15 | 5.058 | 318 |
| 15 | 7.5 | 22.5 | 4.53 | 427 |
| 20 | 10 | 30 | 4.184 | 526 |
| 30 | 15 | 45 | 3.509 | 661 |
| 40 | 20 | 60 | 3.549 | 892 |
| 50 | 25 | 75 | 3.106 | 976 |
| 60 | 30 | 90 | 2.48 | 935 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 19** | **SE-NW** | **208360** | **264306** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 9.096 | 57 |
| 2 | 1 | 3 | 6.454 | 81 |
| 3 | 1.5 | 4.5 | 5.183 | 98 |
| 4 | 2 | 6 | 4.386 | 110 |
| 5 | 2.5 | 7.5 | 4.286 | 135 |
| 7 | 3.5 | 10.5 | 4.255 | 187 |
| 10 | 5 | 15 | 4.296 | 270 |
| 15 | 7.5 | 22.5 | 4.042 | 381 |
| 20 | 10 | 30 | 3.351 | 421 |
| 30 | 15 | 45 | 2.803 | 528 |
| 40 | 20 | 60 | 2.551 | 641 |
| 50 | 25 | 75 | 2.351 | 739 |
| 60 | 30 | 90 | 2.132 | 886 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 19** | **SW-NE** | **208360** | **264306** | **11/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 10.18 | 64 |
| 2 | 1 | 3 | 6.373 | 80 |
| 3 | 1.5 | 4.5 | 5.284 | 100 |
| 4 | 2 | 6 | 4.457 | 112 |
| 5 | 2.5 | 7.5 | 4.326 | 136 |
| 7 | 3.5 | 10.5 | 4.003 | 176 |
| 10 | 5 | 15 | 4.074 | 256 |
| 15 | 7.5 | 22.5 | 3.859 | 364 |
| 20 | 10 | 30 | 3.408 | 428 |
| 30 | 15 | 45 | 3.077 | 580 |
| 40 | 20 | 60 | 2.732 | 687 |
| 50 | 25 | 75 | 2.153 | 676 |
| 60 | 30 | 90 | 1.684 | 635 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 20** | **NW-SE** | **209253** | **264198** | **12/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 5.274 | 33 |
| 2 | 1 | 3 | 3.943 | 50 |
| 3 | 1.5 | 4.5 | 3.418 | 64 |
| 4 | 2 | 6 | 3.62 | 91 |
| 5 | 2.5 | 7.5 | 3.065 | 96 |
| 7 | 3.5 | 10.5 | 3.005 | 132 |
| 10 | 5 | 15 | 2.743 | 172 |
| 15 | 7.5 | 22.5 | 2.612 | 246 |
| 20 | 10 | 30 | 2.43 | 305 |
| 30 | 15 | 45 | 2.319 | 437 |
| 40 | 20 | 60 | 2.427 | 610 |
| 50 | 25 | 75 | 2.193 | 689 |
| 60 | 30 | 90 | 1.767 | 666 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 20** | **NE-SW** | **209253** | **264198** | **12/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 6.222 | 39 |
| 2 | 1 | 3 | 3.781 | 48 |
| 3 | 1.5 | 4.5 | 3.449 | 65 |
| 4 | 2 | 6 | 2.803 | 70 |
| 5 | 2.5 | 7.5 | 2.511 | 79 |
| 7 | 3.5 | 10.5 | 2.864 | 126 |
| 10 | 5 | 15 | 2.591 | 163 |
| 15 | 7.5 | 22.5 | 2.158 | 203 |
| 20 | 10 | 30 | 2.289 | 288 |
| 30 | 15 | 45 | 2.356 | 444 |
| | | | Ditch | |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 21** | **SW-NE** | **209448** | **263626** | **12/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 11.39 | 72 |
| 2 | 1 | 3 | 7.607 | 96 |
| 3 | 1.5 | 4.5 | 6.784 | 128 |
| 4 | 2 | 6 | 6.787 | 171 |
| 5 | 2.5 | 7.5 | 5.213 | 164 |
| 7 | 3.5 | 10.5 | 3.449 | 152 |
| 10 | 5 | 15 | 2.682 | 169 |
| 15 | 7.5 | 22.5 | 2.113 | 199 |
| 20 | 10 | 30 | 1.879 | 236 |
| 30 | 15 | 45 | 1.543 | 291 |
| 40 | 20 | 60 | 1.34 | 337 |
| 50 | 25 | 75 | 1.188 | 373 |
| 60 | 30 | 90 | 1.048 | 395 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 21** | **NW-SE** | **209448** | **263626** | **12/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 14.52 | 91 |
| 2 | 1 | 3 | 6.845 | 86 |
| 3 | 1.5 | 4.5 | 6 | 113 |
| 4 | 2 | 6 | 5.708 | 143 |
| 5 | 2.5 | 7.5 | 5.234 | 164 |
| 7 | 3.5 | 10.5 | 3.277 | 144 |
| 10 | 5 | 15 | 2.712 | 170 |
| 15 | 7.5 | 22.5 | 2.254 | 212 |
| 20 | 10 | 30 | 2.021 | 254 |
| 30 | 15 | 45 | 1.653 | 312 |
| 40 | 20 | 60 | 1.503 | 378 |
| 50 | 25 | 75 | 1.351 | 424 |
| 60 | 30 | 90 | 1.23 | 464 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 22** | **NE-SW** | **209901** | **264072** | **12/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 32.5 | 204 |
| 2 | 1 | 3 | 12.96 | 163 |
| 3 | 1.5 | 4.5 | 8.874 | 167 |
| 4 | 2 | 6 | 6.571 | 165 |
| 5 | 2.5 | 7.5 | 5.231 | 164 |
| 7 | 3.5 | 10.5 | 3.64 | 160 |
| 10 | 5 | 15 | 3.015 | 189 |
| 15 | 7.5 | 22.5 | 2.864 | 270 |
| 20 | 10 | 30 | 2.571 | 323 |
| 30 | 15 | 45 | 1.895 | 357 |
| 40 | 20 | 60 | 1.653 | 415 |
| 50 | 25 | 75 | 1.613 | 507 |
| 60 | 30 | 90 | 1.442 | 544 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 22** | **SE-NW** | **209901** | **264072** | **12/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 21.38 | 134 |
| 2 | 1 | 3 | 11.98 | 151 |
| 3 | 1.5 | 4.5 | 7.638 | 144 |
| 4 | 2 | 6 | 6.368 | 160 |
| 5 | 2.5 | 7.5 | 4.971 | 156 |
| 7 | 3.5 | 10.5 | 3.976 | 175 |
| 10 | 5 | 15 | 3.025 | 190 |
| 15 | 7.5 | 22.5 | 2.721 | 256 |
| 20 | 10 | 30 | 2.397 | 301 |
| 30 | 15 | 45 | 1.996 | 376 |
| 40 | 20 | 60 | 1.704 | 428 |
| 50 | 25 | 75 | 1.411 | 443 |
| 60 | 30 | 90 | 1.381 | 521 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 23** | **NE-SW** | **209708** | **264640** | **23/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 13.71 | 86 |
| 2 | 1 | 3 | 8.128 | 102 |
| 3 | 1.5 | 4.5 | 5.687 | 107 |
| 4 | 2 | 6 | 4.477 | 113 |
| 5 | 2.5 | 7.5 | 3.882 | 122 |
| 7 | 3.5 | 10.5 | 3.196 | 141 |
| 10 | 5 | 15 | 2.41 | 151 |
| 15 | 7.5 | 22.5 | 1.818 | 171 |
| 20 | 10 | 30 | 1.421 | 179 |
| 30 | 15 | 45 | 1.157 | 218 |
| 40 | 20 | 60 | 1.015 | 255 |
| | | | Dense Vegetation | |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 23** | **SE-NW** | **209708** | **264640** | **23/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 15.63 | 98 |
| 2 | 1 | 3 | 7.604 | 96 |
| 3 | 1.5 | 4.5 | 5.496 | 104 |
| 4 | 2 | 6 | 4.882 | 123 |
| 5 | 2.5 | 7.5 | 4.176 | 131 |
| 7 | 3.5 | 10.5 | 3.209 | 141 |
| 10 | 5 | 15 | 2.531 | 159 |
| 15 | 7.5 | 22.5 | 1.785 | 168 |
| 20 | 10 | 30 | 1.411 | 177 |
| 30 | 15 | 45 | 1.129 | 213 |
| 40 | 20 | 60 | 1.015 | 255 |
| 50 | 25 | 75 | 0.876 | 275 |
| | | | Dense vegetation | |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 24** | NE-SW | **209893** | **265218** | **23/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 19.36 | 122 |
| 2 | 1 | 3 | 10.48 | 132 |
| 3 | 1.5 | 4.5 | 8.007 | 151 |
| 4 | 2 | 6 | 6.575 | 165 |
| 5 | 2.5 | 7.5 | 5.768 | 181 |
| 7 | 3.5 | 10.5 | 4.739 | 208 |
| 10 | 5 | 15 | 3.869 | 243 |
| 15 | 7.5 | 22.5 | 3.499 | 330 |
| 20 | 10 | 30 | 2.359 | 296 |
| 30 | 15 | 45 | 1.956 | 369 |
| 40 | 20 | 60 | 1.583 | 398 |
| 50 | 25 | 75 | 1.341 | 421 |
| 60 | 30 | 90 | 1.149 | 433 |

# Table 2: Ground Resistivity Testing Results

| Location/Name: | Direction: | ING Coordinates East: | ING Coordinates North: | Date: |
|---|---|---|---|---|
| **Turbine 24** | **NW-SE** | **209893** | **265218** | **23/03/2021** |
| Wenner Electrode Spacing a (m) | Inner Electrode P Distance to Centre (m) | Outer Electrode C Distance to Centre (m) | Measured Resistance (Ω) | Apparent Resistivity (Ωm) |
| 1 | 0.5 | 1.5 | 19.6 | 123 |
| 2 | 1 | 3 | 10.36 | 130 |
| 3 | 1.5 | 4.5 | 7.876 | 148 |
| 4 | 2 | 6 | 6.908 | 174 |
| 5 | 2.5 | 7.5 | 5.415 | 170 |
| 7 | 3.5 | 10.5 | 4.699 | 207 |
| 10 | 5 | 15 | 3.459 | 217 |
| 15 | 7.5 | 22.5 | 2.753 | 259 |
| 20 | 10 | 30 | 2.047 | 257 |
| 30 | 15 | 45 | 1.584 | 299 |
| 40 | 20 | 60 | 1.512 | 380 |
| 50 | 25 | 75 | 1.371 | 431 |
| 60 | 30 | 90 | 1.169 | 441 |

# Appendix 6
# Groundwater Readings

IRISH DRILLING LTD.
Loughrea Co. Galway

Tel: (091) 841274 Fax: (091) 880861

Derryadd Wind Farm
Powergen Ltd
Derryadd, County Longford

Date: 04.06.2021

## Water Levels in Standpipes

| Location | Date 22.4.21 | Date 23.4.21 | Date 26.4.21 | Date 27.4.21 | Date 29.4.21 | Date 30.4.21 | Date 27.4.21 | Date 29.4.21 | Date 30.4.21 | Date 04.5.21 | Date 10.5.21 | Date 18.5.21 | Date 19.5.21 | Date 20.5.21 | Date 21.5.21 | Date 24.5.21 | Date 26.5.21 | Date 27.5.21 | Date 28.5.21 | Date 31.5.21 | Date 01.6.21 | Date 04.6.21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BH RC 01A | 0.81m | | | | | | | | | | | | | | | | | | | | 0.80m | |
| BH RC 02A | 1.55m | | | | | | | | | | | | | | | | | | | | 1.34m | |
| BH RC 03B | | 1.35m | | | | | | | | | | | | | | | | | | | 4.76m | |
| BH RC 04B | 1.54m | | | | | | | | | | | | | | | | | | | | 1.45m | |
| BH RC 05A | | | 2.90m | | | | | | | | | | | | | | | | | | 2.97m | |
| BH RC 06B | | | | 2.02m | | | | | | | | | | | | | | | | | 2.02m | |
| BH RC 07A | | | | | 1.75m | | | | | | | | | | | | | | | | 1.79m | |
| BH RC 08B | | | | | | 1.53m | | | | | | | | | | | | | | | 1.44m | |
| BH RC 09A | | | | | | | | | | 1.45m | | | | | | | | | | | 1.10m | |
| BH RC 10B | | | | | | | | | | | | | 2.90m | | | | | | | | | 3.10m |
| BH RC 11A | | | | | | | | | | | | | | 0.84m | | | | | | | | 0.97m |
| BH RC 12B | | | | | | | | | | | | | | 0.20m | | | | | | | | 0.21m |
| BH RC 13A | | | | | | | | | | | | | | | artesian | | | | | | | artesian |
| BH RC 14A | | | | | | | | | | | | | | | | | 0.70m | | | | | 0.75m |
| BH RC 15A | | | | | | | | | | | | | | | | | artesian | | | | | artesian |
| BH RC 15D | | | | | | | | | | | | | | | | | | G.L. | | | | G.L. |
| BH RC 16A | | | | | | | | | | | | | | | | | | 0.10m | | | 0.10m | |
| BH RC 17A | | | | | | | | | | | | | | | | 0.14m | | | | | 0.26m | |
| BH RC 18B | | | | | | | | | | | | | | | | | | | 0.40m | | | 0.35m |
| BH RC 19A | | | | | | | | | | | | | | | | | | | 0.38m | | | 0.46m |
| BH RC 20A | | | | | | | | | | | | | | | | | | | | 0.30m | 0.28m | |
| BH RC 21B | | | | | | | | | | | | | | | | | | | | 0.29m | 0.23m | |
| BH RC 22B | | | | | | | | | | | | | | | | | | | | 3.36m | 3.34m | |
| BH RC 23B | | | | | | | | | | | | | | | | | | | | 2.00m | 2.03m | |
| BH RC 24A | | | | | | | | | | | | | | | | | | | | 0.85m | 0.83m | |
| BH RC BPA1 | | | | | | | | | | | | | 0.73m | | | | | | | | | 0.63m |
| BH RC BPA3 | | | | | | | | | | | | | | 0.19m | | | | | | | | 0.30m |
| BH BPB01 | | | | | | | | | | | | | | 0.57m | | | | | | | | 0.68m |
| BH RC BPC1 | | | | | | | | | | | | | | | | | 0.16m | | | | | 0.27m |
| BH RC BPD1 | | | | | | | | | | | | | | | | | 1.08m | | | | | 1.32m |
| BH RC BPE1 | | | | | | | | | | | | | | | | | 0.55m | | | | | 0.93m |
| BH RC MMB | | | | | | | | | | | | | | | | 1.25m | | | | | 1.46m | |
| BH RC MMC | | | | | | | | | | | | | | | | | | | | G.L. | G.L. | |
| BH RC PSB | | | 1.00m | | | | | | | | | | | | | | | | | | 1.00m | |
| BH RC PSC | | | | | 1.61m | | | | | | | | | | | | | | | | 1.13m | |
| BH RC PSD | | | | | | 1.10m | | | | | | | | | | | | | | | 1.24m | |
| BH RC PSE | | | | | | | | | | 1.00m | | | | | | | | | | | 1.06m | |
| BH RC PSF | | | | | | | | | | | | 0.83m | | | | | | | | | 0.82m | |
| BH RC PSG | | | | | | | | | | | 0.66m | | | | | | | | | | | 0.62m |
| BH RC PSH | | | | | | | | | | | | | | | 2.03m | | | | | | 3.36m | |
| BH RC PSI | | | | | | | | | | | | | | | | | | 0.82m | | | | 0.77m |
| BH RC PSJ | | | | | | | | | | | | | | | | 0.52m | | | | | 0.73m | |
| BH RC PSK | | | | | | | | | | | | | | | | | | | 1.52m | | | 1.50m |
| BH RC PSL | | | | | | | | | | | | | | | | | | | 0.58m | | | 0.50m |
| BH RC PSM | | | | | | | | | | | | | | | | | | | | 1.58m | 1.60m | |
| BH RC PSN | | | | | | | | | | | | | | | | | | | 0.76m | | | 0.72m |
| BH RC SSA02 | | | | | | | | | | | | 0.11m | | | | | | | | | 0.16m | |
| BH RC SSA03 | | | | | | | | | | | | 0.45m | | | | | | | | | 0.54m | |
| BH RC SSA05 | | | | | | | | | | | 0.84m | | | | | | | | | | 0.51m | |
| BH RC SSA07 | | | | | | | | | | | | 3.94m | | | | | | | | | 4.00m | |

**Remarks:**
**All readings record depth from ground level to top of water level.**
**Standpipe Installation: 50mm standpipe, Rotary Core Borehole**

# Appendix 7
# Plate Bearing Test Results

| IRISH DRILLING LTD. | Contract: | Derryadd Windfarm | | |
|---|---|---|---|---|
| Loughrea Co. Galway | Client: | | | |
| | Engineer: | | | |
| Tel: (091) 841274 | Date: | 06/04/2021 | | |
| Lab@IrishDrilling.ie | Tested by: | PK | Checked: | DCD |

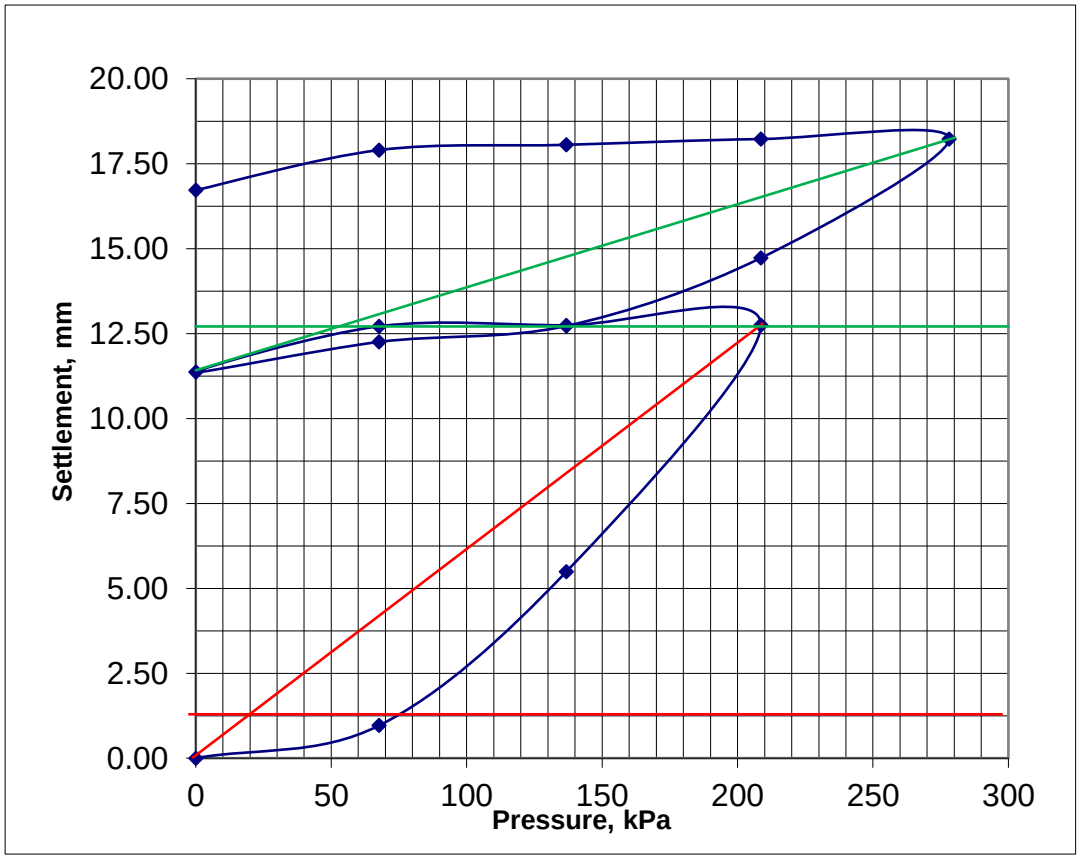
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| | | | |
|---|---|---|---|
| Test Location Number: | TP 150 | Depth / Level: | 0.4m |
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 0.96 |
| 136.8 | 5.49 |
| 208.6 | 12.75 |
| 136.8 | 12.74 |
| 67.7 | 12.71 |
| 0 | 11.36 |
| 67.7 | 12.25 |
| 136.8 | 12.72 |
| 208.6 | 14.72 |
| 278.1 | 18.23 |
| 208.6 | 18.23 |
| 136.8 | 18.06 |
| 67.7 | 17.90 |
| 0 | 16.72 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 20 | (p) Pressure kN/m$^2$ | 55 |
| 16.00 | Gradient (p/y) | 44.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 10.29 | ($k_s$) Modulus of subgrade reaction kPa/mm | 28.29 |
| 0.5 | Approximate CBR (%) | 3.2 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| **IRISH DRILLING LTD.** | Contract: | Derryadd Windfarm | | |
|---|---|---|---|---|
| Loughrea Co. Galway | Client: | | | |
| | Engineer: | | | |
| Tel: (091) 841274 | Date: | 18/02/2021 | | |
| Lab@IrishDrilling.ie | Tested by: | PC | Checked: | DCD |

## Plate Bearing Test: BS 1377:Part 9: 1990

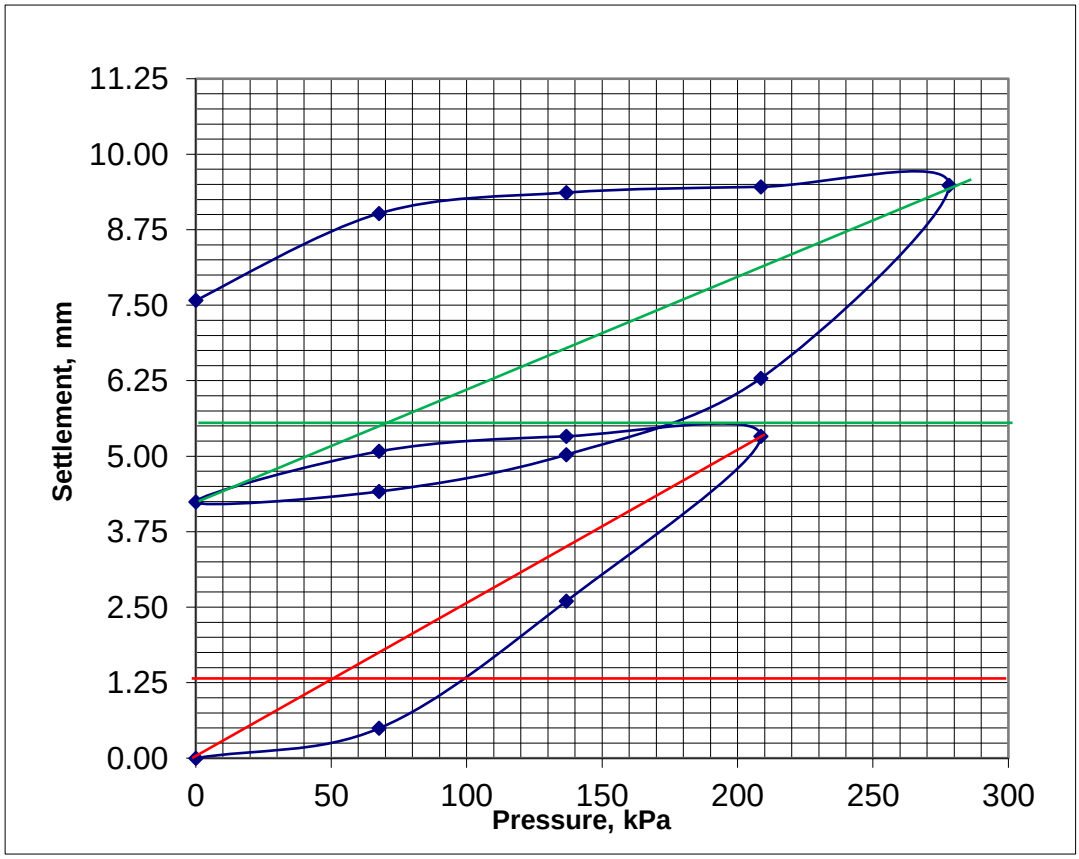
Plate diameter (mm) 450

Pump C

| | | | |
|---|---|---|---|
| Test Location Number: | TP 289 | Depth / Level: | 0.2m bgl |
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 0.49 |
| 136.8 | 2.60 |
| 208.6 | 5.33 |
| 136.8 | 5.33 |
| 67.7 | 5.08 |
| 0 | 4.25 |
| 67.7 | 4.42 |
| 136.8 | 5.03 |
| 208.6 | 6.29 |
| 278.1 | 9.49 |
| 208.6 | 9.46 |
| 136.8 | 9.37 |
| 67.7 | 9.02 |
| 0 | 7.58 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 50 | (p) Pressure kN/m$^2$ | 70 |
| 40.00 | Gradient (p/y) | 56.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 25.72 | ($k_s$) Modulus of subgrade reaction kPa/mm | 36.01 |
| 2.7 | Approximate CBR (%) | 4.8 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| **IRISH DRILLING LTD.** | Contract: | Derryadd Windfarm | | |
|---|---|---|---|---|
| Loughrea Co. Galway | Client: | | | |
| | Engineer: | | | |
| Tel: (091) 841274 | Date: | 18/02/2021 | | |
| Lab@IrishDrilling.ie | Tested by: | PC | Checked: | DCD |

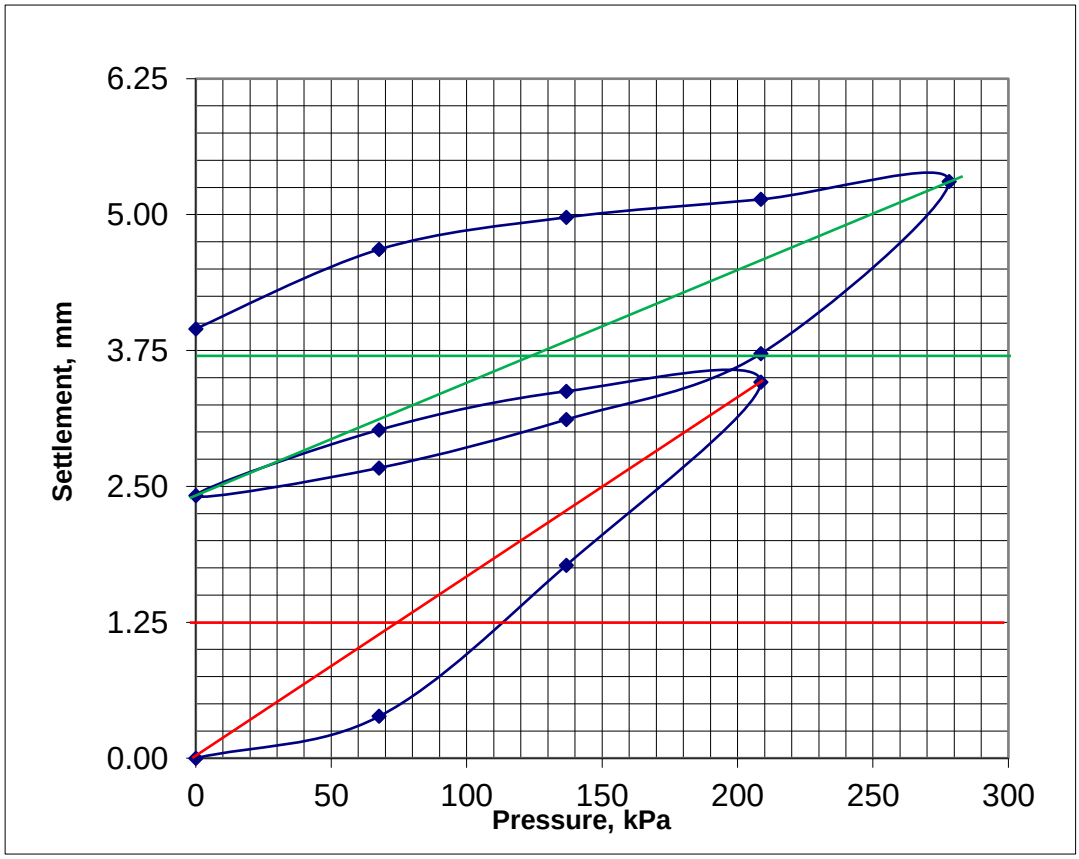
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| | | | |
|---|---|---|---|
| Test Location Number: | TP 298 | Depth / Level: | 0.3m bgl |
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 0.39 |
| 136.8 | 1.78 |
| 208.6 | 3.46 |
| 136.8 | 3.38 |
| 67.7 | 3.02 |
| 0 | 2.42 |
| 67.7 | 2.67 |
| 136.8 | 3.12 |
| 208.6 | 3.72 |
| 278.1 | 5.31 |
| 208.6 | 5.14 |
| 136.8 | 4.98 |
| 67.7 | 4.68 |
| 0 | 3.95 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 75 | (p) Pressure kN/m$^2$ | 125 |
| 60.00 | Gradient (p/y) | 100.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 38.58 | ($k_s$) Modulus of subgrade reaction kPa/mm | 64.30 |
| 5.4 | Approximate CBR (%) | 13.2 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| IRISH DRILLING LTD. | Contract: | Derryadd Windfarm | | |
|---|---|---|---|---|
| Loughrea Co. Galway | Client: | | | |
| | Engineer: | | | |
| Tel: (091) 841274 | Date: | 18/02/2021 | | |
| Lab@IrishDrilling.ie | Tested by: | PC | Checked: | DCD |

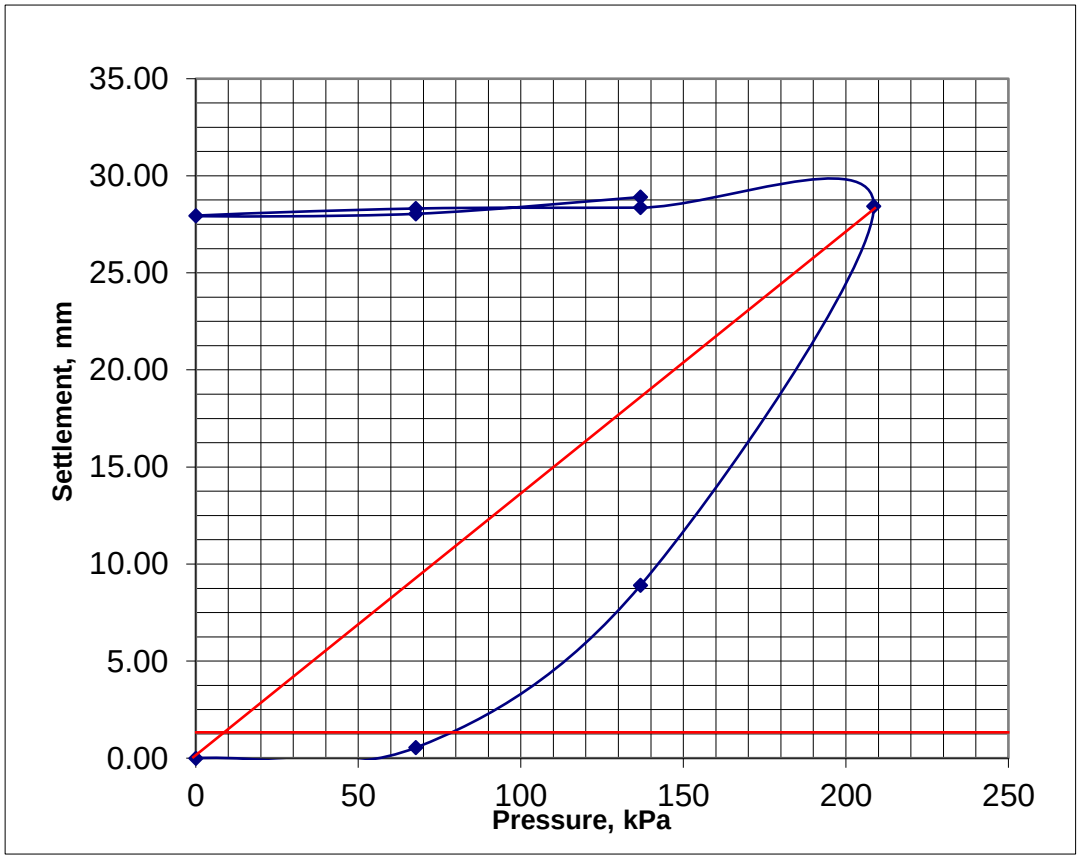
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| | | | |
|---|---|---|---|
| Test Location Number: | TP 299 | Depth / Level: | 0.4m bgl |
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 0.55 |
| 136.8 | 8.90 |
| 208.6 | 28.44 |
| 136.8 | 28.36 |
| 67.7 | 28.32 |
| 0 | 27.94 |
| 67.7 | 28.04 |
| 136.8 | 28.91 |




Too soft to continue - plate being pushed into the ground

Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 10 | (p) Pressure kN/m$^2$ | |
| 8.00 | Gradient (p/y) | 0.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 5.14 | ($k_s$) Modulus of subgrade reaction kPa/mm | 0.00 |
| 0.2 | Approximate CBR (%) | 0.0 |

Approximation of CBR from HD 25/94
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| | | | |
|---|---|---|---|
| **IRISH DRILLING LTD.**<br>Loughrea Co. Galway<br><br>Tel: (091) 841274<br>Lab@IrishDrilling.ie | Contract: Derryadd Windfarm<br>Client:<br>Engineer:<br>Date: 18/02/2021<br>Tested by: PC | Checked: DCD | |

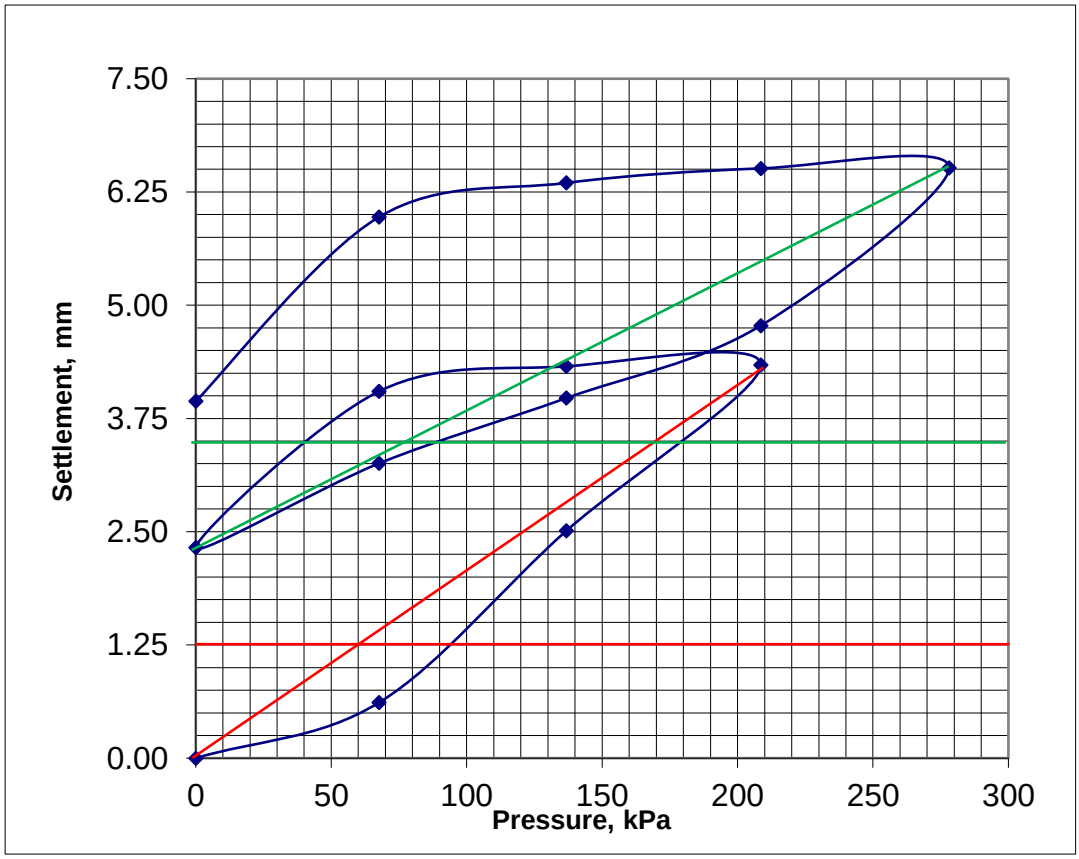
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| | | | |
|---|---|---|---|
| Test Location Number: | TP 308 | Depth / Level: | 0.3m bgl |
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 0.62 |
| 136.8 | 2.51 |
| 208.6 | 4.34 |
| 136.8 | 4.33 |
| 67.7 | 4.05 |
| 0 | 2.33 |
| 67.7 | 3.26 |
| 136.8 | 3.98 |
| 208.6 | 4.78 |
| 278.1 | 6.52 |
| 208.6 | 6.51 |
| 136.8 | 6.35 |
| 67.7 | 5.98 |
| 0 | 3.94 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 60 | (p) Pressure kN/m$^2$ | 80 |
| 48.00 | Gradient (p/y) | 64.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 30.86 | ($k_s$) Modulus of subgrade reaction kPa/mm | 41.15 |
| 3.7 | Approximate CBR (%) | 6.1 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| | | | |
|---|---|---|---|
| **IRISH DRILLING LTD.**<br>Loughrea Co. Galway<br><br>Tel: (091) 841274<br>Lab@IrishDrilling.ie | Contract: Derryadd Windfarm<br>Client:<br>Engineer:<br>Date: 18/02/2021<br>Tested by: PC | Checked: DCD | |

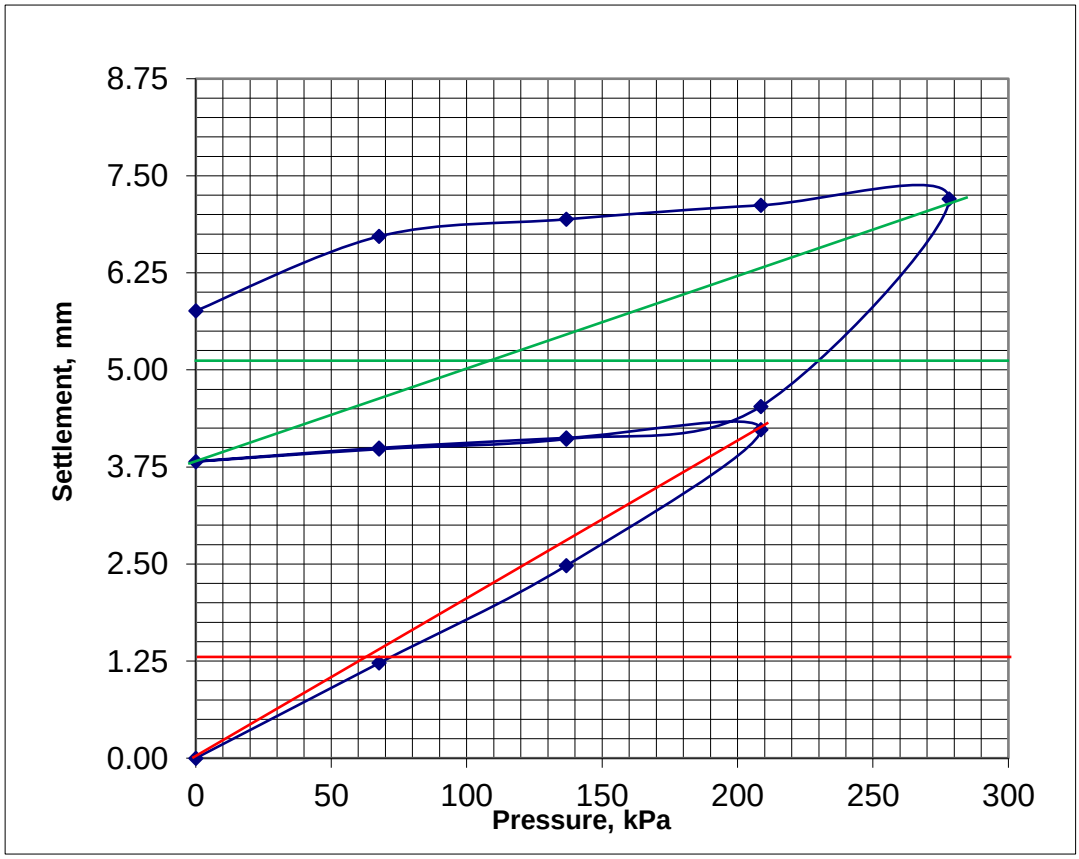
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| | | | |
|---|---|---|---|
| Test Location Number: | TP 315 | Depth / Level: | 0.3m bgl |
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 1.23 |
| 136.8 | 2.48 |
| 208.6 | 4.23 |
| 136.8 | 4.13 |
| 67.7 | 4.00 |
| 0 | 3.82 |
| 67.7 | 3.98 |
| 136.8 | 4.11 |
| 208.6 | 4.53 |
| 278.1 | 7.20 |
| 208.6 | 7.12 |
| 136.8 | 6.94 |
| 67.7 | 6.72 |
| 0 | 5.76 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 60 | (p) Pressure kN/m$^2$ | 110 |
| 48.00 | Gradient (p/y) | 88.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 30.86 | ($k_s$) Modulus of subgrade reaction kPa/mm | 56.58 |
| 3.7 | Approximate CBR (%) | 10.5 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| **IRISH DRILLING LTD.** | Contract: | Derryadd Windfarm | | |
|---|---|---|---|---|
| Loughrea Co. Galway | Client: | | | |
| | Engineer: | | | |
| Tel: (091) 841274 | Date: | 18/02/2021 | | |
| Lab@IrishDrilling.ie | Tested by: | PC | Checked: | DCD |

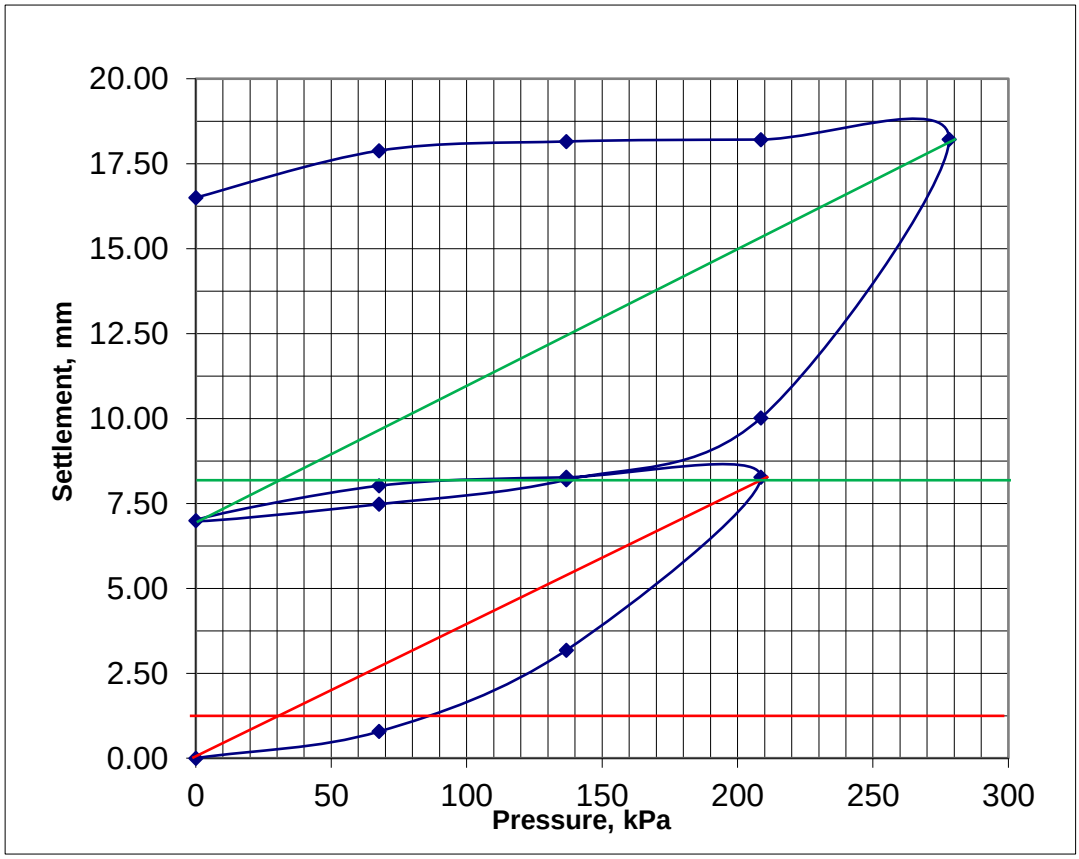
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| | | | |
|---|---|---|---|
| Test Location Number: | TP 329 | Depth / Level: | 0.2m bgl |
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 0.79 |
| 136.8 | 3.18 |
| 208.6 | 8.27 |
| 136.8 | 8.27 |
| 67.7 | 8.02 |
| 0 | 6.99 |
| 67.7 | 7.48 |
| 136.8 | 8.19 |
| 208.6 | 10.01 |
| 278.1 | 18.22 |
| 208.6 | 18.21 |
| 136.8 | 18.15 |
| 67.7 | 17.88 |
| 0 | 16.50 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 30 | (p) Pressure kN/m$^2$ | 30 |
| 24.00 | Gradient (p/y) | 24.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 15.43 | ($k_s$) Modulus of subgrade reaction kPa/mm | 15.43 |
| 1.1 | Approximate CBR (%) | 1.1 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| | | | |
|---|---|---|---|
| **IRISH DRILLING LTD.**<br>Loughrea Co. Galway<br><br>Tel: (091) 841274<br>Lab@IrishDrilling.ie | Contract: Derryadd Windfarm<br>Client:<br>Engineer:<br>Date: 18/02/2021<br>Tested by: PC | Checked: DCD | |

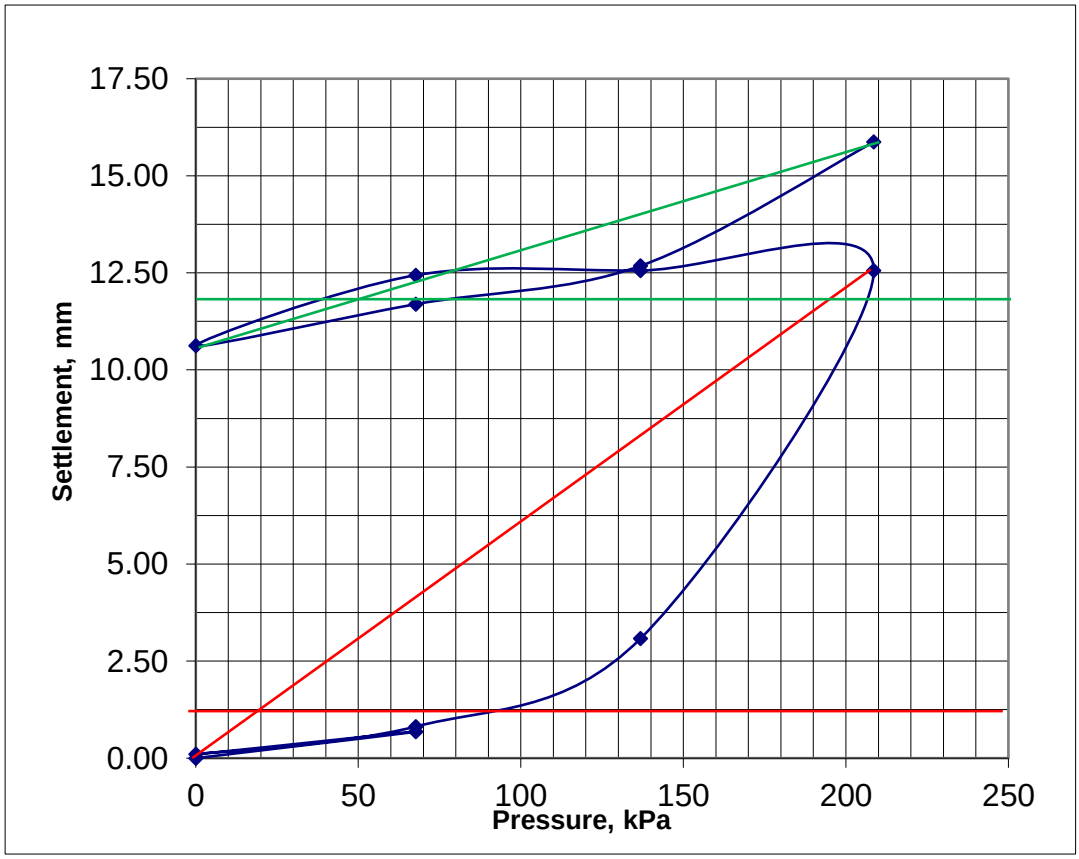
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| | | | |
|---|---|---|---|
| Test Location Number: | TP 342 | Depth / Level: | 0.3m bgl |
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 0.69 |
| 0 | 0.11 |
| 67.7 | 0.82 |
| 136.8 | 3.08 |
| 208.6 | 12.56 |
| 136.8 | 12.56 |
| 67.7 | 12.44 |
| 0 | 10.63 |
| 67.7 | 11.70 |
| 136.8 | 12.68 |
| 208.6 | 15.87 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 20 | (p) Pressure kN/m$^2$ | 50 |
| 16.00 | Gradient (p/y) | 40.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 10.29 | ($k_s$) Modulus of subgrade reaction kPa/mm | 25.72 |
| 0.5 | Approximate CBR (%) | 2.7 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| IRISH DRILLING LTD. | Contract: | Derryadd Windfarm | | |
|---|---|---|---|---|
| Loughrea Co. Galway | Client: | | | |
| | Engineer: | | | |
| Tel: (091) 841274 | Date: | 15/02/2021 | | |
| Lab@IrishDrilling.ie | Tested by: | PC | Checked: | DCD |

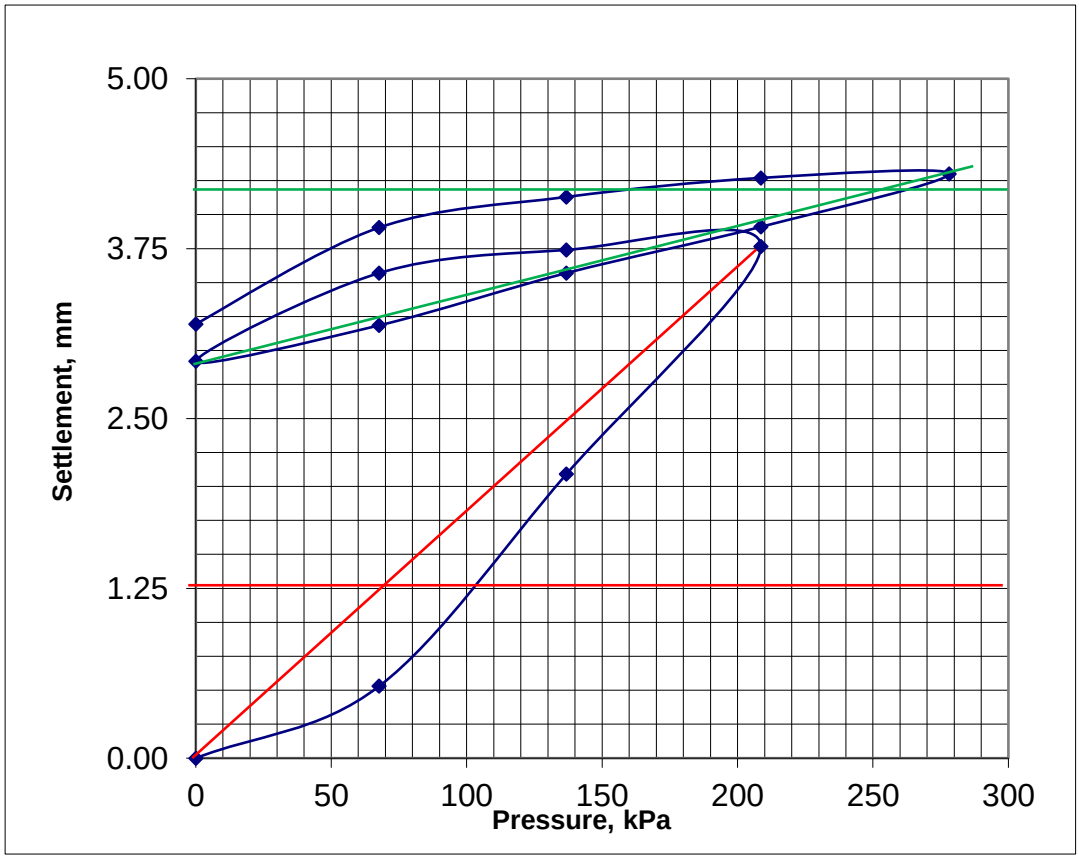
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| Test Location Number: | TP 351 | Depth / Level: | 0.3m bgl |
|---|---|---|---|
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 0.53 |
| 136.8 | 2.09 |
| 208.6 | 3.77 |
| 136.8 | 3.74 |
| 67.7 | 3.57 |
| 0 | 2.92 |
| 67.7 | 3.19 |
| 136.8 | 3.57 |
| 208.6 | 3.91 |
| 278.1 | 4.30 |
| 208.6 | 4.27 |
| 136.8 | 4.13 |
| 67.7 | 3.91 |
| 0 | 3.20 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 70 | (p) Pressure kN/m$^2$ | 255 |
| 56.00 | Gradient (p/y) | 204.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 36.01 | ($k_s$) Modulus of subgrade reaction kPa/mm | 131.17 |
| 4.8 | Approximate CBR (%) | 45.3 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| | | | |
|---|---|---|---|
| **IRISH DRILLING LTD.**<br>Loughrea Co. Galway<br><br>Tel: (091) 841274<br>Lab@IrishDrilling.ie | Contract: Derryadd Windfarm<br>Client:<br>Engineer:<br>Date: 10/02/2021<br>Tested by: DK | Checked: DCD | |

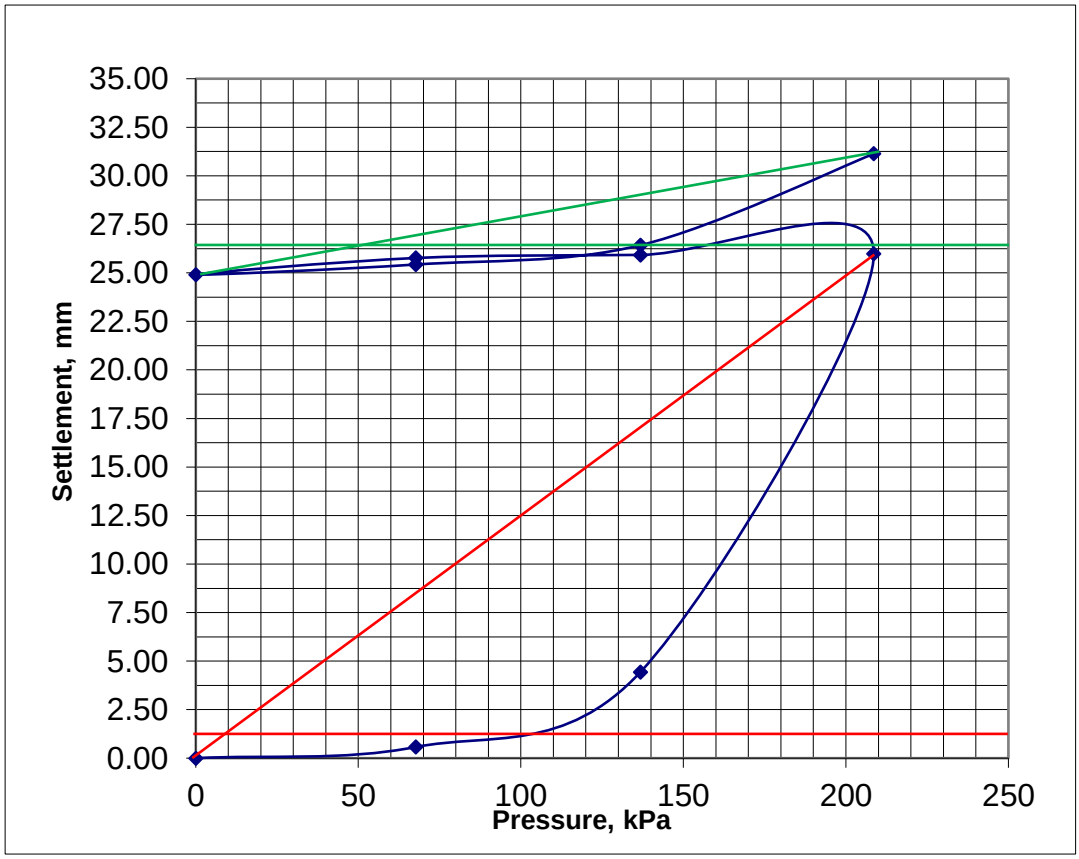
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| | | | |
|---|---|---|---|
| Test Location Number: | TP 361 | Depth / Level: | 0.6m bgl |
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 0.58 |
| 136.8 | 4.44 |
| 208.6 | 25.99 |
| 136.8 | 25.93 |
| 67.7 | 25.77 |
| 0 | 24.91 |
| 67.7 | 25.43 |
| 136.8 | 26.43 |
| 208.6 | 31.14 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 10 | (p) Pressure kN/m$^2$ | 50 |
| 8.00 | Gradient (p/y) | 40.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 5.14 | ($k_s$) Modulus of subgrade reaction kPa/mm | 25.72 |
| 0.2 | Approximate CBR (%) | 2.7 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| **IRISH DRILLING LTD.** | Contract: | Derryadd Windfarm | | |
|---|---|---|---|---|
| Loughrea Co. Galway | Client: | | | |
| | Engineer: | | | |
| Tel: (091) 841274 | Date: | 09/02/2021 | | |
| Lab@IrishDrilling.ie | Tested by: | DK | Checked: | DCD |

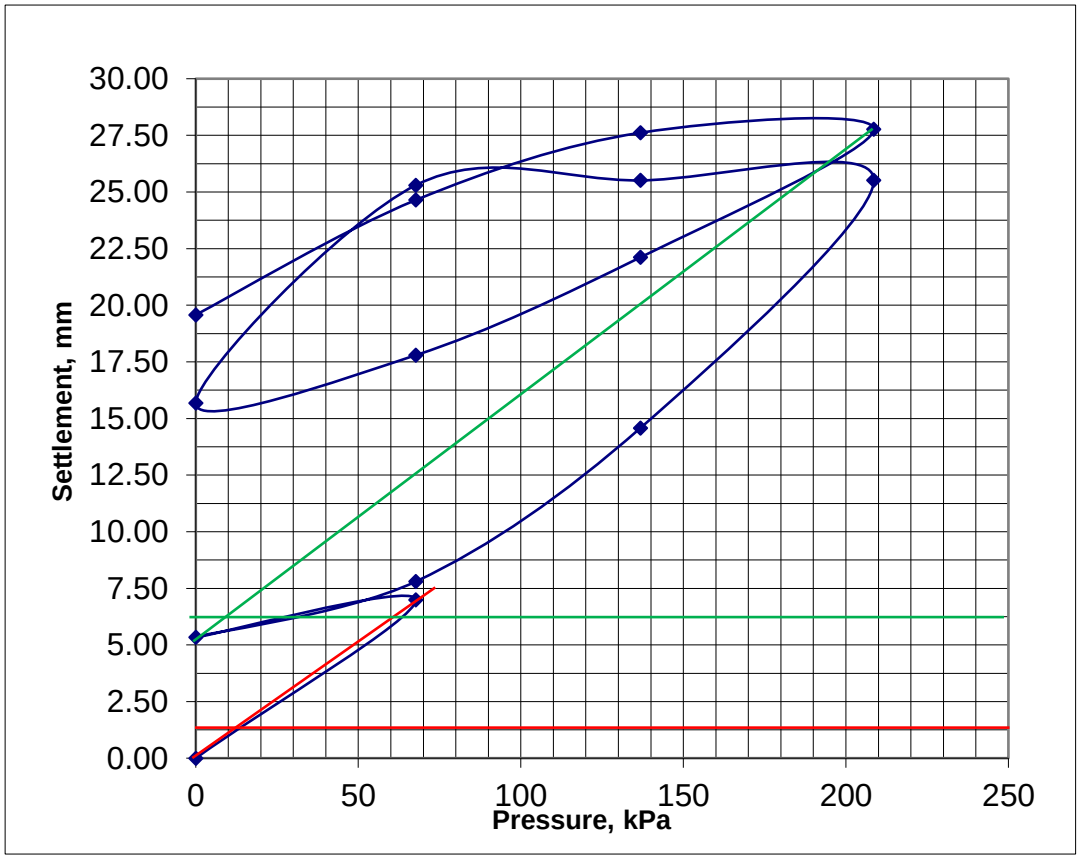
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| | | | |
|---|---|---|---|
| Test Location Number: | TP AR11 | Depth / Level: | 0.4m bgl |
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 6.99 |
| 0 | 5.34 |
| 67.7 | 7.80 |
| 136.8 | 14.58 |
| 208.6 | 25.52 |
| 136.8 | 25.51 |
| 67.7 | 25.30 |
| 0 | 15.68 |
| 67.7 | 17.80 |
| 136.8 | 22.12 |
| 208.6 | 27.77 |
| 136.8 | 27.62 |
| 67.7 | 24.65 |
| 0 | 19.58 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 15 | (p) Pressure kN/m$^2$ | 10 |
| 12.00 | Gradient (p/y) | 8.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 7.72 | ($k_s$) Modulus of subgrade reaction kPa/mm | 5.14 |
| 0.3 | Approximate CBR (%) | 0.2 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| IRISH DRILLING LTD. | Contract: | Derryadd Windfarm | | |
|---|---|---|---|---|
| Loughrea Co. Galway | Client: | | | |
| | Engineer: | | | |
| Tel: (091) 841274 | Date: | 17/03/2021 | | |
| Lab@IrishDrilling.ie | Tested by: | PK | Checked: | DCD |

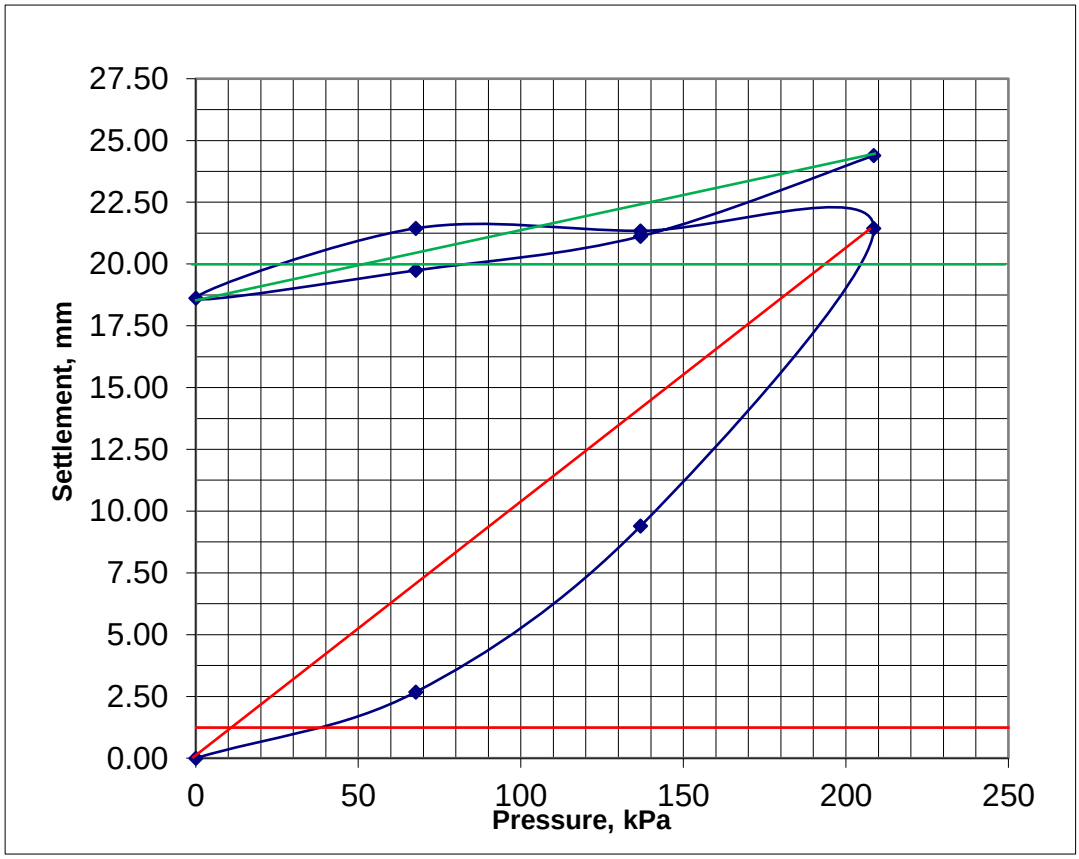
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| Test Location Number: | TPBPC02 | Depth / Level: | 0.3m |
|---|---|---|---|
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 2.68 |
| 136.8 | 9.39 |
| 208.6 | 21.44 |
| 136.8 | 21.34 |
| 67.7 | 21.45 |
| 0 | 18.62 |
| 67.7 | 19.74 |
| 136.8 | 21.12 |
| 208.6 | 24.39 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 10 | (p) Pressure kN/m$^2$ | 50 |
| 8.00 | Gradient (p/y) | 40.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 5.14 | ($k_s$) Modulus of subgrade reaction kPa/mm | 25.72 |
| 0.2 | Approximate CBR (%) | 2.7 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| IRISH DRILLING LTD. | Contract: | Derryadd Windfarm | | |
|---|---|---|---|---|
| Loughrea Co. Galway | Client: | | | |
| | Engineer: | | | |
| Tel: (091) 841274 | Date: | 06/04/2021 | | |
| Lab@IrishDrilling.ie | Tested by: | PK | Checked: | DCD |

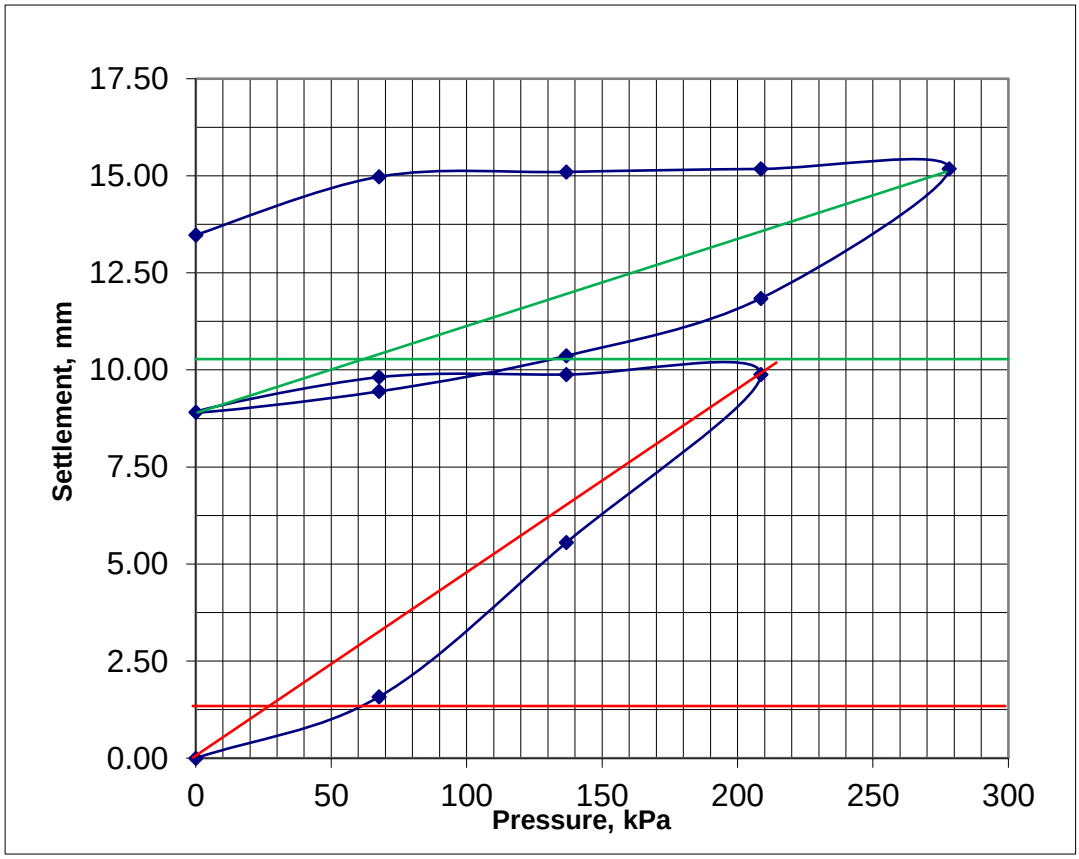
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| Test Location Number: | TP MMC01 | Depth / Level: | 0.4m |
|---|---|---|---|
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 1.58 |
| 136.8 | 5.55 |
| 208.6 | 9.88 |
| 136.8 | 9.88 |
| 67.7 | 9.81 |
| 0 | 8.91 |
| 67.7 | 9.45 |
| 136.8 | 10.36 |
| 208.6 | 11.84 |
| 278.1 | 15.18 |
| 208.6 | 15.18 |
| 136.8 | 15.10 |
| 67.7 | 14.98 |
| 0 | 13.48 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 25 | (p) Pressure kN/m$^2$ | 60 |
| 20.00 | Gradient (p/y) | 48.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 12.86 | ($k_s$) Modulus of subgrade reaction kPa/mm | 30.86 |
| 0.8 | Approximate CBR (%) | 3.7 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| IRISH DRILLING LTD. | Contract: | Derryadd Windfarm | | |
|---|---|---|---|---|
| Loughrea Co. Galway | Client: | | | |
| | Engineer: | | | |
| Tel: (091) 841274 | Date: | 04/03/2021 | | |
| Lab@IrishDrilling.ie | Tested by: | PK | Checked: | DCD |

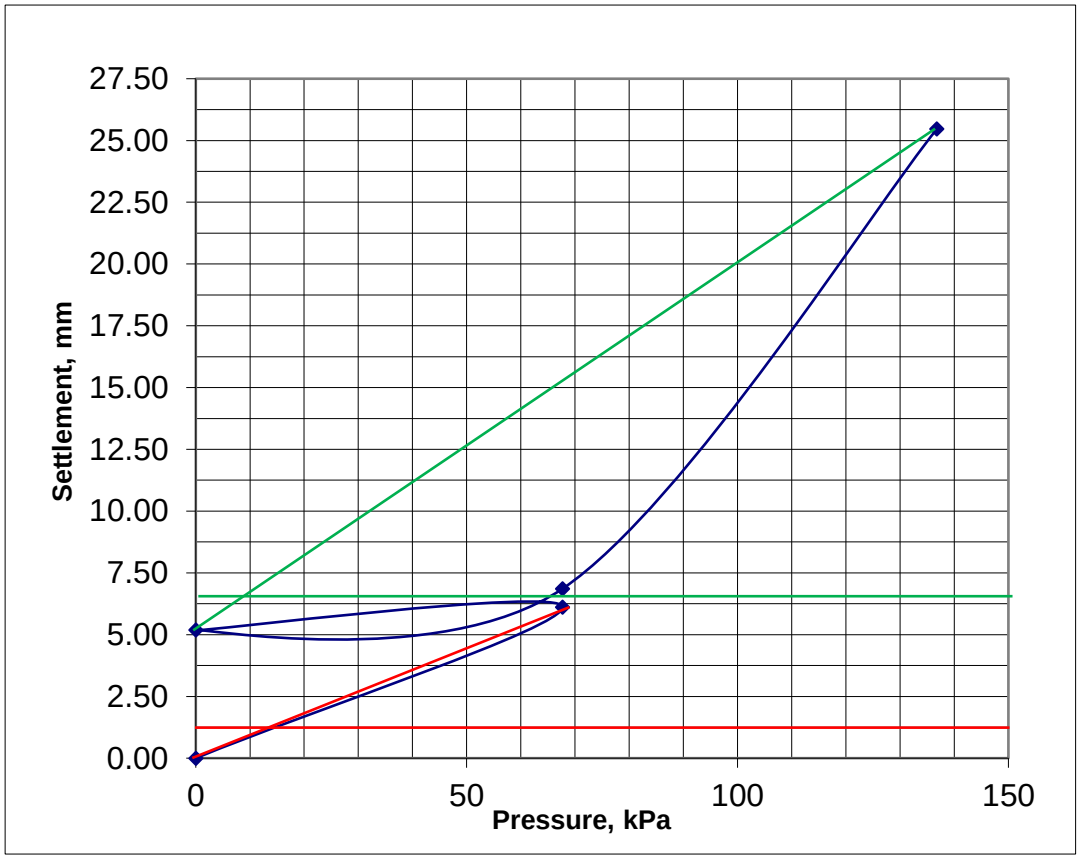
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| Test Location Number: | TPSSA01 | Depth / Level: | 0.3m |
|---|---|---|---|
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 6.12 |
| 0 | 5.19 |
| 67.7 | 6.86 |
| 136.8 | 25.46 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 15 | (p) Pressure kN/m$^2$ | 10 |
| 12.00 | Gradient (p/y) | 8.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 7.72 | ($k_s$) Modulus of subgrade reaction kPa/mm | 5.14 |
| 0.3 | Approximate CBR (%) | 0.2 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| | | | |
|---|---|---|---|
| **IRISH DRILLING LTD.**<br>Loughrea Co. Galway<br><br>Tel: (091) 841274<br>Lab@IrishDrilling.ie | Contract: Derryadd Windfarm<br>Client:<br>Engineer:<br>Date: 08/03/2021<br>Tested by: PK | Checked: DCD | |

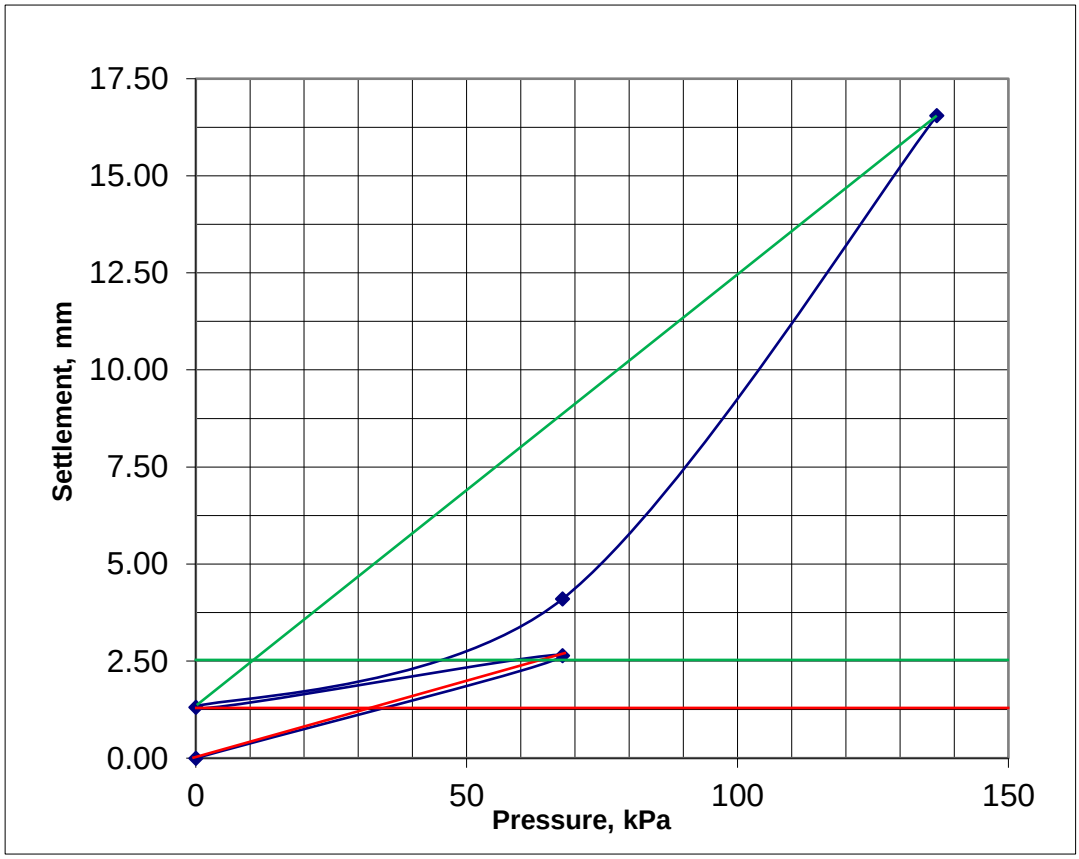
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| | | | |
|---|---|---|---|
| Test Location Number: | TPT11 | Depth / Level: | |
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 2.64 |
| 0 | 1.31 |
| 67.7 | 4.10 |
| 136.8 | 16.55 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 35 | (p) Pressure kN/m$^2$ | 11 |
| 28.00 | Gradient (p/y) | 8.80 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 18.00 | ($k_s$) Modulus of subgrade reaction kPa/mm | 5.66 |
| 1.4 | Approximate CBR (%) | 0.2 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| IRISH DRILLING LTD. | Contract: | Derryadd Windfarm | | |
|---|---|---|---|---|
| Loughrea Co. Galway | Client: | | | |
| | Engineer: | | | |
| Tel: (091) 841274 | Date: | 12/04/2021 | | |
| Lab@IrishDrilling.ie | Tested by: | PK | Checked: | DCD |

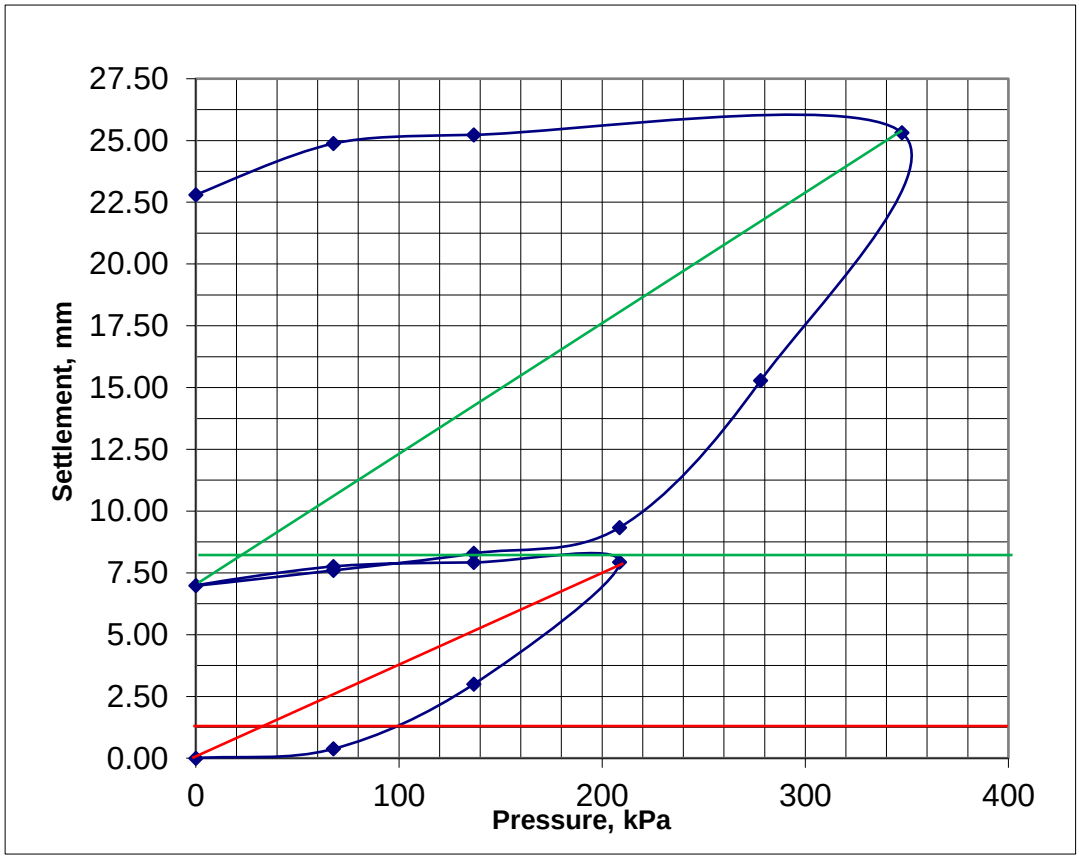
## Plate Bearing Test: BS 1377:Part 9: 1990

Plate diameter (mm) 450
Pump C

| Test Location Number: | TP T23 | Depth / Level: | 0.3m |
|---|---|---|---|
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 0.38 |
| 136.8 | 2.99 |
| 208.6 | 7.93 |
| 136.8 | 7.92 |
| 67.7 | 7.76 |
| 0 | 6.99 |
| 67.7 | 7.60 |
| 136.8 | 8.29 |
| 208.6 | 9.34 |
| 278.1 | 15.29 |
| 347.6 | 25.32 |
| 136.8 | 25.23 |
| 67.7 | 24.88 |
| 0 | 22.81 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 35 | (p) Pressure kN/m$^2$ | 25 |
| 28.00 | Gradient (p/y) | 20.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 18.00 | ($k_s$) Modulus of subgrade reaction kPa/mm | 12.86 |
| 1.4 | Approximate CBR (%) | 0.8 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

| **IRISH DRILLING LTD.** | Contract: | Derryadd Windfarm | | |
|---|---|---|---|---|
| Loughrea Co. Galway | Client: | | | |
| | Engineer: | | | |
| Tel: (091) 841274 | Date: | 08/03/2021 | | |
| Lab@IrishDrilling.ie | Tested by: | PK | Checked: | DCD |

## Plate Bearing Test: BS 1377:Part 9: 1990

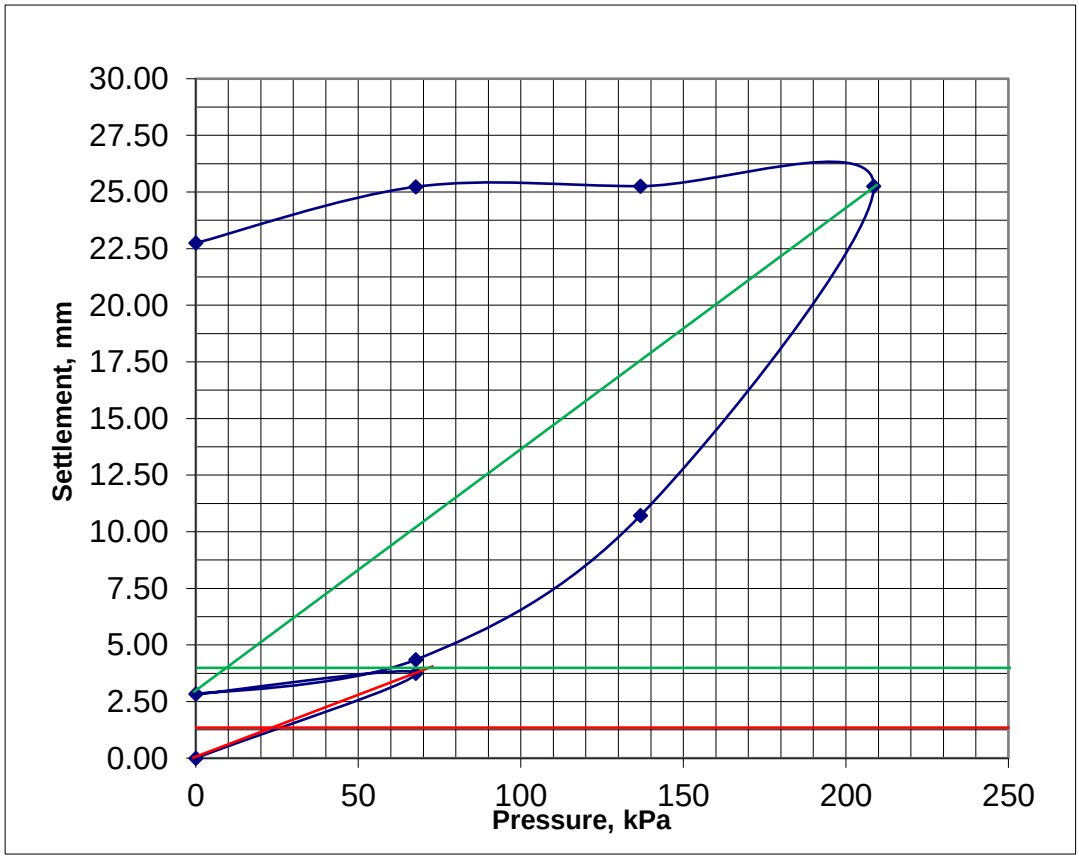
Plate diameter (mm) 450

Pump C

| | | | |
|---|---|---|---|
| Test Location Number: | TPTCCC | Depth / Level: | 0.3m |
| Description: | Natural ground | | |

*PLATE TEST*

| Pressure kN/m$^2$ | Settlement mm |
|---|---|
| 0 | 0.00 |
| 67.7 | 3.75 |
| 0 | 2.83 |
| 67.7 | 4.35 |
| 136.8 | 10.72 |
| 208.6 | 25.26 |
| 136.8 | 25.26 |
| 67.7 | 25.23 |
| 0 | 22.74 |




Pressures to give 1.25mm settlement

| Cycle 1 | | Cycle 2 |
|---|---|---|
| 1.25 | (y) Settlement mm | 1.25 |
| 25 | (p) Pressure kN/m$^2$ | 10 |
| 20.00 | Gradient (p/y) | 8.00 |
| 0.643 | Correction factor (to 762mm plate) | 0.643 |
| 12.86 | ($k_s$) Modulus of subgrade reaction kPa/mm | 5.14 |
| 0.8 | Approximate CBR (%) | 0.2 |

Approximation of CBR from HD 25/94
Design Manual for Roads and Bridges.

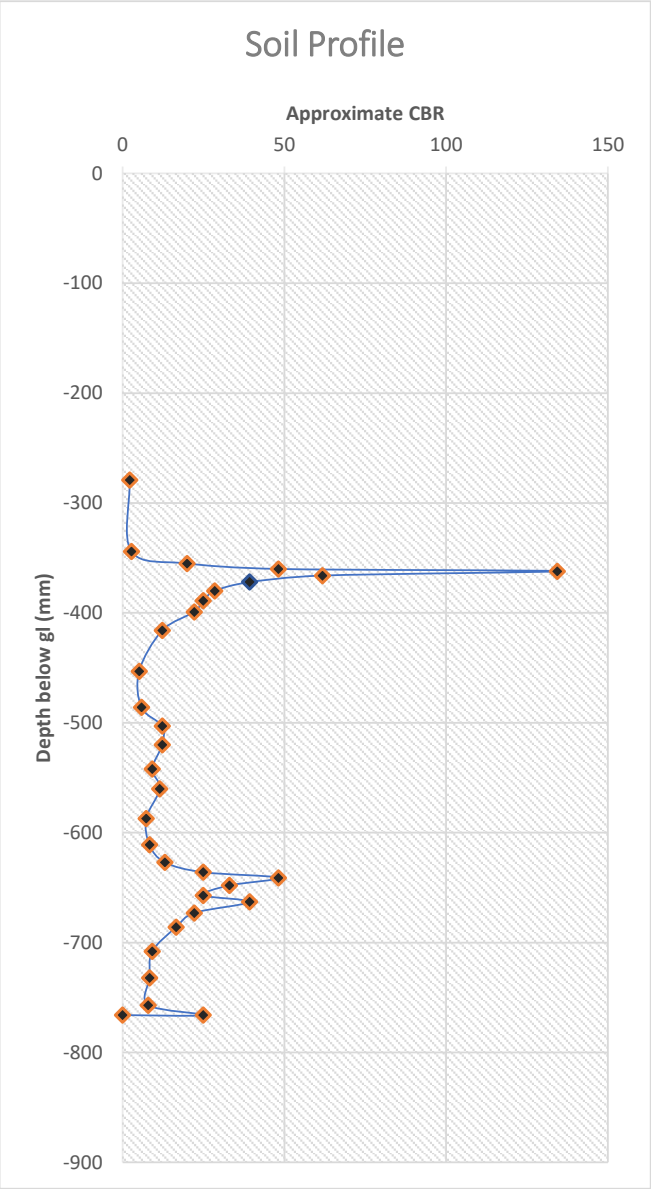
# Appendix 8
# Dynamic Cone Penetration Test Results

# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP 104
**Start depth of test:** 200 mm below ground level
**Tested By / on** PC 24/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 104 | 0 | | | -200 |
| 1 | 183 | 79 | 0.6 | 2 | -279 |
| 2 | 248 | 65 | 0.8 | 3 | -344 |
| 3 | 259 | 11 | 28.5 | 20 | -355 |
| 4 | 264 | 5 | 138.1 | 48 | -360 |
| 5 | 266 | 2 | 863.1 | 134 | -362 |
| 6 | 270 | 4 | 215.8 | 62 | -366 |
| 7 | 276 | 6 | 95.9 | 39 | -372 |
| 8 | 284 | 8 | 53.9 | 28 | -380 |
| 9 | 293 | 9 | 42.6 | 25 | -389 |
| 10 | 303 | 10 | 34.5 | 22 | -399 |
| 11 | 320 | 17 | 11.9 | 12 | -416 |
| 12 | 357 | 37 | 2.5 | 5 | -453 |
| 13 | 390 | 33 | 3.2 | 6 | -486 |
| 14 | 407 | 17 | 11.9 | 12 | -503 |
| 15 | 424 | 17 | 11.9 | 12 | -520 |
| 16 | 446 | 22 | 7.1 | 9 | -542 |
| 17 | 464 | 18 | 10.7 | 11 | -560 |
| 18 | 491 | 27 | 4.7 | 7 | -587 |
| 19 | 515 | 24 | 6.0 | 8 | -611 |
| 20 | 531 | 16 | 13.5 | 13 | -627 |
| 21 | 540 | 9 | 42.6 | 25 | -636 |
| 22 | 545 | 5 | 138.1 | 48 | -641 |
| 23 | 552 | 7 | 70.5 | 33 | -648 |
| 24 | 561 | 9 | 42.6 | 25 | -657 |
| 25 | 567 | 6 | 95.9 | 39 | -663 |
| 26 | 577 | 10 | 34.5 | 22 | -673 |
| 27 | 590 | 13 | 20.4 | 17 | -686 |
| 28 | 612 | 22 | 7.1 | 9 | -708 |
| 29 | 636 | 24 | 6.0 | 8 | -732 |
| 30 | 661 | 25 | 5.5 | 8 | -757 |
| 31 | 670 | 9 | 42.6 | 25 | -766 |
| 32 | 670 | 0 | #DIV/0! | #DIV/0! | -766 |

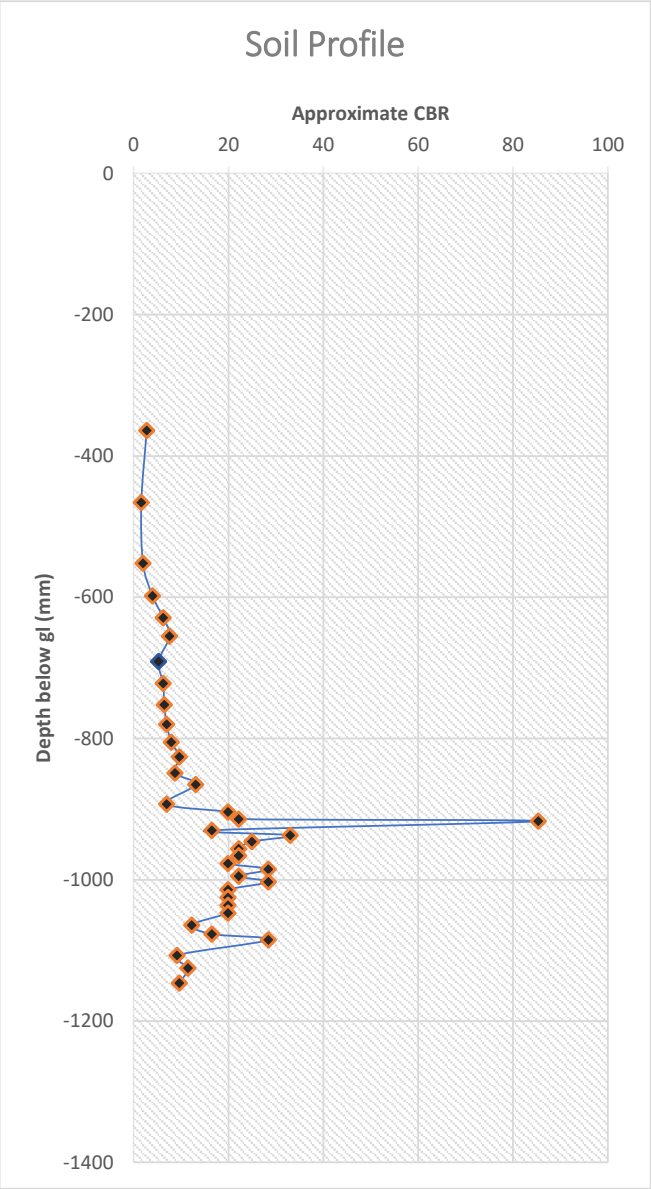


# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP117R
**Start depth of test:** 300 mm below ground level
**Tested By / on** PC 29/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 96 | 0 | | | -300 |
| 1 | 160 | 64 | 0.8 | 3 | -364 |
| 2 | 262 | 102 | 0.3 | 2 | -466 |
| 3 | 348 | 86 | 0.5 | 2 | -552 |
| 4 | 394 | 46 | 1.6 | 4 | -598 |
| 5 | 425 | 31 | 3.6 | 6 | -629 |
| 6 | 451 | 26 | 5.1 | 8 | -655 |
| 7 | 487 | 36 | 2.7 | 5 | -691 |
| 8 | 518 | 31 | 3.6 | 6 | -722 |
| 9 | 548 | 30 | 3.8 | 6 | -752 |
| 10 | 576 | 28 | 4.4 | 7 | -780 |
| 11 | 601 | 25 | 5.5 | 8 | -805 |
| 12 | 622 | 21 | 7.8 | 10 | -826 |
| 13 | 645 | 23 | 6.5 | 9 | -849 |
| 14 | 661 | 16 | 13.5 | 13 | -865 |
| 15 | 689 | 28 | 4.4 | 7 | -893 |
| 16 | 700 | 11 | 28.5 | 20 | -904 |
| 17 | 710 | 10 | 34.5 | 22 | -914 |
| 18 | 713 | 3 | 383.6 | 85 | -917 |
| 19 | 726 | 13 | 20.4 | 17 | -930 |
| 20 | 733 | 7 | 70.5 | 33 | -937 |
| 21 | 742 | 9 | 42.6 | 25 | -946 |
| 22 | 752 | 10 | 34.5 | 22 | -956 |
| 23 | 762 | 10 | 34.5 | 22 | -966 |
| 24 | 773 | 11 | 28.5 | 20 | -977 |
| 25 | 781 | 8 | 53.9 | 28 | -985 |
| 26 | 791 | 10 | 34.5 | 22 | -995 |
| 27 | 799 | 8 | 53.9 | 28 | -1003 |
| 28 | 810 | 11 | 28.5 | 20 | -1014 |
| 29 | 821 | 11 | 28.5 | 20 | -1025 |
| 30 | 832 | 11 | 28.5 | 20 | -1036 |
| 31 | 843 | 11 | 28.5 | 20 | -1047 |
| 32 | 860 | 17 | 11.9 | 12 | -1064 |
| 33 | 873 | 13 | 20.4 | 17 | -1077 |
| 34 | 881 | 8 | 53.9 | 28 | -1085 |
| 35 | 903 | 22 | 7.1 | 9 | -1107 |
| 36 | 921 | 18 | 10.7 | 11 | -1125 |
| 37 | 942 | 21 | 7.8 | 10 | -1146 |



# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP119R
**Start depth of test:** 900 mm below ground level
**Tested By / on** PC 29/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 144 | 0 | | | -900 |
| 1 | 376 | 232 | 0.1 | 1 | -1132 |
| 2 | 445 | 69 | 0.7 | 3 | -1201 |
| 3 | 474 | 29 | 4.1 | 7 | -1230 |
| 4 | 491 | 17 | 11.9 | 12 | -1247 |
| 5 | 510 | 19 | 9.6 | 11 | -1266 |
| 6 | 540 | 30 | 3.8 | 6 | -1296 |
| 7 | 587 | 47 | 1.6 | 4 | -1343 |
| 8 | 661 | 74 | 0.6 | 2 | -1417 |
| 9 | 783 | 122 | 0.2 | 1 | -1539 |
| 10 | 885 | 102 | 0.3 | 2 | -1641 |
| 11 | 951 | 66 | 0.8 | 3 | -1707 |
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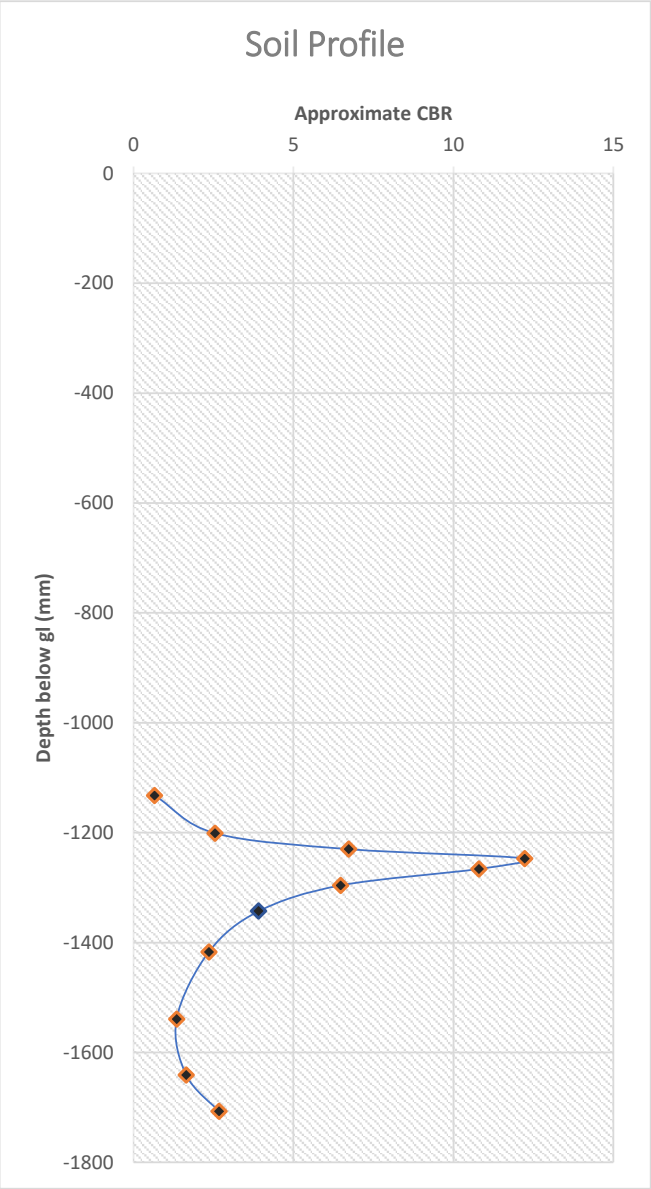

# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP129
**Start depth of test:** 600 mm below ground level
**Tested By / on** PC 30/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 310 | 0 | | | -600 |
| 1 | 440 | 130 | 0.2 | 1 | -730 |
| 2 | 475 | 35 | 2.8 | 5 | -765 |
| 3 | 500 | 25 | 5.5 | 8 | -790 |
| 4 | 526 | 26 | 5.1 | 8 | -816 |
| 5 | 568 | 42 | 2.0 | 4 | -858 |
| 6 | 618 | 50 | 1.4 | 4 | -908 |
| 7 | 670 | 52 | 1.3 | 3 | -960 |
| 8 | 682 | 12 | 24.0 | 18 | -972 |
| 9 | 756 | 74 | 0.6 | 2 | -1046 |
| 10 | 779 | 23 | 6.5 | 9 | -1069 |
| 11 | 803 | 24 | 6.0 | 8 | -1093 |
| 12 | 851 | 48 | 1.5 | 4 | -1141 |
| 13 | 888 | 37 | 2.5 | 5 | -1178 |
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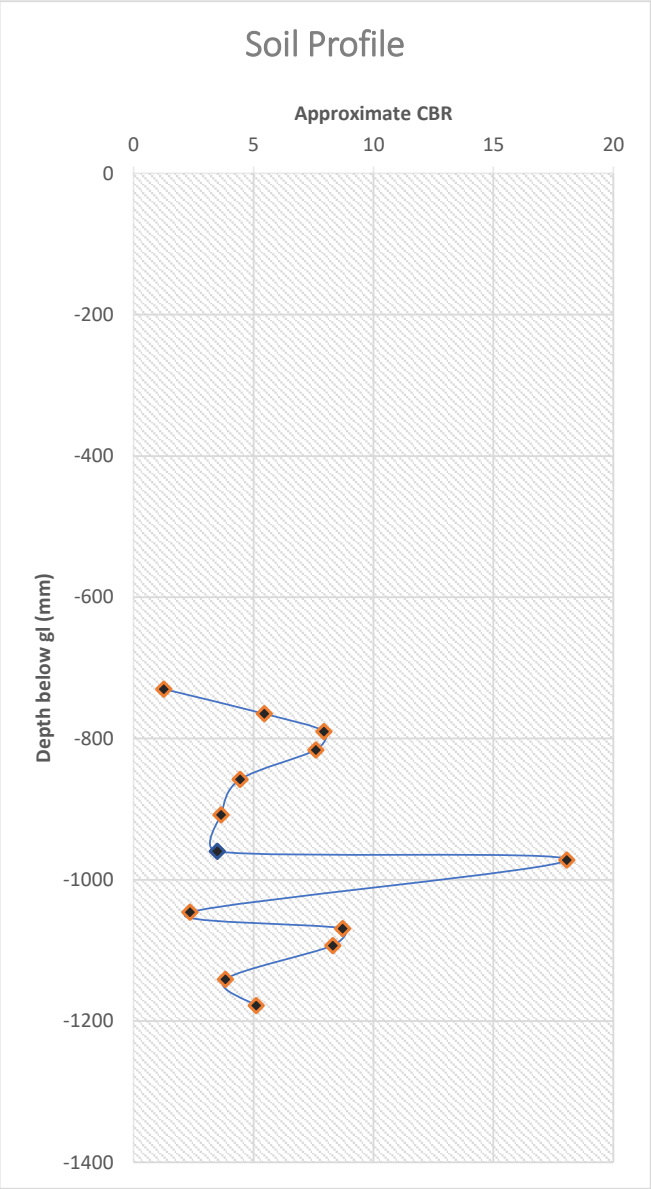
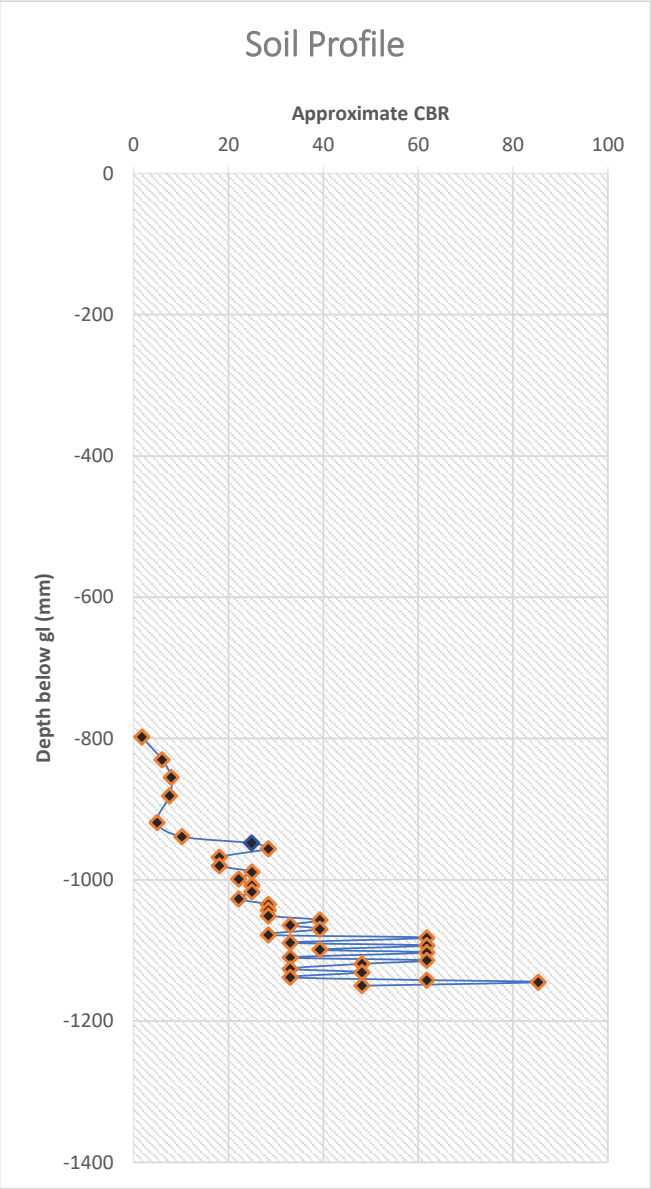


# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP168
**Start depth of test:** 700 mm below ground level
**Tested By / on** PC 30/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 161 | 0 | | | -700 |
| 1 | 259 | 98 | 0.4 | 2 | -798 |
| 2 | 291 | 32 | 3.4 | 6 | -830 |
| 3 | 316 | 25 | 5.5 | 8 | -855 |
| 4 | 342 | 26 | 5.1 | 8 | -881 |
| 5 | 380 | 38 | 2.4 | 5 | -919 |
| 6 | 400 | 20 | 8.6 | 10 | -939 |
| 7 | 409 | 9 | 42.6 | 25 | -948 |
| 8 | 417 | 8 | 53.9 | 28 | -956 |
| 9 | 429 | 12 | 24.0 | 18 | -968 |
| 10 | 441 | 12 | 24.0 | 18 | -980 |
| 11 | 450 | 9 | 42.6 | 25 | -989 |
| 12 | 460 | 10 | 34.5 | 22 | -999 |
| 13 | 469 | 9 | 42.6 | 25 | -1008 |
| 14 | 478 | 9 | 42.6 | 25 | -1017 |
| 15 | 488 | 10 | 34.5 | 22 | -1027 |
| 16 | 496 | 8 | 53.9 | 28 | -1035 |
| 17 | 504 | 8 | 53.9 | 28 | -1043 |
| 18 | 512 | 8 | 53.9 | 28 | -1051 |
| 19 | 518 | 6 | 95.9 | 39 | -1057 |
| 20 | 525 | 7 | 70.5 | 33 | -1064 |
| 21 | 531 | 6 | 95.9 | 39 | -1070 |
| 22 | 539 | 8 | 53.9 | 28 | -1078 |
| 23 | 543 | 4 | 215.8 | 62 | -1082 |
| 24 | 550 | 7 | 70.5 | 33 | -1089 |
| 25 | 554 | 4 | 215.8 | 62 | -1093 |
| 26 | 560 | 6 | 95.9 | 39 | -1099 |
| 27 | 564 | 4 | 215.8 | 62 | -1103 |
| 28 | 571 | 7 | 70.5 | 33 | -1110 |
| 29 | 575 | 4 | 215.8 | 62 | -1114 |
| 30 | 580 | 5 | 138.1 | 48 | -1119 |
| 31 | 587 | 7 | 70.5 | 33 | -1126 |
| 32 | 592 | 5 | 138.1 | 48 | -1131 |
| 33 | 599 | 7 | 70.5 | 33 | -1138 |
| 34 | 603 | 4 | 215.8 | 62 | -1142 |
| 35 | 606 | 3 | 383.6 | 85 | -1145 |
| 36 | 611 | 5 | 138.1 | 48 | -1150 |



# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP 231
**Start depth of test:** 200 mm below ground level
**Tested By / on** PC 17/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 164 | 0 | | | -200 |
| 1 | 263 | 99 | 0.4 | 2 | -299 |
| 2 | 304 | 41 | 2.1 | 5 | -340 |
| 3 | 332 | 28 | 4.4 | 7 | -368 |
| 4 | 372 | 40 | 2.2 | 5 | -408 |
| 5 | 406 | 34 | 3.0 | 6 | -442 |
| 6 | 430 | 24 | 6.0 | 8 | -466 |
| 7 | 448 | 18 | 10.7 | 11 | -484 |
| 8 | 476 | 28 | 4.4 | 7 | -512 |
| 9 | 510 | 34 | 3.0 | 6 | -546 |
| 10 | 522 | 12 | 24.0 | 18 | -558 |
| 11 | 530 | 8 | 53.9 | 28 | -566 |
| 12 | 532 | 2 | 863.1 | 134 | -568 |
| 13 | 532 | 0 | #DIV/0! | #DIV/0! | -568 |
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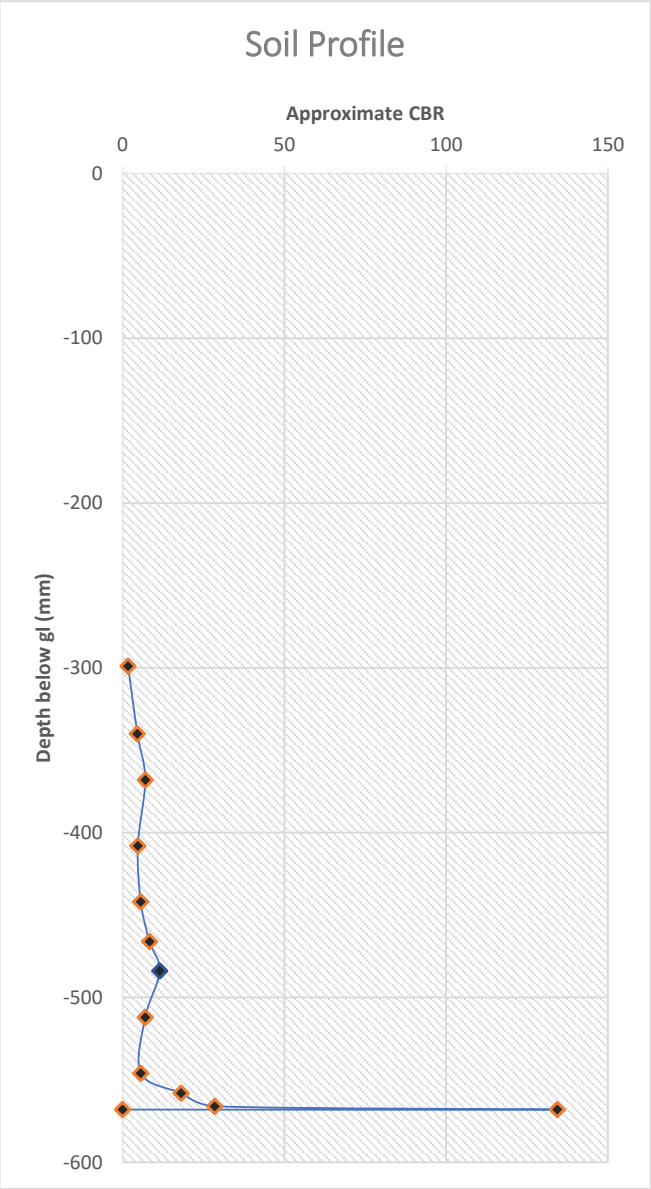
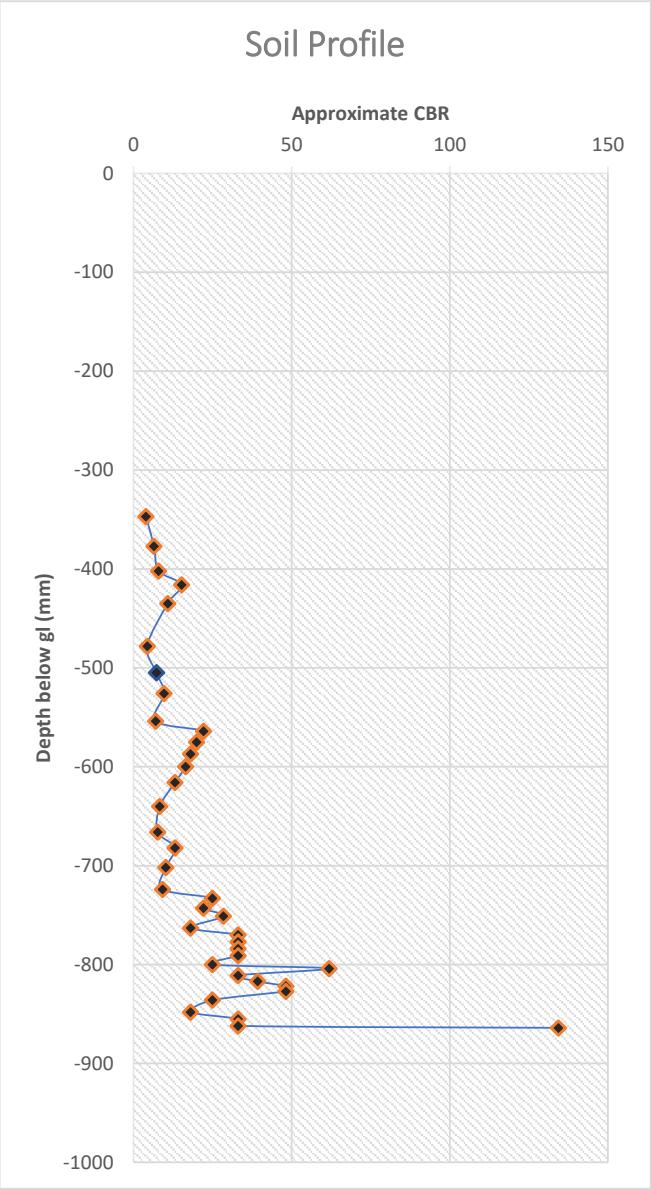


# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP 269
**Start depth of test:** 300 mm below ground level
**Tested By / on** DK 09/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 102 | 0 | | | -300 |
| 1 | 149 | 47 | 1.6 | 4 | -347 |
| 2 | 179 | 30 | 3.8 | 6 | -377 |
| 3 | 204 | 25 | 5.5 | 8 | -402 |
| 4 | 218 | 14 | 17.6 | 15 | -416 |
| 5 | 237 | 19 | 9.6 | 11 | -435 |
| 6 | 280 | 43 | 1.9 | 4 | -478 |
| 7 | 307 | 27 | 4.7 | 7 | -505 |
| 8 | 328 | 21 | 7.8 | 10 | -526 |
| 9 | 356 | 28 | 4.4 | 7 | -554 |
| 10 | 366 | 10 | 34.5 | 22 | -564 |
| 11 | 377 | 11 | 28.5 | 20 | -575 |
| 12 | 389 | 12 | 24.0 | 18 | -587 |
| 13 | 402 | 13 | 20.4 | 17 | -600 |
| 14 | 418 | 16 | 13.5 | 13 | -616 |
| 15 | 442 | 24 | 6.0 | 8 | -640 |
| 16 | 468 | 26 | 5.1 | 8 | -666 |
| 17 | 484 | 16 | 13.5 | 13 | -682 |
| 18 | 504 | 20 | 8.6 | 10 | -702 |
| 19 | 526 | 22 | 7.1 | 9 | -724 |
| 20 | 535 | 9 | 42.6 | 25 | -733 |
| 21 | 545 | 10 | 34.5 | 22 | -743 |
| 22 | 553 | 8 | 53.9 | 28 | -751 |
| 23 | 565 | 12 | 24.0 | 18 | -763 |
| 24 | 572 | 7 | 70.5 | 33 | -770 |
| 25 | 579 | 7 | 70.5 | 33 | -777 |
| 26 | 586 | 7 | 70.5 | 33 | -784 |
| 27 | 593 | 7 | 70.5 | 33 | -791 |
| 28 | 602 | 9 | 42.6 | 25 | -800 |
| 29 | 606 | 4 | 215.8 | 62 | -804 |
| 30 | 613 | 7 | 70.5 | 33 | -811 |
| 31 | 619 | 6 | 95.9 | 39 | -817 |
| 32 | 624 | 5 | 138.1 | 48 | -822 |
| 33 | 629 | 5 | 138.1 | 48 | -827 |
| 34 | 638 | 9 | 42.6 | 25 | -836 |
| 35 | 650 | 12 | 24.0 | 18 | -848 |
| 36 | 657 | 7 | 70.5 | 33 | -855 |
| 37 | 664 | 7 | 70.5 | 33 | -862 |
| 38 | 666 | 2 | 863.1 | 134 | -864 |



# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP 278
**Start depth of test:** 700 mm below ground level
**Tested By / on** DK 05/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 124 | 0 | | | -700 |
| 1 | 259 | 135 | 0.2 | 1 | -835 |
| 2 | 342 | 83 | 0.5 | 2 | -918 |
| 3 | 407 | 65 | 0.8 | 3 | -983 |
| 4 | 459 | 52 | 1.3 | 3 | -1035 |
| 5 | 506 | 47 | 1.6 | 4 | -1082 |
| 6 | 559 | 53 | 1.2 | 3 | -1135 |
| 7 | 617 | 58 | 1.0 | 3 | -1193 |
| 8 | 676 | 59 | 1.0 | 3 | -1252 |
| 9 | 738 | 62 | 0.9 | 3 | -1314 |
| 10 | 799 | 61 | 0.9 | 3 | -1375 |
| 11 | 856 | 57 | 1.1 | 3 | -1432 |
| 12 | 912 | 56 | 1.1 | 3 | -1488 |
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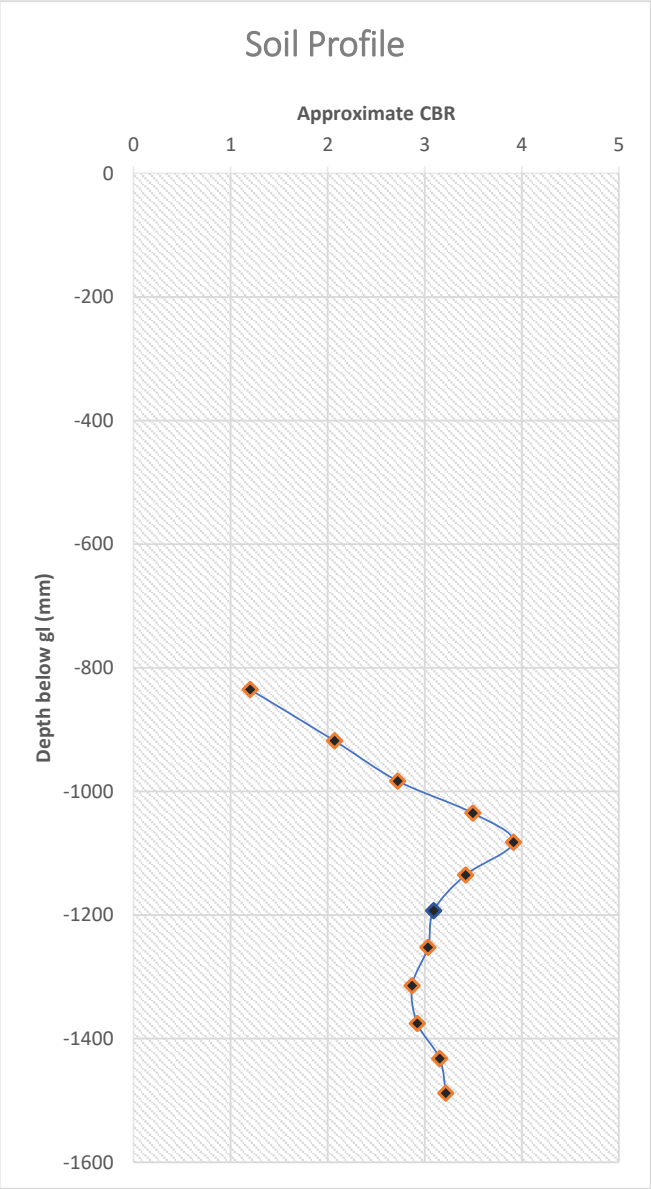

# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP MM B02
**Start depth of test:** 700 mm below ground level
**Tested By / on** DK 15/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 191 | 0 | | | -700 |
| 1 | 320 | 129 | 0.2 | 1 | -829 |
| 2 | 353 | 33 | 3.2 | 6 | -862 |
| 3 | 372 | 19 | 9.6 | 11 | -881 |
| 4 | 443 | 71 | 0.7 | 2 | -952 |
| 5 | 509 | 66 | 0.8 | 3 | -1018 |
| 6 | 531 | 22 | 7.1 | 9 | -1040 |
| 7 | 556 | 25 | 5.5 | 8 | -1065 |
| 8 | 594 | 38 | 2.4 | 5 | -1103 |
| 9 | 628 | 34 | 3.0 | 6 | -1137 |
| 10 | 658 | 30 | 3.8 | 6 | -1167 |
| 11 | 687 | 29 | 4.1 | 7 | -1196 |
| 12 | 704 | 17 | 11.9 | 12 | -1213 |
| 13 | 715 | 11 | 28.5 | 20 | -1224 |
| 14 | 735 | 20 | 8.6 | 10 | -1244 |
| 15 | 759 | 24 | 6.0 | 8 | -1268 |
| 16 | 785 | 26 | 5.1 | 8 | -1294 |
| 17 | 808 | 23 | 6.5 | 9 | -1317 |
| 18 | 832 | 24 | 6.0 | 8 | -1341 |
| 19 | 852 | 20 | 8.6 | 10 | -1361 |
| 20 | 871 | 19 | 9.6 | 11 | -1380 |
| 21 | 892 | 21 | 7.8 | 10 | -1401 |
| 22 | 915 | 23 | 6.5 | 9 | -1424 |
| 23 | 940 | 25 | 5.5 | 8 | -1449 |
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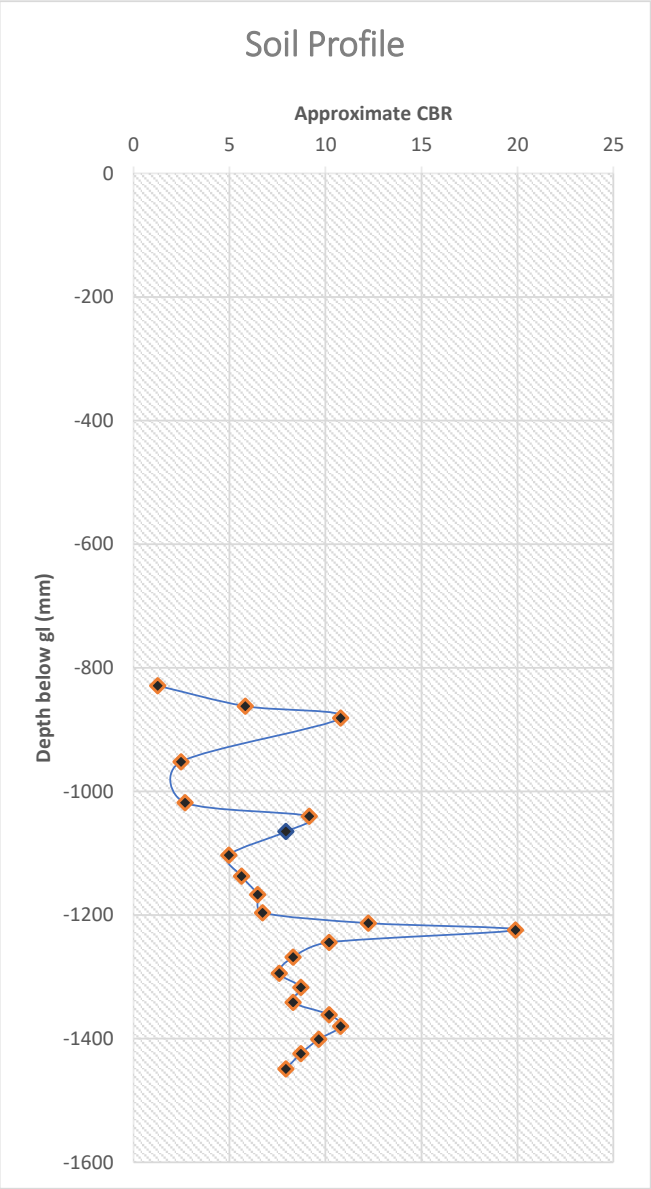

# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP S278
**Start depth of test:** 1200 mm below ground level
**Tested By / on** DK 05/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 316 | 0 | | | -1200 |
| 1 | 430 | 114 | 0.3 | 1 | -1314 |
| 2 | 516 | 86 | 0.5 | 2 | -1400 |
| 3 | 585 | 69 | 0.7 | 3 | -1469 |
| 4 | 651 | 66 | 0.8 | 3 | -1535 |
| 5 | 712 | 61 | 0.9 | 3 | -1596 |
| 6 | 771 | 59 | 1.0 | 3 | -1655 |
| 7 | 820 | 49 | 1.4 | 4 | -1704 |
| 8 | 870 | 50 | 1.4 | 4 | -1754 |
| 9 | 916 | 46 | 1.6 | 4 | -1800 |
| 10 | 940 | 24 | 6.0 | 8 | -1824 |
| 11 | | | | | |
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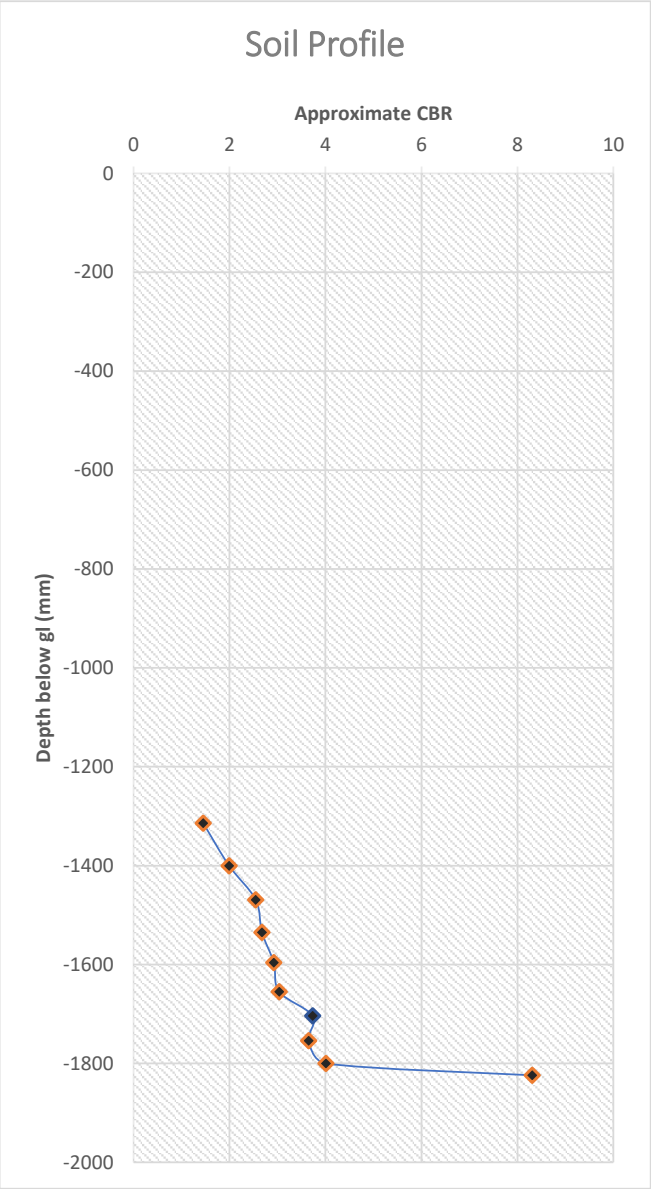

# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP S 282
**Start depth of test:** 900 mm below ground level
**Tested By / on** DK 04/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 208 | 0 | | | -900 |
| 1 | 308 | 100 | 0.3 | 2 | -1000 |
| 2 | 376 | 68 | 0.7 | 3 | -1068 |
| 3 | 432 | 56 | 1.1 | 3 | -1124 |
| 4 | 486 | 54 | 1.2 | 3 | -1178 |
| 5 | 529 | 43 | 1.9 | 4 | -1221 |
| 6 | 565 | 36 | 2.7 | 5 | -1257 |
| 7 | 595 | 30 | 3.8 | 6 | -1287 |
| 8 | 624 | 29 | 4.1 | 7 | -1316 |
| 9 | 651 | 27 | 4.7 | 7 | -1343 |
| 10 | 676 | 25 | 5.5 | 8 | -1368 |
| 11 | 699 | 23 | 6.5 | 9 | -1391 |
| 12 | 720 | 21 | 7.8 | 10 | -1412 |
| 13 | 741 | 21 | 7.8 | 10 | -1433 |
| 14 | 763 | 22 | 7.1 | 9 | -1455 |
| 15 | 784 | 21 | 7.8 | 10 | -1476 |
| 16 | 804 | 20 | 8.6 | 10 | -1496 |
| 17 | 824 | 20 | 8.6 | 10 | -1516 |
| 18 | 844 | 20 | 8.6 | 10 | -1536 |
| 19 | 867 | 23 | 6.5 | 9 | -1559 |
| 20 | 885 | 18 | 10.7 | 11 | -1577 |
| 21 | 904 | 19 | 9.6 | 11 | -1596 |
| 22 | 923 | 19 | 9.6 | 11 | -1615 |
| 23 | | | | | |
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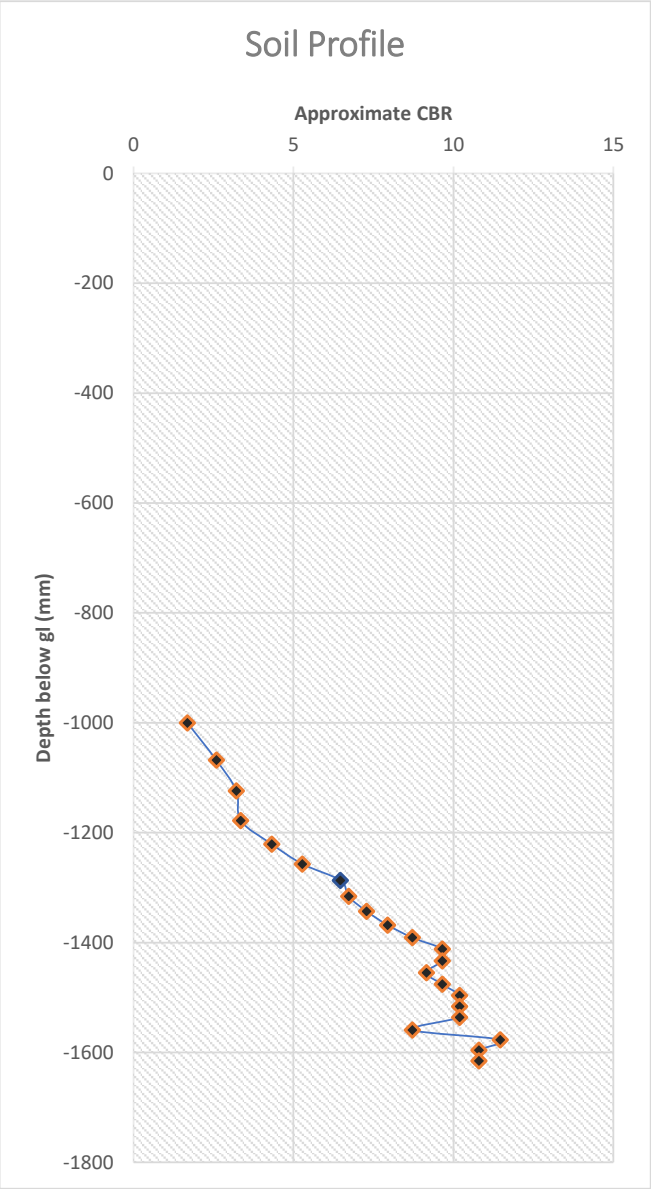

# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP SSA02
**Start depth of test:** 600 mm below ground level
**Tested By / on** DK 03/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 239 | 0 | | | -600 |
| 1 | 356 | 117 | 0.3 | 1 | -717 |
| 2 | 425 | 69 | 0.7 | 3 | -786 |
| 3 | 463 | 38 | 2.4 | 5 | -824 |
| 4 | 540 | 77 | 0.6 | 2 | -901 |
| 5 | 597 | 57 | 1.1 | 3 | -958 |
| 6 | 651 | 54 | 1.2 | 3 | -1012 |
| 7 | 709 | 58 | 1.0 | 3 | -1070 |
| 8 | 761 | 52 | 1.3 | 3 | -1122 |
| 9 | 812 | 51 | 1.3 | 4 | -1173 |
| 10 | 867 | 55 | 1.1 | 3 | -1228 |
| 11 | 914 | 47 | 1.6 | 4 | -1275 |
| 12 | 946 | 32 | 3.4 | 6 | -1307 |
| 13 | | | | | |
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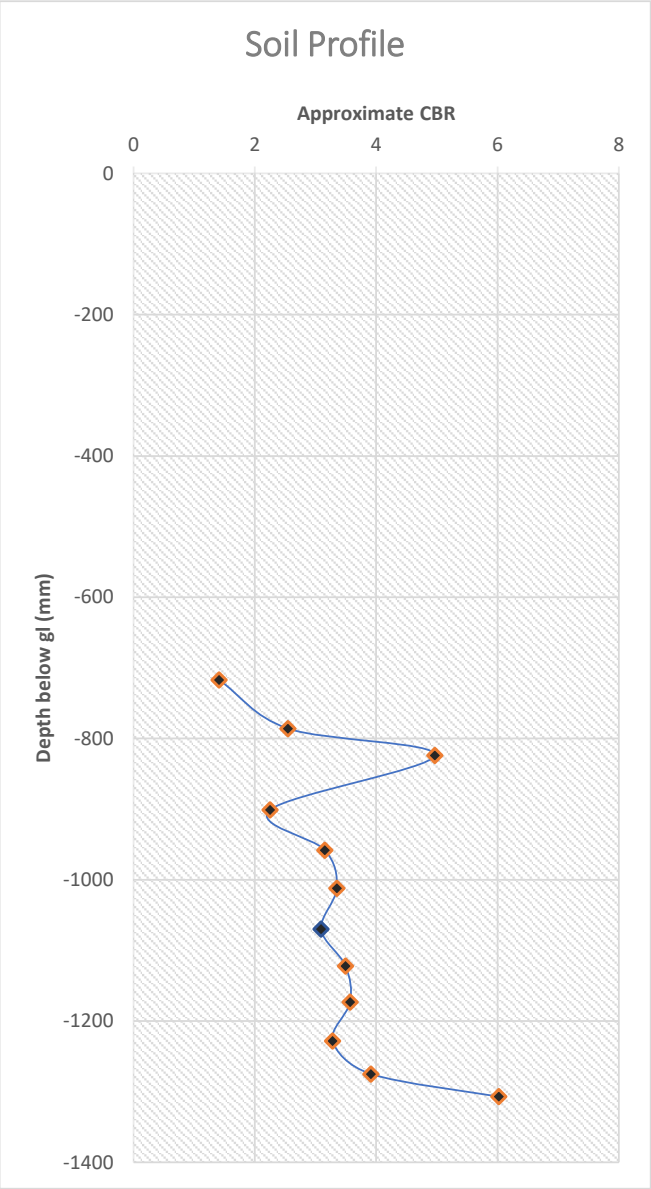

# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP SS A03
**Start depth of test:** 300 mm below ground level
**Tested By / on** DK 03/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 265 | 0 | | | -300 |
| 1 | 454 | 189 | 0.1 | 1 | -489 |
| 2 | 538 | 84 | 0.5 | 2 | -573 |
| 3 | 582 | 44 | 1.8 | 4 | -617 |
| 4 | 627 | 45 | 1.7 | 4 | -662 |
| 5 | 663 | 36 | 2.7 | 5 | -698 |
| 6 | 695 | 32 | 3.4 | 6 | -730 |
| 7 | 725 | 30 | 3.8 | 6 | -760 |
| 8 | 755 | 30 | 3.8 | 6 | -790 |
| 9 | 780 | 25 | 5.5 | 8 | -815 |
| 10 | 808 | 28 | 4.4 | 7 | -843 |
| 11 | 834 | 26 | 5.1 | 8 | -869 |
| 12 | 860 | 26 | 5.1 | 8 | -895 |
| 13 | 888 | 28 | 4.4 | 7 | -923 |
| 14 | 911 | 23 | 6.5 | 9 | -946 |
| 15 | 934 | 23 | 6.5 | 9 | -969 |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
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| 25 | | | | | |
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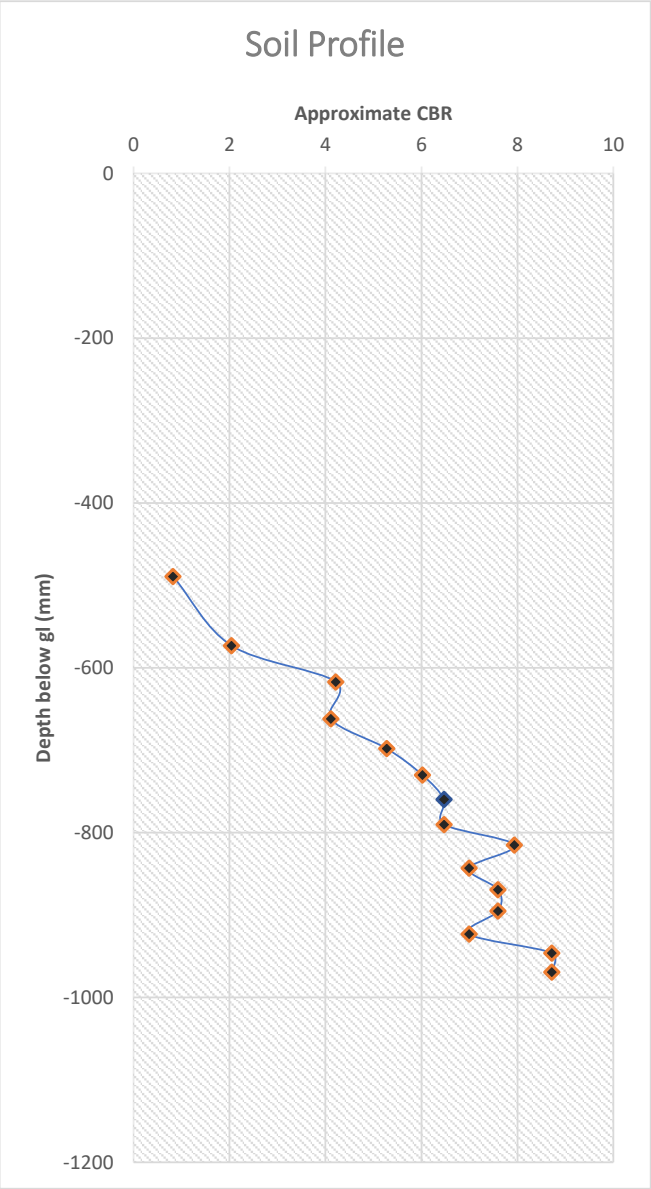
| 30 | | | | | |
| 31 | | | | | |



# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP SSA05
**Start depth of test:** 400 mm below ground level
**Tested By / on** DK 04/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 238 | 0 | | | -400 |
| 1 | 333 | 95 | 0.4 | 2 | -495 |
| 2 | 426 | 93 | 0.4 | 2 | -588 |
| 3 | 501 | 75 | 0.6 | 2 | -663 |
| 4 | 555 | 54 | 1.2 | 3 | -717 |
| 5 | 600 | 45 | 1.7 | 4 | -762 |
| 6 | 641 | 41 | 2.1 | 5 | -803 |
| 7 | 679 | 38 | 2.4 | 5 | -841 |
| 8 | 715 | 36 | 2.7 | 5 | -877 |
| 9 | 750 | 35 | 2.8 | 5 | -912 |
| 10 | 783 | 33 | 3.2 | 6 | -945 |
| 11 | 815 | 32 | 3.4 | 6 | -977 |
| 12 | 846 | 31 | 3.6 | 6 | -1008 |
| 13 | 876 | 30 | 3.8 | 6 | -1038 |
| 14 | 904 | 28 | 4.4 | 7 | -1066 |
| 15 | 931 | 27 | 4.7 | 7 | -1093 |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
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| 24 | | | | | |
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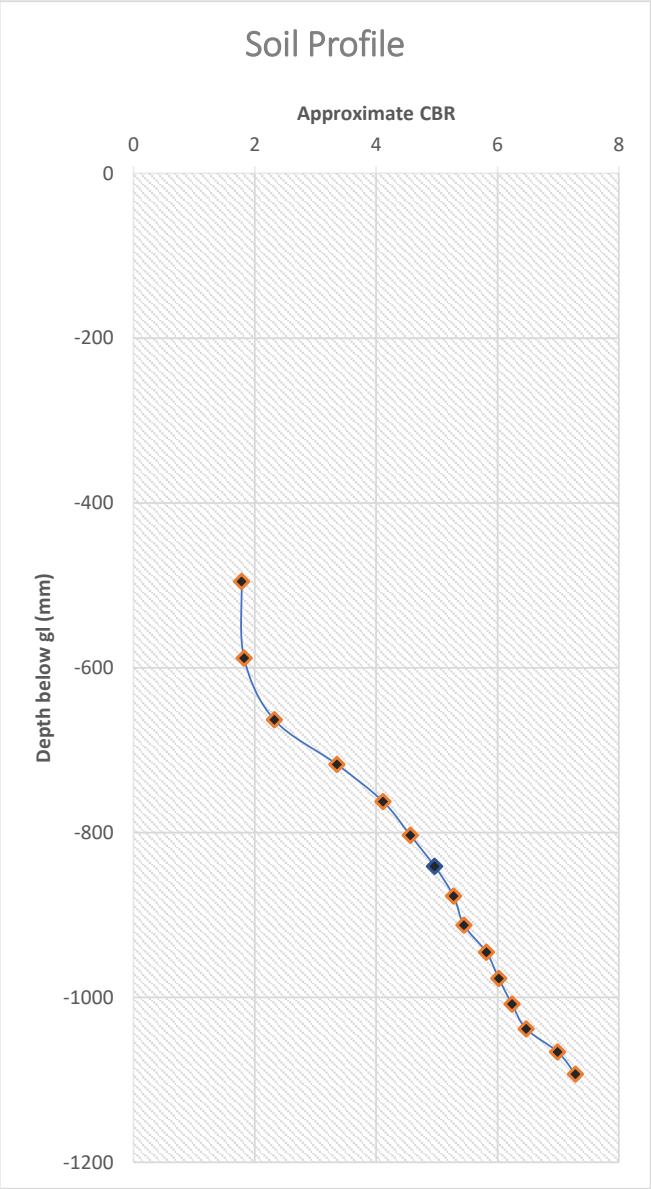
| 31 | | | | | |



# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP SS A06
**Start depth of test:** 400 mm below ground level
**Tested By / on** DK 04/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 122 | 0 | | | -400 |
| 1 | 203 | 81 | 0.5 | 2 | -481 |
| 2 | 278 | 75 | 0.6 | 2 | -556 |
| 3 | 337 | 59 | 1.0 | 3 | -615 |
| 4 | 385 | 48 | 1.5 | 4 | -663 |
| 5 | 424 | 39 | 2.3 | 5 | -702 |
| 6 | 461 | 37 | 2.5 | 5 | -739 |
| 7 | 496 | 35 | 2.8 | 5 | -774 |
| 8 | 529 | 33 | 3.2 | 6 | -807 |
| 9 | 564 | 35 | 2.8 | 5 | -842 |
| 10 | 600 | 36 | 2.7 | 5 | -878 |
| 11 | 632 | 32 | 3.4 | 6 | -910 |
| 12 | 664 | 32 | 3.4 | 6 | -942 |
| 13 | 698 | 34 | 3.0 | 6 | -976 |
| 14 | 733 | 35 | 2.8 | 5 | -1011 |
| 15 | 770 | 37 | 2.5 | 5 | -1048 |
| 16 | 806 | 36 | 2.7 | 5 | -1084 |
| 17 | 838 | 32 | 3.4 | 6 | -1116 |
| 18 | 857 | 19 | 9.6 | 11 | -1135 |
| 19 | 873 | 16 | 13.5 | 13 | -1151 |
| 20 | 893 | 20 | 8.6 | 10 | -1171 |
| 21 | 918 | 25 | 5.5 | 8 | -1196 |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | | | | | |
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| 28 | | | | | |
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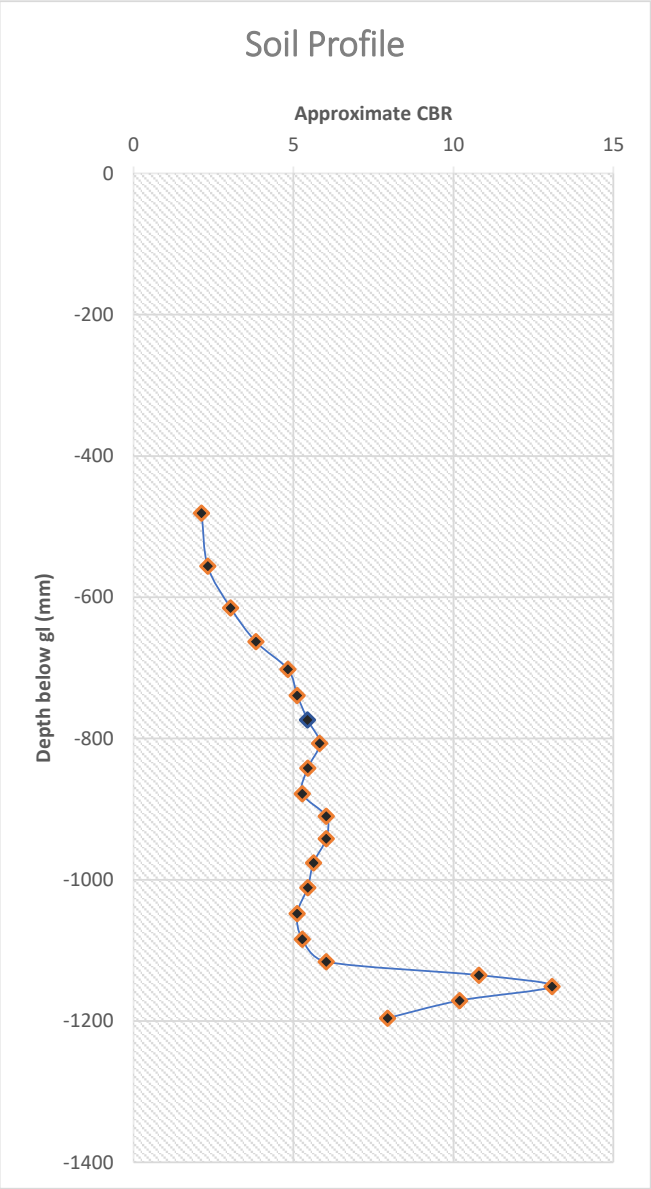
| 31 | | | | | |



# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP T12
**Start depth of test:** 1200 mm below ground level
**Tested By / on** DK 09/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 146 | 0 | | | -1200 |
| 1 | 382 | 236 | 0.1 | 1 | -1436 |
| 2 | 465 | 83 | 0.5 | 2 | -1519 |
| 3 | 520 | 55 | 1.1 | 3 | -1574 |
| 4 | 564 | 44 | 1.8 | 4 | -1618 |
| 5 | 603 | 39 | 2.3 | 5 | -1657 |
| 6 | 637 | 34 | 3.0 | 6 | -1691 |
| 7 | 668 | 31 | 3.6 | 6 | -1722 |
| 8 | 699 | 31 | 3.6 | 6 | -1753 |
| 9 | 727 | 28 | 4.4 | 7 | -1781 |
| 10 | 753 | 26 | 5.1 | 8 | -1807 |
| 11 | 779 | 26 | 5.1 | 8 | -1833 |
| 12 | 806 | 27 | 4.7 | 7 | -1860 |
| 13 | 833 | 27 | 4.7 | 7 | -1887 |
| 14 | 860 | 27 | 4.7 | 7 | -1914 |
| 15 | 886 | 26 | 5.1 | 8 | -1940 |
| 16 | 913 | 27 | 4.7 | 7 | -1967 |
| 17 | 939 | 26 | 5.1 | 8 | -1993 |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
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| 24 | | | | | |
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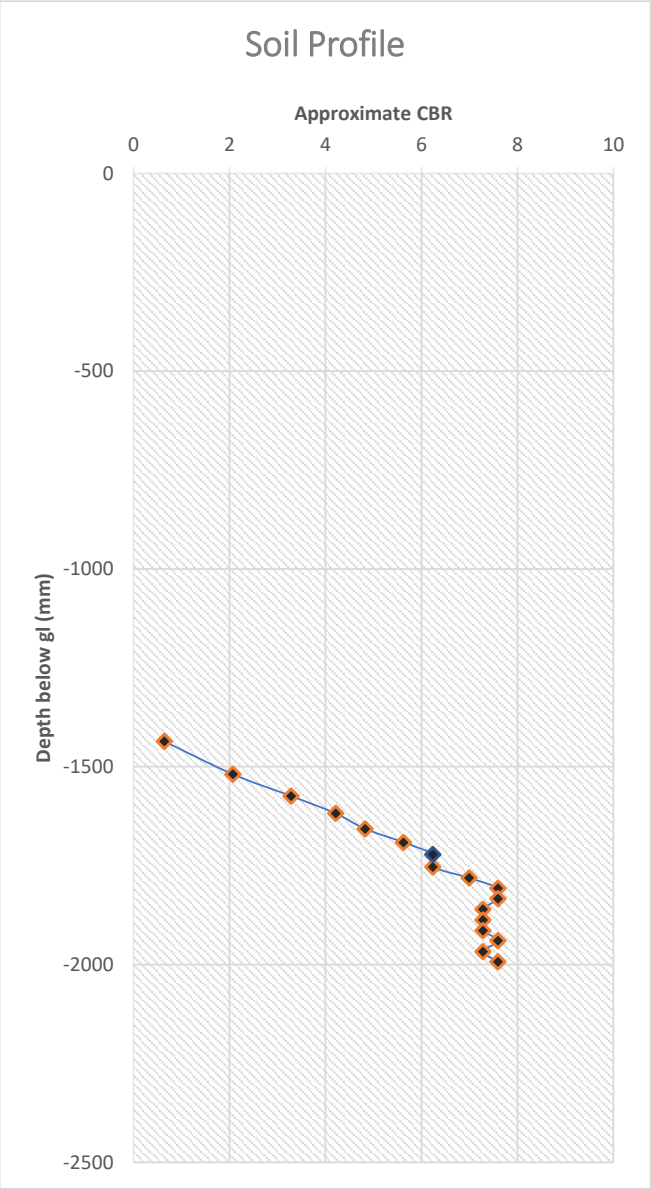

# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP T14
**Start depth of test:** 1200 mm below ground level
**Tested By / on** PC 17/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 208 | 0 | | | -1200 |
| 1 | 276 | 68 | 0.7 | 3 | -1268 |
| 2 | 312 | 36 | 2.7 | 5 | -1304 |
| 3 | 328 | 16 | 13.5 | 13 | -1320 |
| 4 | 346 | 18 | 10.7 | 11 | -1338 |
| 5 | 390 | 44 | 1.8 | 4 | -1382 |
| 6 | 460 | 70 | 0.7 | 3 | -1452 |
| 7 | 528 | 68 | 0.7 | 3 | -1520 |
| 8 | 573 | 45 | 1.7 | 4 | -1565 |
| 9 | 609 | 36 | 2.7 | 5 | -1601 |
| 10 | 630 | 21 | 7.8 | 10 | -1622 |
| 11 | 664 | 34 | 3.0 | 6 | -1656 |
| 12 | 692 | 28 | 4.4 | 7 | -1684 |
| 13 | 711 | 19 | 9.6 | 11 | -1703 |
| 14 | 755 | 44 | 1.8 | 4 | -1747 |
| 15 | 746 | -9 | 42.6 | #NUM! | -1738 |
| 16 | 755 | 9 | 42.6 | 25 | -1747 |
| 17 | 763 | 8 | 53.9 | 28 | -1755 |
| 18 | 773 | 10 | 34.5 | 22 | -1765 |
| 19 | 779 | 6 | 95.9 | 39 | -1771 |
| 20 | | | | | |
| 21 | | | | | |
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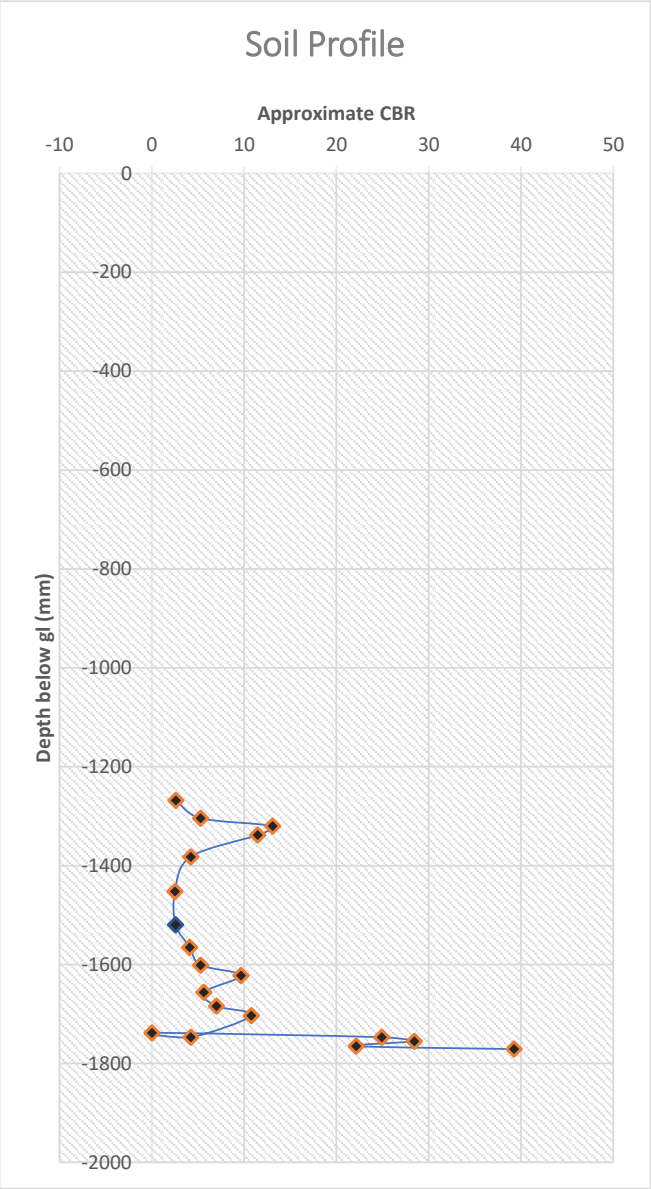
| 31 | | | | | |
| 32 | | | | | |



# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP T15
**Start depth of test:** 700 mm below ground level
**Tested By / on** PC 22/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 345 | 0 | | | -700 |
| 1 | 456 | 111 | 0.3 | 1 | -811 |
| 2 | 544 | 88 | 0.4 | 2 | -899 |
| 3 | 628 | 84 | 0.5 | 2 | -983 |
| 4 | 697 | 69 | 0.7 | 3 | -1052 |
| 5 | 745 | 48 | 1.5 | 4 | -1100 |
| 6 | 783 | 38 | 2.4 | 5 | -1138 |
| 7 | 806 | 23 | 6.5 | 9 | -1161 |
| 8 | 826 | 20 | 8.6 | 10 | -1181 |
| 9 | 845 | 19 | 9.6 | 11 | -1200 |
| 10 | 886 | 41 | 2.1 | 5 | -1241 |
| 11 | 900 | 14 | 17.6 | 15 | -1255 |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
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| 26 | | | | | |
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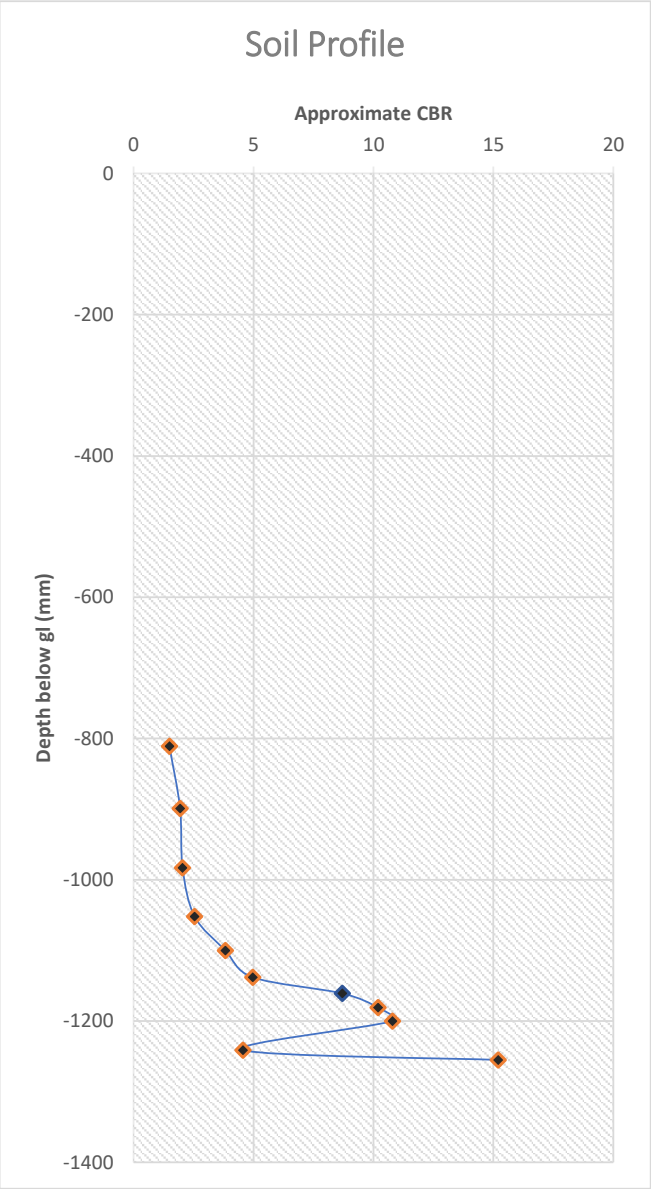
| 30 | | | | | |
| 31 | | | | | |
| 32 | | | | | |



# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TP T17
**Start depth of test:** 700 mm below ground level
**Tested By / on** DK 15/03/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 129 | 0 | | | -700 |
| 1 | 173 | 44 | 1.8 | 4 | -744 |
| 2 | 202 | 29 | 4.1 | 7 | -773 |
| 3 | 223 | 21 | 7.8 | 10 | -794 |
| 4 | 262 | 39 | 2.3 | 5 | -833 |
| 5 | 306 | 44 | 1.8 | 4 | -877 |
| 6 | 347 | 41 | 2.1 | 5 | -918 |
| 7 | 406 | 59 | 1.0 | 3 | -977 |
| 8 | 468 | 62 | 0.9 | 3 | -1039 |
| 9 | 525 | 57 | 1.1 | 3 | -1096 |
| 10 | 574 | 49 | 1.4 | 4 | -1145 |
| 11 | 614 | 40 | 2.2 | 5 | -1185 |
| 12 | 660 | 46 | 1.6 | 4 | -1231 |
| 13 | 698 | 38 | 2.4 | 5 | -1269 |
| 14 | 741 | 43 | 1.9 | 4 | -1312 |
| 15 | 773 | 32 | 3.4 | 6 | -1344 |
| 16 | 802 | 29 | 4.1 | 7 | -1373 |
| 17 | 816 | 14 | 17.6 | 15 | -1387 |
| 18 | 829 | 13 | 20.4 | 17 | -1400 |
| 19 | 849 | 20 | 8.6 | 10 | -1420 |
| 20 | 873 | 24 | 6.0 | 8 | -1444 |
| 21 | 902 | 29 | 4.1 | 7 | -1473 |
| 22 | 919 | 17 | 11.9 | 12 | -1490 |
| 23 | | | | | |
| 24 | | | | | |
| 25 | | | | | |
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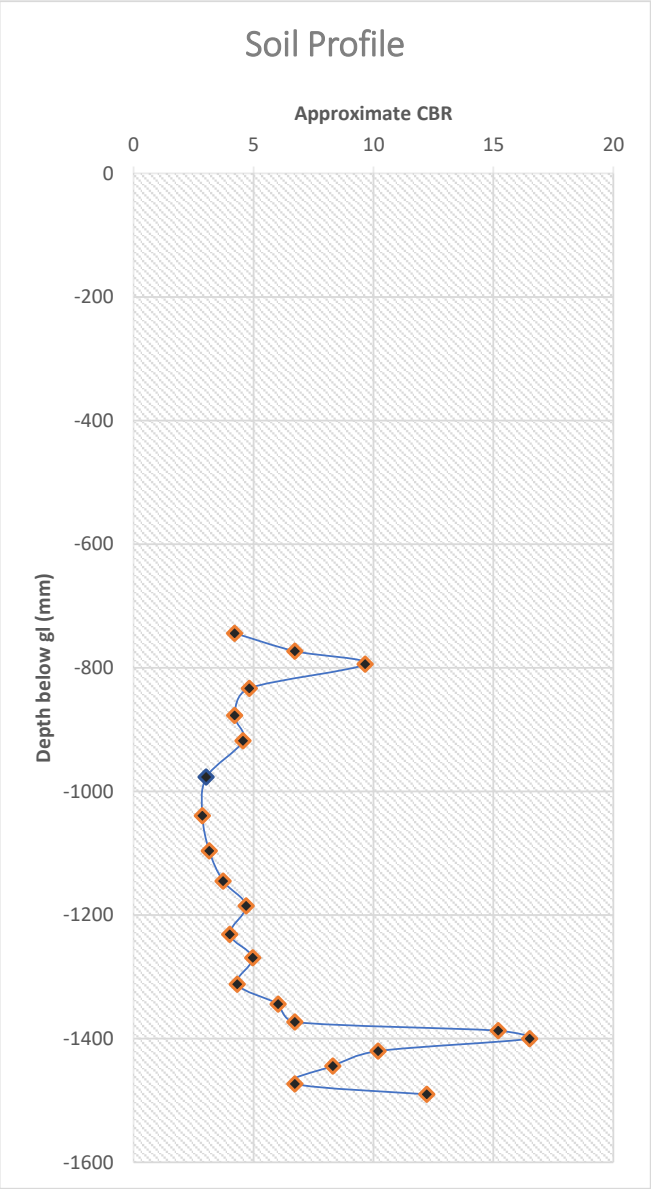
| 31 | | | | | |

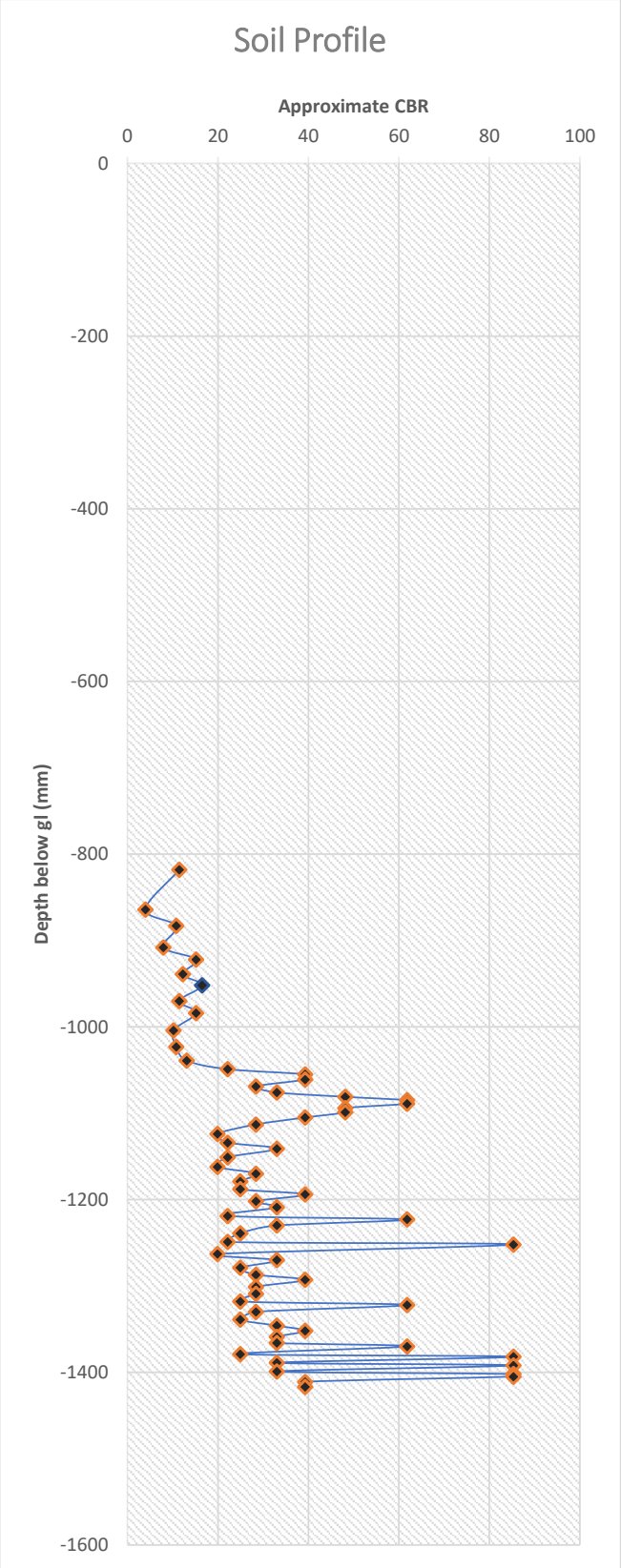


# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TPT20
**Start depth of test:** 800 mm below ground level
**Tested By / on** PC 09/04/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 0 | 201 | 0 | | | -800 |
| 1 | 219 | 18 | 10.7 | 11 | -818 |
| 2 | 265 | 46 | 1.6 | 4 | -864 |
| 3 | 284 | 19 | 9.6 | 11 | -883 |
| 4 | 309 | 25 | 5.5 | 8 | -908 |
| 5 | 323 | 14 | 17.6 | 15 | -922 |
| 6 | 340 | 17 | 11.9 | 12 | -939 |
| 7 | 353 | 13 | 20.4 | 17 | -952 |
| 8 | 371 | 18 | 10.7 | 11 | -970 |
| 9 | 385 | 14 | 17.6 | 15 | -984 |
| 10 | 405 | 20 | 8.6 | 10 | -1004 |
| 11 | 424 | 19 | 9.6 | 11 | -1023 |
| 12 | 440 | 16 | 13.5 | 13 | -1039 |
| 13 | 450 | 10 | 34.5 | 22 | -1049 |
| 14 | 456 | 6 | 95.9 | 39 | -1055 |
| 15 | 462 | 6 | 95.9 | 39 | -1061 |
| 16 | 470 | 8 | 53.9 | 28 | -1069 |
| 17 | 477 | 7 | 70.5 | 33 | -1076 |
| 18 | 482 | 5 | 138.1 | 48 | -1081 |
| 19 | 486 | 4 | 215.8 | 62 | -1085 |
| 20 | 490 | 4 | 215.8 | 62 | -1089 |
| 21 | 495 | 5 | 138.1 | 48 | -1094 |
| 22 | 500 | 5 | 138.1 | 48 | -1099 |
| 23 | 506 | 6 | 95.9 | 39 | -1105 |
| 24 | 514 | 8 | 53.9 | 28 | -1113 |
| 25 | 525 | 11 | 28.5 | 20 | -1124 |
| 26 | 535 | 10 | 34.5 | 22 | -1134 |
| 27 | 542 | 7 | 70.5 | 33 | -1141 |
| 28 | 552 | 10 | 34.5 | 22 | -1151 |
| 29 | 563 | 11 | 28.5 | 20 | -1162 |
| 30 | 571 | 8 | 53.9 | 28 | -1170 |
| 31 | 580 | 9 | 42.6 | 25 | -1179 |
| 32 | 589 | 9 | 42.6 | 25 | -1188 |
| 33 | 595 | 6 | 95.9 | 39 | -1194 |
| 34 | 603 | 8 | 53.9 | 28 | -1202 |
| 35 | 610 | 7 | 70.5 | 33 | -1209 |
| 36 | 620 | 10 | 34.5 | 22 | -1219 |
| 37 | 624 | 4 | 215.8 | 62 | -1223 |
| 38 | 631 | 7 | 70.5 | 33 | -1230 |
| 39 | 640 | 9 | 42.6 | 25 | -1239 |
| 40 | 650 | 10 | 34.5 | 22 | -1249 |
| 41 | 653 | 3 | 383.6 | 85 | -1252 |
| 42 | 664 | 11 | 28.5 | 20 | -1263 |
| 43 | 671 | 7 | 70.5 | 33 | -1270 |
| 44 | 680 | 9 | 42.6 | 25 | -1279 |

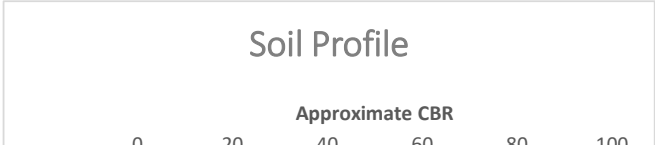


# Irish Drilling Ltd., Site Investigation.

**Site:** Derryadd Wind Farm, Co Longford 2021LD101
**Test Location:** TPT20
**Start depth of test:** 800 mm below ground level
**Tested By / on** PC 09/04/2021 **Calc:** DCD

*Dynamic Cone Penetrometer Test; ASTM D6951*

| Blow | Reading (mm) | Penetration Index (mm/blow) | Estimated CBR if <10 | Estimated CBR if >10 | Depth below surface (mm) |
|---|---|---|---|---|---|
| 45 | 688 | 8 | 53.9 | 28 | -1287 |
| 46 | 694 | 6 | 95.9 | 39 | -1293 |
| 47 | 702 | 8 | 53.9 | 28 | -1301 |
| 48 | 710 | 8 | 53.9 | 28 | -1309 |
| 49 | 719 | 9 | 42.6 | 25 | -1318 |
| 50 | 723 | 4 | 215.8 | 62 | -1322 |
| 51 | 731 | 8 | 53.9 | 28 | -1330 |
| 52 | 740 | 9 | 42.6 | 25 | -1339 |
| 53 | 747 | 7 | 70.5 | 33 | -1346 |
| 54 | 753 | 6 | 95.9 | 39 | -1352 |
| 55 | 760 | 7 | 70.5 | 33 | -1359 |
| 56 | 767 | 7 | 70.5 | 33 | -1366 |
| 57 | 771 | 4 | 215.8 | 62 | -1370 |
| 58 | 780 | 9 | 42.6 | 25 | -1379 |
| 59 | 783 | 3 | 383.6 | 85 | -1382 |
| 60 | 790 | 7 | 70.5 | 33 | -1389 |
| 61 | 793 | 3 | 383.6 | 85 | -1392 |
| 62 | 800 | 7 | 70.5 | 33 | -1399 |
| 63 | 803 | 3 | 383.6 | 85 | -1402 |
| 64 | 806 | 3 | 383.6 | 85 | -1405 |
| 65 | 812 | 6 | 95.9 | 39 | -1411 |
| 66 | 818 | 6 | 95.9 | 39 | -1417 |
| 67 | | | | | |



# Appendix 9
# Permeability Test Results

**DERRYADD WIND FARM**

**Permeability Tests**

Borehole No: BHRC 01A

Date: 22.04.2021

Depth to water from top of head works: 0.83m

Height of head works above ground level: 0.20m

| Rising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.90m |
| 0.5sec | 0.88m |
| 1.0min | 0.88m |
| 1.5min | 0.85m |
| 2.0min | 0.88m |
| 2.5min | 0.88m |
| 3.0min | 0.88m |
| 4.0min | 0.87m |
| 5.0min | 0.87m |
| 6.0min | 0.86m |
| 7.0min | 0.86m |
| 8.0min | 0.86m |
| 9.0min | 0.86m |
| 10min | 0.86m |
| 15min | 0.86m |
| 20min | 0.86m |
| 30min | 0.83m |
| 45min | |
| 1hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.42m |
| 0.5sec | 0.53m |
| 1.0min | 0.61m |
| 1.5min | 0.63m |
| 2.0min | 0.69m |
| 2.5min | 0.71m |
| 3.0min | 0.76m |
| 4.0min | 0.78m |
| 5.0min | 0.81m |
| 6.0min | 0.83m |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |

Remarks:

Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**

**Permeability Tests**

Borehole No: BH/RC 02A

Date:22.04.2021

Depth to water top of head works:1.80m

Height of head works above ground level:0.25m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 4.78m |
| 0.5sec | 4.3m |
| 1.0min | 4.1m |
| 1.5min | 3.99m |
| 2.0min | 3.73m |
| 2.5min | 3.60m |
| 3.0min | 3.32m |
| 4.0min | 3.05m |
| 5.0min | 2.89m |
| 6.0min | 2.83m |
| 7.0min | 2.72m |
| 8.0min | 2.66m |
| 9.0min | 2.6m |
| 10min | 2.56m |
| 15min | 2.42m |
| 20min | 2.30m |
| 30min | 2.17m |
| 45min | 2.07m |
| 1hr | 2.0m |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.42m |
| 0.5sec | 0.53m |
| 1.0min | 0.61m |
| 1.5min | 0.63m |
| 2.0min | 0.69m |
| 2.5min | 0.71m |
| 3.0min | 0.76m |
| 4.0min | 0.78m |
| 5.0min | 0.81m |
| 6.0min | 0.83m |
| 7.0min | 1.76m |
| 8.0min | 1.77m |
| 9.0min | 1.78m |
| 10min | 1.79m |
| 15min | 1.82m |
| 20min | 1.83m |
| 30min | 1.84m |
| 45min | |
| 1hr | |

Remarks:

Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**

**Permeability Tests**

Borehole No: BH/RC 03B

Date:23.04.2021

Depth to water top of head works:5.20m

Height of head works above ground level:0.25m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 7.05m |
| 0.5sec | 6.81m |
| 1.0min | 6.52m |
| 1.5min | 6.24m |
| 2.0min | 6.11m |
| 2.5min | 5.95m |
| 3.0min | 5.83m |
| 4.0min | 5.70m |
| 5.0min | 5.59m |
| 6.0min | 5.51m |
| 7.0min | 5.46m |
| 8.0min | 5.43m |
| 9.0min | 5.4m |
| 10min | 5.37m |
| 15min | 5.29m |
| 20min | 5.24m |
| 30min | 5.23m |
| 45min | |
| 1hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 2.2m |
| 0.5sec | 2.73m |
| 1.0min | 3.55m |
| 1.5min | 4.2m |
| 2.0min | 4.65m |
| 2.5min | 4.72m |
| 3.0min | 4.79m |
| 4.0min | 4.86m |
| 5.0min | 4.92m |
| 6.0min | 4.98m |
| 7.0min | 5.03m |
| 8.0min | 5.07m |
| 9.0min | 5.08m |
| 10min | 5.09m |
| 15min | 5.12m |
| 20min | 5.12m |
| 30min | 5.15m |
| 45min | |
| 1hr | |

Remarks:

Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**

**Permeability Tests**

Borehole No: BH/RC 04A

Date:22.04.2021

Depth to water top of head works:1.80m

Height of head works above ground level:0.26m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 8.20m |
| 0.5sec | 7.95m |
| 1.0min | 7.7m |
| 1.5min | 7.48m |
| 2.0min | 7.18m |
| 2.5min | 6.89m |
| 3.0min | 6.56m |
| 4.0min | 5.83m |
| 5.0min | 5.24m |
| 6.0min | 4.81m |
| 7.0min | 4.4m |
| 8.0min | 4.1m |
| 9.0min | 3.8m |
| 10min | 3.6m |
| 15min | 2.8m |
| 20min | 2.38m |
| 30min | 2.12m |
| 45min | 1.91m |
| 1hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.27m |
| 0.5sec | 0.6m |
| 1.0min | 0.63m |
| 1.5min | 0.72m |
| 2.0min | 0.81m |
| 2.5min | 0.95m |
| 3.0min | 1.03m |
| 4.0min | 1.16m |
| 5.0min | 1.27m |
| 6.0min | 1.34m |
| 7.0min | 1.41m |
| 8.0min | 1.48m |
| 9.0min | 1.53m |
| 10min | 1.57m |
| 15min | 1.72m |
| 20min | 1.80m |
| 30min | 1.83m |
| 45min | |
| 1hr | |

Remarks:

Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC 05A
Date:26.04.2021
Depth to water top of head works:3.20m
Height of head works above ground level:0.30m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 8.36m |
| 0.5sec | 8.28m |
| 1.0min | 8.18m |
| 1.5min | 8.11m |
| 2.0min | 8.02m |
| 2.5min | 7.95m |
| 3.0min | 7.79m |
| 4.0min | 7.67m |
| 5.0min | 7.54m |
| 6.0min | 7.43m |
| 7.0min | 7.32m |
| 8.0min | 7.19m |
| 9.0min | 7.10m |
| 10min | 7.01m |
| 15min | 6.55m |
| 20min | 6.08m |
| 30min | 5.72m |
| 45min | 4.35m |
| 1hr | 4.04m |
| 1.5hr | 3.78m |
| 2hr | 3.43m |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.5m |
| 0.5sec | 1.2m |
| 1.0min | 1.55m |
| 1.5min | 1.73m |
| 2.0min | 1.89m |
| 2.5min | 2.04m |
| 3.0min | 2.12m |
| 4.0min | 2.29m |
| 5.0min | 2.43m |
| 6.0min | 2.47m |
| 7.0min | 2.47m |
| 8.0min | 2.47m |
| 9.0min | 2.47m |
| 10min | 2.47m |
| 15min | 2.54m |
| 20min | 2.68m |
| 30min | 3.04m |
| 45min | 3.14m |
| 1hr | 2.26m |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC 06B
Date:27.04.2021
Depth to water top of head works:2.17m
Height of head works above ground level:0.15m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 5.15m |
| 0.5sec | 5.0m |
| 1.0min | 4.74m |
| 1.5min | 4.61m |
| 2.0min | 4.49m |
| 2.5min | 4.03m |
| 3.0min | 3.78m |
| 4.0min | 3.62m |
| 5.0min | 3.14m |
| 6.0min | 3.03m |
| 7.0min | |
| 8.0min | |
| 9.0min | 2.89m |
| 10min | 2.52m |
| 15min | 2.50m |
| 20min | 2.42m |
| 30min | 2.27m |
| 45min | |
| 1hr | |
| 1.5hr | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.0m |
| 0.5sec | 1.90m |
| 1.0min | 2.06m |
| 1.5min | 2.11m |
| 2.0min | 2.12m |
| 2.5min | 1.14m |
| 3.0min | 2.15m |
| 4.0min | 2.17m |
| 5.0min | 2.17m |
| 6.0min | 2.17m |
| 7.0min | 2.17m |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC 07A
Date:29.04.2021
Depth to water top of head works:1.95m
Height of head works above ground level:0.2m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 5.13m |
| 0.5sec | 4.48m |
| 1.0min | 4.23m |
| 1.5min | 4.09m |
| 2.0min | 3.83m |
| 2.5min | 3.63m |
| 3.0min | 3.44m |
| 4.0min | 3.17m |
| 5.0min | 3.08m |
| 6.0min | 2.96m |
| 7.0min | 2.83m |
| 8.0min | 2.72m |
| 9.0min | 2.65m |
| 10min | 2.58m |
| 15min | 2.37m |
| 20min | 2.23m |
| 30min | 2.07m |
| 45min | 1.99m |
| 1hr | 1.96m |
| 1hr15min | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 00m |
| 0.5sec | 0.6m |
| 1.0min | 1.08m |
| 1.5min | 1.28m |
| 2.0min | 1.4m |
| 2.5min | 1.54m |
| 3.0min | 1.61m |
| 4.0min | 1.71m |
| 5.0min | 1.75m |
| 6.0min | 1.78m |
| 7.0min | 1.80m |
| 8.0min | 1.83m |
| 9.0min | 1.83m |
| 10min | 1.84m |
| 15min | 1.85m |
| 20min | 1.85m |
| 30min | 1.86m |
| 45min | 1.92m |
| 1hr | |
| 1.5hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC 08B
Date:30.04.2021
Depth to water top of head works:1.73m
Height of head works above ground level:0.2m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 1.85m |
| 0.5sec | 1.84m |
| 1.0min | 1.83m |
| 1.5min | 1.83m |
| 2.0min | 1.83m |
| 2.5min | 1.83m |
| 3.0min | 1.82m |
| 4.0min | 1.82m |
| 5.0min | 1.81m |
| 6.0min | 1.81m |
| 7.0min | 1.80m |
| 8.0min | 1.80m |
| 9.0min | 1.80m |
| 10min | 1.80m |
| 15min | 1.79m |
| 20min | 1.78m |
| 30min | 1.77m |
| 45min | 1.76m |
| 1hr | |
| 1hr15min | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 00m |
| 0.5sec | Falling as fast as water added |
| 1.0min | |
| 1.5min | |
| 2.0min | |
| 2.5min | |
| 3.0min | |
| 4.0min | |
| 5.0min | |
| 6.0min | |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.5hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.
Unable toi fill standpipe before water level dropped.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC 09A
Date:04.05.2021
Depth to water top of head works:1.48m
Height of head works above ground level:0.3m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 1.63m |
| 0.5sec | 1.63m |
| 1.0min | 1.63m |
| 1.5min | 1.63m |
| 2.0min | 1.63m |
| 2.5min | 1.63m |
| 3.0min | 1.62m |
| 4.0min | 1.62m |
| 5.0min | 1.61m |
| 6.0min | 1.60m |
| 7.0min | 1.59m |
| 8.0min | 1.59m |
| 9.0min | 1.58m |
| 10min | 1.58m |
| 15min | 1.57m |
| 20min | 1.56m |
| 30min | 1.55m |
| 45min | 1.53m |
| 1hr | 1.52m |
| 1.5hr | 1.49m |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.3m |
| 0.5sec | 1.45m |
| 1.0min | 1.47m |
| 1.5min | 1.47m |
| 2.0min | 1.47m |
| 2.5min | 1.47m |
| 3.0min | 1.47m |
| 4.0min | 1.47m |
| 5.0min | 1.47m |
| 6.0min | 1.47m |
| 7.0min | 1.47m |
| 8.0min | 1.47m |
| 9.0min | 1.47m |
| 10min | 1.47m |
| 15min | 1.48m |
| 20min | 1.48m |
| 30min | |
| 45min | |
| 1hr | |
| 1.5hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC 10B
Date:19.05.2021
Depth to water top of head works:3.0m
Height of head works above ground level:0.1m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 4.50m |
| 0.5sec | 2.23m |
| 1.0min | 4.12m |
| 1.5min | 4.01m |
| 2.0min | 3.98m |
| 2.5min | 3.73m |
| 3.0min | 3.54m |
| 4.0min | 3.46m |
| 5.0min | 3.40m |
| 6.0min | 3.38m |
| 7.0min | 3.36m |
| 8.0min | 3.32m |
| 9.0min | 3.29m |
| 10min | 3.27m |
| 15min | 3.26m |
| 20min | 3.24m |
| 30min | 3.21m |
| 45min | 3.10m |
| 1hr | 3.02m |
| 1.5hr | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 1.42m |
| 0.5sec | 1.81m |
| 1.0min | 1.92m |
| 1.5min | 2.00m |
| 2.0min | 2.08m |
| 2.5min | 2.16m |
| 3.0min | 2.26m |
| 4.0min | 2.48m |
| 5.0min | 2.61m |
| 6.0min | 2.74m |
| 7.0min | 2.91m |
| 8.0min | 3.00m |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.15hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC 11A
Date:20.05.2021
Depth to water top of head works:1.4m
Height of head works above ground level:0.2m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | |
| 0.5sec | |
| 1.0min | |
| 1.5min | |
| 2.0min | |
| 2.5min | |
| 3.0min | |
| 4.0min | |
| 5.0min | |
| 6.0min | |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.5hr | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | |
| 0.5sec | |
| 1.0min | |
| 1.5min | |
| 2.0min | |
| 2.5min | |
| 3.0min | |
| 4.0min | |
| 5.0min | |
| 6.0min | |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.15hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.
Falling Head Test: 50litres of water added to borehole but unable to rise water level
Rising Head Test: Borehole pumped for 0.5hrs-unable to drop water level pump pumping at 50l per min.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC 12B
Date:20.05.2021
Depth to water top of head works:0.3m
Height of head works above ground level:0.1m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 2.90m |
| 0.5sec | 2.60m |
| 1.0min | 2.14m |
| 1.5min | 1.56m |
| 2.0min | 1.31m |
| 2.5min | 1.19m |
| 3.0min | 1.09m |
| 4.0min | 0.93m |
| 5.0min | 0.74m |
| 6.0min | 0.68m |
| 7.0min | 0.63m |
| 8.0min | 0.59m |
| 9.0min | 0.52m |
| 10min | 0.52m |
| 15min | 0.42m |
| 20min | 0.36m |
| 30min | 0.34m |
| 45min | 0.34m |
| 1hr | |
| 1.5hr | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | |
| 0.5sec | |
| 1.0min | |
| 1.5min | |
| 2.0min | |
| 2.5min | |
| 3.0min | |
| 4.0min | |
| 5.0min | |
| 6.0min | |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.15hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC 13A
Date:19.05.2021
Depth to water top of head works: Artesian water flowing over top of headworks
Height of head works above ground level:0.2m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | |
| 0.5sec | |
| 1.0min | |
| 1.5min | |
| 2.0min | |
| 2.5min | |
| 3.0min | |
| 4.0min | |
| 5.0min | |
| 6.0min | |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.5hr | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | |
| 0.5sec | |
| 1.0min | |
| 1.5min | |
| 2.0min | |
| 2.5min | |
| 3.0min | |
| 4.0min | |
| 5.0min | |
| 6.0min | |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.5hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.
N.B unable to get pump to borhole ground to soft.
Artesian water encountered flowing over headworks.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC 17A
Date:24.05.2021
Depth to water top of head works: 0.34m
Height of head works above ground level:0.2m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | |
| 0.5sec | |
| 1.0min | |
| 1.5min | |
| 2.0min | |
| 2.5min | |
| 3.0min | |
| 4.0min | |
| 5.0min | |
| 6.0min | |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.5hr | |
| 2hr | |
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| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | |
| 0.5sec | |
| 1.0min | |
| 1.5min | |
| 2.0min | |
| 2.5min | |
| 3.0min | |
| 4.0min | |
| 5.0min | |
| 6.0min | |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.5hrs | |
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Remarks:
Tests carried out within 50mm diameter standpipe.
Falling Head Test: Added 25 litres of water unable to rise water level
Rising Head Test: Borehole pumped for 0.5hrs at 50l/min-unable to drop water level

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC BPA1
Date:19.05.2021
Depth to water top of head works:0.93m
Height of head works above ground level:0.2m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 1.98m |
| 0.5sec | 1.87m |
| 1.0min | 1.75m |
| 1.5min | 1.73m |
| 2.0min | 1.69m |
| 2.5min | 1.65m |
| 3.0min | 1.62m |
| 4.0min | 1.58m |
| 5.0min | 1.54m |
| 6.0min | 1.51m |
| 7.0min | 1.49m |
| 8.0min | 1.47m |
| 9.0min | 1.45m |
| 10min | 1.43m |
| 15min | 1.37m |
| 20min | 1.31m |
| 30min | 1.19m |
| 45min | 1.12m |
| 1hr | 1.07m |
| 1.5hr | 1.0m |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.1m |
| 0.5sec | 0.33m |
| 1.0min | 0.37m |
| 1.5min | 0.42m |
| 2.0min | 0.46m |
| 2.5min | 0.48m |
| 3.0min | 0.49m |
| 4.0min | 0.50m |
| 5.0min | 0.52m |
| 6.0min | 0.53m |
| 7.0min | 0.55m |
| 8.0min | 0.56m |
| 9.0min | 0.58m |
| 10min | 0.59m |
| 15min | 0.65m |
| 20min | 0.71m |
| 30min | 0.78m |
| 45min | 0.85m |
| 1hr | 0.90m |
| 1.15hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC BPA3
Date:20.05.2021
Depth to water top of head works:0.49m
Height of head works above ground level:0.3m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 3.67m |
| 0.5sec | 3.24m |
| 1.0min | 3.01m |
| 1.5min | 2.96m |
| 2.0min | 2.85m |
| 2.5min | 2.72m |
| 3.0min | 2.63m |
| 4.0min | 2.54m |
| 5.0min | 2.47m |
| 6.0min | 2.38m |
| 7.0min | 2.36m |
| 8.0min | 2.31m |
| 9.0min | 2.29m |
| 10min | 2.25m |
| 15min | 2.18m |
| 20min | 2.05m |
| 30min | 1.89m |
| 45min | 1.54m |
| 1hr | 1.15m |
| 1.5hr | 0.78m |
| 2hr | 0.51m |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | |
| 0.5sec | |
| 1.0min | |
| 1.5min | |
| 2.0min | |
| 2.5min | |
| 3.0min | |
| 4.0min | |
| 5.0min | |
| 6.0min | |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.15hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**

**Permeability Tests**

Borehole No: BH/RC BPB01

Date:19.05.2021

Depth to water top of head works:0.77m

Height of head works above ground level:0.2m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 1.50m |
| 0.5sec | 0.85m |
| 1.0min | 0.82m |
| 1.5min | 0.80m |
| 2.0min | 0.78m |
| 2.5min | 0.78m |
| 3.0min | 0.78m |
| 4.0min | |
| 5.0min | |
| 6.0min | |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.5hr | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.54m |
| 0.5sec | 0.70m |
| 1.0min | 0.74m |
| 1.5min | 0.75m |
| 2.0min | 0.75m |
| 2.5min | 0.75m |
| 3.0min | 0.75m |
| 4.0min | 0.75m |
| 5.0min | 0.75m |
| 6.0min | |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.5hrs | |

Remarks:

Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC MMB
Date:24.05.2021
Depth to water top of head works: 1.55m
Height of head works above ground level:0.3m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 2.40m |
| 0.5sec | 1.87m |
| 1.0min | 1.77m |
| 1.5min | 1.77m |
| 2.0min | 1.71m |
| 2.5min | 1.70m |
| 3.0min | 1.68m |
| 4.0min | 1.66m |
| 5.0min | 1.65m |
| 6.0min | 1.64m |
| 7.0min | 1.63m |
| 8.0min | 1.63m |
| 9.0min | 1.62m |
| 10min | 1.62m |
| 15min | 1.60m |
| 20min | 1.60m |
| 30min | 1.59m |
| 45min | 1.59m |
| 1hr | |
| 1.5hr | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.71m |
| 0.5sec | 1.51m |
| 1.0min | 1.52m |
| 1.5min | 1.53m |
| 2.0min | 1.55m |
| 2.5min | |
| 3.0min | |
| 4.0min | |
| 5.0min | |
| 6.0min | |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.5hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC PSB
Date:26.04.2021
Depth to water top of head works:1.20m
Height of head works above ground level:0.20m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 6.88m |
| 0.5sec | 6.27m |
| 1.0min | 6.64m |
| 1.5min | 6.58m |
| 2.0min | 6.46m |
| 2.5min | 6.41m |
| 3.0min | 6.33m |
| 4.0min | 6.12m |
| 5.0min | 5.96m |
| 6.0min | 5.75m |
| 7.0min | 5.60m |
| 8.0min | 5.45m |
| 9.0min | 5.30m |
| 10min | 5.14m |
| 15min | 4.10m |
| 20min | 3.38m |
| 30min | 2.15m |
| 45min | 1.54m |
| 1hr | 1.48m |
| 1.5hr | 1.37m |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.26m |
| 0.5sec | 0.34m |
| 1.0min | 0.39m |
| 1.5min | 0.44m |
| 2.0min | 0.47m |
| 2.5min | 0.5m |
| 3.0min | 0.53m |
| 4.0min | 0.58m |
| 5.0min | 0.64m |
| 6.0min | 0.69m |
| 7.0min | 0.70m |
| 8.0min | 0.73m |
| 9.0min | 0.75m |
| 10min | 0.79m |
| 15min | 0.82m |
| 20min | 0.92m |
| 30min | 1.06m |
| 45min | 1.15m |
| 1hr | 1.21m |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC PSC
Date:29.04.2021
Depth to water top of head works:1.54m
Height of head works above ground level:0.38m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 2.64m |
| 0.5sec | 2.64m |
| 1.0min | 2.64m |
| 1.5min | 2.64m |
| 2.0min | 2.64m |
| 2.5min | 2.64m |
| 3.0min | 2.64m |
| 4.0min | 2.63m |
| 5.0min | 2.62m |
| 6.0min | 2.60m |
| 7.0min | 2.59m |
| 8.0min | 2.56m |
| 9.0min | 2.52m |
| 10min | 2.50m |
| 15min | 2.44m |
| 20min | 2.37m |
| 30min | 2.24m |
| 45min | 2.08m |
| 1hr | 1.93m |
| 1hr15min | 1.79m |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.1m |
| 0.5sec | 0.165m |
| 1.0min | 0.19m |
| 1.5min | 0.22m |
| 2.0min | 0.24m |
| 2.5min | 0.26m |
| 3.0min | 0.3m |
| 4.0min | 0.33m |
| 5.0min | 0.36m |
| 6.0min | 0.39m |
| 7.0min | 0.43m |
| 8.0min | 0.45m |
| 9.0min | 0.48m |
| 10min | 0.5m |
| 15min | 0.62m |
| 20min | 0.72m |
| 30min | 0.89m |
| 45min | 1.01m |
| 1hr | 1.13m |
| 1.5hrs | 1.29m |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC PSD
Date:30.04.2021
Depth to water top of head works:1.35m
Height of head works above ground level:0.25m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 1.27m |
| 0.5sec | 1.32m |
| 1.0min | 1.32m |
| 1.5min | 1.32m |
| 2.0min | 1.32m |
| 2.5min | 1.32m |
| 3.0min | 1.32m |
| 4.0min | 1.32m |
| 5.0min | 1.33m |
| 6.0min | 1.33m |
| 7.0min | 1.33m |
| 8.0min | 1.33m |
| 9.0min | 1.33m |
| 10min | 1.33m |
| 15min | 1.34m |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1hr15min | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 00m |
| 0.5sec | 1.35m |
| 1.0min | |
| 1.5min | |
| 2.0min | |
| 2.5min | |
| 3.0min | |
| 4.0min | |
| 5.0min | |
| 6.0min | |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.5hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC PSE
Date:04.05.2021
Depth to water top of head works:1.03m
Height of head works above ground level:0.3m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 4.10m |
| 0.5sec | 4.06m |
| 1.0min | 3.99m |
| 1.5min | 3.93m |
| 2.0min | 3.91m |
| 2.5min | 3.90m |
| 3.0min | 3.86m |
| 4.0min | 3.79m |
| 5.0min | 3.74m |
| 6.0min | 3.68m |
| 7.0min | 3.61m |
| 8.0min | 3.59m |
| 9.0min | 3.53m |
| 10min | 3.5m |
| 15min | 3.41m |
| 20min | 3.25m |
| 30min | 3.15m |
| 45min | 3.02m |
| 1hr | 2.76m |
| 1hr15min | 2.60m |
| 1.5hrs | 2.32m |
| 2hrs | 2.10m |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 00m |
| 0.5sec | 0.09m |
| 1.0min | 0.15m |
| 1.5min | 0.16m |
| 2.0min | 0.18m |
| 2.5min | 0.2m |
| 3.0min | 0.22m |
| 4.0min | 0.23m |
| 5.0min | 0.25m |
| 6.0min | 0.27m |
| 7.0min | 0.29m |
| 8.0min | 0.3m |
| 9.0min | 0.32m |
| 10min | 0.34m |
| 15min | 0.39m |
| 20min | 0.42m |
| 30min | 0.51m |
| 45min | 0.60m |
| 1hr | 0.69m |
| 1.5hrs | 0.8m |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC PSF
Date:18&19.05.2021
Depth to water top of head works:1.13m
Height of head works above ground level:0.3m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 1.66m |
| 0.5sec | 1.59m |
| 1.0min | 1.54m |
| 1.5min | 1.51m |
| 2.0min | 1.48m |
| 2.5min | 1.46m |
| 3.0min | 1.45m |
| 4.0min | 1.42m |
| 5.0min | 1.40m |
| 6.0min | 1.39m |
| 7.0min | 1.38m |
| 8.0min | 1.37m |
| 9.0min | 1.37m |
| 10min | 1.36m |
| 15min | 1.32m |
| 20min | 1.31m |
| 30min | 1.30m |
| 45min | 1.28m |
| 1hr | 1.27m |
| 1.15hr | 1.26m |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.24m |
| 0.5sec | 0.54m |
| 1.0min | 0.69m |
| 1.5min | 0.75m |
| 2.0min | 0.83m |
| 2.5min | 0.87m |
| 3.0min | 0.90m |
| 4.0min | 0.95m |
| 5.0min | 0.98m |
| 6.0min | 1.01m |
| 7.0min | 1.03m |
| 8.0min | 1.05m |
| 9.0min | 1.06m |
| 10min | 1.07m |
| 15min | 1.09m |
| 20min | 1.11m |
| 30min | |
| 45min | |
| 1hr | |
| 1.15hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC PSG
Date:10.05.2021
Depth to water top of head works:0.86m
Height of head works above ground level:0.2m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 2.86m |
| 0.5sec | 2.82m |
| 1.0min | 2.74m |
| 1.5min | 2.76m |
| 2.0min | 2.85m |
| 2.5min | 2.52m |
| 3.0min | 2.46m |
| 4.0min | 2.41m |
| 5.0min | 2.34m |
| 6.0min | 2.29m |
| 7.0min | 2.24m |
| 8.0min | 2.19m |
| 9.0min | 2.14m |
| 10min | 2.10m |
| 15min | 1.89m |
| 20min | 1.76m |
| 30min | 1.54m |
| 45min | 1.38m |
| 1hr | 1.28m |
| 1.5hr | 1.14m |
| 2hr | 1.09m |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.15m |
| 0.5sec | 0.26m |
| 1.0min | 0.40m |
| 1.5min | 0.48m |
| 2.0min | 0.54m |
| 2.5min | 0.59m |
| 3.0min | 0.63m |
| 4.0min | 0.69m |
| 5.0min | 0.73m |
| 6.0min | 0.76m |
| 7.0min | 0.79m |
| 8.0min | 0.81m |
| 9.0min | 0.83m |
| 10min | 0.84m |
| 15min | 0.86m |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.5hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**

**Permeability Tests**

Borehole No: BH/RC PSH

Date:19.05.2021

Depth to water top of head works:2.33m

Height of head works above ground level:0.3m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 3.50m |
| 0.5sec | 3.20m |
| 1.0min | 3.11m |
| 1.5min | 3.05m |
| 2.0min | 3.01m |
| 2.5min | 2.99m |
| 3.0min | 2.95m |
| 4.0min | 2.90m |
| 5.0min | 2.87m |
| 6.0min | 2.84m |
| 7.0min | 2.81m |
| 8.0min | 2.79m |
| 9.0min | 2.78m |
| 10min | 2.76m |
| 15min | 1.69m |
| 20min | 1.64m |
| 30min | 1.57m |
| 45min | 1.54m |
| 1hr | 1.48m |
| 1.5hr | 1.44m |
| 2hr | 1.39m |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.45m |
| 0.5sec | 0.85m |
| 1.0min | 0.96m |
| 1.5min | 1.01m |
| 2.0min | 1.05m |
| 2.5min | 1.10m |
| 3.0min | 1.13m |
| 4.0min | 1.18m |
| 5.0min | 1.23m |
| 6.0min | 1.26m |
| 7.0min | 1.30m |
| 8.0min | 1.32m |
| 9.0min | 1.35m |
| 10min | 1.38m |
| 15min | 1.49m |
| 20min | 1.52m |
| 30min | 1.57m |
| 45min | 1.58m |
| 1hr | 1.60m |
| 1.5hrs | 1.64m |

Remarks:

Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**

**Permeability Tests**

Borehole No: BH/RC PSJ

Date:24.05.2021

Depth to water top of head works: 0.72m

Height of head works above ground level:0.2m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 1.96m |
| 0.5sec | 1.75m |
| 1.0min | 1.60m |
| 1.5min | 1.47m |
| 2.0min | 1.38m |
| 2.5min | 1.30m |
| 3.0min | 1.25m |
| 4.0min | 1.14m |
| 5.0min | 1.08m |
| 6.0min | 1.05m |
| 7.0min | 1.02m |
| 8.0min | 1.0m |
| 9.0min | 0.96m |
| 10min | 0.95m |
| 15min | 0.92m |
| 20min | 0.88m |
| 30min | 0.85m |
| 45min | 0.80m |
| 1hr | 0.79m |
| 1.5hr | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.17m |
| 0.5sec | 0.41m |
| 1.0min | 0.46m |
| 1.5min | 0.48m |
| 2.0min | 0.51m |
| 2.5min | 0.54m |
| 3.0min | 0.52m |
| 4.0min | 0.56m |
| 5.0min | 0.58m |
| 6.0min | 0.59m |
| 7.0min | 0.60m |
| 8.0min | 0.61m |
| 9.0min | 0.62m |
| 10min | 0.63m |
| 15min | 0.64m |
| 20min | 0.65m |
| 30min | 0.66m |
| 45min | 0.69m |
| 1hr | 0.69m |
| 1.5hrs | 0.70m |

Remarks:

Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC SSA02
Date:18.05.2021
Depth to water top of head works:0.38m
Height of head works above ground level:0.27m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 2.24m |
| 0.5sec | 2.12m |
| 1.0min | 1.92m |
| 1.5min | 1.77m |
| 2.0min | 1.66m |
| 2.5min | 1.56m |
| 3.0min | 1.48m |
| 4.0min | 1.41m |
| 5.0min | 1.30m |
| 6.0min | 1.20m |
| 7.0min | 1.12m |
| 8.0min | 1.08m |
| 9.0min | 1.04m |
| 10min | 1.0m |
| 15min | 0.84m |
| 20min | 0.73m |
| 30min | 0.61m |
| 45min | 0.53m |
| 1hr | 0.49m |
| 1.5hr | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.1m |
| 0.5sec | 0.16m |
| 1.0min | 0.21m |
| 1.5min | 0.24m |
| 2.0min | 0.25m |
| 2.5min | 0.26m |
| 3.0min | 0.28m |
| 4.0min | 0.29m |
| 5.0min | 0.31m |
| 6.0min | 0.32m |
| 7.0min | 0.33m |
| 8.0min | 0.34m |
| 9.0min | 0.34m |
| 10min | 0.34m |
| 15min | 0.35m |
| 20min | 0.36m |
| 30min | 0.37m |
| 45min | |
| 1hr | |
| 1.15hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**

**Permeability Tests**

Borehole No: BH/RC SSA03

Date:18.05.2021

Depth to water top of head works:0.75m

Height of head works above ground level:0.3m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 2.78m |
| 0.5sec | 2.65m |
| 1.0min | 2.55m |
| 1.5min | 2.49m |
| 2.0min | 2.43m |
| 2.5min | 2.38m |
| 3.0min | 2.32m |
| 4.0min | 2.23m |
| 5.0min | 2.13m |
| 6.0min | 1.99m |
| 7.0min | 1.88m |
| 8.0min | 1.79m |
| 9.0min | 1.71m |
| 10min | 1.65m |
| 15min | 1.36m |
| 20min | 1.14m |
| 30min | 1.09m |
| 45min | 0.96m |
| 1hr | 0.92m |
| 1.5hr | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.1m |
| 0.5sec | 0.25m |
| 1.0min | 0.34m |
| 1.5min | 0.41m |
| 2.0min | 0.45m |
| 2.5min | 0.49m |
| 3.0min | 0.51m |
| 4.0min | 0.55m |
| 5.0min | 0.57m |
| 6.0min | 0.59m |
| 7.0min | 0.60m |
| 8.0min | 0.61m |
| 9.0min | 0.62m |
| 10min | 0.63m |
| 15min | 0.65m |
| 20min | 0.66m |
| 30min | 0.66m |
| 45min | |
| 1hr | |
| 1.15hrs | |

Remarks:

Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC SSA05
Date:10.05.2021
Depth to water top of head works:0.87m
Height of head works above ground level:0.3m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 1.0m |
| 0.5sec | 0.97m |
| 1.0min | 0.96m |
| 1.5min | 0.96m |
| 2.0min | 0.95m |
| 2.5min | 0.95m |
| 3.0min | 0.95m |
| 4.0min | 0.95m |
| 5.0min | 0.94m |
| 6.0min | 0.94m |
| 7.0min | 0.94m |
| 8.0min | 0.94m |
| 9.0min | 0.93m |
| 10min | 0.93m |
| 15min | 0.93m |
| 20min | 0.93m |
| 30min | 0.92m |
| 45min | 0.92m |
| 1hr | 0.89m |
| 1.5hr | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.71m |
| 0.5sec | 0.83m |
| 1.0min | 0.86m |
| 1.5min | 0.87m |
| 2.0min | |
| 2.5min | |
| 3.0min | |
| 4.0min | |
| 5.0min | |
| 6.0min | |
| 7.0min | |
| 8.0min | |
| 9.0min | |
| 10min | |
| 15min | |
| 20min | |
| 30min | |
| 45min | |
| 1hr | |
| 1.5hrs | |

Remarks:
Tests carried out within 50mm diameter standpipe.

**DERRYADD WIND FARM**
**Permeability Tests**
Borehole No: BH/RC SSA07
Date:18.05.2021
Depth to water top of head works:4.27m
Height of head works above ground level:0.3m

| Raising Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 4.32m |
| 0.5sec | 4.31m |
| 1.0min | 4.31m |
| 1.5min | 4.31m |
| 2.0min | 4.31m |
| 2.5min | 4.30m |
| 3.0min | 4.30m |
| 4.0min | 4.30m |
| 5.0min | 4.30m |
| 6.0min | 4.29m |
| 7.0min | 4.29m |
| 8.0min | 4.29m |
| 9.0min | 4.29m |
| 10min | 4.29m |
| 15min | 4.29m |
| 20min | 4.29m |
| 30min | 4.29m |
| 45min | |
| 1hr | |
| 1.5hr | |
| 2hr | |

| Falling Head Test | |
|---|---|
| Time | Depth |
| 0.00sec | 0.5m |
| 0.5sec | 2.48m |
| 1.0min | 2.55m |
| 1.5min | 2.61m |
| 2.0min | 2.64m |
| 2.5min | 2.69m |
| 3.0min | 2.73m |
| 4.0min | 2.82m |
| 5.0min | 2.93m |
| 6.0min | 3.02m |
| 7.0min | 3.08m |
| 8.0min | 3.12m |
| 9.0min | 3.17m |
| 10min | 3.21m |
| 15min | 3.4m |
| 20min | 3.58m |
| 30min | 3.8m |
| 45min | 3.94m |
| 1hr | 4.13m |
| 1.15hrs | 4.19m |

Remarks:
Tests carried out within 50mm diameter standpipe.

# Appendix 10
# Laboratory Test Results

| | | | |
|---|---|---|---|
| Project ID | 2021LD101 | Client | Bord na Mona |
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - |

Remarks

Turnaround

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | ompressibili | | Strength (Total) | | Shear Strength (Effective) | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light Compaction Heavy Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| BHRC01A | 0.00 | 1.00 | B | 1 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 1.00 | | D | 2 | 24/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 1.00 | 1.50 | B | 4 | 24/02/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 1.50 | | D | 5 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 2.00 | 2.50 | B | 7 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 2.50 | | D | 8 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 3.00 | 3.50 | B | 10 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 3.50 | | D | 11 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 4.00 | 4.50 | B | 13 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 4.50 | | D | 14 | 24/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 0.00 | 2.50 | C | | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 2.50 | 3.00 | C | | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 3.00 | 4.00 | C | | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 4.00 | 6.00 | C | | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 6.00 | 7.30 | C | | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 7.30 | 8.80 | C | | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01A | 8.80 | 10.40 | C | | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | approx. 9.0m |
| BHRC01B | 0.00 | 1.00 | B | 1 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01B | 1.00 | | D | 2 | 24/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01B | 1.00 | 1.50 | B | 4 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01B | 1.50 | | D | 5 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01B | 2.00 | 2.50 | B | 7 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01B | 2.50 | | D | 8 | 24/02/21 | | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | 210513-119 |
| BHRC01B | 3.00 | 3.50 | B | 10 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01B | 3.50 | | D | 11 | 24/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01B | 4.00 | 4.50 | B | 13 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01B | 4.50 | | D | 14 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01B | 0.00 | 3.00 | C | | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01B | 3.00 | 3.80 | C | | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01B | 3.80 | 5.00 | C | | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01B | 5.00 | 6.00 | C | | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | approx. 5 - 5.2m |
| BHRC01B | 6.00 | 6.70 | C | | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01B | 6.70 | 8.30 | C | | 17/03/21 | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | Pick an appropriate sample from core run. |
| BHRC01B | 8.30 | 9.90 | C | | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC01B | 9.90 | 11.50 | C | | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02A | 0.00 | 1.00 | B | 1 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02A | 1.00 | | D | 2 | 23/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02A | 1.00 | 1.50 | B | 4 | 23/02/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02A | 1.50 | | D | 5 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02A | 2.00 | 2.50 | B | 7 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02A | 2.50 | | D | 8 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02A | 0.00 | 2.50 | C | | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02A | 2.50 | 3.00 | C | | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02A | 3.00 | 4.60 | C | | 12/03/21 | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | 4.2 - 4.5? Or as appropriate |
| BHRC02A | 4.60 | 6.00 | C | | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | approx. 5m |
| BHRC02A | 6.00 | 7.00 | C | | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02A | 7.00 | 8.60 | C | | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02A | 8.60 | 9.10 | C | | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02B | 0.00 | 1.00 | B | 1 | 23/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02B | 1.00 | | D | 2 | 23/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02B | 1.00 | 1.50 | B | 4 | 23/02/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02B | 1.50 | | D | 5 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02B | 2.00 | 2.50 | B | 7 | 23/02/21 | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | NMTL 26.03.21 |
| BHRC02B | 2.50 | | D | 8 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02B | 3.00 | 3.50 | B | 10 | 23/02/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02B | 3.50 | | D | 11 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02B | 0.00 | 2.10 | C | | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02B | 2.10 | 3.00 | C | | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02B | 3.00 | 4.40 | C | | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02B | 4.40 | 6.00 | C | | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC02B | 6.00 | 7.60 | C | | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | 7.2 - 7.6m as appropriate |
| BHRC02B | 7.60 | 9.10 | C | | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03A | 0.00 | 1.00 | B | 1 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03A | 1.00 | | D | 2 | 25/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03A | 1.00 | 1.50 | B | 4 | 25/02/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03A | 1.50 | | D | 5 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03A | 2.00 | 2.50 | B | 7 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03A | 2.50 | | D | 8 | 25/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03A | 3.00 | 3.50 | B | 10 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03A | 3.50 | | D | 11 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03A | 0.00 | 4.50 | C | | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03A | 4.50 | 5.80 | C | | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03A | 5.80 | 7.60 | C | | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03A | 7.60 | 8.90 | C | | 22/03/21 | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | 8.2m or as appropriate |
| BHRC03A | 8.90 | 10.50 | C | | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | as appropriate from run |
| BHRC03A | 10.50 | 11.90 | C | | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03A | 11.90 | 13.50 | C | | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 0.00 | 1.00 | B | 1 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 1.00 | | D | 2 | 25/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 1.00 | 1.50 | B | 4 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 1.50 | | D | 5 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 2.00 | 2.50 | B | 7 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 2.50 | | D | 8 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 3.00 | 3.50 | B | 10 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 3.50 | | D | 11 | 25/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 4.50 | 6.00 | C | | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 6.00 | 7.10 | C | | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 7.10 | 7.80 | C | | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 7.80 | 8.60 | C | | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 8.60 | 9.60 | C | | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 9.60 | 11.20 | C | | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC03B | 11.20 | 12.80 | C | | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC03B | 12.80 | 13.60 | C | | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04A | 0.00 | 1.00 | B | 1 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04A | 1.00 | | D | 2 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04A | 1.00 | 1.50 | B | 4 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04A | 1.50 | | D | 5 | 09/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | als 210427-92 |
| BHRC04A | 2.00 | 2.50 | B | 7 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04A | 2.50 | | D | 8 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04A | 3.00 | 3.50 | B | 10 | 09/03/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04A | 3.50 | | D | 11 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04A | 3.70 | 5.60 | C | | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| | |
|---|---|
| Project ID | 2021LD101 |
| Project Name | Derryadd Wind Farm |
| Schedule ID | 2021LD101_all |
| Client | Bord na Mona |
| Report Date | 14/09/21 |
| Scheduled Date | 18/2/21 - |
| Remarks | |
| Turnaround | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | | | Compaction | | | | ompressibili | | | Strength (Total) | | | Shear Strength (Effective | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. | Chloride Content | Chloride Content Acid | Compaction Light | Compaction Heavy / Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation | Pressures / Swelling Pressure Test / Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained | (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| BHRC04A | 5.60 | 6.90 | C | | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04A | 6.90 | 8.50 | C | | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC04A | 8.50 | 9.00 | C | | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04A | 9.00 | 10.20 | C | | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04A | 10.20 | 11.70 | C | | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04A | 11.70 | 13.30 | C | | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 0.00 | 1.00 | B | 1 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 1.00 | | D | 2 | 10/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 1.00 | 1.50 | B | 4 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 1.50 | | D | 5 | 10/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 2.00 | 2.50 | B | 7 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 2.50 | | D | 8 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 3.00 | 3.50 | B | 10 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 3.50 | | D | 11 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 0.00 | 3.70 | C | | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 3.70 | 4.60 | C | | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 4.60 | 5.80 | C | | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 5.80 | 7.00 | C | | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 7.00 | 8.10 | C | | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 8.10 | 9.00 | C | | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | 8.5 - 9 as appropriate |
| BHRC04B | 9.00 | 10.60 | C | | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | 9.4 - 9.7m |
| BHRC04B | 10.60 | 12.00 | C | | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC04B | 12.00 | 13.60 | C | | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | ca. 13m |
| BHRC05A | 0.00 | 1.00 | B | 1 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05A | 1.00 | | D | 2 | 26/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05A | 1.00 | 1.50 | B | 4 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05A | 1.50 | | D | 5 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05A | 0.00 | 1.50 | C | | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05A | 1.50 | 3.00 | C | | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05A | 3.00 | 4.50 | C | | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05A | 4.50 | 6.00 | C | | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05A | 6.00 | 7.50 | C | | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05A | 7.50 | 9.00 | C | | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05A | 9.00 | 10.50 | C | | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05A | 10.50 | 12.00 | C | | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC05A | 12.00 | 13.60 | C | | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05A | 13.60 | 15.00 | C | | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05A | 15.00 | 16.60 | C | | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05A | 16.60 | 17.00 | C | | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 0.00 | 1.00 | B | 1 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 1.00 | | D | 2 | 26/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 1.00 | 1.50 | B | 4 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 1.50 | | D | 5 | 26/02/21 | | 1 | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | als 210427-92 |
| BHRC05B | 2.00 | 2.50 | B | 7 | 26/02/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 2.50 | | D | 8 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 3.00 | 3.50 | B | 10 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 3.50 | | D | 11 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 0.00 | 3.00 | C | | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 3.00 | 4.50 | C | | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 4.50 | 6.00 | C | | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 6.00 | 7.50 | C | | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 7.50 | 9.00 | C | | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 9.00 | 12.00 | C | | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 12.00 | 13.50 | C | | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 13.50 | 15.00 | C | | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 15.00 | 16.50 | C | | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC05B | 16.50 | 18.00 | C | | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 18.00 | 19.20 | C | | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC05B | 19.20 | 20.80 | C | | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC06A | 0.00 | 1.00 | B | 1 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 1.00 | | D | 2 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 1.00 | 1.50 | B | 4 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 1.50 | | D | 5 | 05/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 2.00 | 2.45 | U100 | 6 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 2.50 | | D | 7 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 3.00 | 3.50 | B | 9 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 3.50 | | D | 10 | 05/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 4.00 | 4.50 | B | 12 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 4.50 | | D | 13 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 5.00 | | U100 | 14 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 5.50 | | D | 15 | 05/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 0.00 | 4.50 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 4.50 | 6.00 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 6.00 | 7.80 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 7.80 | 9.00 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 9.00 | 12.00 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 12.00 | 13.00 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | As appropriate in core run |
| BHRC06A | 13.00 | 13.90 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 13.90 | 15.10 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | As appropriate in core run |
| BHRC06A | 15.10 | 16.70 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 16.70 | 17.40 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06A | 17.40 | 18.90 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 0.00 | 1.00 | B | 1 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 1.00 | | D | 2 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 1.00 | 1.50 | B | 4 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 1.50 | | D | 5 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 2.00 | 2.50 | B | 7 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 2.50 | | D | 8 | 08/03/21 | | 1 | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | als 210427-92 |
| BHRC06B | 3.00 | 3.50 | B | 10 | 08/03/21 | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | | | |
| BHRC06B | 3.50 | | D | 11 | 08/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 4.00 | 4.45 | U100 | 12 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 4.50 | | D | 13 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 5.00 | 5.50 | B | 15 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 6.50 | | D | 16 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 0.00 | 5.50 | C | | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 5.50 | 6.00 | C | | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 6.00 | 9.00 | C | | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 9.00 | 12.00 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 12.00 | 15.00 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 15.00 | 16.60 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 16.60 | 18.00 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 18.00 | 19.60 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC06B | 19.60 | 20.80 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC07A | 0.00 | 1.00 | B | 1 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 1.00 | | D | 2 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 1.00 | 1.50 | B | 4 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 1.50 | | D | 5 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| Project ID | 2021LD101 | Client | Bord na Mona | Remarks | | Turnaround | |
|---|---|---|---|---|---|---|---|
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 | | | | |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - | | | | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | | Compaction | | | | ompressibili | | Strength (Total) | | Shear Strength (Effective) | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| BHRC07A | 2.00 | 2.45 | U100 | 6 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 2.50 | | D | 7 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 3.00 | 3.50 | B | 9 | 10/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 3.50 | | D | 10 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 4.00 | 4.50 | B | 12 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 4.50 | | D | 13 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 5.00 | 5.50 | B | 15 | 10/03/21 | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | NMTL 28.04.21 |
| BHRC07A | 5.50 | | D | 16 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 0.00 | 3.00 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 3.00 | 4.50 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 4.50 | 6.00 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 6.00 | 9.00 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 9.00 | 12.00 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 12.00 | 13.60 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 13.60 | 15.20 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC07A | 15.20 | 16.60 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07A | 16.60 | 18.20 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 0.00 | 1.00 | B | 1 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 1.00 | | D | 2 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 1.00 | 1.50 | B | 4 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 1.50 | | D | 5 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 2.00 | 2.50 | B | 7 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 2.50 | | D | 8 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 3.00 | 3.50 | B | 10 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 3.50 | | D | 11 | 11/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 4.00 | 4.50 | B | 13 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 4.50 | | D | 14 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 5.00 | 5.50 | B | 16 | 11/03/21 | | | | | | 1 | 0* | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 5.50 | | D | 17 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 6.50 | 7.00 | B | 19 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 7.00 | | D | 20 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 0.00 | 3.00 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 3.00 | 4.50 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 4.50 | 6.00 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 6.00 | 7.50 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 7.50 | 9.00 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC07B | 9.00 | 10.60 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 10.60 | 12.00 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 12.00 | 13.50 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC07B | 13.50 | 14.50 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC08A | 0.00 | 1.00 | B | 1 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 1.00 | | D | 2 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 1.00 | 1.45 | U100 | 3 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 1.50 | | D | 4 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 2.00 | 2.50 | B | 6 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 2.50 | | D | 7 | 12/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 3.00 | 3.50 | B | 9 | 12/03/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 3.50 | | D | 10 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 4.00 | 4.50 | B | 12 | 12/03/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 4.50 | | D | 13 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 5.00 | 5.50 | B | 15 | 12/03/21 | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | NMTL 28.04.21 |
| BHRC08A | 5.50 | | D | 16 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 0.00 | 5.50 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 5.50 | 6.00 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 6.00 | 9.00 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 9.00 | 10.50 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 10.50 | 11.70 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC08A | 11.70 | 13.30 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08A | 13.30 | 14.80 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 0.00 | 1.00 | B | 1 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 1.00 | | D | 2 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 1.00 | 1.50 | B | 4 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 1.50 | | D | 5 | 15/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 2.00 | 2.45 | U100 | 6 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 2.00 | 2.50 | B | 7 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 2.50 | | D | 8 | 15/03/21 | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | als 210427-92 |
| BHRC08B | 2.50 | 3.00 | B | 10 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 3.00 | | D | 11 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 3.50 | 4.00 | B | 13 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 4.00 | | D | 14 | 15/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 4.50 | 5.00 | B | 16 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 5.00 | | D | 17 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 5.50 | 6.00 | B | 19 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 6.00 | | D | 20 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 0.00 | 5.50 | C | | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 5.50 | 6.00 | C | | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 6.00 | 9.00 | C | | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 9.00 | 10.60 | C | | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC08B | 10.60 | 12.00 | C | | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC08B | 12.00 | 13.60 | C | | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC08B | 13.60 | 15.00 | C | | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 0.00 | 1.00 | B | 1 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 1.00 | | D | 2 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 1.00 | 1.45 | U100 | 3 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 1.50 | | D | 4 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 2.00 | 2.50 | B | 6 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 2.50 | | D | 7 | 17/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 3.00 | 3.50 | U100 | 8 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 3.50 | | D | 9 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 4.00 | 4.50 | B | 11 | 17/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 4.50 | | D | 12 | 17/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 5.00 | 5.45 | U100 | 13 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 5.50 | | D | 14 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 6.00 | 6.50 | B | 16 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 6.50 | | D | 17 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 0.00 | 6.00 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 0.00 | 6.00 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| | | | | | | |
|---|---|---|---|---|---|---|
| Project ID | 2021LD101 | Client | Bord na Mona | Remarks | | Turnaround |
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 | | | |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - | | | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | ompressibili | | Strength (Total) | | Shear Strength (Effective | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| BHRC09A | 0.00 | 6.00 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 6.00 | 7.60 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 6.00 | 7.60 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 6.00 | 7.60 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 7.60 | 8.80 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 7.60 | 8.80 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 7.60 | 8.80 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 8.80 | 10.40 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC09A | 8.80 | 10.40 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 8.80 | 10.40 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 10.40 | 11.80 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC09A | 10.40 | 11.80 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 10.40 | 11.80 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 11.80 | 13.40 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 11.80 | 13.40 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09A | 11.80 | 13.40 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 0.00 | 1.00 | B | 1 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 1.00 | | D | 2 | 17/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 1.00 | 1.45 | U100 | 3 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 1.50 | | D | 4 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 2.00 | 2.50 | B | 6 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 2.50 | | D | 7 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 3.00 | 3.50 | B | 9 | 17/03/21 | | | | | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | |
| BHRC09B | 3.50 | | D | 10 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 4.00 | 4.50 | B | 12 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 4.50 | | D | 13 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 5.00 | 5.50 | B | 15 | 17/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 5.50 | | D | 16 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 6.50 | 7.00 | B | 18 | 17/03/21 | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | NMTL 28.04.21 |
| BHRC09B | 7.00 | | D | 19 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 0.00 | 6.00 | C | | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 6.00 | 7.20 | C | | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 7.20 | 8.60 | C | | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 8.60 | 10.20 | C | | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC09B | 10.20 | 11.80 | C | | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC09B | 11.80 | 13.30 | C | | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC10B | 0.00 | 1.50 | C | | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC10B | 1.50 | 2.60 | C | | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC10B | 2.60 | 4.10 | C | | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC10B | 4.10 | 5.70 | C | | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC10B | 5.70 | 7.30 | C | | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC10B | 7.30 | 8.90 | C | | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC10B | 0.00 | 1.00 | B | 1 | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC10B | 1.00 | | D | 2 | 04/05/21 | AV14 | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | ALS 210802-18 |
| BHRC10B | 1.00 | 1.50 | B | 4 | 04/05/21 | AV14 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC10B | 1.50 | | D | 5 | 04/05/21 | AV14 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | ALS 210802-18 |
| BHRC10B | 2.00 | 2.50 | B | 7 | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC10B | 2.50 | | D | 8 | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC11A | 0.00 | 1.00 | B | 1 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC11A | 1.00 | | D | 2 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC11A | 0.00 | 1.00 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC11A | 1.00 | 2.40 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC11A | 2.40 | 3.50 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | As appropriate in core run |
| BHRC11A | 3.50 | 5.00 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | As appropriate in core run |
| BHRC11A | 5.00 | 6.00 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC11B | 0.00 | 1.00 | B | 1 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC11B | 1.00 | | D | 2 | 26/03/21 | AV03 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC11B | 1.00 | 1.50 | B | 4 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC11B | 1.50 | | D | 5 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC11B | 0.00 | 1.50 | C | | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC11B | 1.50 | 2.90 | C | | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC11B | 2.90 | 4.40 | C | | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC11B | 4.40 | 5.90 | C | | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC11B | 5.90 | 7.00 | C | | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 0.00 | 1.00 | B | 1 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 1.00 | | D | 2 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 1.00 | 1.45 | U100 | 3 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 1.50 | | D | 4 | 29/03/21 | AV03 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 2.00 | 2.50 | B | 6 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 2.50 | | D | 7 | 29/03/21 | AV03 | 1 | 1 | | | | | 1 | | 1 | | | 1 | | | | | | | | | | | | | | | | | 210513-119 |
| BHRC12A | 3.00 | 3.45 | U100 | 8 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 3.50 | | D | 9 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 0.00 | 4.50 | C | | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 4.50 | 6.00 | C | | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 6.00 | 8.60 | C | | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 8.60 | 11.10 | C | | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC12A | 11.10 | 12.10 | C | | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 12.10 | 14.40 | C | | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 14.40 | 15.10 | C | | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 15.10 | 16.70 | C | | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 16.70 | 18.10 | C | | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 18.10 | 19.60 | C | | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 19.60 | 21.10 | C | | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 21.10 | 22.50 | C | | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 22.50 | 24.00 | C | | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 24.00 | 24.60 | C | | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 24.60 | 26.10 | C | | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 26.10 | 27.90 | C | | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12A | 27.90 | 30.10 | C | | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12B | 0.00 | 1.00 | B | 1 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12B | 1.00 | | D | 2 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12B | 1.00 | 1.45 | U100 | 3 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12B | 1.50 | | D | 4 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12B | 2.00 | 2.50 | B | 6 | 29/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12B | 2.50 | | D | 7 | 29/03/21 | AV03 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12B | 3.00 | 3.30 | U100 | 8 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12B | 3.30 | | D | 9 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12B | 0.00 | 3.80 | C | | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12B | 3.80 | 5.30 | C | | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC12B | 5.30 | 6.90 | C | | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12B | 6.90 | 8.50 | C | | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12B | 8.50 | 10.00 | C | | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12C | 0.00 | 1.00 | B | 1 | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12C | 1.00 | | D | 2 | 04/05/21 | AV14 | 1 | | | | | | 1 | | 1 | | | 1 | | | | | | | | | | | | | | | | | ALS 210802-18 |
| BHRC12C | 1.00 | 1.50 | B | 4 | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12C | 1.50 | | D | 5 | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12C | 2.00 | 3.00 | P | 6 | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12C | 3.00 | | D | 7 | 04/05/21 | AV14 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | ALS 210802-18 |
| BHRC12C | 0.00 | 3.80 | C | | 25/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

Project ID 2021LD101
Project Name Derryadd Wind Farm
Schedule ID 2021LD101_all

Client Bord na Mona
Report Date 14/09/21
Scheduled Date 18/2/21 -

Remarks

Turnaround

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | ompressibili | | Strength (Total) | | Shear Strength (Effective | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| BHRC12C | 3.80 | 5.00 | C | | 25/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12C | 5.00 | 6.20 | C | | 25/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12C | 6.20 | 7.80 | C | | 25/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC12C | 7.80 | 9.20 | C | | 25/05/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC12C | 9.20 | 10.80 | C | | 25/05/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC12C | 10.80 | 12.20 | C | | 25/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 0.00 | 1.00 | B | 1 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 1.00 | | D | 2 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 1.00 | 1.45 | U100 | 3 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 1.50 | | D | 4 | 30/03/21 | AV03 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 2.00 | 2.50 | B | 6 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 2.50 | | D | 7 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 3.00 | 3.50 | B | 9 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 3.50 | | D | 10 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 0.00 | 4.50 | C | | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 4.50 | 6.00 | C | | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 6.00 | 8.10 | C | | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC13A | 8.10 | 9.00 | C | | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 9.00 | 10.60 | C | | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC13A | 10.60 | 11.00 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 11.00 | 12.00 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 12.00 | 13.50 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13A | 13.50 | 15.00 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 0.00 | 1.00 | B | 1 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 1.00 | | D | 2 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 1.00 | 1.45 | U100 | 3 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 1.50 | | D | 4 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 2.00 | 2.50 | B | 6 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 2.50 | | D | 7 | 30/03/21 | AV03 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 3.00 | 3.30 | U100 | 8 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 3.00 | 3.30 | B | 9 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 3.30 | | D | 10 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 0.00 | 4.50 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 4.50 | 6.00 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 6.00 | 6.80 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 6.80 | 7.60 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 7.60 | 9.00 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC13B | 9.00 | 10.50 | C | | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 10.50 | 12.00 | C | | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 12.00 | 13.00 | C | | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 13.00 | 14.10 | C | | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 14.10 | 15.00 | C | | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 15.00 | 17.70 | C | | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 17.70 | 19.50 | C | | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 19.50 | 21.00 | C | | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 21.00 | 22.60 | C | | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 22.60 | 24.00 | C | | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC13B | 24.00 | 25.50 | C | | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14A | 0.00 | 1.00 | B | 1 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14A | 1.00 | | D | 2 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14A | 1.00 | 1.45 | U100 | 3 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14A | 1.50 | | D | 4 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14A | 2.00 | 2.50 | B | 6 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14A | 2.50 | | D | 7 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14A | 3.00 | 3.50 | B | 9 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14A | 3.50 | | D | 10 | 09/04/21 | AV08 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14A | 4.00 | 4.50 | B | 12 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14A | 4.50 | | D | 13 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14A | 0.00 | 4.20 | C | | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14A | 4.20 | 5.20 | C | | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14A | 5.20 | 6.70 | C | | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC14A | 6.70 | 8.30 | C | | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC14A | 8.30 | 9.80 | C | | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 0.00 | 1.00 | B | 1 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 1.00 | | D | 2 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 1.00 | 1.45 | U100 | 3 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 1.50 | | D | 4 | 09/04/21 | AV08 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 2.00 | 2.50 | B | 6 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 2.50 | | D | 7 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 3.00 | 3.50 | B | 9 | 09/04/21 | AV08 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 3.50 | | D | 10 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 4.00 | 4.50 | B | 12 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 4.50 | | D | 13 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 0.00 | 4.10 | C | | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 4.10 | 5.40 | C | | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 5.40 | 7.00 | C | | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC14B | 7.00 | 8.60 | C | | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 8.60 | 10.10 | C | | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC14B | 10.10 | 11.30 | C | | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 0.00 | 1.00 | B | 1 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 1.00 | | D | 2 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 1.00 | 1.45 | U100 | 3 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 1.50 | | D | 4 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 2.00 | 2.50 | B | 6 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 2.50 | | D | 7 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 0.00 | 2.70 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 2.70 | 3.80 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 3.80 | 4.60 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 4.60 | 6.00 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 6.00 | 9.00 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 9.00 | 12.00 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 12.00 | 15.00 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 15.00 | 15.30 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 15.30 | 17.00 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 17.00 | 17.60 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 17.60 | 19.20 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 19.20 | 19.90 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 19.90 | 21.00 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15A | 21.00 | 22.50 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 0.00 | 1.00 | B | 1 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 1.00 | | D | 2 | 14/04/21 | AV08 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| BHRC15B | 1.00 | 1.50 | B | 4 | 14/04/21 | AV08 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 1.50 | | D | 5 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 2.00 | 2.45 | U100 | 6 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 2.50 | | D | 7 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| Project ID | 2021LD101 |
| --- | --- |
| Project Name | Derryadd Wind Farm |
| Schedule ID | 2021LD101_all |

| Client | Bord na Mona |
| --- | --- |
| Report Date | 14/09/21 |
| Scheduled Date | 18/2/21 - |

Remarks

Turnaround

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | | ompressibili | | Strength (Total) | | Shear Strength (Effective | Rock | | Other | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| BHRC15B | 0.00 | 2.70 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 2.70 | 3.70 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 3.70 | 4.30 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 4.30 | 6.00 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 6.00 | 7.50 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 7.50 | 9.00 | C | | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 9.00 | 10.50 | C | | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 10.50 | 12.00 | C | | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 12.00 | 13.50 | C | | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 13.50 | 15.00 | C | | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 15.00 | 16.50 | C | | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 16.50 | 18.00 | C | | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 18.00 | 19.50 | C | | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC15B | 19.50 | 21.00 | C | | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC15B | 21.00 | 22.50 | C | | 06/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15B | 22.50 | 24.00 | C | | 06/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15C | 0.00 | 2.70 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15C | 2.70 | 3.00 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15C | 3.00 | 4.20 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15C | 4.20 | 4.80 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15C | 4.80 | 5.20 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15C | 5.20 | 6.00 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC15C | 6.00 | 7.60 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC15C | 7.60 | 9.00 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15C | 9.00 | 10.60 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15C | 0.00 | 1.00 | B | 1 | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15C | 1.00 | | D | 2 | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15C | 1.00 | 1.50 | B | 4 | 11/05/21 | AV14 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15C | 1.50 | | D | 5 | 11/05/21 | AV14 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | ALS 210802-18 |
| BHRC15C | 2.00 | 2.40 | B | 7 | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15C | 2.40 | | D | 8 | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15D | 0.00 | 1.00 | B | 1 | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15D | 1.00 | | D | 2 | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15D | 0.00 | 1.20 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15D | 1.20 | 2.20 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15D | 2.20 | 3.60 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15D | 3.60 | 5.10 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15D | 5.10 | 6.70 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC15D | 6.70 | 8.30 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC15D | 8.30 | 9.40 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC16A | 0.00 | 1.00 | B | 1 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16A | 1.00 | | D | 2 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16A | 1.00 | 1.50 | B | 4 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16A | 1.50 | | D | 5 | 15/04/21 | AV08 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16A | 2.00 | 2.50 | B | 7 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16A | 2.50 | | D | 8 | 15/04/21 | AV08 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16A | 0.00 | 3.80 | C | | 12/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16A | 3.80 | 5.20 | C | | 12/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16A | 5.20 | 6.80 | C | | 12/05/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC16A | 6.80 | 8.40 | C | | 12/05/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC16A | 8.40 | 10.00 | C | | 12/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 0.00 | 1.00 | B | 1 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 1.00 | | D | 2 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 1.00 | 1.50 | B | 4 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 1.50 | | D | 5 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 2.00 | 2.50 | B | 7 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 2.50 | | D | 8 | 15/04/21 | AV08 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 3.00 | 3.50 | B | 10 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 3.50 | | D | 11 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 3.60 | | B | 12 | 15/04/21 | AV08 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 3.60 | | D | 13 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 0.00 | 3.40 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 3.40 | 4.90 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 4.90 | 6.00 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 6.00 | 7.60 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC16B | 7.60 | 9.00 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC16B | 9.00 | 10.60 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17A | 0.00 | 1.00 | B | 1 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17A | 1.00 | | D | 2 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17A | 1.00 | 1.50 | B | 4 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17A | 1.50 | | D | 5 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17A | 2.00 | 2.50 | B | 7 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17A | 2.50 | | D | 8 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17A | 3.00 | 3.50 | B | 10 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17A | 3.50 | | D | 11 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17A | 0.00 | 3.00 | C | | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17A | 3.00 | 4.50 | C | | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17A | 4.50 | 6.00 | C | | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17A | 6.00 | 9.00 | C | | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC17A | 9.00 | 12.50 | C | | 30/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17A | 12.50 | 15.00 | C | | 30/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17B | 0.00 | 1.00 | B | 1 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17B | 1.00 | | D | 2 | 31/03/21 | AV08 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17B | 1.00 | 1.50 | B | 4 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17B | 1.50 | | D | 5 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17B | 2.00 | 2.50 | B | 7 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17B | 2.50 | | D | 8 | 31/03/21 | AV08 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17B | 3.00 | 3.50 | B | 10 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17B | 3.50 | | D | 11 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17B | 0.00 | 3.00 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17B | 3.00 | 4.50 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17B | 4.50 | 6.00 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17B | 6.00 | 9.00 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC17B | 9.00 | 12.00 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC17B | 12.00 | 15.00 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC18A | 0.00 | 1.00 | B | 1 | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18A | 1.00 | | D | 2 | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18A | 1.00 | 1.50 | B | 4 | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18A | 1.50 | | D | 5 | 20/04/21 | AV15 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18A | 2.00 | 2.50 | B | 7 | 20/04/21 | AV15 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18A | 2.50 | | D | 8 | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18A | 0.00 | 1.50 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18A | 1.50 | 2.50 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18A | 2.50 | 4.00 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18A | 4.00 | 5.00 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18A | 5.00 | 6.20 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18A | 6.20 | 9.20 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC18A | 9.20 | 12.20 | C | | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18B | 0.00 | 1.00 | B | 1 | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18B | 1.00 | | D | 2 | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18B | 1.00 | 1.50 | B | 4 | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18B | 1.50 | | D | 5 | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| | | | | | |
|---|---|---|---|---|---|
| Project ID | 2021LD101 | Client | Bord na Mona | Remarks | |
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 | Turnaround | |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - | | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | | ompressibili | | Strength (Total) | | ar Stre ngt h (Eff ecti ve | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| BHRC18B | 2.00 | 2.50 | B | 7 | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18B | 2.50 | | D | 8 | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18B | 0.00 | 1.50 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18B | 1.50 | 3.00 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC18B | 3.00 | 6.00 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC18B | 6.00 | 9.00 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC18B | 9.00 | 10.00 | C | | 07/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19A | 0.00 | 1.00 | B | 1 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19A | 1.00 | | D | 2 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19A | 1.00 | 1.50 | B | 4 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19A | 1.50 | | D | 5 | 21/04/21 | AV15 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19A | 2.00 | 2.50 | B | 7 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19A | 2.50 | | D | 8 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19A | 3.00 | 3.50 | B | 10 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19A | 3.50 | | D | 11 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19A | 0.00 | 1.00 | C | | 06/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19A | 1.00 | 2.50 | C | | 06/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19A | 2.50 | 3.70 | C | | 06/05/21 | | | | | | | | | | | | | | | | | | | | | | | | * | | | | | | | | *not suitable - moved down |
| BHRC19A | 3.70 | 5.30 | C | | 06/05/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC19A | 5.30 | 8.30 | C | | 06/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19A | 8.30 | 9.20 | C | | 06/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC19B | 0.00 | 1.00 | B | 1 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19B | 1.00 | | D | 2 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19B | 1.00 | 1.50 | B | 4 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19B | 1.50 | | D | 5 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19B | 2.00 | 2.50 | B | 7 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19B | 2.50 | | D | 8 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19B | 3.00 | 3.30 | B | 10 | 21/04/21 | AV15 | | | | | 1 | | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| BHRC19B | 3.30 | | D | 11 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19B | 0.00 | 3.00 | C | | 06/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19B | 3.00 | 4.50 | C | | 06/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19B | 4.50 | 6.00 | C | | 06/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC19B | 6.00 | 9.20 | C | | 06/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC19B | 9.20 | 10.80 | C | | 06/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20A | 0.00 | 1.00 | B | 1 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20A | 1.00 | | D | 2 | 26/04/21 | AV15 | 1 | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | ALS: 210817-60 |
| BHRC20A | 1.00 | 1.50 | B | 4 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20A | 1.50 | | D | 5 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20A | 0.00 | 3.00 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20A | 3.00 | 4.00 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20A | 4.00 | 5.40 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20A | 5.40 | 6.90 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20A | 6.90 | 8.40 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20A | 8.40 | 9.70 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20A | 9.70 | 10.50 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20A | 10.50 | 11.90 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC20A | 11.90 | 13.50 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20A | 13.50 | 14.90 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20A | 14.90 | 16.10 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 0.00 | 1.00 | B | 1 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 1.00 | | D | 2 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 1.00 | 1.45 | U100 | 3 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 1.50 | | D | 4 | 26/04/21 | AV15 | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | ALS: 210817-60 |
| BHRC20B | 2.00 | 2.50 | B | 6 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 2.50 | | D | 7 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 3.00 | 3.50 | B | 9 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 3.50 | | D | 10 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 0.00 | 3.30 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 3.30 | 4.80 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 4.80 | 5.80 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 5.80 | 7.30 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 7.30 | 8.80 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 8.80 | 10.20 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 10.20 | 11.70 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC20B | 11.70 | 13.30 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC20B | 13.30 | 14.80 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC20B | 14.80 | 16.00 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 0.00 | 1.00 | B | 1 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 1.00 | | D | 2 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 1.00 | 1.50 | B | 4 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 1.50 | | D | 5 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 2.00 | 2.45 | U100 | 6 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 2.50 | | D | 7 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 3.00 | 3.50 | B | 9 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 3.50 | | D | 10 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 4.00 | 4.50 | B | 12 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 4.50 | | D | 13 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 0.00 | 4.00 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 4.00 | 5.00 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 5.00 | 5.70 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 5.70 | 8.20 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21A | 8.20 | 9.20 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC21A | 9.20 | 12.20 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC21A | 12.20 | 13.50 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21B | 0.00 | 1.00 | B | 1 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21B | 1.00 | | D | 2 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21B | 1.00 | 1.45 | U100 | 3 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21B | 1.50 | | D | 4 | 22/04/21 | AV15 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21B | 2.00 | 2.50 | B | 6 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21B | 2.50 | | D | 7 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21B | 3.00 | 3.50 | B | 9 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21B | 3.50 | | D | 10 | 22/04/21 | AV15 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21B | 4.00 | 4.30 | B | 12 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21B | 4.30 | | D | 13 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21B | 0.00 | 3.00 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21B | 3.00 | 4.50 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21B | 4.50 | 6.30 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC21B | 6.30 | 9.40 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC21B | 9.40 | 11.20 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22A | 0.00 | 1.00 | B | 1 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22A | 1.00 | | D | 2 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22A | 1.00 | 1.50 | B | 4 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22A | 1.50 | | D | 5 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22A | 2.00 | 2.45 | U100 | 6 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22A | 2.50 | | D | 7 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22A | 3.00 | 3.50 | B | 9 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22A | 3.50 | | D | 10 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22A | 4.00 | 4.50 | B | 12 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| | | | | | |
|---|---|---|---|---|---|
| Project ID | 2021LD101 | Client | Bord na Mona | Remarks | |
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 | Turnaround | |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - | | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | Compressibility | | Strength (Total) | | | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| BHRC22A | 4.50 | | D | 13 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22A | 0.00 | 4.50 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22A | 4.50 | 6.00 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22A | 6.00 | 9.00 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22A | 9.00 | 12.00 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRC22A | 12.00 | 16.50 | C | | 18/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 0.00 | 1.00 | B | 1 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 1.00 | | D | 2 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 1.00 | 1.45 | U100 | 3 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 1.50 | | D | 4 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 2.00 | 2.50 | B | 6 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 2.50 | | D | 7 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 3.00 | 3.50 | B | 9 | 23/04/21 | AV15 | | | | | 1 | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| BHRC22B | 3.50 | | D | 10 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 4.00 | 4.50 | B | 12 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 4.50 | | D | 13 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 0.00 | 4.00 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 4.00 | 5.00 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 5.00 | 8.20 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC22B | 8.20 | 9.70 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 9.70 | 11.20 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 11.20 | 12.30 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC22B | 12.30 | 15.30 | C | | 17/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 0.00 | 1.00 | B | 1 | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 1.00 | | D | 2 | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 1.00 | 1.45 | U100 | 3 | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 1.50 | | D | 4 | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 2.00 | 2.50 | B | 6 | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 2.50 | | D | 7 | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 0.00 | 3.60 | C | | 21/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 3.60 | 5.10 | C | | 21/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 5.10 | 6.00 | C | | 21/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 6.00 | 7.50 | C | | 21/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 7.50 | 9.00 | C | | 21/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 9.00 | 10.50 | C | | 21/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 10.50 | 12.00 | C | | 21/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 12.00 | 13.50 | C | | 21/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 13.50 | 15.00 | C | | 21/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 15.00 | 16.50 | C | | 21/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 16.50 | 18.00 | C | | 21/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 18.00 | 19.60 | C | | 21/05/21 | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | |
| BHRC23A | 19.60 | 21.00 | C | | 21/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23A | 21.00 | 22.60 | C | | 21/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 0.00 | 1.00 | B | 1 | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 1.00 | | D | 2 | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 1.00 | 1.50 | B | 4 | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 1.50 | | D | 5 | 27/04/21 | AV15 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 2.00 | 2.50 | B | 7 | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 2.50 | | D | 8 | 27/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 0.00 | 2.70 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 2.70 | 3.00 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 3.00 | 4.40 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 4.40 | 5.00 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 5.00 | 6.00 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 6.00 | 7.80 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 7.80 | 9.00 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 9.00 | 10.50 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 10.50 | 12.00 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRC23B | 12.00 | 13.50 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 13.50 | 15.00 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 15.00 | 15.50 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 15.50 | 17.00 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 17.00 | 18.10 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 18.10 | 19.70 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 19.70 | 21.10 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC23B | 21.10 | 22.70 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24A | 0.00 | 1.00 | B | 1 | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24A | 1.00 | | D | 2 | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24A | 1.00 | 1.45 | U100 | 3 | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24A | 1.50 | | D | 4 | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24A | 2.00 | 2.50 | B | 6 | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24A | 2.50 | | D | 7 | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24A | 3.00 | 3.50 | B | 9 | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24A | 3.50 | | D | 10 | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24A | 0.00 | 3.00 | C | | 20/05/21 | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | | | | | | One of each sampled as available across core |
| BHRC24A | 3.00 | 4.50 | C | | 20/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24A | 4.50 | 6.20 | C | | 20/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24A | 6.20 | 9.20 | C | | 20/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24A | 9.20 | 12.20 | C | | 20/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24B | 0.00 | 1.00 | B | 1 | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24B | 1.00 | | D | 2 | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24B | 1.00 | 1.50 | B | 4 | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24B | 1.50 | | D | 5 | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24B | 2.00 | 2.50 | B | 7 | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24B | 2.50 | | D | 8 | 28/04/21 | AV15 | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | ALS: 210817-60 |
| BHRC24B | 3.00 | 3.50 | B | 10 | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24B | 3.50 | | D | 11 | 28/04/21 | AV15 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24B | 0.00 | 4.00 | C | | 20/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24B | 4.00 | 5.50 | C | | 20/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24B | 5.50 | 8.50 | C | | 20/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRC24B | 8.50 | 12.20 | C | | 20/05/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRCBPA1 | 0.00 | 1.00 | B | 1 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA1 | 1.00 | | D | 2 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA1 | 1.00 | 1.45 | U100 | 3 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA1 | 1.50 | | D | 4 | 25/03/21 | AV03 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| BHRCBPA1 | 2.00 | 2.50 | B | 6 | 25/03/21 | AV03 | | | | | 1 | 1 | | | | | | | | | | 1 | | | | | | | | | | | | | |
| BHRCBPA1 | 2.50 | | D | 7 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA1 | 4.60 | 6.10 | C | 3.3-8.0 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 1 | | | BHP 10.06.21 (Sample as appropriate in core run) |
| BHRCBPA1 | 0.00 | 3.00 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA1 | 3.00 | 4.60 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRCBPA1 | 6.10 | 7.40 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | 0* | | | | *included in other run |
| BHRCBPA1 | 7.40 | 8.00 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA2 | 0.00 | 1.00 | B | 1 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| | | | | | |
|---|---|---|---|---|---|
| Project ID | 2021LD101 | Client | Bord na Mona | Remarks | |
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 | Turnaround | |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - | | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | Compressibility | | Strength (Total) | | | Shear Strength (Effective | Rock | | Other | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light Compaction Heavy Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| BHRCBPA2 | 1.00 | | D | 2 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA2 | 1.00 | 1.50 | B | 4 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA2 | 1.50 | | D | 5 | 25/03/21 | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | 210513-119 |
| BHRCBPA2 | 2.00 | 2.50 | B | 7 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA2 | 2.50 | | D | 8 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA2 | 0.00 | 2.00 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA2 | 2.00 | 2.90 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | 0* | | 0* | 0* | | | added 18.05.21 - *not enough |
| BHRCBPA2 | 2.90 | 4.50 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA2 | 4.50 | 5.70 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA2 | 5.70 | 7.10 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA2 | 7.10 | 8.00 | C | | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA3 | 0.00 | 1.00 | B | 1 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA3 | 1.00 | | D | 2 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA3 | 1.00 | 1.50 | B | 4 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA3 | 1.50 | | D | 5 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA3 | 0.00 | 2.00 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA3 | 2.00 | 2.90 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPA3 | 2.90 | 4.40 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRCBPA3 | 4.40 | 5.90 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRCBPA3 | 5.90 | 7.40 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | BHP 10.06.21 |
| BHRCBPA3 | 7.40 | 8.00 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | | | | BHP 10.06.21 (added 18.05.21) |
| BHRCBPB1 | 0.00 | 1.00 | B | 1 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB1 | 1.00 | | D | 2 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB1 | 1.00 | 1.50 | B | 4 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB1 | 1.50 | | D | 5 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB1 | 0.00 | 1.50 | C | 2.6-8.3 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | | 1 | | | | LAA, slake (BHP 25.06.21) |
| BHRCBPB1 | 1.50 | 1.80 | C | | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB1 | 1.80 | 2.60 | C | | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB1 | 2.60 | 4.00 | C | | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB1 | 4.00 | 5.60 | C | | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB1 | 5.60 | 7.10 | C | | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB1 | 7.10 | 8.30 | C | | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB2 | 0.00 | 1.00 | B | 1 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB2 | 1.00 | | D | 2 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB2 | 1.00 | 1.50 | B | 4 | 12/04/21 | AV08 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB2 | 1.50 | | D | 5 | 12/04/21 | AV08 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB2 | 3.00 | 3.60 | C | 3.4-8.6 | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | 1 | | | BHP 10.06.21 (Tests throughout depths depending on sample requirements |
| BHRCBPB2 | 0.00 | 3.00 | C | | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB2 | 3.60 | 4.80 | C | | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB2 | 4.80 | 6.10 | C | | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB2 | 6.10 | 7.60 | C | | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB2 | 7.60 | 8.60 | C | | 26/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB3 | 0.00 | 1.00 | B | 1 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB3 | 1.00 | | D | 2 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB3 | 1.00 | 1.50 | B | 4 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB3 | 1.50 | | D | 5 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB3 | 0.00 | 1.50 | C | 2.4-8.4 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 1 | | | LAA. MgSS, Slake (BHP 25.06.21) |
| BHRCBPB3 | 1.50 | 2.30 | C | | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB3 | 2.30 | 3.70 | C | | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB3 | 3.70 | 4.90 | C | | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB3 | 4.90 | 6.10 | C | | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB3 | 6.10 | 7.60 | C | | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB3 | 7.60 | 8.40 | C | | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB4 | 0.00 | 1.00 | B | 1 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB4 | 1.00 | | D | 2 | 12/04/21 | AV08 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB4 | 1.00 | 1.50 | B | 4 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB4 | 1.50 | | D | 5 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB4 | 2.00 | 2.50 | B | 7 | 12/04/21 | AV08 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB4 | 2.50 | | D | 8 | 12/04/21 | AV08 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| BHRCBPB4 | 3.00 | 3.50 | B | 10 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB4 | 3.50 | | D | 11 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB4 | 0.00 | 2.80 | C | | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB4 | 2.80 | 3.80 | C | | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB4 | 3.80 | 5.10 | C | | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB4 | 5.10 | 6.00 | C | | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB4 | 6.00 | 7.00 | C | | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB4 | 7.00 | 7.60 | C | | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPB4 | 7.60 | 8.30 | C | | 28/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC1 | 0.00 | 1.00 | B | 1 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC1 | 1.00 | | D | 2 | 08/04/21 | AV08 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| BHRCBPC1 | 1.00 | 1.50 | B | 4 | 08/04/21 | AV08 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC1 | 1.50 | | D | 5 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC1 | 2.00 | 2.50 | B | 7 | 08/04/21 | AV08 | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| BHRCBPC1 | 2.50 | | D | 8 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC1 | 0.00 | 1.50 | C | 5.5-8.3 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 1 | 1 | 1 | | | LAA, MgSS, Slake, WA (BHP 25.06.21) |
| BHRCBPC1 | 1.50 | 3.00 | C | | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC1 | 3.00 | 4.20 | C | | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC1 | 4.20 | 5.50 | C | | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC1 | 5.50 | 7.10 | C | | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC1 | 7.10 | 8.30 | C | | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC2 | 0.00 | 1.00 | B | 1 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC2 | 1.00 | | D | 2 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC2 | 1.00 | 1.50 | B | 4 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC2 | 1.50 | | D | 5 | 08/04/21 | AV08 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC2 | 2.00 | 2.50 | B | 7 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC2 | 2.50 | | D | 8 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC2 | 0.00 | 2.80 | C | 0-8 | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | | 1 | | | | LAA, Slake (BHP 25.06.21) |
| BHRCBPC2 | 2.80 | 4.00 | C | | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC2 | 4.00 | 4.90 | C | | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC2 | 4.90 | 6.00 | C | | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC2 | 6.00 | 6.70 | C | | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPC2 | 6.70 | 8.00 | C | | 21/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD1 | 0.00 | 1.00 | B | 1 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD1 | 1.00 | | D | 2 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD1 | 1.00 | 1.45 | U100 | 3 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD1 | 1.50 | | D | 4 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Project ID | 2021LD101 | | Client | Bord na Mona | | Remarks | | | Turnaround | | |
| Project Name | Derryadd Wind Farm | | Report Date | 14/09/21 | | | | | | | |
| Schedule ID | 2021LD101_all | | Scheduled Date | 18/2/21 - | | | | | | | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | ompressibili | | Strength (Total) | | Shear Strength (Effective | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| BHRCBPD1 | 2.10 | 2.70 | C | 2.7-9.0 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | | | | BHP 10.06.21 (Tests throughout depths depending on sample requirements |
| BHRCBPD1 | 0.00 | 2.10 | C | | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD1 | 2.70 | 4.30 | C | | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD1 | 4.30 | 5.90 | C | | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD1 | 5.90 | 7.50 | C | | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD1 | 7.50 | 9.00 | C | | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD2 | 0.00 | 1.00 | B | 1 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD2 | 1.00 | | D | 2 | 13/04/21 | AV08 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD2 | 1.00 | 1.50 | B | 4 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD2 | 1.50 | | D | 5 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD2 | 0.00 | 1.70 | C | 2.0-8.8 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | 1 | 1 | | | BHP 10.06.21 (Tests throughout depths depending on sample requirements |
| BHRCBPD2 | 1.70 | 2.50 | C | | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD2 | 2.50 | 4.10 | C | | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD2 | 4.10 | 5.70 | C | | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD2 | 5.70 | 7.30 | C | | 30/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPD2 | 7.30 | 8.80 | C | | 30/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE1 | 0.00 | 1.00 | B | 1 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE1 | 1.00 | | D | 2 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE1 | 1.00 | 1.50 | B | 4 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE1 | 1.50 | | D | 5 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE1 | 2.00 | 2.30 | B | 7 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE1 | 2.30 | | D | 8 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE1 | 0.00 | 2.60 | C | 3.0-8.6 | 30/04/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | 1 | | | BHP 10.06.21 (Tests throughout depths depending on sample requirements |
| BHRCBPE1 | 2.60 | 3.00 | C | | 30/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE1 | 3.00 | 4.40 | C | | 30/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE1 | 4.40 | 6.00 | C | | 30/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE1 | 6.00 | 7.60 | C | | 30/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE1 | 7.60 | 8.60 | C | | 30/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE2 | 0.00 | 1.00 | B | 1 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE2 | 1.00 | | D | 2 | 14/04/21 | AV08 | 1 | 1 | 1 | * | | | | | | | | | | | | | | | | | | | | | | | | | * gar jar is more suitable |
| BHRCBPE2 | 1.00 | 1.50 | B | 4 | 14/04/21 | AV08 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE2 | 1.50 | | D | 5 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE2 | 2.00 | 2.30 | B | 7 | 14/04/21 | AV08 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE2 | 2.50 | | D | 8 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE2 | 0.00 | 2.70 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | 0* | | | | | | Tests throughout depths depending on sample requirements. *Not Suitable |
| BHRCBPE2 | 2.70 | 3.60 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE2 | 3.60 | 4.60 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE2 | 4.60 | 5.80 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE2 | 5.80 | 6.80 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCBPE2 | 6.80 | 8.20 | C | | 04/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 0.00 | 1.00 | B | 1 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 1.00 | | D | 2 | 22/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 1.00 | 1.50 | B | 4 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 1.50 | | D | 5 | 22/02/21 | | 1 | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | als 210427-92 |
| BHRCMMA | 2.00 | 2.45 | U100 | 6 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | NMTL 26.03.21 |
| BHRCMMA | 2.50 | | D | 7 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 3.00 | 3.50 | B | 9 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 3.50 | | D | 10 | 22/02/21 | | 1 | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | als 210427-92 |
| BHRCMMA | 4.00 | 4.45 | U100 | 11 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 4.00 | 4.50 | B | 12 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 4.50 | | D | 13 | 22/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 4.50 | 5.00 | B | 15 | 22/02/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 5.00 | | D | 16 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 5.50 | 6.00 | B | 18 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 6.00 | | D | 19 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 0.00 | 6.00 | C | | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 6.00 | 6.70 | C | | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 6.70 | 8.20 | C | | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | 6.8m or as appropriate |
| BHRCMMA | 8.20 | 9.80 | C | | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 9.80 | 11.40 | C | | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMA | 11.40 | 11.90 | C | | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 0.00 | 1.00 | B | 1 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 1.00 | | D | 2 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 1.00 | 1.45 | U100 | 3 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 1.50 | | D | 4 | 31/03/21 | AV03 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 2.00 | 2.50 | B | 6 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 2.50 | | D | 7 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 0.00 | 1.50 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 1.50 | 2.80 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 2.80 | 4.20 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 4.20 | 5.80 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 5.80 | 6.90 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 6.90 | 8.00 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 8.00 | 9.20 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 9.20 | 10.70 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 10.70 | 11.90 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 11.90 | 13.40 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 13.40 | 15.00 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMB | 15.00 | 16.60 | C | | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 0.00 | 1.00 | B | 1 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 1.00 | | D | 2 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 1.00 | 1.50 | B | 4 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 1.50 | | D | 5 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 2.00 | 2.50 | B | 7 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 2.50 | | D | 8 | 23/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 0.00 | 2.50 | C | | 14/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| | | | | | |
|---|---|---|---|---|---|
| Project ID | 2021LD101 | Client | Bord na Mona | Remarks | |
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 | Turnaround | |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - | | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | ompressibili | | Strength (Total) | | ar Stre ngt h (Eff ecti ve | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| BHRCMMC | 2.50 | 4.00 | C | | 14/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 4.00 | 5.80 | C | | 14/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 5.80 | 7.00 | C | | 14/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 7.00 | 8.80 | C | | 14/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 8.80 | 12.20 | C | | 14/05/21 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 12.20 | 15.20 | C | | 14/05/21 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 15.20 | 18.20 | C | | 14/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 18.20 | 21.20 | C | | 14/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCMMC | 21.20 | 22.00 | C | | 14/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSA | 0.00 | 1.00 | B | 1 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSA | 1.00 | | D | 2 | 22/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSA | 1.00 | 1.50 | B | 4 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSA | 1.50 | | D | 5 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSA | 2.00 | 2.50 | B | 7 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSA | 2.50 | | D | 8 | 22/02/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSA | 3.00 | 3.50 | B | 10 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSA | 3.50 | | D | 11 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSA | 0.00 | 3.70 | C | | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSA | 3.70 | 5.30 | C | | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSA | 5.30 | 6.90 | C | | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSA | 6.90 | 8.50 | C | | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSA | 8.50 | 9.00 | C | | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 0.00 | 1.00 | B | 1 | 02/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 1.00 | | D | 2 | 02/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 1.00 | 1.50 | B | 4 | 02/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 1.50 | | D | 5 | 02/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 2.00 | 2.50 | B | 7 | 02/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 2.50 | | D | 8 | 02/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 3.00 | 3.50 | B | 10 | 02/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 3.50 | | D | 11 | 02/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 4.00 | 4.50 | B | 13 | 02/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 4.50 | | D | 14 | 02/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 5.00 | 5.50 | B | 16 | 02/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 5.50 | | D | 17 | 02/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 0.00 | 6.00 | C | | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 6.00 | 6.80 | C | | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSB | 6.80 | 8.50 | C | | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 0.00 | 1.00 | B | 1 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 1.00 | | D | 2 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 1.00 | 1.50 | B | 4 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 1.50 | | D | 5 | 04/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 2.00 | 2.50 | B | 7 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 2.50 | | D | 8 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 3.00 | 3.50 | B | 10 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 3.50 | | D | 11 | 04/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 4.00 | 4.45 | U100 | 12 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 4.50 | | D | 13 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 5.00 | 5.50 | B | 15 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 5.50 | | D | 16 | 04/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 0.00 | 4.50 | C | | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 4.50 | 6.00 | C | | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 6.00 | 7.50 | C | | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSC | 7.50 | 8.90 | C | | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSD | 0.00 | 1.00 | B | 1 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSD | 1.00 | | D | 2 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSD | 1.00 | 1.50 | B | 4 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSD | 1.50 | | D | 5 | 11/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSD | 2.00 | 2.45 | U100 | 6 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSD | 2.50 | | D | 7 | 11/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSD | 3.00 | 3.50 | B | 9 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSD | 3.50 | | D | 10 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSD | 0.00 | 4.50 | C | | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSD | 4.50 | 6.00 | C | | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSD | 6.00 | 7.60 | C | | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSD | 7.60 | 8.70 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 0.00 | 1.00 | B | 1 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 1.00 | | D | 2 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 1.00 | 1.50 | B | 4 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 1.50 | | D | 5 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 2.00 | 2.50 | B | 7 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 2.50 | | D | 8 | 16/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 3.00 | 3.45 | U100 | 9 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 3.00 | 3.50 | B | 10 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 3.50 | | D | 11 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 3.50 | 4.00 | B | 13 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 4.00 | | D | 14 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 4.50 | 5.00 | B | 16 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 5.00 | | D | 17 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 5.50 | 6.00 | B | 19 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 6.00 | | D | 20 | 16/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 7.20 | 7.40 | B | 22 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 7.40 | | D | 23 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSE | 0.00 | 4.50 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | no testing |
| BHRCPSE | 4.50 | 6.00 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | no testing |
| BHRCPSE | 6.00 | 8.50 | C | | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | no testing |
| BHRCPSF | 0.00 | 1.00 | B | 1 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSF | 1.00 | | D | 2 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSF | 1.00 | 1.50 | B | 4 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSF | 1.50 | | D | 5 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSF | 2.00 | 2.50 | B | 7 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSF | 2.50 | | D | 8 | 23/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSF | 3.00 | 4.00 | P | 9 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSF | 4.00 | | D | 10 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSF | 4.00 | 4.50 | B | 12 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSF | 4.50 | | D | 13 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSF | 0.00 | 5.00 | C | | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | no testing |
| BHRCPSF | 5.00 | 6.50 | C | | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | no testing |
| BHRCPSF | 6.50 | 8.00 | C | | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | no testing |
| BHRCPSG | 0.00 | 1.00 | B | 1 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSG | 1.00 | | D | 2 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSG | 1.00 | 1.50 | B | 4 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSG | 1.50 | | D | 5 | 25/03/21 | AV03 | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| BHRCPSG | 2.00 | 2.50 | B | 7 | 25/03/21 | AV03 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSG | 2.50 | | D | 8 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSG | 3.00 | 3.50 | B | 10 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSG | 3.50 | | D | 11 | 25/03/21 | AV03 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSG | 4.00 | 4.50 | B | 13 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSG | 4.50 | | D | 14 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSG | 0.00 | 4.00 | C | | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | no testing |
| BHRCPSG | 4.00 | 5.70 | C | | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | no testing |
| BHRCPSG | 5.70 | 7.30 | C | | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | no testing |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

Project ID 2021LD101
Project Name Derryadd Wind Farm
Schedule ID 2021LD101_all

Client Bord na Mona
Report Date 14/09/21
Scheduled Date 18/2/21 -

Remarks

Turnaround

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | | ompressibili | | | Strength (Total) | | | Shear Strength (Effective | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation | Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained | (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| BHRCPSG | 7.30 | 8.00 | C | | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | no testing |
| BHRCPSH | 0.00 | 1.00 | B | 1 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSH | 1.00 | | D | 2 | 30/03/21 | AV03 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSH | 1.00 | 1.45 | U100 | 3 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSH | 1.50 | | D | 4 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSH | 2.00 | 2.50 | B | 6 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSH | 2.50 | | D | 7 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSH | 3.00 | 3.45 | U100 | 8 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSH | 3.50 | | D | 9 | 30/03/21 | AV03 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSH | 0.00 | 1.50 | C | | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSH | 1.50 | 3.00 | C | | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSH | 3.00 | 4.50 | C | | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSH | 4.50 | 5.80 | C | | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSH | 5.80 | 7.30 | C | | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSH | 7.30 | 8.10 | C | | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSI | 0.00 | 1.00 | B | 1 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSI | 1.00 | | D | 2 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSI | 1.00 | 1.50 | B | 4 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSI | 1.50 | | D | 5 | 16/04/21 | AV08 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSI | 2.00 | 2.30 | B | 7 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSI | 2.50 | | D | 8 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSI | 0.00 | 1.30 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSI | 1.30 | 3.00 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSI | 3.00 | 4.40 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSI | 4.40 | 6.00 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSI | 6.00 | 7.50 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSI | 7.50 | 8.50 | C | | 13/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSJ | 0.00 | 1.00 | B | 1 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSJ | 1.00 | | D | 2 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSJ | 1.00 | 1.50 | B | 4 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSJ | 1.50 | | D | 5 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSJ | 2.00 | 2.30 | B | 7 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSJ | 2.50 | | D | 8 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSJ | 3.00 | 3.40 | B | 10 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSJ | 3.40 | | D | 11 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSJ | 0.00 | 3.00 | C | | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSJ | 3.00 | 4.20 | C | | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSJ | 4.20 | 5.60 | C | | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSJ | 5.60 | 7.00 | C | | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSJ | 7.00 | 8.40 | C | | 20/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 0.00 | 1.00 | B | 1 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 1.00 | | D | 2 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 1.00 | 1.45 | U100 | 3 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 1.50 | | D | 4 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 2.00 | 2.50 | B | 6 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 2.50 | | D | 7 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 3.00 | 3.45 | U100 | 8 | 19/04/21 | AV15 | | | | | | | | | | | | | | | | | | 1 | 5, 10, 25, 50, 15 | | | | | | | | | | | | | NMTL 28.06.21 |
| BHRCPSK | 3.50 | | D | 9 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 4.00 | 4.50 | B | 11 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 4.50 | | D | 12 | 19/04/21 | AV15 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | ALS: 210817-60 |
| BHRCPSK | 5.00 | 5.45 | U100 | 13 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 5.50 | | D | 14 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 6.00 | 6.50 | B | 16 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 6.50 | | D | 17 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 0.00 | 7.00 | C | | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 7.00 | 7.30 | C | | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSK | 7.30 | 9.00 | C | | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSL | 0.00 | 1.00 | B | 1 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSL | 1.00 | | D | 2 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSL | 1.00 | 1.50 | B | 4 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSL | 1.50 | | D | 5 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSL | 2.00 | 2.50 | B | 7 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSL | 2.50 | | D | 8 | 22/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSL | 0.00 | 3.00 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSL | 3.00 | 4.50 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSL | 4.50 | 5.20 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSL | 5.20 | 8.40 | C | | 11/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSM | 0.00 | 1.00 | B | 1 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSM | 1.00 | | D | 2 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSM | 1.00 | 1.50 | B | 4 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSM | 1.50 | | D | 5 | 29/04/21 | AV14 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSM | 2.00 | 2.50 | B | 7 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSM | 2.50 | | D | 8 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSM | 3.00 | 3.50 | B | 10 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSM | 3.50 | | D | 11 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSM | 0.00 | 3.30 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSM | 3.30 | 4.50 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSM | 4.50 | 6.00 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSM | 6.00 | 7.50 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSM | 7.50 | 8.20 | C | | 19/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSN | 0.00 | 1.00 | B | 1 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSN | 1.00 | | D | 2 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSN | 1.00 | 1.50 | B | 4 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSN | 1.50 | | D | 5 | 29/04/21 | AV14 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | ALS: 210817-60 |
| BHRCPSN | 1.70 | 2.50 | B | 6 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSN | 1.70 | | D | 7 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSN | 2.00 | 2.50 | B | 9 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSN | 2.50 | | D | 10 | 29/04/21 | AV14 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSN | 3.00 | | B | 12 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSN | 3.20 | | D | 13 | 29/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSN | 0.00 | 1.50 | C | | 12/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSN | 1.50 | 3.00 | C | | 12/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSN | 3.00 | 4.50 | C | | 12/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSN | 4.50 | 6.00 | C | | 12/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCPSN | 6.00 | 8.00 | C | | 12/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA01 | 0.00 | 1.00 | B | 1 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA01 | 1.00 | | D | 2 | 24/03/21 | AV03 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| BHRCSSA01 | 1.00 | 1.50 | B | 4 | 24/03/21 | AV03 | | | 1 | * | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | * gas jar is more suitable |
| BHRCSSA01 | 1.50 | | D | 5 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA01 | 2.00 | 2.50 | B | 7 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA01 | 2.50 | | D | 8 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA01 | 3.00 | 3.50 | B | 10 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA01 | 3.50 | | D | 11 | 24/03/21 | AV03 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA01 | 0.00 | 2.00 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA01 | 2.00 | 3.00 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA01 | 3.00 | 4.50 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA01 | 4.50 | 6.00 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | Sample as appropriate in core run |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| | | | |
|---|---|---|---|
| Project ID | 2021LD101 | Client | Bord na Mona |
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - |

Remarks

Turnaround

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | | ompressibili | | Strength (Total) | | Shear Strength (Effective | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| BHRCSSA01 | 6.00 | 7.50 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | Sample as appropriate in core run |
| BHRCSSA01 | 7.50 | 9.00 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA01 | 9.00 | 10.20 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA02 | 0.00 | 2.50 | C | | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA02 | 2.50 | 3.00 | C | | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA02 | 3.00 | 4.00 | C | | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA02 | 4.00 | 6.00 | C | | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA02 | 6.00 | 7.30 | C | | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRCSSA02 | 7.30 | 8.80 | C | | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA02 | 8.80 | 10.40 | C | | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA02 | 0.00 | 1.00 | B | 1 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA02 | 1.00 | | D | 2 | 22/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA02 | 1.00 | 1.50 | B | 4 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA02 | 1.50 | | D | 5 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA02 | 2.00 | 2.50 | B | 7 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA02 | 2.50 | | D | 8 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 0.00 | 1.00 | B | 1 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 1.00 | | D | 2 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 1.00 | 1.45 | U100 | 3 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 1.50 | | D | 4 | 23/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 2.00 | 2.50 | B | 6 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 2.50 | | D | 7 | 23/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 3.00 | 3.50 | B | 9 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 3.50 | | D | 10 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 0.00 | 2.00 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 2.00 | 2.90 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 2.90 | 4.30 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 4.30 | 5.00 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 5.00 | 5.50 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 5.50 | 7.10 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 7.10 | 8.70 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA03 | 8.70 | 10.30 | C | | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA04 | 0.00 | 1.00 | B | 1 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA04 | 1.00 | | D | 2 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA04 | 1.00 | 1.45 | U100 | 3 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA04 | 1.50 | | D | 4 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA04 | 0.00 | 2.00 | C | | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA04 | 2.00 | 2.90 | C | | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA04 | 2.90 | 4.40 | C | | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA04 | 4.40 | 5.90 | C | | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRCSSA04 | 5.90 | 7.40 | C | | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA04 | 7.40 | 8.90 | C | | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA04 | 8.90 | 10.40 | C | | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA04 | 10.40 | 11.90 | C | | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA05 | 0.00 | 1.00 | B | 1 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA05 | 1.00 | | D | 2 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA05 | 1.00 | 1.45 | U100 | 3 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA05 | 1.50 | | D | 4 | 24/03/21 | AV03 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA05 | 2.00 | 2.50 | B | 6 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA05 | 2.50 | | D | 7 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA05 | 0.00 | 2.00 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA05 | 2.00 | 2.90 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA05 | 2.90 | 4.40 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA05 | 4.40 | 5.90 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA05 | 5.90 | 7.40 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA05 | 7.40 | 8.90 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA05 | 8.90 | 10.50 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA06 | 0.00 | 1.00 | B | 1 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA06 | 1.00 | | D | 2 | 24/03/21 | AV03 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| BHRCSSA06 | 1.00 | 1.45 | U100 | 3 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA06 | 1.50 | | D | 4 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA06 | 2.00 | 2.50 | B | 6 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA06 | 2.50 | | D | 7 | 24/03/21 | AV03 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA06 | 0.00 | 2.00 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA06 | 2.00 | 3.10 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA06 | 3.10 | 4.60 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA06 | 4.60 | 5.90 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA06 | 5.90 | 7.20 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | |
| BHRCSSA06 | 7.20 | 8.80 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA06 | 8.80 | 10.40 | C | | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 0.00 | 1.00 | B | 1 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 1.00 | | D | 2 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 1.00 | 1.50 | B | 4 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 1.50 | | D | 5 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 2.00 | 2.50 | B | 7 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 2.50 | | D | 8 | 22/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 3.00 | 3.70 | P | 9 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 3.00 | | D | 10 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 4.00 | 4.50 | B | 12 | 22/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 4.50 | | D | 13 | 22/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 5.00 | 5.50 | B | 15 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 5.50 | | D | 16 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 6.00 | 6.30 | B | 18 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 6.30 | | D | 19 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 0.00 | 6.00 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 6.00 | 7.30 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 7.30 | 8.80 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 8.80 | 10.30 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA07 | 10.30 | 11.70 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA08 | 0.00 | 1.00 | B | 1 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA08 | 1.00 | | D | 2 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA08 | 1.00 | 2.00 | P | 3 | 22/03/21 | | | | | | | | | | | | | | | | | | 1 5, 10, 20, 40, 10 | | | | | | | | | | | | | NMTL 28.04.21, reported 18.05.21 |
| BHRCSSA08 | 2.00 | | D | 4 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA08 | 2.00 | 2.50 | B | 6 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA08 | 2.50 | | D | 7 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA08 | 3.00 | 3.45 | U100 | 8 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA08 | 3.50 | | D | 9 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA08 | 4.00 | 4.50 | B | 11 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA08 | 4.50 | | D | 12 | 22/03/21 | | 1 | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | als 210427-92 |
| BHRCSSA08 | 5.00 | 5.50 | B | 14 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA08 | 5.50 | | D | 15 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA08 | 0.00 | 6.00 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA08 | 6.00 | 7.40 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA08 | 7.40 | 8.80 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| Project ID | 2021LD101 | Client | Bord na Mona | Remarks | | Turnaround | |
|---|---|---|---|---|---|---|---|
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 | | | | |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - | | | | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | | ompressibili | Strength (Total) | | | Shear Strength (Effective) | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. / Chloride Content / Chloride Content Acid | Compaction Light | Compaction Heavy / Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation / Pressures / Swelling Pressure Test / Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained / (Specify Cell Pressure) / Triaxial UU Multi Stage / Triaxial UU Multi Specimen / Consolidated Drained Triaxial Test / Consolidated Undrained Triaxial Test / Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| BHRCSSA08 | 8.80 | 10.40 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA08 | 10.40 | 11.90 | C | | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 0.00 | 1.00 | B | 1 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 1.00 | | D | 2 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 1.00 | 1.45 | U100 | 3 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | NMTL 28.04.21, reported 18.05.21 |
| BHRCSSA09 | 1.50 | | D | 4 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 2.00 | 2.50 | B | 6 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 2.50 | | D | 7 | 18/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 3.00 | 3.50 | B | 9 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 3.50 | | D | 10 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 4.00 | 4.50 | B | 12 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 4.50 | | D | 13 | 18/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 5.00 | 5.50 | B | 15 | 18/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 5.50 | | D | 16 | 18/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 6.50 | 7.00 | B | 18 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 7.00 | | D | 19 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 0.00 | 7.00 | C | | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 7.00 | 8.60 | C | | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 8.60 | 10.00 | C | | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 10.00 | 11.60 | C | | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA09 | 11.60 | 13.20 | C | | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | |
| BHRCSSA09 | 13.20 | 14.00 | C | | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 0.00 | 1.00 | B | 1 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 1.00 | | D | 2 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 1.00 | 1.50 | B | 4 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 1.50 | | D | 5 | 17/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 2.00 | 2.45 | U100 | 6 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 2.50 | | D | 7 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 3.00 | 3.50 | B | 9 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 3.50 | | D | 10 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 4.00 | 4.50 | B | 12 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 4.50 | | D | 13 | 18/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 5.00 | 5.50 | B | 15 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 5.50 | | D | 16 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 0.00 | 5.50 | C | | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 5.50 | 7.00 | C | | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 7.00 | 8.50 | C | | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 8.50 | 10.00 | C | | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 10.00 | 11.50 | C | | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 11.50 | 13.00 | C | | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 13.00 | 14.50 | C | | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA10 | 14.50 | 15.20 | C | | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA11 | 0.00 | 0.50 | B | 1 | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA11 | 0.50 | | D | 2 | 05/05/21 | AV14 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | ALS 210802-18 |
| BHRCSSA11 | 0.50 | 1.00 | B | 3 | 05/05/21 | AV14 | | | 1 | * | 1 | | | | | | | | | | | | | | | | | | | | | | | | 1 | CELTEST 27.07.21 |
| BHRCSSA11 | 1.00 | | D | 4 | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA11 | 1.00 | 1.80 | P | 5 | 05/05/21 | AV14 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA11 | 2.00 | use bag | D | 6 | 05/05/21 | AV14 | | | | | | | | | | | | | | | | | | 1  12, 22, 32,42,82, 102kPa, 42kPa | | | | | | | | | | | | NMTL 28.06.21 |
| BHRCSSA11 | 2.00 | 2.50 | B | 8 | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA11 | 2.50 | | D | 9 | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA12 | 0.00 | 0.50 | B | 1 | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA12 | 0.50 | | D | 2 | 05/05/21 | AV14 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA12 | 0.50 | 1.00 | B | 3 | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA12 | 1.00 | | D | 4 | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA12 | 1.00 | 1.70 | P | 5 | 05/05/21 | AV14 | | | | | | | | | | | | | | | | | | 1 5, 15, 25, 35, 75, 95, 35kPa | | | | | | | | | | | | NMTL 28.06.21 |
| BHRCSSA12 | 2.00 | | D | 6 | 05/05/21 | AV14 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | ALS 210802-18 |
| BHRCSSA12 | 2.00 | 2.50 | B | 8 | 05/05/21 | AV14 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA12 | 2.50 | | D | 9 | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA12 | 3.00 | 3.30 | B | 11 | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA12 | 3.30 | | D | 12 | 05/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA13 | 0.00 | 0.50 | B | 1 | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA13 | 0.50 | | D | 2 | 10/05/21 | AV14 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA13 | 0.50 | 1.00 | B | 3 | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA13 | 1.00 | | D | 4 | 10/05/21 | AV14 | 1 | 1 | | | | | 1 | | 1 | | | 1 | | | | | | | | | | | | | | | | | | ALS 210817-59 |
| BHRCSSA13 | 1.00 | 1.50 | B | 6 | 10/05/21 | AV14 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA13 | 1.50 | | D | 7 | 10/05/21 | AV14 | | | | | | | 1 | | 1 | | | 1 | | | | | | | | | | | | | | | | | | ALS 210817-59 |
| BHRCSSA13 | 1.50 | 2.00 | B | 9 | 10/05/21 | AV14 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA13 | 2.00 | | D | 10 | 10/05/21 | AV14 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA13 | 2.50 | 3.00 | B | 12 | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA13 | 3.00 | | D | 13 | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA13 | 1.00 | 1.40 | P | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA14 | 0.00 | 0.50 | B | 1 | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA14 | 0.50 | | D | 2 | 10/05/21 | AV14 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA14 | 0.50 | 1.50 | P | 3 | 10/05/21 | AV14 | | | | | | | | | | | | | | | | | | 1 5, 10, 20, 30, 70, 90 kPa | | | | | | | | | | | | NMTL 28.06.21 |
| BHRCSSA14 | 1.50 | | D | 4 | 10/05/21 | AV14 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | ALS: 210817-60 |
| BHRCSSA14 | 2.00 | 2.50 | B | 6 | 10/05/21 | AV14 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | 1 | CELTEST 27.07.21 |
| BHRCSSA14 | 2.50 | | D | 7 | 10/05/21 | AV14 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA14 | 2.60 | | B | 8 | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BHRCSSA14 | 2.60 | | D | 9 | 10/05/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RC02A | 1.34 | | EW | | 03/06/21 | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | ALS-210603-70 |
| RC05A | 2.95 | | EW | | 03/06/21 | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | ALS-210603-70 |
| RC09A | 1.10 | | EW | | 03/06/21 | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | ALS-210603-70 |
| RC12B | 0.15 | | EW | | 03/06/21 | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | ALS-210603-70 |
| RC17A | 0.26 | | EW | | 03/06/21 | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | ALS-210603-70 |
| RC18B | 0.57 | | EW | | 03/06/21 | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | ALS-210603-70 |
| RC21B | 0.23 | | EW | | 03/06/21 | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | ALS-210603-70 |
| RC24A | 0.83 | | EW | | 03/06/21 | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | ALS-210603-70 |
| SSA05 | 0.51 | | EW | | 03/06/21 | | | | | | | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | ALS-210603-70 |
| TP001 | 0.40 | 0.60 | D | 1 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP001 | 0.60 | 0.70 | D | 2 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP001 | 0.90 | 1.20 | B | 3 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP001 | 2.00 | 2.40 | B | 4 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP002 | 0.60 | 0.90 | D | 1 | 15/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP002 | 0.60 | 0.90 | B | 2 | 15/02/21 | | | | | | 1 | | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| TP002 | 2.20 | 2.80 | B | 3 | 15/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP100 | 0.40 | 0.50 | D | 1 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP100 | 0.40 | 0.70 | B | 2 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP100 | 1.30 | 1.60 | B | 3 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP100 | 1.60 | 1.70 | D | 4 | 24/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP100 | 3.40 | 3.70 | B | 5 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP101 | 0.30 | 0.40 | D | 1 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP101 | 0.30 | 0.60 | B | 2 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP101 | 1.20 | 1.50 | B | 3 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP101 | 1.50 | 1.60 | D | 4 | 24/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP101 | 2.10 | 2.40 | B | 5 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP101 | 2.40 | | D | 6 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP102 | 0.30 | 0.40 | D | 1 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| | |
|---|---|
| Project ID | 2021LD101 |
| Project Name | Derryadd Wind Farm |
| Schedule ID | 2021LD101_all |
| Client | Bord na Mona |
| Report Date | 14/09/21 |
| Scheduled Date | 18/2/21 - |
| Remarks | |
| Turnaround | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | | ompressibili | | | Strength (Total) | | | Shear Strength (Effective | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation | Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained | (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| TP102 | 0.30 | 0.60 | B | 2 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP102 | 1.80 | 2.10 | B | 3 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP102 | 2.10 | 2.20 | D | 4 | 24/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP102 | 2.80 | 3.10 | B | 5 | 24/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP103 | 0.30 | 0.40 | D | 1 | 24/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP103 | 0.30 | 0.40 | D | 1 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP103 | 0.30 | 0.60 | B | 2 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP103 | 0.30 | 0.60 | B | 2 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP103 | 2.20 | 2.50 | B | 3 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP103 | 2.20 | 2.50 | B | 3 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP103 | 2.50 | 2.60 | D | 4 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP103 | 2.50 | 2.60 | D | 4 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP103 | 4.20 | 4.50 | B | 5 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP103 | 4.20 | 4.50 | B | 5 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP103 | 4.50 | | D | 6 | 24/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TP103 | 4.50 | | D | 6 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP104 | 0.30 | 0.40 | D | 1 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP104 | 0.30 | 0.60 | B | 2 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP104 | 2.00 | 2.30 | B | 3 | 24/03/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP104 | 2.30 | 2.40 | D | 4 | 24/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP104 | 3.50 | 3.70 | B | 5 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP104 | 3.70 | | D | 6 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP105 | 0.30 | 0.40 | D | 1 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP105 | 0.30 | 0.60 | B | 2 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP105 | 2.20 | 2.50 | B | 3 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP105 | 2.50 | 2.60 | D | 4 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP105 | 3.00 | 3.30 | B | 5 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP105 | 3.30 | 3.40 | D | 6 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP105 | 3.70 | 3.90 | B | 7 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP105 | 3.90 | | D | 8 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP106 | 0.30 | 0.40 | D | 1 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP106 | 0.30 | 0.60 | B | 2 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP106 | 2.00 | 2.30 | B | 3 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP106 | 2.40 | 2.50 | D | 4 | 25/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP106 | 3.30 | 3.60 | B | 5 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP106 | 3.60 | 3.70 | D | 6 | 25/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP107 | 0.30 | 0.40 | D | 1 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP107 | 0.30 | 0.60 | B | 2 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP107 | 1.60 | 1.90 | B | 3 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP107 | 1.90 | 2.00 | D | 4 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP107 | 3.00 | 3.30 | B | 5 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP107 | 3.30 | 3.40 | D | 6 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP107 | 3.70 | 3.90 | B | 7 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP107 | 4.00 | | D | 8 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP108 | 0.30 | 0.40 | D | 1 | 25/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP108 | 0.30 | 0.50 | B | 2 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP108 | 1.60 | 1.90 | B | 3 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP108 | 1.90 | 2.00 | D | 4 | 25/03/21 | AV02 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | ALS 210817-59 |
| TP108 | 2.90 | 3.20 | B | 5 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP108 | 3.20 | 3.30 | D | 6 | 25/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP109 | 0.30 | 0.40 | D | 1 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP109 | 0.30 | 0.50 | B | 2 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP109 | 0.90 | 1.20 | B | 3 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP109 | 1.20 | 1.30 | D | 4 | 25/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP109 | 2.10 | 2.40 | B | 5 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP110 | 0.30 | 0.40 | D | 1 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP110 | 0.30 | 0.60 | B | 2 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP110 | 1.70 | 2.00 | B | 3 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP110 | 2.00 | 2.10 | D | 4 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP110 | 2.90 | 3.20 | B | 5 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP110 | 3.20 | | D | 6 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP111 | 0.40 | 0.50 | D | 1 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP111 | 0.40 | 0.60 | B | 2 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP111 | 1.80 | 2.10 | B | 3 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP111 | 2.10 | 2.20 | D | 4 | 26/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP112 | 0.30 | 0.40 | D | 1 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP112 | 0.30 | 0.60 | B | 2 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP112 | 1.40 | 1.60 | B | 3 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP113 | 0.20 | 0.30 | D | 1 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP113 | 0.20 | 0.50 | B | 2 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP113 | 0.70 | 1.00 | B | 3 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP113 | 1.00 | 1.10 | D | 4 | 26/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP113 | 1.80 | 2.10 | B | 5 | 26/03/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP113 | 2.10 | 2.20 | D | 6 | 26/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP114 | 0.30 | 0.40 | D | 1 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP114 | 0.30 | 0.60 | B | 2 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP114 | 1.60 | 1.90 | B | 3 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP114 | 1.90 | | D | 4 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP115 | 0.20 | 0.30 | D | 1 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP115 | 0.20 | 0.40 | B | 2 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP115 | 1.10 | 1.40 | B | 3 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP115 | 1.40 | | D | 4 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP116 | 0.20 | 0.30 | D | 1 | 26/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP116 | 0.20 | 0.50 | B | 2 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP116 | 1.90 | 2.20 | B | 3 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP116 | 2.20 | 2.30 | D | 4 | 26/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP117R | 0.20 | 0.30 | D | 1 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP117R | 0.20 | 0.50 | B | 2 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP117R | 1.60 | 1.90 | B | 3 | 26/03/21 | | 1 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP118R | 0.40 | 0.50 | D | 1 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP118R | 0.20 | 0.40 | B | 2 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP118R | 0.60 | 0.90 | B | 3 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP118R | 0.90 | 1.00 | D | 4 | 26/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP118R | 1.60 | 1.90 | B | 5 | 26/03/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP118R | 1.90 | 2.00 | D | 6 | 26/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP119R | 0.30 | 0.40 | D | 1 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP119R | 0.30 | 0.60 | B | 2 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP119R | 0.90 | 1.20 | B | 3 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP119R | 1.20 | 1.30 | D | 4 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP119R | 2.20 | 2.50 | B | 5 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP119R | 2.50 | 2.60 | D | 6 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP120R | 0.40 | 0.50 | D | 1 | 29/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP120R | 0.40 | 0.70 | B | 2 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP120R | 1.20 | 1.50 | B | 3 | 29/03/21 | AV02 | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | |
| TP120R | 1.50 | 1.80 | D | 4 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP120R | 2.30 | 2.60 | B | 5 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP120R | 2.60 | 2.70 | D | 6 | 29/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP120R | 3.80 | 4.00 | B | 7 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP120R | 4.00 | | D | 8 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP121R | 0.40 | 0.50 | B | 1 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP121R | 0.40 | 0.70 | B | 2 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP121R | 1.30 | 1.60 | B | 3 | 29/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

Project ID 2021LD101
Project Name Derryadd Wind Farm
Schedule ID 2021LD101_all

Client Bord na Mona
Report Date 14/09/21
Scheduled Date 18/2/21 -

Remarks

Turnaround

|Sample Details|||||||Classification||||||Chemical / Concrete||||||||Compaction||||ompressibili|||Strength (Total)|||Shear Strength (Effective|Rock||Other|||||||
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|Location|Depth (m)|Base Depth|Sample Type|Sample Ref|Date Sampled|Storage|Moisture Content|Atterberg 4 Point|Particle Density by Gas Jar|Particle Density by Small Pycnometer|Particle Size Distribution|Hydrometer|Organic Content|Loss On Ignition|Sulphate Total|Sulphate Water Gravimetric|Carbonate Titration|ph.|Chloride Content|Chloride Content Acid|Compaction Light|Compaction Heavy Compaction Vibrating Hammer|Moisture Condition Value|Moisture Condition Relationship|CBR|Consolidation|Pressures Swelling Pressure Test Laboratory Vane test|Small Direct Shearbox|Ring shear Test|Triaxial Quick Undrained|(Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage|Rock Uniaxial compression|Point Load|LA Abrasion|Water absorption|Slake Durability|Magnesium Sulphate Soundness|Flakiness Index|Lime Stabilisation Suite|Notes|
|TP121R|1.60|1.70|D|4|29/03/21||1||||||||1|||1||||||||||||||||||||||210513-119|
|TP123|0.30|0.40|D|1|29/03/21|||||||||||||||||||||||||||||||||||||
|TP123|0.30|0.60|B|2|29/03/21|||||||||||||||||||||||||||||||||||||
|TP123|2.00|2.30|B|3|29/03/21|||||||||||||||||||||||||||||||||||||
|TP123|2.30|2.40|D|4|29/03/21||1||||||||||||||||||||||||||||||||||
|TP123|2.70|3.00|B|5|29/03/21||||||1||||||||||||||||||||||||||||||
|TP123|3.00|3.10|D|6|29/03/21|||||||||||||||||||||||||||||||||||||
|TP124|0.30|0.40|D|1|29/03/21|AV02|1||||||||||||||||||||||||||||||||||
|TP124|0.30|0.60|B|2|29/03/21|||||||||||||||||||||||||||||||||||||
|TP124|2.20|2.50|B|3|29/03/21|||||||||||||||||||||||||||||||||||||
|TP124|2.50|2.60|D|4|29/03/21||1||||||||||||||||||||||||||||||||||
|TP124|3.10|3.40|B|5|29/03/21|||||||||||||||||||||||||||||||||||||
|TP124|3.40||D|6|29/03/21|||||||||||||||||||||||||||||||||||||
|TP125|0.40|0.50|D|1|29/03/21||1||||||||||||||||||||||||||||||||||
|TP125|0.40|0.70|B|2|29/03/21|||||||||||||||||||||||||||||||||||||
|TP125|2.10|2.40|B|3|29/03/21|||||||||||||||||||||||||||||||||||||
|TP125|2.40||D|4|29/03/21||1|1|||||||||||||||||||||||||||||||||
|TP126|0.30|0.40|D|1|29/03/21|||||||||||||||||||||||||||||||||||||
|TP126|0.30|0.50|B|2|29/03/21|||||||||||||||||||||||||||||||||||||
|TP126|1.60|1.90|B|3|29/03/21|||||||||||||||||||||||||||||||||||||
|TP126|1.90|2.00|D|4|29/03/21|||||||||||||||||||||||||||||||||||||
|TP127|0.30|0.40|D|1|30/03/21|||||||||||||||||||||||||||||||||||||
|TP127|0.30|0.60|B|2|30/03/21|||||||||||||||||||||||||||||||||||||
|TP127|1.40|1.70|B|3|30/03/21|||||||||||||||||||||||||||||||||||||
|TP127|1.70|1.80|B|4|30/03/21|||||||||||||||||||||||||||||||||||||
|TP128|0.30|0.40|D|1|30/03/21|||||||||||||||||||||||||||||||||||||
|TP128|0.30|0.50|B|2|30/03/21|||||||||||||||||||||||||||||||||||||
|TP128|0.90|1.20|B|3|30/03/21|||||||||||||||||||||||||||||||||||||
|TP128|1.20|1.30|D|4|30/03/21||1|1|||||||||||||||||||||||||||||||||
|TP128|2.00|2.30|B|5|30/03/21|||||||||||||||||||||||||||||||||||||
|TP128|2.30|2.40|D|6|30/03/21||1|1|||||||||||||||||||||||||||||||||
|TP129|0.40|0.50|D|1|30/03/21|||||||||||||||||||||||||||||||||||||
|TP129|0.40|0.60|B|2|30/03/21|||||||||||||||||||||||||||||||||||||
|TP129|0.60|0.80|B|3|30/03/21|||||||||||||||||||||||||||||||||||||
|TP129|0.80|0.90|D|4|30/03/21|||||||||||||||||||||||||||||||||||||
|TP129|2.10|2.40|B|5|30/03/21|||||||||||||||||||||||||||||||||||||
|TP129|2.40||D|6|30/03/21|||||||||||||||||||||||||||||||||||||
|TP130|0.20|0.30|D|1|30/03/21|||||||||||||||||||||||||||||||||||||
|TP130|0.20|0.50|B|2|30/03/21|||||||||||||||||||||||||||||||||||||
|TP130|1.40|1.70|B|3|30/03/21|||||||||||||||||||||||||||||||||||||
|TP130|1.70|1.80|B|4|30/03/21|||||||||||||||||||||||||||||||||||||
|TP130|2.60|2.90|B|5|30/03/21|||||||||||||||||||||||||||||||||||||
|TP130|2.90|3.00|D|6|30/03/21|||||||||||||||||||||||||||||||||||||
|TP131|0.30|0.40|D|1|30/03/21|||||||||||||||||||||||||||||||||||||
|TP131|0.30|0.60|B|2|30/03/21|||||||||||||||||||||||||||||||||||||
|TP131|0.60|0.90|B|3|30/03/21|||||||||||||||||||||||||||||||||||||
|TP131|0.90|1.00|D|4|30/03/21||1||||||||||||||||||||||||||||||||||
|TP131|1.80|2.10|B|5|30/03/21||||||1||||||||||||||||||||||||||||||
|TP131|2.10|2.20|D|6|30/03/21|||||||||||||||||||||||||||||||||||||
|TP131|2.30|2.60|B|7|30/03/21|||||||||||||||||||||||||||||||||||||
|TP131|2.60|2.70|D|8|30/03/21||1|1|||||||||||||||||||||||||||||||||
|TP132|0.20|0.30|D|1|30/03/21|||||||||||||||||||||||||||||||||||||
|TP132|0.40|0.60|B|2|30/03/21|||||||||||||||||||||||||||||||||||||
|TP132|0.70|1.00|B|3|30/03/21||||||1||||||||||||||||||||||||||||||
|TP132|1.00|1.10|D|4|30/03/21||1|1|||||||||||||||||||||||||||||||||
|TP132|2.40|2.70|B|5|30/03/21|||||||||||||||||||||||||||||||||||||
|TP134|0.20|0.30|D|1|31/03/21|||||||||||||||||||||||||||||||||||||
|TP134|0.20|0.50|B|2|31/03/21|||||||||||||||||||||||||||||||||||||
|TP134|1.00|1.30|B|3|31/03/21|||||||||||||||||||||||||||||||||||||
|TP134|1.30|1.40|D|4|31/03/21|||||||||||||||||||||||||||||||||||||
|TP134|3.10|3.30|B|5|31/03/21|||||||||||||||||||||||||||||||||||||
|TP135|0.30|0.40|D|1|31/03/21|||||||||||||||||||||||||||||||||||||
|TP135|0.30|0.60|B|2|31/03/21|||||||||||||||||||||||||||||||||||||
|TP135|0.60|0.80|B|3|31/03/21|||||||||||||||||||||||||||||||||||||
|TP135|0.80|0.90|D|4|31/03/21|AV04|1|1|||||1|||||||||||||||||||||||||||ALS 210817-59|
|TP135|1.70|2.00|B|5|31/03/21|||||||||||||||||||||||||||||||||||||
|TP135|2.00|2.10|D|6|31/03/21||1|1|||||||||||||||||||||||||||||||||
|TP136|0.30|0.40|D|1|31/03/21|||||||||||||||||||||||||||||||||||||
|TP136|0.30|0.60|B|2|31/03/21|||||||||||||||||||||||||||||||||||||
|TP136|0.70|1.00|B|3|31/03/21|||||||||||||||||||||||||||||||||||||
|TP136|1.00|1.10|D|4|31/03/21|||||||||||||||||||||||||||||||||||||
|TP136|1.70|2.00|B|5|31/03/21|||||||||||||||||||||||||||||||||||||
|TP136|2.00|2.10|D|6|31/03/21|||||||||||||||||||||||||||||||||||||
|TP137|0.20|0.30|D|1|31/03/21|||||||||||||||||||||||||||||||||||||
|TP137|0.20|0.50|B|2|31/03/21|||||||||||||||||||||||||||||||||||||
|TP137|1.30|1.50|B|3|31/03/21|||||||||||||||||||||||||||||||||||||
|TP137|1.50|1.60|D|4|31/03/21|||||||||||||||||||||||||||||||||||||
|TP137|1.60|1.90|B|5|31/03/21|||||||||||||||||||||||||||||||||||||
|TP137|1.90|2.00|D|6|31/03/21||1|1|||||||||||||||||||||||||||||||||
|TP137|2.00|2.30|B|7|31/03/21|||||||||||||||||||||||||||||||||||||
|TP137|2.30||D|8|31/03/21|||||||||||||||||||||||||||||||||||||
|TP138|0.20|0.30|D|1|31/03/21|||||||||||||||||||||||||||||||||||||
|TP138|0.20|0.50|B|2|31/03/21|||||||||||||||||||||||||||||||||||||
|TP138|1.40|1.70|B|3|31/03/21|||||||||||||||||||||||||||||||||||||
|TP138|1.70|1.80|D|4|31/03/21|AV04|1|1|||||1|||||||||||||||||||||||||||ALS 210817-59|
|TP138|2.30|2.60|B|5|31/03/21|||||||||||||||||||||||||||||||||||||
|TP138|2.60|2.70|D|6|31/03/21||1|1|||||||||||||||||||||||||||||||||
|TP139|0.40|0.50|D|1|31/03/21||1||||||||||||||||||||||||||||||||||
|TP139|0.40|0.70|B|2|31/03/21|||||||||||||||||||||||||||||||||||||
|TP139|1.20|1.50|B|3|31/03/21||||||1|1||||||||||||||||||||||||||||
|TP139|1.50|1.60|D|4|31/03/21||1|1|||||1|||||||||||||||||||||||||||ALS 210817-59|
|TP139|1.70|2.00|B|5|31/03/21|||||||||||||||||||||||||||||||||||||
|TP139|2.40|2.70|D|6|31/03/21|||||||||||||||||||||||||||||||||||||
|TP139|2.70||B|7|31/03/21|||||||||||||||||||||||||||||||||||||
|TP140|0.30|0.40|D|1|31/03/21|||||||||||||||||||||||||||||||||||||
|TP140|0.30|0.60|B|2|31/03/21|||||||||||||||||||||||||||||||||||||
|TP140|1.00|1.30|B|3|31/03/21|||||||||||||||||||||||||||||||||||||
|TP140|1.30|1.40|D|4|31/03/21||1|1|||||||||||||||||||||||||||||||||
|TP140|1.50|1.80|B|5|31/03/21|||||||||||||||||||||||||||||||||||||
|TP140|1.80|1.90|D|6|31/03/21|||||||||||||||||||||||||||||||||||||
|TP140|2.60|2.90|B|7|31/03/21|||||||||||||||||||||||||||||||||||||
|TP140|2.90||D|8|31/03/21|||||||||||||||||||||||||||||||||||||
|TP141|0.20|0.30|D|1|09/04/21|||||||||||||||||||||||||||||||||||||
|TP141|0.20|0.50|B|2|09/04/21|||||||||||||||||||||||||||||||||||||
|TP141|1.30|1.60|B|3|09/04/21|||||||||||||||||||||||||||||||||||||
|TP141|1.60|1.70|D|4|09/04/21||1|1|||||||||||||||||||||||||||||||||
|TP141|2.20|2.50|B|5|09/04/21|||||||||||||||||||||||||||||||||||||
|TP141|2.50||D|6|09/04/21|||||||||||||||||||||||||||||||||||||
|TP142|0.70|0.80|D|1|09/04/21|||||||||||||||||||||||||||||||||||||
|TP142|0.70|1.00|B|2|09/04/21|||||||||||||||||||||||||||||||||||||
|TP142|1.60|1.90|B|3|09/04/21|||||||||||||||||||||||||||||||||||||
|TP142|1.90|2.00|D|4|09/04/21|||||||||||||||||||||||||||||||||||||

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| Project ID | 2021LD101 | Client | Bord na Mona | Remarks | | Turnaround | |
|---|---|---|---|---|---|---|---|
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 | | | | |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - | | | | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | | Compressibility | Strength (Total) | | | Shear Strength (Effective) | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. / Chloride Content / Chloride Content Acid | Compaction Light | Compaction Heavy / Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation / Pressures / Swelling Pressure Test / Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained | (Specify Cell Pressure) Triaxial UU Multi Stage / Triaxial UU Multi Specimen / Consolidated Drained Triaxial Test / Consolidated Undrained Triaxial Test / Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| TP143 | 0.30 | 0.40 | D | 1 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP143 | 0.30 | 0.60 | B | 2 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP143 | 0.70 | 1.00 | B | 3 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP143 | 1.20 | 1.40 | B | 4 | 09/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP143 | 1.50 | 1.80 | B | 5 | 09/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP143 | 2.90 | 3.20 | B | 6 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP144 | 0.10 | 0.40 | B | 1 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP144 | 1.20 | 1.50 | B | 2 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP145 | 0.90 | 1.20 | B | 1 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP145 | 0.20 | 0.50 | B | 2 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP145 | 1.70 | 2.00 | B | 3 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP145 | 2.80 | 3.10 | B | 4 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP146 | 0.20 | 0.50 | B | 1 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP146 | 0.60 | 0.90 | B | 2 | 08/04/21 | | 1 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP146 | 1.30 | 1.60 | B | 3 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP146 | 2.80 | 3.10 | B | 4 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP147 | 0.30 | 0.40 | D | 1 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP147 | 0.30 | 0.50 | B | 2 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP147 | 0.60 | 0.90 | B | 3 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP147 | 0.90 | 1.00 | D | 4 | 08/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP147 | 1.50 | 1.80 | B | 5 | 08/04/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP147 | 1.80 | 1.90 | D | 6 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP147 | 2.90 | 3.20 | B | 7 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP148 | 0.20 | 0.30 | D | 1 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP148 | 0.30 | 0.60 | B | 2 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP148 | 0.60 | 0.70 | D | 3 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP148 | 1.20 | 1.60 | B | 4 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP148 | 1.50 | 1.60 | D | 5 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP149 | 0.20 | 0.30 | D | 1 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP149 | 0.20 | 0.50 | B | 2 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP149 | 0.70 | 1.00 | B | 3 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP149 | 1.00 | 1.10 | D | 4 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP149 | 1.40 | 1.70 | B | 5 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP149 | 1.70 | 1.80 | D | 6 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP150 | 0.40 | 0.50 | D | 1 | 08/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP150 | 0.40 | 0.70 | B | 2 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP150 | 1.50 | 1.80 | B | 3 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP150 | 1.80 | 1.90 | D | 4 | 08/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP151 | 0.10 | 0.20 | D | 1 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP151 | 0.10 | 0.40 | B | 2 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP151 | 1.10 | 1.40 | B | 3 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP151 | 1.40 | 1.50 | D | 4 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP152 | 0.20 | 0.60 | B | 1 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP152 | 0.50 | 0.60 | D | 2 | 07/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP152 | 1.20 | 1.50 | B | 3 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP152 | 1.50 | 1.60 | D | 4 | 07/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP152 | 2.40 | 2.70 | B | 5 | 07/04/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP152 | 2.70 | 2.80 | D | 6 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP153 | 0.30 | 0.60 | B | 1 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP153 | 0.60 | 0.70 | D | 2 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP153 | 0.80 | 1.10 | B | 3 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP153 | 1.10 | 1.20 | D | 4 | 07/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP153 | 2.70 | 3.00 | B | 5 | 07/04/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP154 | 0.40 | 0.70 | B | 1 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP154 | 0.70 | 0.80 | D | 2 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP154 | 1.70 | 2.00 | B | 3 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP154 | 2.00 | 2.10 | D | 4 | 07/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP154 | 2.50 | 2.80 | B | 5 | 07/04/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP154 | 2.80 | 2.90 | D | 6 | 07/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP154 | 3.70 | 4.00 | B | 7 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP154 | 4.00 | | D | 8 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP155 | 0.20 | 0.50 | B | 1 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP155 | 0.50 | 0.60 | D | 2 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP155 | 1.00 | 1.30 | B | 3 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP155 | 1.30 | 1.40 | D | 4 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP155 | 1.70 | 2.00 | B | 5 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP155 | 2.00 | 2.10 | D | 6 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP156 | 0.20 | 0.50 | B | 1 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP156 | 0.50 | 0.60 | D | 2 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP156 | 1.30 | 1.60 | B | 3 | 07/04/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP156 | 1.60 | 1.70 | D | 4 | 07/04/21 | AV06 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | ALS 210817-59 |
| TP156 | 2.60 | 2.90 | B | 5 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP156 | 2.90 | 3.00 | D | 6 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP157 | 0.40 | 0.50 | D | 1 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP157 | 0.40 | 0.60 | B | 2 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP157 | 0.70 | 1.00 | B | 3 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP157 | 1.00 | 1.10 | D | 4 | 07/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP157 | 2.10 | 2.40 | B | 5 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP157 | 2.40 | 2.50 | D | 6 | 07/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP158 | 0.20 | 0.30 | D | 1 | 07/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP158 | 0.20 | 0.50 | B | 2 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP158 | 1.00 | 1.30 | B | 3 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP158 | 1.30 | 1.40 | D | 4 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP158 | 1.80 | 2.10 | B | 5 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP158 | 2.10 | 2.20 | D | 6 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP158 | 2.60 | 2.90 | B | 7 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP158 | 2.90 | 3.00 | D | 8 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP159 | 0.10 | 0.20 | D | 1 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP159 | 0.10 | 0.40 | B | 2 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP159 | 1.20 | 1.50 | B | 3 | 01/04/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP159 | 1.50 | 1.60 | D | 4 | 01/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP160 | 0.20 | 0.30 | D | 1 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP160 | 0.20 | 0.50 | B | 2 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP160 | 0.70 | 1.00 | B | 3 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP160 | 1.00 | 1.10 | D | 4 | 06/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP160 | 1.70 | 2.00 | B | 5 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP160 | 2.00 | 2.10 | D | 6 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP160 | 2.70 | 2.90 | B | 7 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP160 | 2.90 | | D | 8 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP161 | 0.20 | 0.30 | D | 1 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP161 | 0.20 | 0.50 | B | 2 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP161 | 0.60 | 0.90 | B | 3 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP161 | 0.90 | 1.00 | D | 4 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP161 | 1.70 | 2.00 | B | 5 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP162 | 0.20 | 0.30 | D | 1 | 06/04/21 | AV06 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP162 | 0.20 | 0.50 | B | 2 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP162 | 0.90 | 1.20 | B | 3 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP162 | 1.20 | 1.30 | D | 4 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP162 | 1.50 | 1.80 | B | 5 | 06/04/21 | AV06 | | | | | 1 | | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| TP162 | 1.80 | 1.90 | D | 6 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP163 | 0.20 | 0.30 | D | 1 | 06/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP163 | 0.20 | 0.50 | B | 2 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| Project ID | 2021LD101 | Client | Bord na Mona | Remarks | | Turnaround | |
|---|---|---|---|---|---|---|---|
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 | | | | |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - | | | | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | | Compaction | | | | ompressibili | | | Strength (Total) | | | Shear Strength (Effective | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. | Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation | Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained | (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| TP163 | 1.10 | 1.40 | B | 3 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP163 | 1.40 | 1.50 | D | 4 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP164 | 0.20 | 0.30 | D | 1 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP164 | 0.20 | 0.40 | B | 2 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP164 | 1.00 | 1.30 | B | 3 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP164 | 1.30 | 1.40 | D | 4 | 06/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP165 | 0.20 | 0.30 | D | 1 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP165 | 0.20 | 0.50 | B | 2 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP165 | 1.90 | 2.20 | B | 3 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP165 | 2.20 | 2.30 | D | 4 | 01/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP165 | 2.90 | 3.20 | B | 5 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP165 | 3.20 | 3.30 | D | 6 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP167 | 0.20 | 0.30 | D | 1 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP167 | 0.20 | 0.50 | B | 2 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP167 | 0.80 | 1.10 | B | 3 | 01/04/21 | AV05 | | | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | ALS 210817-59 |
| TP167 | 1.10 | 1.20 | D | 4 | 01/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP167 | 2.30 | 2.60 | B | 5 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP167 | 2.60 | 2.70 | D | 6 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP168 | 0.20 | 0.30 | D | 1 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP168 | 0.20 | 0.50 | B | 2 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP168 | 2.60 | 2.90 | B | 3 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP168 | 2.90 | | D | 4 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP169 | 0.40 | 0.50 | D | 1 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP169 | 0.40 | 0.60 | B | 2 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP169 | 1.50 | 1.80 | B | 3 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP169 | 1.80 | | D | 4 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP170 | 0.20 | 0.30 | D | 1 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP170 | 0.30 | 0.60 | B | 2 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP170 | 0.60 | 0.70 | B | 3 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP170 | 0.90 | 1.20 | D | 4 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP170 | 1.20 | 1.30 | D | 5 | 01/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP170 | 2.00 | 2.30 | B | 6 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP171 | 0.70 | 0.80 | B | 1 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP171 | 0.70 | 1.00 | D | 2 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP171 | 1.40 | 1.70 | B | 3 | 01/04/21 | AV04 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP171 | 1.70 | 1.80 | D | 4 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP172 | 0.30 | 0.40 | D | 1 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP172 | 0.30 | 0.60 | B | 2 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP173 | 0.40 | 0.50 | D | 1 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP173 | 0.40 | 0.70 | B | 2 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP173 | 1.70 | 2.00 | B | 3 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP173 | 2.00 | 2.10 | D | 4 | 31/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP173 | 3.20 | 3.50 | B | 5 | 31/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP173 | 3.50 | | D | 6 | 31/03/21 | AV04 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | ALS 210817-59 |
| TP174 | 0.20 | 0.50 | D | 1 | 08/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP174 | 0.20 | 0.30 | B | 2 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP174 | 1.30 | 1.60 | B | 3 | 08/04/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP174 | 1.60 | 1.70 | D | 4 | 08/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP174 | 2.00 | 2.30 | B | 5 | 08/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP175 | 0.10 | 0.20 | D | 1 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP175 | 0.10 | 0.40 | B | 2 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP175 | 1.00 | 1.30 | B | 3 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP175 | 1.30 | 1.40 | D | 4 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP175 | 2.10 | 2.40 | B | 5 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP175 | 2.40 | | D | 6 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP176 | 0.10 | 0.20 | D | 1 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP176 | 0.10 | 0.40 | B | 2 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP176 | 0.80 | 1.10 | B | 3 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP176 | 1.10 | 1.20 | D | 4 | 09/04/21 | AU96 | 1 | 1 | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | ALS 210817-59 |
| TP176 | 2.00 | 2.30 | B | 5 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP176 | 2.30 | 2.40 | D | 6 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP177 | 0.50 | 0.60 | D | 1 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP177 | 0.60 | 0.90 | B | 2 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP177 | 0.90 | 1.00 | D | 3 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP177 | 1.40 | 1.70 | B | 4 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP177 | 1.70 | 1.80 | D | 5 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP177 | 2.50 | 3.00 | B | 6 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP177 | 3.00 | 3.10 | D | 7 | 12/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP178 | 0.20 | 0.30 | D | 1 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP178 | 0.70 | 1.00 | B | 2 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP178 | 2.00 | 2.40 | B | 3 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP178 | 2.40 | 2.50 | D | 4 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP179 | 0.20 | 0.50 | B | 1 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP179 | 0.50 | 0.60 | D | 2 | 13/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP179 | 1.30 | 1.50 | B | 3 | 13/04/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP179 | 1.50 | 1.60 | D | 4 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP179 | 2.70 | 3.00 | B | 5 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP180 | 0.30 | 0.40 | D | 1 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP180 | 0.30 | 0.60 | B | 2 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP180 | 1.50 | 1.80 | B | 3 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP180 | 1.80 | 1.90 | D | 4 | 13/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP180 | 2.50 | 2.90 | B | 5 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP180 | 2.90 | 3.00 | D | 6 | 13/04/21 | AV10 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP180 | 3.00 | 3.40 | B | 7 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP180 | 3.40 | | D | 8 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP181 | 0.20 | 0.30 | D | 1 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP181 | 0.20 | 0.50 | B | 2 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP181 | 1.50 | 1.90 | B | 3 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP181 | 1.90 | 2.00 | D | 4 | 13/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP181 | 3.40 | 3.60 | B | 5 | 13/04/21 | AV10 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP181 | 3.60 | | D | 6 | 13/04/21 | AV10 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | ALS: 210817-60 |
| TP182 | 0.60 | 0.70 | D | 1 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP182 | 0.60 | 1.00 | B | 2 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP182 | 1.00 | 1.30 | B | 3 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP182 | 1.30 | 1.40 | D | 4 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP182 | 2.00 | 2.50 | B | 5 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP182 | 2.50 | | D | 6 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP183 | 0.40 | 0.50 | D | 1 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP183 | 0.40 | 0.60 | B | 2 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP183 | 1.50 | 1.70 | B | 3 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP183 | 1.70 | 1.80 | D | 4 | 13/04/21 | AV10 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | ALS: 210817-60 |
| TP183 | 2.50 | 2.70 | B | 5 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP183 | 2.70 | 2.80 | D | 6 | 13/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP183 | 2.70 | 3.00 | B | 7 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP184 | 0.30 | 0.40 | D | 1 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP184 | 0.30 | 0.40 | B | 2 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP184 | 1.10 | 1.30 | B | 3 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP184 | 1.50 | 1.60 | D | 4 | 14/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP184 | 1.60 | 1.90 | B | 5 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP184 | 1.90 | 2.00 | D | 6 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP184 | 2.30 | 2.60 | B | 7 | 14/04/21 | AV10 | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP184 | 2.50 | 2.60 | D | 8 | 14/04/21 | AV10 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | ALS: 210817-60 |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

Project ID 2021LD101
Project Name Derryadd Wind Farm
Schedule ID 2021LD101_all

Client Bord na Mona
Report Date 14/09/21
Scheduled Date 18/2/21 -

Remarks

Turnaround

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | | Compaction | | | | ompressibili | | | Strength (Total) | | | Shear Strength (Effective | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. | Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation | Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained | (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| TP185R | 0.40 | 0.50 | D | 1 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP185R | 0.40 | 0.70 | B | 2 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP185R | 1.20 | 1.50 | B | 3 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP185R | 2.00 | 2.50 | B | 4 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP186 | 0.50 | 0.60 | D | 1 | 14/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP186 | 0.50 | 0.80 | B | 2 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP186 | 0.90 | 1.20 | B | 3 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP186 | 1.20 | 1.30 | D | 4 | 14/04/21 | AV10 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | ALS: 210817-60 |
| TP186 | 2.00 | 2.30 | B | 5 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP186 | 2.30 | 2.40 | D | 6 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP187 | 0.40 | 0.50 | D | 1 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP187 | 0.40 | 0.80 | B | 2 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP187 | 1.50 | 1.70 | B | 3 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP187 | 0.70 | | D | 4 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP188 | 0.40 | 0.50 | D | 1 | 14/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP188 | 0.40 | 0.70 | B | 2 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP188 | 1.50 | 1.70 | B | 3 | 14/04/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP188 | 1.70 | 1.80 | D | 4 | 14/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP189R | 0.40 | 0.50 | D | 1 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP189R | 0.40 | 0.80 | B | 2 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP189R | 1.50 | 1.80 | B | 3 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP189R | 1.80 | 1.90 | D | 4 | 14/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP190R | 0.40 | 0.50 | D | 1 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP190R | 0.40 | 0.70 | B | 2 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP190R | 1.00 | 1.50 | B | 3 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP190R | 1.50 | 1.60 | D | 4 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP190R | 1.90 | 2.20 | B | 5 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP190R | 2.20 | | D | 6 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP191R | 0.50 | 0.80 | B | 1 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP191R | 0.80 | 0.90 | D | 2 | 15/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP191R | 1.50 | 1.90 | B | 3 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP191R | 1.90 | 2.00 | D | 4 | 15/04/21 | AV10 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP191R | 2.00 | 2.40 | B | 5 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP191R | 2.40 | | D | 6 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP192R | 0.40 | 0.50 | D | 1 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP192R | 0.40 | 0.70 | B | 2 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP192R | 1.50 | 1.80 | B | 3 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP192R | 1.80 | 1.90 | D | 4 | 15/04/21 | AV10 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP192R | 2.50 | 2.90 | B | 5 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP192R | 2.90 | | D | 6 | 15/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP193R | 0.60 | 0.70 | D | 1 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP193R | 0.60 | 0.90 | B | 2 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP193R | 1.40 | 1.70 | B | 3 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP193R | 1.70 | 1.80 | D | 4 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP194R | 0.40 | 0.50 | D | 1 | 16/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP194R | 0.40 | 0.60 | B | 2 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP194R | 1.00 | 1.30 | B | 3 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP194R | 1.30 | 1.40 | D | 4 | 16/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP195R | 0.70 | 0.80 | D | 1 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP195R | 1.10 | 1.40 | B | 2 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP195R | 1.40 | 1.50 | B | 3 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP195R | 2.00 | 2.30 | D | 4 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP195R | 2.30 | 2.40 | B | 5 | 16/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP196R | 0.80 | 0.90 | D | 1 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP196R | 0.80 | 1.10 | B | 2 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP196R | 1.20 | 1.50 | B | 3 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP196R | 1.50 | 1.60 | D | 4 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP196R | 2.40 | 2.70 | B | 5 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP196R | 2.70 | 2.80 | D | 6 | 19/04/21 | AV10 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP196R | 3.50 | 3.80 | B | 7 | 19/04/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP196R | 3.80 | | D | 8 | 19/04/21 | AV10 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | ALS: 210817-60 |
| TP197R | 0.70 | 0.80 | D | 1 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP197R | 0.70 | 1.00 | B | 2 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP197R | 2.10 | 2.40 | B | 3 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP197R | 2.40 | 2.50 | D | 4 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP197R | 2.90 | 3.20 | B | 5 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP197R | 3.20 | | D | 6 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP198 | 0.40 | 0.50 | D | 1 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP198 | 0.40 | 0.70 | B | 2 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP198 | 1.10 | 1.40 | D | 3 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP198 | 1.40 | | B | 4 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP199 | 0.30 | 0.40 | D | 1 | 19/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP199 | 0.30 | 0.60 | B | 2 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP199 | 1.30 | 1.60 | B | 3 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP199 | 1.60 | 1.70 | D | 4 | 19/04/21 | AV10 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | ALS: 210817-60 |
| TP199 | 1.70 | 2.00 | B | 5 | 19/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP206 | 0.30 | 0.40 | D | 1 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP206 | 0.30 | 0.60 | B | 2 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP206 | 1.20 | 1.50 | B | 3 | 25/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP206 | 1.50 | 1.60 | D | 4 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP206 | 2.70 | 3.00 | B | 5 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP206 | 3.00 | 3.10 | D | 6 | 25/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP206 | 4.00 | 4.30 | B | 7 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP207 | 0.20 | 0.30 | D | 1 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP207 | 0.20 | 0.50 | B | 2 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP207 | 2.20 | 2.40 | B | 3 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP207 | 2.40 | 2.50 | D | 4 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP207 | 2.60 | 2.90 | B | 5 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP207 | 2.90 | 3.00 | D | 6 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP207 | 3.50 | 3.80 | B | 7 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP207 | 3.80 | | D | 8 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP209 | 0.30 | 0.40 | D | 1 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP209 | 0.30 | 0.50 | B | 2 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP209 | 0.90 | 1.20 | B | 3 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP209 | 1.20 | 1.30 | D | 4 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP209 | 2.50 | 2.80 | B | 5 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP209 | 2.80 | 2.90 | D | 6 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP209 | 3.30 | 3.60 | B | 7 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP209 | 3.60 | | D | 8 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP210 | 0.40 | 0.50 | D | 1 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP210 | 0.40 | 0.60 | B | 2 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP210 | 1.00 | 1.30 | B | 3 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP210 | 1.30 | 1.40 | D | 4 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP210 | 2.60 | 2.90 | B | 5 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP210 | 2.90 | 3.00 | D | 6 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP210 | 3.90 | 4.20 | B | 7 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP210 | 4.20 | | D | 8 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP211 | 0.30 | 0.40 | D | 1 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP211 | 0.30 | 0.50 | B | 2 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP211 | 0.70 | 0.80 | D | 3 | 15/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | als 210427-92 |
| TP211 | 0.70 | 0.90 | B | 4 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP211 | 1.50 | 1.70 | B | 5 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

Project ID 2021LD101
Project Name Derryadd Wind Farm
Schedule ID 2021LD101_all

Client Bord na Mona
Report Date 14/09/21
Scheduled Date 18/2/21 -

Remarks

Turnaround

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | | ompressibili | | Strength (Total) | | Shear Strength (Effective | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. / Chloride Content / Chloride Content Acid | Compaction Light | Compaction Heavy / Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation / Pressures / Swelling Pressure Test / Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) / Triaxial UU Multi Stage / Triaxial UU Multi Specimen / Consolidated Drained Triaxial Test / Consolidated Undrained Triaxial Test / Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| TP211 | 1.70 | | D | 6 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP212 | 0.30 | 0.40 | D | 1 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP212 | 0.30 | 0.50 | B | 2 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP212 | 1.30 | 1.40 | B | 3 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP212 | 1.30 | 1.50 | D | 4 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP212 | 3.40 | 3.70 | B | 5 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP212 | 3.70 | 3.80 | D | 6 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP213 | 0.40 | 0.50 | D | 1 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP213 | 0.40 | 0.70 | B | 2 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP213 | 0.90 | 1.20 | B | 3 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP213 | 1.20 | 1.30 | D | 4 | 16/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | als 210427-92 |
| TP213 | 1.80 | 2.10 | B | 5 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP213 | 2.10 | 2.20 | D | 6 | 16/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP214 | 0.30 | 0.40 | D | 1 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP214 | 0.30 | 0.60 | B | 2 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP214 | 0.90 | 1.20 | B | 3 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP214 | 1.20 | 1.30 | D | 4 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP214 | 2.70 | 3.00 | B | 5 | 16/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| TP214 | 3.00 | 3.10 | D | 6 | 16/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP215 | 0.40 | 0.50 | D | 1 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP215 | 0.40 | 0.70 | B | 2 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP215 | 1.30 | 1.60 | B | 3 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP215 | 1.60 | 1.70 | D | 4 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP215 | 3.00 | 3.30 | B | 5 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP215 | 3.30 | 3.40 | D | 6 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP215 | 3.80 | 4.10 | B | 7 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP215 | 4.10 | | D | 8 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP216 | 0.30 | 0.40 | D | 1 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP216 | 0.30 | 0.60 | B | 2 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP216 | 1.50 | 1.80 | B | 3 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP216 | 1.80 | 1.90 | D | 4 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP216 | 2.70 | 3.00 | B | 5 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP216 | 3.00 | 3.10 | D | 6 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP217 | 0.40 | 0.50 | D | 1 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP217 | 0.40 | 0.70 | B | 2 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP217 | 1.30 | 1.60 | B | 3 | 16/03/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP217 | 1.60 | 1.70 | D | 4 | 16/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | als 210427-92 |
| TP217 | 2.80 | 3.10 | B | 5 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218 | 0.30 | 0.40 | D | 1 | 12/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218 | 0.30 | 0.60 | B | 2 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218 | 1.40 | 1.70 | B | 3 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218 | 1.70 | 1.80 | D | 4 | 12/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218 | 2.50 | 3.00 | B | 5 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218 | 3.00 | 3.10 | D | 6 | 12/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TP218 | 3.80 | 4.10 | B | 7 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218 | 4.10 | | D | 8 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218R | 0.30 | 0.40 | D | 1 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218R | 0.30 | 0.60 | B | 2 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218R | 1.20 | 1.50 | B | 3 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218R | 1.50 | 1.60 | D | 4 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218R | 2.20 | 2.50 | B | 5 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218R | 2.50 | 2.60 | D | 6 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218R | 3.60 | 3.90 | B | 7 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP218R | 3.90 | | D | 8 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP219 | 0.30 | 0.40 | D | 1 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP219 | 0.30 | 0.60 | B | 2 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP219 | 1.70 | 2.00 | B | 3 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP219 | 2.00 | 2.10 | D | 4 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP219 | 3.00 | 3.30 | B | 5 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP219 | 3.70 | 4.00 | D | 6 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP219 | 4.00 | | B | 7 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP220 | 0.30 | 0.40 | D | 1 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP220 | 0.30 | 0.50 | B | 2 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP220 | 1.40 | 1.70 | B | 3 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP220 | 1.70 | 1.80 | D | 4 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP220 | 2.80 | 3.10 | B | 5 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP220 | 3.10 | 3.20 | D | 6 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP220 | 3.70 | 4.00 | B | 7 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP220 | 4.00 | | D | 8 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP221 | 0.30 | 0.40 | D | 1 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP221 | 0.30 | 0.50 | B | 2 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP221 | 0.90 | 1.20 | B | 3 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP221 | 1.20 | 1.30 | D | 4 | 15/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP221 | 3.50 | 3.80 | B | 5 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP221 | 3.80 | | D | 6 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP222 | 0.30 | 0.40 | D | 1 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP222 | 0.30 | 0.60 | B | 2 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP222 | 1.70 | 2.00 | B | 3 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP222 | 2.00 | 2.10 | D | 4 | 16/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TP222 | 2.90 | 3.20 | B | 5 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP222 | 3.20 | 3.30 | D | 6 | 16/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP222 | 3.60 | 3.90 | B | 7 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP223 | 0.30 | 0.40 | D | 1 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP223 | 0.30 | 0.60 | B | 2 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP223 | 1.10 | 1.40 | B | 3 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP223 | 1.40 | 1.50 | D | 4 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP223 | 2.20 | 2.50 | B | 5 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP223 | 2.50 | 2.60 | D | 6 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP223 | 2.70 | 3.00 | B | 7 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP223 | 3.00 | | D | 8 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP224 | 0.30 | 0.40 | D | 1 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP224 | 0.30 | 0.50 | B | 2 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP224 | 0.50 | 0.80 | B | 3 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP224 | 0.80 | 0.90 | B | 4 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP224 | 1.90 | 2.20 | B | 5 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP224 | 2.20 | 2.30 | D | 6 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP224 | 2.60 | 2.90 | B | 7 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP224 | 2.90 | | D | 8 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP225 | 0.30 | 0.40 | D | 1 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP225 | 0.30 | 0.50 | B | 2 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP225 | 1.30 | 1.50 | B | 3 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP225 | 2.30 | 2.60 | B | 4 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP226 | 0.40 | 0.50 | D | 1 | 17/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP226 | 0.40 | 0.70 | B | 2 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP226 | 1.50 | 1.80 | B | 3 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP226 | 2.60 | 2.80 | D | 4 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP227 | 0.20 | 0.50 | B | 1 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP227 | 0.50 | 0.60 | D | 2 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP227 | 1.40 | 1.70 | B | 3 | 18/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP227 | 2.50 | 2.80 | B | 4 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP229 | 0.30 | 0.40 | D | 1 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| | |
|---|---|
| Project ID | 2021LD101 |
| Project Name | Derryadd Wind Farm |
| Schedule ID | 2021LD101_all |

| | |
|---|---|
| Client | Bord na Mona |
| Report Date | 14/09/21 |
| Scheduled Date | 18/2/21 - |

Remarks

Turnaround

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | | ompressibili | | | Strength (Total) | | | Shear Strength (Effective | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation | Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained | (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| TP229 | 0.30 | 0.50 | B | 2 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP229 | 1.20 | 1.50 | B | 3 | 18/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP229 | 1.50 | 1.60 | D | 4 | 18/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP229 | 2.10 | 2.40 | B | 5 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP229 | 2.40 | | D | 6 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP231 | 0.30 | 0.40 | D | 1 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP231 | 0.30 | 0.50 | B | 2 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP231 | 0.60 | 0.90 | B | 3 | 22/03/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP233 | 0.30 | 0.40 | D | 1 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP233 | 0.30 | 0.50 | B | 2 | 22/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP233 | 1.20 | 1.50 | B | 3 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP233 | 1.50 | 1.60 | D | 4 | 22/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TP233 | 2.00 | 2.20 | B | 5 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP234 | 0.40 | 0.50 | D | 1 | 22/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP234 | 0.40 | 0.70 | B | 2 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP234 | 1.00 | 1.30 | B | 3 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP234 | 1.30 | 1.40 | D | 4 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP234 | 2.30 | 2.50 | B | 5 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP235 | 0.30 | 0.40 | D | 1 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP235 | 0.30 | 0.50 | B | 2 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP235 | 1.30 | 1.60 | B | 3 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP235 | 1.60 | 1.70 | D | 4 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP236 | 0.30 | 0.40 | D | 1 | 22/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP236 | 0.30 | 0.60 | B | 2 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP236 | 0.90 | 1.20 | B | 3 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP236 | 1.20 | 1.30 | D | 4 | 22/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP236 | 2.00 | 2.30 | B | 5 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP236 | 2.30 | 2.40 | D | 6 | 22/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP236 | 3.70 | 4.00 | B | 7 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP236 | 4.00 | 4.10 | D | 8 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP237 | 0.30 | 0.40 | D | 1 | 22/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP237 | 0.30 | 0.50 | B | 2 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP237 | 1.30 | 1.50 | B | 3 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP237 | 1.50 | 1.60 | D | 4 | 22/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP237 | 2.40 | 2.70 | B | 5 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP237 | 2.70 | 2.80 | D | 6 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP237 | 3.60 | 3.90 | B | 7 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP237 | 3.90 | | D | 8 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP238 | 0.30 | 0.40 | D | 1 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP238 | 0.30 | 0.60 | B | 2 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP238 | 1.90 | 2.20 | B | 3 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP238 | 2.20 | 2.30 | D | 4 | 23/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TP238 | 3.20 | 3.50 | B | 5 | 23/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP238 | 3.50 | 3.90 | D | 6 | 23/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TP239 | 0.30 | 0.40 | D | 1 | 23/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP239 | 0.30 | 0.60 | B | 2 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP239 | 1.70 | 2.00 | B | 3 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP239 | 2.00 | 2.10 | D | 4 | 23/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP239 | 2.80 | 3.10 | B | 5 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP239 | 3.10 | 3.20 | D | 6 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP240 | 0.30 | 0.40 | D | 1 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP240 | 0.30 | 0.60 | B | 2 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP240 | 1.00 | 1.30 | B | 3 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP240 | 1.30 | 1.40 | D | 4 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP240 | 3.40 | 3.70 | B | 5 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP240 | 3.70 | 3.80 | D | 6 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP240 | 4.20 | 4.50 | B | 7 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP240 | 4.50 | | D | 8 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP241 | 0.30 | 0.40 | D | 1 | 12/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP241 | 0.30 | 0.60 | B | 2 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP241 | 1.40 | 1.70 | B | 3 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP241 | 1.70 | 2.70 | D | 4 | 12/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP241 | 3.50 | 4.00 | B | 5 | 12/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP241 | 4.00 | | D | 6 | 12/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP242 | 0.50 | 0.60 | D | 1 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP242 | 0.50 | 0.80 | B | 2 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP242 | 1.10 | 1.30 | B | 3 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP242 | 1.30 | | D | 4 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP243 | 0.30 | 0.40 | D | 1 | 12/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP243 | 0.30 | 0.60 | B | 2 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP243 | 1.20 | 1.50 | B | 3 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP243 | 1.50 | 1.60 | D | 4 | 12/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP243 | 2.80 | 3.10 | B | 5 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP243 | 3.10 | | D | 6 | 12/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP245 | 0.30 | 0.40 | D | 1 | 11/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP245 | 0.30 | 0.50 | B | 2 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP245 | 0.80 | 1.10 | B | 3 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP245 | 1.10 | 1.20 | D | 4 | 11/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TP245 | 2.50 | 2.80 | B | 5 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP245 | 2.80 | | D | 6 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP246 | 0.30 | 0.40 | D | 1 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP246 | 0.30 | 0.50 | B | 2 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP246 | 0.80 | 1.10 | B | 3 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP246 | 1.10 | 1.20 | D | 4 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP246 | 2.20 | 2.50 | B | 5 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP246 | 2.50 | 2.60 | D | 6 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP246 | 2.60 | 2.80 | B | 7 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP246 | 2.80 | | D | 8 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP247 | 0.50 | 0.60 | D | 1 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP247 | 0.30 | 0.50 | B | 2 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP247 | 0.80 | 1.10 | B | 3 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP247 | 1.10 | 1.20 | D | 4 | 11/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP247 | 1.80 | 2.10 | B | 5 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP247 | 2.10 | | D | 6 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP248 | 0.50 | 0.60 | D | 1 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP248 | 0.50 | 0.70 | B | 2 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP248 | 1.50 | 1.80 | B | 3 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP248 | 1.80 | 1.90 | D | 4 | 11/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP248 | 3.20 | 3.50 | B | 5 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP248 | 3.50 | | D | 6 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP249R | 0.50 | 0.60 | D | 1 | 10/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP249R | 0.50 | 0.80 | B | 2 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP249R | 2.00 | 2.30 | B | 3 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP249R | 2.30 | 2.40 | D | 4 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP249R | 3.50 | 3.80 | B | 5 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP249R | 3.80 | | D | 6 | 10/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TP250 | 0.40 | 0.50 | D | 1 | 10/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP250 | 0.40 | 0.70 | B | 2 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

Project ID: 2021LD101
Project Name: Derryadd Wind Farm
Schedule ID: 2021LD101_all

Client: Bord na Mona
Report Date: 14/09/21
Scheduled Date: 18/2/21 -

Remarks:

Turnaround:

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | ompressibili | | Strength (Total) | | Shear Strength (Effective | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| TP250 | 1.50 | 1.70 | B | 3 | 10/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP250 | 1.70 | 1.80 | D | 4 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP250 | 1.80 | 2.00 | B | 5 | 10/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TP251 | 0.40 | 0.50 | D | 1 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP251 | 0.40 | 0.70 | B | 2 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP251 | 2.30 | 2.40 | B | 3 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP251 | 2.30 | 2.40 | D | 4 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP251 | 3.20 | 3.50 | B | 5 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP251 | 3.50 | 3.60 | D | 6 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP252 | 0.30 | 0.40 | D | 1 | 10/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP252 | 0.30 | 0.60 | B | 2 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP252 | 2.00 | 2.30 | B | 3 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP252 | 2.30 | 2.40 | D | 4 | 10/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP252 | 3.90 | 4.20 | B | 5 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP252 | 4.20 | | D | 6 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP253 | 0.30 | 0.40 | D | 1 | 10/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP253 | 0.30 | 0.60 | B | 2 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP253 | 1.40 | 1.70 | B | 3 | 10/03/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| TP253 | 1.70 | 1.80 | D | 4 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP253 | 2.30 | 2.60 | B | 5 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP253 | 2.60 | 2.70 | D | 6 | 10/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP253 | 3.60 | 3.90 | B | 7 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP253 | 3.90 | | D | 8 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP254 | 0.40 | 0.50 | D | 1 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP254 | 0.40 | 0.70 | B | 2 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP254 | 0.90 | 1.20 | B | 3 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP254 | 1.20 | 1.30 | D | 4 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP254 | 3.00 | 3.30 | B | 5 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP254 | 3.30 | | D | 6 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP255 | 0.30 | 0.40 | D | 1 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP255 | 0.20 | 0.50 | B | 2 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP255 | 1.20 | 1.50 | B | 3 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP255 | 1.50 | | D | 4 | 10/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP256 | 0.30 | 0.40 | D | 1 | 09/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP256 | 0.70 | 1.00 | B | 2 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP256 | 1.20 | 1.50 | B | 3 | 09/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TP256 | 1.50 | 1.60 | D | 4 | 09/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TP256 | 2.60 | 2.90 | B | 5 | 09/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TP256 | 2.90 | 3.00 | D | 6 | 09/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP256 | 3.20 | 3.50 | B | 7 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP256 | 3.50 | 3.60 | D | 8 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP258 | 0.40 | 0.50 | D | 1 | 09/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP258 | 0.40 | 0.70 | B | 2 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP258 | 1.70 | 1.80 | D | 3 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP258 | 1.90 | 2.00 | B | 4 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP258 | 2.00 | | D | 5 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP265 | 0.30 | 0.40 | D | 1 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP265 | 0.30 | 0.60 | B | 2 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP266 | 0.40 | 0.50 | D | 1 | 08/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP266 | 0.40 | 0.70 | B | 2 | 08/03/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| TP266 | 1.30 | 1.60 | D | 3 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP266 | 1.60 | | B | 4 | 08/03/21 | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | NMTL 28.04.21 |
| TP267 | 0.30 | 0.40 | D | 1 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP267 | 0.20 | 0.50 | B | 2 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP267 | 1.20 | 1.50 | B | 3 | 09/03/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| TP267 | 1.50 | 1.60 | D | 4 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP268 | 0.20 | 0.40 | D | 1 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP268 | 0.20 | 0.50 | B | 2 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP268 | 1.20 | 1.30 | D | 3 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP268 | 1.10 | 1.40 | B | 4 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP269 | 0.20 | 0.30 | D | 1 | 09/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP269 | 0.20 | 0.50 | B | 2 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP269 | 1.10 | 1.40 | B | 3 | 09/03/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| TP269 | 1.40 | 1.50 | D | 4 | 09/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP269 | 1.80 | 2.10 | B | 5 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP269 | 2.10 | | D | 6 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP270 | 0.30 | 0.40 | D | 1 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP270 | 0.40 | 0.70 | B | 2 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP270 | 1.30 | 1.60 | B | 3 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP270 | 1.60 | 1.70 | D | 4 | 09/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP270 | 2.10 | 2.40 | B | 5 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP270 | 2.40 | | D | 6 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP275 | 0.30 | 0.40 | D | 1 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP275 | 0.30 | 0.60 | B | 2 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP275 | 2.00 | 2.30 | B | 3 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP275 | 2.30 | | D | 4 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP276 | 0.40 | 0.50 | D | 1 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP276 | 0.40 | 0.70 | B | 2 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP276 | 1.30 | 1.60 | B | 3 | 05/03/21 | | 1 | 1 | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| TP276 | 1.60 | | D | 4 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP277 | 0.40 | 0.50 | D | 1 | 05/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP277 | 0.80 | 1.10 | B | 2 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP277 | 1.10 | 1.20 | D | 3 | 05/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP277 | 2.30 | 2.60 | B | 4 | 05/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TP277 | 2.60 | 2.70 | D | 5 | 05/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP277 | 3.70 | 4.00 | B | 6 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP277 | 4.00 | | D | 7 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP278 | 0.40 | 0.50 | D | 1 | 05/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP278 | 0.40 | 0.70 | B | 2 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP278 | 1.80 | 2.10 | B | 3 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP278 | 2.10 | 2.20 | D | 4 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP278 | 3.50 | 3.80 | B | 5 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP278 | 3.80 | 3.90 | D | 6 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP279R | 0.40 | 0.50 | D | 1 | 05/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP279R | 1.60 | 1.80 | B | 2 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP279R | 2.60 | 2.70 | D | 3 | 05/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP279R | 2.40 | 2.60 | B | 4 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP279R | 4.20 | 4.50 | B | 5 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP279R | 4.50 | | D | 6 | 05/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP280 | 0.40 | 0.50 | D | 1 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP280 | 1.20 | 1.40 | B | 2 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP280 | 1.40 | 1.50 | D | 3 | 03/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP281 | 0.60 | 0.70 | D | 1 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP281 | 1.00 | 1.30 | B | 2 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP282 | 0.30 | 0.40 | D | 1 | 17/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP282 | 1.00 | 1.30 | B | 2 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP282 | 1.80 | 2.10 | B | 3 | 17/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP282 | 3.00 | 3.50 | B | 4 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP283 | 0.30 | 0.40 | D | 1 | 17/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP283 | 0.70 | 0.80 | B | 2 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP283 | 1.60 | 1.90 | B | 3 | 17/02/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| TP283 | 2.90 | 3.20 | B | 4 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| | | | |
|---|---|---|---|
| Project ID | 2021LD101 | Client | Bord na Mona |
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - |

Remarks

Turnaround

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | | Compressibili | | Strength (Total) | | Shear Strength (Effective | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. / Chloride Content / Chloride Content Acid | Compaction Light | Compaction Heavy / Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation / Pressures / Swelling Pressure Test / Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained / (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| TP284 | 0.40 | 0.50 | D | 1 | 17/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP284 | 0.60 | 0.80 | B | 2 | 17/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP284 | 2.80 | 3.00 | B | 3 | 17/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP284 | 3.00 | 3.50 | B | 4 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP285 | 0.40 | 0.70 | B | 1 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP285 | 1.90 | 2.20 | B | 2 | 17/02/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP286 | 0.50 | 0.60 | D | 1 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP286 | 1.10 | 1.20 | D | 2 | 17/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP286 | 2.00 | 2.30 | B | 3 | 17/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP286 | 4.00 | 4.50 | B | 4 | 17/02/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP287 | 0.70 | 0.80 | D | 1 | 18/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP287 | 1.00 | 1.20 | D | 2 | 18/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP287 | 1.80 | 2.00 | B | 3 | 18/02/21 | | 1 | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| TP287 | 3.50 | 4.00 | B | 4 | 18/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP288 | 0.60 | 0.70 | D | 1 | 18/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP288 | 0.80 | 1.00 | B | 2 | 18/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP288 | 2.00 | 2.30 | B | 3 | 18/02/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP289 | 0.20 | 0.30 | D | 1 | 18/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP289 | 0.30 | 0.50 | B | 2 | 18/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP289 | 0.90 | 1.20 | B | 3 | 18/02/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP290 | 0.40 | 0.50 | D | 1 | 18/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP290 | 0.80 | 1.20 | B | 2 | 18/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP290 | 2.50 | 3.00 | B | 3 | 18/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP291 | 0.60 | 0.70 | D | 1 | 22/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP291 | 0.70 | 1.00 | B | 2 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP291 | 2.00 | 2.30 | B | 3 | 22/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP292 | 0.50 | 0.60 | D | 1 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP292 | 1.00 | 1.20 | B | 2 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP292 | 1.50 | 1.80 | B | 3 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP292 | 2.50 | 3.00 | B | 4 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP293 | 0.50 | 0.60 | D | 1 | 22/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP293 | 0.50 | 0.80 | B | 2 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP293 | 2.20 | 2.50 | B | 3 | 22/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP294 | 0.70 | 0.80 | D | 1 | 22/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP294 | 1.20 | 1.50 | B | 2 | 22/02/21 | | 1 | 1 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| TP294 | 2.20 | 2.50 | B | 3 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP294 | 3.30 | 3.50 | B | 4 | 22/02/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP295 | 0.60 | 0.70 | D | 1 | 22/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP295 | 1.80 | 2.10 | B | 2 | 22/02/21 | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | NMTL 26.03.21 |
| TP295 | 3.50 | 3.80 | B | 3 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP297 | 0.60 | 0.70 | D | 1 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP297 | 1.40 | 1.70 | B | 2 | 22/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP298 | 0.40 | 0.50 | D | 1 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP298 | 1.00 | 1.20 | B | 2 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP299 | 0.40 | 0.70 | B | 1 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP301 | 0.50 | 0.60 | D | 1 | 23/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP301 | 0.90 | 1.20 | D | 2 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP301 | 3.00 | 3.40 | B | 3 | 23/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP302 | 0.20 | 0.50 | B | 1 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP302 | 1.50 | 1.80 | B | 2 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP303 | 0.20 | 0.30 | D | 1 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP303 | 0.80 | 1.20 | B | 2 | 23/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP303 | 1.80 | 2.10 | B | 3 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP304 | 0.40 | 0.50 | D | 1 | 23/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP304 | 1.10 | 1.40 | B | 2 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP304 | 2.00 | 2.30 | B | 3 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP305 | 0.50 | 0.60 | D | 1 | 23/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP305 | 1.00 | 1.20 | B | 2 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP305 | 1.80 | 2.10 | B | 3 | 23/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP305 | 2.80 | 3.00 | B | 4 | 23/02/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP306 | 0.40 | 0.50 | D | 1 | 24/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP306 | 0.70 | 1.00 | B | 2 | 24/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP306 | 1.50 | 1.80 | B | 3 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP308 | 0.10 | 0.30 | B | 1 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP308 | 0.90 | 1.20 | B | 2 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP310 | 0.20 | 0.30 | D | 1 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP310 | 0.50 | 0.80 | B | 2 | 25/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP310 | 1.50 | 2.00 | B | 3 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP311 | 0.50 | 0.80 | B | 1 | 23/02/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP311 | 2.00 | 2.30 | B | 2 | 23/02/21 | | 1 | 1 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| TP312 | 0.30 | 0.40 | D | 1 | 24/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP312 | 0.50 | 0.70 | B | 2 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP312 | 1.20 | 1.50 | B | 3 | 24/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP313 | 0.30 | 0.40 | D | 1 | 24/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP313 | 1.10 | 1.40 | B | 2 | 24/02/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | als 210407-62 |
| TP313 | 1.80 | 2.10 | B | 3 | 24/02/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP314 | 0.40 | 0.50 | D | 1 | 24/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP314 | 1.60 | 1.90 | B | 2 | 24/02/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP314 | 3.20 | 3.50 | B | 3 | 24/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP315 | 0.30 | 0.60 | B | 1 | 24/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP317 | 0.40 | 0.50 | D | 1 | 25/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP317 | 1.20 | 1.40 | B | 2 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP317 | 2.70 | 3.00 | B | 3 | 25/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP317 | 4.10 | 4.30 | B | 4 | 25/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP318 | 0.50 | 0.60 | D | 1 | 25/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP318 | 1.70 | 2.00 | B | 2 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP318 | 3.20 | 3.50 | B | 3 | 25/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP319 | 0.50 | 0.60 | D | 1 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP319 | 1.10 | 1.40 | B | 2 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP320 | 0.30 | 0.40 | D | 1 | 25/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP320 | 1.20 | 1.50 | B | 2 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP320 | 2.70 | 3.00 | B | 3 | 25/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP321 | 0.50 | 0.60 | D | 1 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP321 | 1.20 | 1.50 | B | 2 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP321 | 3.50 | 3.80 | B | 3 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP322 | 0.30 | 0.50 | B | 1 | 24/02/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP322 | 0.90 | 1.20 | B | 2 | 24/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP322 | 2.20 | 2.50 | B | 3 | 24/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP326 | 0.50 | 0.60 | D | 1 | 26/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP326 | 1.40 | 1.70 | B | 2 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP326 | 2.00 | 2.30 | B | 3 | 26/02/21 | | 1 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP327 | 0.50 | 0.60 | B | 1 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP327 | 1.10 | 1.30 | B | 2 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP329 | 0.20 | 0.50 | B | 1 | 01/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP329 | 1.70 | 2.00 | B | 2 | 01/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP330 | 0.30 | 0.40 | D | 1 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP330 | 0.40 | 0.70 | B | 2 | 26/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

Project ID 2021LD101
Project Name Derryadd Wind Farm
Schedule ID 2021LD101_all

Client Bord na Mona
Report Date 14/09/21
Scheduled Date 18/2/21 -

Remarks

Turnaround

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | | | Compaction | | | | Compressibility | | | Strength (Total) | | | Shear Strength (Effective) | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. | Chloride Content | Chloride Content Acid | Compaction Light | Compaction Heavy / Compaction Vibrating Hammer | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation | Pressures / Swelling Pressure Test / Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained | (Specify Cell Pressure) Triaxial UU Multi Stage / Triaxial UU Multi Specimen / Consolidated Drained Triaxial Test / Consolidated Undrained Triaxial Test / Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| TP330 | 1.30 | 1.60 | B | 3 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP331 | 0.70 | 0.80 | D | 1 | 16/02/21 | | 1 | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | ALS 210316-80 |
| TP331 | 2.00 | 2.30 | B | 2 | 16/02/21 | | 1 | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP331 | 3.00 | 3.40 | B | 3 | 16/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP332 | 0.30 | 0.40 | D | 1 | 16/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP332 | 0.50 | 0.90 | B | 2 | 16/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP334 | 0.50 | 0.60 | D | 1 | 16/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP334 | 0.90 | 1.20 | B | 2 | 16/02/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP334 | 2.00 | 2.20 | B | 3 | 16/02/21 | | 1 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP335 | 0.30 | 0.40 | D | 1 | 16/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP335 | 0.50 | 0.70 | B | 2 | 16/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP335 | 1.80 | 2.00 | B | 3 | 16/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP335 | 2.00 | 2.30 | B | 4 | 16/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP336 | 0.50 | 0.60 | D | 1 | 16/02/21 | | 1 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | ALS 210316-80 |
| TP336 | 1.10 | 1.40 | B | 2 | 16/02/21 | | 1 | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP336 | 2.40 | 2.60 | B | 3 | 16/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP337 | 0.50 | 0.60 | D | 1 | 16/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP337 | 0.80 | 1.00 | B | 2 | 16/02/21 | | 1 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP337 | 2.00 | 2.30 | B | 3 | 16/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP338 | 0.50 | 0.60 | D | 1 | 01/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP338 | 0.60 | 0.90 | B | 2 | 01/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP338 | 1.80 | 2.10 | B | 3 | 01/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP339 | 0.30 | 0.40 | D | 1 | 16/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP339 | 0.50 | 0.70 | B | 2 | 16/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP339 | 1.50 | 1.80 | B | 3 | 16/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP341 | 0.30 | 0.40 | D | 1 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP341 | 0.70 | 1.00 | B | 2 | 26/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP341 | 2.00 | 2.30 | B | 3 | 26/02/21 | | | | | | 1 | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | NMTL 26.03.21 |
| TP341 | 2.40 | 2.70 | B | 4 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP342 | 0.30 | 0.60 | B | 1 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP342 | 2.20 | 2.50 | B | 2 | 26/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP343 | 0.40 | 0.50 | D | 1 | 25/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP343 | 1.80 | 2.00 | B | 2 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP343 | 2.70 | 3.00 | B | 2 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP343 | 3.00 | 3.30 | B | 2 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP344 | 0.30 | 0.40 | D | 1 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP344 | 0.70 | 1.00 | D | 2 | 25/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP344 | 1.70 | 1.90 | B | 3 | 25/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP344 | 2.40 | 2.80 | B | 4 | 25/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP345 | 0.40 | 0.50 | D | 1 | 15/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP345 | 0.90 | 1.20 | B | 2 | 15/02/21 | | 1 | 1 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP345 | 2.50 | 2.70 | B | 3 | 15/02/21 | | 1 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP346 | 0.90 | 1.00 | D | 1 | 15/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP346 | 1.00 | 1.30 | B | 2 | 15/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP346 | 3.20 | 3.50 | B | 3 | 15/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP347 | 0.40 | 0.50 | D | 1 | 15/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP347 | 1.00 | 1.30 | B | 2 | 15/02/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | ALS 210316-80 |
| TP347 | 2.70 | 3.00 | B | 3 | 15/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP348 | 0.40 | 0.50 | D | 1 | 15/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP348 | 0.70 | 1.00 | B | 2 | 15/02/21 | | 1 | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP348 | 2.50 | 2.70 | B | 3 | 15/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP348 | 3.00 | 3.50 | B | 4 | 15/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP349 | 0.30 | 0.40 | D | 1 | 01/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP349 | 0.40 | 0.70 | D | 2 | 01/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP349 | 1.10 | 1.30 | B | 3 | 01/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP349 | 2.20 | 2.50 | B | 4 | 01/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP351 | 0.30 | 0.40 | D | 1 | 15/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP351 | 0.50 | 1.00 | B | 2 | 15/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP351 | 2.00 | 2.30 | B | 3 | 15/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP352 | 0.40 | 0.50 | D | 1 | 11/02/21 | | 1 | | | | | | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | ALS 210316-80 |
| TP352 | 1.00 | 1.20 | B | 2 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP352 | 2.00 | 2.40 | B | 3 | 11/02/21 | | 1 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP353 | 0.10 | 0.20 | D | 1 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP353 | 0.10 | 0.40 | B | 2 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP353 | 1.00 | 1.50 | B | 3 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP353 | 2.50 | 3.00 | B | 4 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP354 | 0.40 | 0.50 | D | 1 | 10/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP354 | 1.00 | 1.20 | B | 2 | 10/02/21 | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | |
| TP354 | 2.50 | 3.00 | B | 3 | 10/02/21 | | 1 | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP354 | 3.10 | 3.40 | B | 4 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP356 | 0.50 | 0.60 | D | 1 | 19/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP356 | 0.60 | 0.90 | B | 2 | 19/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP356 | 1.50 | 2.00 | B | 3 | 19/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP356 | 3.00 | 3.50 | B | 4 | 19/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP357 | 0.40 | 0.50 | D | 1 | 19/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP357 | 0.90 | 1.20 | B | 2 | 19/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP357 | 2.10 | 2.40 | B | 3 | 19/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP357 | 2.90 | 3.20 | B | 4 | 19/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP358 | 0.40 | 0.50 | D | 1 | 19/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP358 | 0.70 | 1.00 | B | 2 | 19/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP358 | 1.80 | 2.10 | B | 3 | 19/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP360 | 0.50 | 0.60 | D | 1 | 15/02/21 | | 1 | | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | ALS 210316-80 |
| TP360 | 2.00 | 2.30 | B | 2 | 15/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP360 | 2.40 | 2.70 | B | 3 | 15/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP360 | 4.00 | 4.50 | B | 4 | 15/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP361 | 0.20 | 0.30 | D | 1 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP361 | 0.40 | 0.70 | B | 2 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP361 | 2.50 | 2.80 | B | 3 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP362 | 0.20 | 0.30 | D | 1 | 11/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP362 | 0.50 | 1.00 | B | 2 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP362 | 1.20 | 1.50 | B | 3 | 11/02/21 | | 1 | 1 | | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | ALS 210316-80 |
| TP362 | 2.50 | 3.00 | D | 4 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP363 | 0.30 | 0.40 | D | 1 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP363 | 0.50 | 1.00 | B | 2 | 11/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP363 | 1.70 | 2.20 | B | 3 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP363 | 3.00 | 3.50 | B | 4 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP364 | 0.30 | 0.40 | D | 1 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP364 | 0.50 | 1.00 | B | 2 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP364 | 1.40 | 1.80 | B | 3 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP364 | 3.50 | 4.00 | B | 4 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP365 | 0.70 | 0.80 | D | 1 | 11/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP365 | 1.20 | 1.50 | B | 2 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP365 | 2.30 | 2.60 | B | 3 | 11/02/21 | | 1 | 1 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP365 | 3.00 | 3.50 | B | 4 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP366 | 0.40 | 0.50 | D | 1 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP366 | 1.00 | 1.50 | B | 2 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP366 | 2.30 | 2.50 | B | 3 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP368 | 0.30 | 0.40 | D | 1 | 12/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP368 | 1.00 | 1.50 | B | 2 | 12/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP368 | 3.00 | 3.20 | B | 3 | 12/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP368 | 3.50 | 4.00 | B | 4 | 12/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP369 | 0.50 | 0.60 | D | 1 | 12/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| | | | |
|---|---|---|---|
| Project ID | 2021LD101 | Client | Bord na Mona |
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - |

Remarks

Turnaround

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | ompressibili | Strength (Total) | | Shear Strength (Effective) | Rock | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation Pressures Swelling Pressure Test Laboratory Vane test Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| TP369 | 0.50 | 1.00 | B | 2 | 12/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP369 | 2.10 | 2.50 | B | 3 | 12/02/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | ALS 210316-80 |
| TP369 | 3.30 | 3.50 | B | 4 | 12/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP370 | 0.40 | 0.50 | D | 1 | 12/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP370 | 0.70 | 1.20 | B | 2 | 12/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP370 | 2.60 | 3.10 | B | 3 | 12/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP370 | 3.40 | 3.80 | B | 4 | 12/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP371 | 0.50 | 0.60 | D | 1 | 12/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP371 | 1.00 | 1.50 | B | 2 | 12/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP371 | 2.50 | 3.00 | B | 3 | 12/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP371 | 3.70 | 4.00 | B | 4 | 12/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP372 | 0.90 | 1.00 | D | 1 | 12/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP372 | 1.00 | 1.50 | B | 2 | 12/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP372 | 2.50 | 3.00 | B | 3 | 12/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TP372 | 3.60 | 3.80 | B | 4 | 12/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPA | 0.80 | 0.90 | D | 1 | 17/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPA | 1.00 | 1.30 | B | 2 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPA | 2.10 | 2.40 | B | 3 | 17/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPA | 3.60 | 3.90 | B | 4 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPB | 0.40 | 0.50 | D | 1 | 23/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPB | 0.40 | 0.70 | B | 2 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPB | 1.50 | 1.80 | B | 3 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPB | 1.80 | 1.90 | D | 4 | 23/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPB | 3.50 | 3.80 | B | 5 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPB | 3.80 | | D | 6 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPC | 0.30 | 0.40 | D | 1 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPC | 0.30 | 0.60 | B | 2 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPC | 1.40 | 1.70 | B | 3 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPC | 1.70 | 1.80 | D | 4 | 06/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPC | 1.70 | 2.00 | B | 5 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPC | 2.00 | 2.10 | D | 6 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPC | 3.20 | 3.50 | B | 7 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPACPC | 3.50 | 3.60 | D | 8 | 06/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR01 | 0.40 | 0.50 | D | 1 | 03/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR01 | 1.50 | 1.70 | B | 2 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR01 | 1.70 | 1.80 | D | 3 | 03/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR01 | 3.80 | 4.00 | B | 4 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR01 | 4.00 | | D | 5 | 03/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR02 | 0.30 | 0.40 | D | 1 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR02 | 1.10 | 1.40 | B | 2 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR02 | 1.40 | 1.50 | D | 3 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR02 | 3.80 | 4.10 | B | 4 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR02 | 4.10 | | D | 5 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR03 | 0.40 | 0.50 | D | 1 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR03 | 1.40 | 1.70 | B | 2 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR03 | 1.70 | 1.80 | D | 3 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR03 | 2.40 | 2.60 | B | 4 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR03 | 2.60 | | D | 5 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR04 | 0.40 | 0.50 | D | 1 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR04 | 1.00 | 1.20 | B | 2 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR04 | 1.20 | 1.30 | D | 3 | 03/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR04 | 2.30 | 2.50 | B | 4 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR04 | 2.50 | 2.60 | D | 5 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR04 | 2.60 | 2.90 | B | 6 | 03/03/21 | | | | | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPAR04 | 2.90 | | D | 7 | 03/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR09 | 0.50 | 0.60 | D | 1 | 17/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR09 | 2.40 | 2.70 | B | 2 | 17/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR09 | 3.70 | 4.00 | B | 3 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR10 | 1.00 | 1.20 | B | 1 | 09/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR10 | 2.00 | 2.50 | B | 2 | 09/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR10 | 3.00 | 3.40 | B | 3 | 09/02/21 | | 1 | | | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | ALS 210316-80 |
| TPAR11 | 1.00 | 1.20 | B | 1 | 09/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR11 | 3.00 | 3.50 | D | 2 | 09/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR12 | 0.60 | 1.00 | B | 1 | 04/02/21 | | 1 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | |
| TPAR12 | 1.80 | 2.00 | D | 2 | 04/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR12 | 2.50 | 3.00 | B | 3 | 04/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR13 | 0.50 | 1.00 | B | 1 | 09/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR13 | 2.50 | 3.00 | B | 2 | 09/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR14 | 0.30 | 0.40 | B | 1 | 10/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR14 | 1.00 | 1.50 | B | 2 | 10/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR14 | 2.50 | 2.60 | D | 3 | 10/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR14 | 3.00 | 3.50 | B | 4 | 10/02/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | |
| TPAR14 | 3.80 | 4.00 | B | 5 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR15 | 0.00 | 0.10 | D | 1 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR15 | 0.50 | 1.00 | B | 2 | 10/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR15 | 1.50 | 2.00 | B | 3 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR16 | 0.30 | 0.40 | D | 1 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR16 | 0.60 | 0.80 | B | 2 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR16 | 2.20 | 2.70 | B | 3 | 10/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR17 | 0.60 | 0.70 | D | 1 | 17/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR17 | 0.70 | 0.90 | B | 2 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR17 | 3.80 | 4.00 | B | 3 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR18 | 0.80 | 0.90 | D | 1 | 17/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPAR18 | 1.00 | 1.50 | B | 2 | 17/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPA01 | 0.40 | 0.50 | D | 1 | 08/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPA01 | 0.70 | 0.90 | B | 2 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPA01 | 1.10 | 1.40 | B | 3 | 08/03/21 | | | | | | 1 | | | | | | | | | 1 | | | | | | | | | | | | | |
| TPBPA01 | 1.40 | 1.50 | D | 4 | 08/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPA02 | 0.30 | 0.40 | D | 1 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPA02 | 0.50 | 0.70 | B | 2 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPA02 | 0.90 | 1.20 | B | 3 | 08/03/21 | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | |
| TPBPA02 | 1.20 | 1.30 | D | 4 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPA03 | 0.40 | 0.60 | D | 1 | 08/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPA03 | 0.40 | 0.50 | B | 2 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPA03 | 1.00 | 1.30 | B | 3 | 08/03/21 | AU82 | | | | | 1 | 1 | | | | | | | | | | | | | | | 0* | | | | | | BHP 10.06.21<br>*not suitable |
| TPBPA03 | 1.30 | 1.40 | D | 4 | 08/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPA03 | 2.50 | 2.80 | B | 5 | 08/03/21 | | 1 | | | | 1 | 1 | | | | | | | | 1 | | | | | | | | | | | | | |
| TPBPA03 | 2.80 | | D | 6 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPA04 | 0.40 | 0.60 | D | 1 | 08/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPA04 | 0.70 | 1.00 | B | 2 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPA04 | 1.00 | 1.10 | D | 3 | 08/03/21 | | 1 | 1 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | |
| TPBPA04 | 1.10 | 1.40 | B | 4 | 08/03/21 | AU82 | | | | | | | | | | | | | | | | | | | | | | 0* | | | | | BHP 10.06.21<br>*not suitable |
| TPBPA04 | 1.40 | | D | 5 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB01 | 0.30 | 0.40 | D | 1 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB01 | 0.30 | 0.60 | B | 2 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB01 | 0.80 | 1.10 | B | 3 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB01 | 1.10 | 1.20 | D | 4 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB01 | 1.20 | 1.50 | B | 5 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB02 | 0.30 | 0.60 | B | 1 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB02 | 0.60 | 0.70 | D | 2 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

Project ID 2021LD101
Project Name Derryadd Wind Farm
Schedule ID 2021LD101_all

Client Bord na Mona
Report Date 14/09/21
Scheduled Date 18/2/21 -

Remarks

Turnaround

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | ompressibili | | Strength (Total) | | Shear Strength (Effective | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. Chloride Content Chloride Content Acid | Compaction Light | Compaction Heavy Compaction Vibrating Hammer Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation Pressures Swelling Pressure Test Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained (Specify Cell Pressure) Triaxial UU Multi Stage Triaxial UU Multi Specimen Consolidated Drained Triaxial Test Consolidated Undrained Triaxial Test Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| TPBPB03 | 0.30 | 0.40 | D | 1 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB03 | 0.30 | 0.50 | B | 2 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB03 | 0.70 | 0.90 | B | 3 | 18/03/21 | | | | | | 1 | 0* | | | | | | | 1 | | | 1 | | | | | | | | | | | | | |
| TPBPB03 | 0.90 | 1.00 | D | 4 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB03 | 1.80 | 2.10 | B | 5 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB03 | 2.10 | | D | 6 | 18/03/21 | | 1 | 1 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB04 | 0.30 | 0.40 | D | 1 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB04 | 0.30 | 0.60 | B | 2 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB04 | 1.10 | 1.40 | B | 3 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB04 | 1.40 | 1.50 | D | 4 | 18/03/21 | | 1 | | | | 1 | 1 | | | 1 | | | 1 | | | | | | | | | | | | | | | | | 210513-119 |
| TPBPB04 | 2.30 | 2.60 | B | 5 | 18/03/21 | | | | | | | | | | | | | | | * | 1 | | | | | | | | | | | | | | |
| TPBPB04 | 2.60 | 2.70 | D | 6 | 18/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB04 | 3.70 | 4.00 | B | 7 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPB04 | 4.00 | | D | 8 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPC01 | 0.20 | 0.30 | D | 1 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPC01 | 0.20 | 0.40 | B | 2 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPC01 | 1.40 | 1.70 | B | 3 | 17/03/21 | | | | | | 1 | 1 | | | | | | | 1 | | | | | | | | | | | | | | | | |
| TPBPC01 | 1.70 | 1.80 | D | 4 | 17/03/21 | | 1 | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | 210513-119 |
| TPBPC01 | 2.30 | 2.60 | B | 5 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPC01 | 2.60 | | D | 6 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPC02 | 0.30 | 0.40 | D | 1 | 17/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPC02 | 0.30 | 0.60 | B | 2 | 17/03/21 | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | |
| TPBPC02 | 1.30 | 1.60 | B | 3 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPC02 | 1.60 | 1.70 | D | 4 | 17/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPC02 | 2.50 | 2.80 | B | 5 | 17/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPC02 | 2.80 | | D | 6 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPD01 | 0.30 | 0.40 | D | 1 | 18/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPD01 | 0.30 | 0.50 | B | 2 | 18/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPD01 | 0.90 | 1.20 | D | 3 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPD01 | 1.20 | | B | 4 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPD02 | 0.30 | 0.40 | D | 1 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPD02 | 0.30 | 0.60 | B | 2 | 18/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPD02 | 1.50 | 1.80 | B | 3 | 18/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPD02 | 1.80 | | D | 4 | 18/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPE01 | 0.30 | 0.40 | D | 1 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPE01 | 0.70 | 0.80 | D | 2 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPE01 | 0.70 | 1.00 | B | 3 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPE01 | 1.40 | 1.50 | D | 4 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPE01 | 1.10 | 1.40 | B | 5 | 22/03/21 | | 1 | | | | 1 | 1 | | | | | | | 1 | | | | | | | | | | | | | | | | |
| TPBPE01 | 2.80 | 3.10 | B | 6 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPE01 | 3.10 | | D | 7 | 22/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPE02 | 0.30 | 0.40 | D | 1 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPE02 | 0.10 | 0.30 | B | 2 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPBPE02 | 0.70 | 1.00 | B | 3 | 22/03/21 | | | | | | 1 | 1 | | | | | | | | | | 1 | | | | | | | | | | | | | |
| TPMMA01 | 0.20 | 0.30 | D | 1 | 11/02/21 | | 1 | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | ALS 210316-80 |
| TPMMA01 | 0.50 | 1.00 | B | 2 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMA01 | 2.60 | 3.00 | B | 3 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMA01 | 3.50 | | B | 4 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMA02 | 0.50 | 0.60 | D | 1 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMA02 | 1.00 | 1.50 | B | 2 | 11/02/21 | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | ALS 210316-80 |
| TPMMA02 | 2.00 | 2.30 | B | 3 | 11/02/21 | | 1 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMA02 | 3.20 | 3.50 | B | 4 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMA02 | 4.00 | 4.20 | B | 5 | 11/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB01 | 0.40 | 0.50 | D | 1 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB01 | 0.40 | 0.50 | B | 2 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB01 | 1.50 | 1.70 | B | 3 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB01 | 1.70 | 1.80 | D | 4 | 15/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB01 | 1.90 | 2.20 | B | 5 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB01 | 2.20 | 2.30 | D | 6 | 15/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB01 | 3.40 | 3.70 | B | 7 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB01 | 3.70 | | D | 8 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB02 | 0.40 | 0.50 | D | 1 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB02 | 0.70 | 1.00 | B | 2 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB02 | 1.00 | 1.10 | D | 3 | 15/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB02 | 2.10 | 2.40 | B | 4 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB02 | 2.40 | 2.50 | D | 5 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB02 | 3.20 | 3.50 | B | 6 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMB02 | 3.50 | | D | 7 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMC01 | 0.20 | 0.30 | D | 1 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMC01 | 0.20 | 0.40 | B | 2 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMC01 | 0.40 | 0.70 | B | 3 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMC01 | 0.70 | 0.80 | D | 4 | 06/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMC01 | 2.00 | 2.30 | B | 5 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMC01 | 2.30 | | D | 6 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMC02 | 0.20 | 0.30 | D | 1 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMC02 | 0.20 | 0.50 | B | 2 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMC02 | 0.80 | 1.10 | B | 3 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMC02 | 1.10 | 1.20 | D | 4 | 06/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMC02 | 1.40 | 1.70 | B | 5 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMC02 | 1.70 | 1.80 | D | 6 | 06/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPMMC02 | 2.30 | 2.60 | B | 7 | 06/04/21 | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | NMTL 28.04.21 |
| TPPSA01 | 0.50 | 0.60 | D | 1 | 01/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSA01 | 0.80 | 1.10 | B | 2 | 01/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSA01 | 1.30 | 1.60 | B | 3 | 01/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSA02 | 0.70 | 0.80 | D | 1 | 01/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSA02 | 1.40 | 1.70 | B | 2 | 01/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSA03 | 0.60 | | D | 1 | 16/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSA03 | 2.10 | 2.40 | B | 2 | 16/02/21 | | 1 | 1 | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | ALS 210316-80 |
| TPPSA03 | 3.60 | 3.90 | B | 3 | 16/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSA04 | 0.70 | 0.80 | D | 1 | 16/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSA04 | 2.20 | 2.50 | B | 2 | 16/02/21 | | 1 | 1 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSA04 | 3.40 | 3.80 | B | 3 | 16/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSD01 | 0.30 | 0.40 | D | 1 | 23/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSD01 | 1.00 | 1.30 | B | 2 | 23/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSD01 | 2.00 | 2.30 | B | 3 | 23/02/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSD01 | 3.40 | 3.70 | B | 4 | 23/02/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSD02 | 0.60 | 0.70 | D | 1 | 22/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSD02 | 1.00 | 1.30 | B | 2 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSD02 | 1.80 | 2.10 | B | 3 | 22/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSD02 | 3.00 | 3.30 | B | 4 | 22/02/21 | | 1 | 1 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSE01 | 0.50 | 0.60 | D | 1 | 18/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSE01 | 0.70 | 1.00 | B | 2 | 18/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSE01 | 1.30 | 1.50 | B | 3 | 18/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSE01 | 2.00 | 2.30 | B | 4 | 18/02/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSE02 | 0.60 | 0.70 | D | 1 | 18/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSE02 | 0.80 | 1.20 | B | 2 | 18/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSE02 | 2.50 | 2.80 | B | 3 | 18/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSE03 | 0.90 | 1.00 | D | 1 | 19/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSE03 | 2.40 | 2.70 | B | 2 | 19/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSE03 | 3.50 | 4.00 | B | 3 | 19/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSE04 | 0.70 | 0.80 | D | 1 | 19/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSE04 | 1.50 | 2.00 | B | 2 | 19/02/21 | | 1 | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| Project ID | 2021LD101 | Client | Bord na Mona | Remarks | | Turnaround | |
|---|---|---|---|---|---|---|---|
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 | | | | |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - | | | | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | Compressibility | | Strength (Total) | | | Shear Strength (Effective) | Rock | | Other | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | ph. / Chloride Content / Chloride Content Acid | Compaction Light | Compaction Heavy / Compaction Vibrating Hammer / Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation / Pressures / Swelling Pressure Test / Laboratory Vane test | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained | (Specify Cell Pressure) Triaxial UU Multi Stage / Triaxial UU Multi Specimen / Consolidated Drained Triaxial Test / Consolidated Undrained Triaxial Test / Consolidated Undrained Triaxial Multistage | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| TPPSE04 | 3.80 | 4.00 | B | 3 | 19/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSF01 | 0.40 | 0.50 | D | 1 | 04/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSF01 | 0.90 | 1.20 | B | 2 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSF01 | 1.20 | 1.30 | D | 3 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSF01 | 2.10 | 2.40 | B | 4 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSF01 | 2.40 | 2.50 | B | 5 | 04/03/21 | | 1 | 1 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSF01 | 3.80 | 4.10 | B | 6 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSF01 | 3.80 | | D | 7 | 04/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSG01 | 0.40 | 0.50 | D | 1 | 04/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSG01 | 1.00 | 1.30 | B | 2 | 04/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSG01 | 1.30 | 1.40 | D | 3 | 04/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPPSG01 | 2.30 | 2.60 | B | 4 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSG01 | 2.60 | 2.70 | D | 5 | 04/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSG01 | 3.00 | 3.30 | B | 6 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSG01 | 3.30 | | D | 7 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSG02 | 0.70 | 0.80 | D | 1 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSG02 | 1.40 | 1.60 | B | 2 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSG02 | 1.60 | 1.70 | D | 3 | 04/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSG02 | 2.60 | 2.90 | B | 4 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSG02 | 2.90 | 3.00 | D | 5 | 04/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSG02 | 3.50 | 3.80 | B | 6 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSG02 | 3.80 | | D | 7 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH01 | 0.40 | 0.50 | D | 1 | 11/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH01 | 0.40 | 0.70 | B | 2 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH01 | 2.20 | 2.50 | B | 3 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH01 | 2.50 | 2.60 | D | 4 | 11/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH01 | 3.30 | 3.60 | B | 5 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH01 | 3.60 | | D | 6 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH02 | 0.40 | 0.50 | D | 1 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH02 | 0.40 | 0.70 | B | 2 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH02 | 2.10 | 2.40 | B | 3 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH02 | 2.40 | 2.50 | D | 4 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH02 | 3.50 | 3.80 | B | 5 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH02 | 3.80 | 3.90 | D | 6 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH03 | 0.60 | 0.70 | D | 1 | 11/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH03 | 0.60 | 0.90 | B | 2 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH03 | 2.40 | 2.70 | B | 3 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH03 | 2.70 | 2.80 | D | 4 | 11/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH03 | 2.90 | 3.20 | B | 5 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH03 | 3.20 | | D | 6 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH04 | 0.50 | 0.60 | D | 1 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH04 | 0.60 | 0.80 | B | 2 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH04 | 1.90 | 2.20 | B | 3 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH04 | 2.20 | 2.30 | D | 4 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH04 | 3.40 | 3.70 | B | 5 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSH04 | 3.70 | | D | 6 | 11/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI01 | 0.30 | 0.40 | D | 1 | 23/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI01 | 0.30 | 0.60 | B | 2 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI01 | 1.40 | 1.60 | B | 3 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI01 | 1.60 | 1.70 | D | 4 | 23/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPPSI01 | 2.00 | 2.30 | B | 5 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI01 | 2.30 | 2.40 | D | 6 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI01 | 3.70 | 4.00 | B | 7 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI01 | 4.00 | | D | 8 | 23/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI02 | 0.30 | 0.40 | D | 1 | 23/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI02 | 0.30 | 0.60 | B | 2 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI02 | 2.20 | 2.40 | B | 3 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI02 | 2.40 | 2.50 | D | 4 | 23/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPPSI02 | 3.10 | 3.40 | B | 5 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI02 | 3.40 | 3.50 | D | 6 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI02 | 3.70 | 4.00 | B | 7 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI03 | 0.30 | 0.40 | D | 1 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI03 | 0.30 | 0.60 | B | 2 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI03 | 1.00 | 1.30 | B | 3 | 23/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI03 | 1.30 | 1.40 | D | 4 | 23/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI03 | 2.70 | 3.00 | B | 5 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI04 | 0.30 | 0.40 | D | 1 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI04 | 0.30 | 0.60 | B | 2 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI04 | 1.60 | 1.90 | B | 3 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI04 | 1.90 | | D | 4 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI05 | 0.20 | 0.30 | D | 1 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI05 | 0.10 | 0.30 | B | 2 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI05 | 1.00 | 1.30 | B | 3 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI05 | 1.30 | 1.40 | D | 4 | 23/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI05 | 2.20 | 2.50 | B | 5 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSI05 | 2.50 | | D | 6 | 23/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSJ01 | 0.30 | 0.40 | D | 1 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSJ01 | 0.30 | 0.50 | B | 2 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSJ01 | 0.60 | 0.90 | B | 3 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSJ01 | 0.90 | 1.00 | D | 4 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSJ01 | 2.10 | 2.40 | B | 5 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSJ02 | 0.40 | 0.50 | D | 1 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSJ02 | 0.40 | 0.60 | B | 2 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSJ02 | 0.70 | 1.00 | B | 3 | 16/03/21 | | 1 | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | 210513-119 |
| TPPSJ02 | 2.00 | 2.30 | B | 4 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSJ02 | 2.30 | 2.40 | D | 5 | 16/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPPSJ02 | 3.10 | 3.40 | B | 6 | 16/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPPSJ02 | 3.40 | 3.50 | D | 7 | 16/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS277 | 0.70 | 0.80 | D | 1 | 05/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS277 | 0.70 | 1.00 | B | 2 | 05/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TPS277 | 1.80 | 2.20 | B | 3 | 05/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| TPS277 | 2.20 | | D | 4 | 05/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS278 | 0.30 | 0.40 | D | 1 | 05/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPS278 | 0.30 | 0.60 | B | 2 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS278 | 1.70 | 2.00 | B | 3 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS278 | 2.00 | 2.10 | D | 4 | 05/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS278 | 2.90 | 3.20 | B | 5 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS278 | 3.20 | | D | 6 | 05/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS279 | 0.50 | 0.60 | D | 1 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS279 | 0.80 | 1.00 | B | 2 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS279 | 1.00 | 1.10 | D | 3 | 04/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS279 | 1.50 | 1.80 | B | 4 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS279 | 1.80 | 1.90 | D | 5 | 04/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS279 | 2.70 | 3.00 | B | 6 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS279 | 3.00 | 3.10 | D | 7 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS279 | 3.30 | 3.60 | B | 8 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS279 | 3.60 | | D | 9 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS280 | 0.50 | 0.60 | D | 1 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS280 | 0.80 | 1.10 | B | 2 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS280 | 1.10 | 1.20 | D | 3 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS280 | 1.90 | 2.20 | B | 4 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS280 | 2.20 | 2.30 | D | 5 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| Project ID | 2021LD101 | Client | Bord na Mona | Remarks | | Turnaround | |
|---|---|---|---|---|---|---|---|
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 | | | | |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - | | | | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | | Compaction | | | ompressibili | | | Strength (Total) | | | | Rock | | Other | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | pH | Compaction Light | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation | | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained | | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| TPS280 | 3.20 | 3.50 | B | 6 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS280 | 3.50 | | D | 7 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS282 | 0.30 | 0.40 | D | 1 | 04/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS282 | 0.90 | 1.20 | B | 2 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS282 | 1.20 | 1.30 | B | 3 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS282 | 2.30 | 2.60 | D | 4 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPS282 | 2.60 | | B | 5 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA01 | 0.30 | 0.40 | D | 1 | 04/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPSSA01 | 0.30 | 0.60 | B | 2 | 04/03/21 | | | | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA01 | 1.90 | 2.20 | B | 3 | 04/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA01 | 2.20 | 2.30 | D | 4 | 04/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA01 | 3.00 | 3.20 | B | 5 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA01 | 3.20 | | D | 6 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA02 | 0.40 | 0.50 | D | 1 | 04/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA02 | 0.40 | 0.70 | B | 2 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA02 | 1.10 | 1.40 | B | 3 | 04/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA02 | 1.40 | 1.50 | B | 4 | 04/03/21 | | | | | | | | | | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPSSA02 | 2.20 | 2.50 | B | 5 | 04/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA02 | 2.50 | | D | 6 | 04/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPSSA03 | 0.10 | 0.20 | D | 1 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA03 | 0.30 | 0.60 | B | 2 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA03 | 0.60 | 0.70 | D | 3 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA03 | 2.00 | 2.30 | B | 4 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA03 | 2.60 | 2.80 | B | 5 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA04 | 0.30 | 0.40 | D | 1 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA04 | 1.00 | 1.20 | B | 2 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA04 | 1.20 | 1.30 | D | 3 | 03/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA04 | 1.90 | 2.20 | B | 4 | 03/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA04 | 2.20 | 2.30 | D | 5 | 03/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPSSA04 | 3.00 | 3.30 | B | 6 | 03/03/21 | | | | | | 1 | | | | | | | | | | | | | | 1 | | | | | | | | | | | | NMTL 28.04.21 |
| TPSSA05 | 0.40 | 0.50 | D | 1 | 04/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPSSA05 | 0.40 | 0.70 | B | 2 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA05 | 1.20 | 1.50 | B | 3 | 04/03/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA05 | 1.50 | 1.60 | D | 4 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA05 | 2.10 | 2.40 | B | 5 | 04/03/21 | | 1 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA06 | 0.50 | 0.60 | D | 1 | 04/03/21 | | | | | | | | | | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPSSA06 | 0.30 | 0.50 | B | 2 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA06 | 1.20 | 1.50 | B | 3 | 04/03/21 | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | |
| TPSSA06 | 1.50 | 1.60 | D | 4 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA06 | 2.10 | 2.40 | B | 5 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPSSA06 | 2.00 | | D | 6 | 04/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT01 | 0.40 | 0.60 | D | 1 | 10/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT01 | 1.00 | 1.50 | D | 2 | 10/02/21 | | 1 | | | | 1 | 1 | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | ALS 210316-80 |
| TPT01 | 1.50 | 2.00 | B | 3 | 10/02/21 | | 1 | 1 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT02 | 0.60 | 0.70 | D | 1 | 15/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT02 | 1.00 | 1.30 | B | 2 | 15/02/21 | | 1 | | | | 1 | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | ALS 210316-80 |
| TPT02 | 2.20 | 2.50 | B | 3 | 15/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT02 | 2.60 | 2.80 | B | 4 | 15/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT06 | 0.40 | 0.50 | D | 1 | 24/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT06 | 1.50 | 1.80 | D | 2 | 24/02/21 | | 1 | 1 | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | als 210407-62 |
| TPT06 | 3.00 | 3.30 | B | 3 | 24/02/21 | | 1 | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT07 | 0.40 | 0.70 | B | 1 | 22/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT07 | 1.20 | 1.40 | B | 2 | 22/02/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT08 | 0.40 | 0.50 | D | 1 | 22/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT08 | 0.90 | 1.00 | B | 2 | 22/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT08 | 1.30 | 1.60 | B | 3 | 22/02/21 | | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT08 | 2.70 | 3.00 | B | 4 | 22/02/21 | | 1 | 1 | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT09 | 0.80 | 0.90 | D | 1 | 18/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT09 | 1.00 | 1.40 | B | 2 | 18/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT09 | 2.40 | 2.70 | B | 3 | 18/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT09 | 3.90 | 4.20 | B | 4 | 18/02/21 | | 1 | 1 | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | als 210407-62 |
| TPT11 | 0.30 | 0.40 | D | 1 | 08/03/21 | | 1 | 1 | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPT11 | 0.30 | 0.40 | B | 2 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT11 | 1.40 | 1.60 | B | 3 | 08/03/21 | | 1 | | | | 1 | | | | | | | | | | | | | | 1 | | | | | | | | | | | | NMTL 28.04.21 |
| TPT11 | 1.60 | 1.70 | D | 4 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT12 | 0.40 | 0.50 | D | 1 | 09/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT12 | 0.40 | 0.70 | B | 2 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT12 | 1.20 | 1.50 | B | 3 | 09/03/21 | | | | | | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPT12 | 1.50 | 1.60 | D | 4 | 09/03/21 | | 1 | 1 | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPT12 | 2.30 | 2.60 | B | 5 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT12 | 2.60 | 2.70 | D | 6 | 09/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT12 | 3.60 | 3.90 | B | 7 | 09/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT12 | 3.90 | 4.00 | D | 8 | 09/03/21 | | 1 | 1 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT13 | 0.30 | 0.40 | D | 1 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT13 | 0.20 | 0.50 | B | 2 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT13 | 1.20 | 1.50 | B | 3 | 12/03/21 | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | |
| TPT13 | 1.50 | 1.60 | D | 4 | 12/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT13 | 2.80 | 3.10 | B | 5 | 12/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT13 | 3.10 | | D | 6 | 12/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT14 | 0.50 | 0.60 | D | 1 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT14 | 0.50 | 0.80 | B | 2 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT14 | 1.20 | 1.50 | B | 3 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT14 | 1.50 | 1.60 | D | 4 | 17/03/21 | | 1 | 1 | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPT14 | 2.30 | 2.60 | B | 5 | 17/03/21 | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | NMTL 28.04.21 |
| TPT14 | 2.60 | 2.70 | D | 6 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT14 | 3.00 | | B | 7 | 17/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT15 | 0.20 | 0.30 | D | 1 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT15 | 0.10 | 0.30 | B | 2 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT15 | 0.70 | 0.90 | B | 3 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT15 | 0.90 | 1.00 | D | 4 | 22/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPT15 | 1.70 | 1.90 | B | 5 | 22/03/21 | | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPT16 | 0.30 | 0.40 | D | 1 | 22/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT16 | 0.30 | 0.50 | B | 2 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT16 | 1.30 | 1.50 | B | 3 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT16 | 1.50 | 1.60 | D | 4 | 22/03/21 | | 1 | | | | | | 1 | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPT16 | 2.00 | 2.30 | B | 5 | 22/03/21 | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | |
| TPT16 | 2.30 | 2.40 | D | 6 | 22/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT16 | 3.80 | 4.00 | B | 7 | 22/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT17 | 0.30 | 0.40 | D | 1 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT17 | 0.30 | 0.50 | B | 2 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT17 | 0.70 | 1.00 | B | 3 | 15/03/21 | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | | |
| TPT17 | 1.00 | 1.10 | D | 4 | 15/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT17 | 3.30 | 3.60 | B | 5 | 15/03/21 | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT17 | 3.60 | | D | 6 | 15/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT18 | 0.30 | 0.40 | D | 1 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT18 | 0.30 | 0.60 | B | 2 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT18 | 1.50 | 1.80 | B | 3 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT18 | 1.80 | 1.90 | D | 4 | 30/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

0 = test scheduled,
1 = test completed as scheduled,
0* = sample not suitable for scheduled test

| | | | | | |
|---|---|---|---|---|---|
| Project ID | 2021LD101 | Client | Bord na Mona | Remarks | Turnaround |
| Project Name | Derryadd Wind Farm | Report Date | 14/09/21 | | |
| Schedule ID | 2021LD101_all | Scheduled Date | 18/2/21 - | | |

| Sample Details | | | | | | | Classification | | | | | | Chemical / Concrete | | | | | | Compaction | | | Compressibility | | Strength (Total) | | | | Rock | | Other | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Location | Depth (m) | Base Depth | Sample Type | Sample Ref | Date Sampled | Storage | Moisture Content | Atterberg 4 Point | Particle Density by Gas Jar | Particle Density by Small Pycnometer | Particle Size Distribution | Hydrometer | Organic Content | Loss On Ignition | Sulphate Total | Sulphate Water Gravimetric | Carbonate Titration | pH | Compaction Light | Compaction Heavy | Moisture Condition Value | Moisture Condition Relationship | CBR | Consolidation | Small Direct Shearbox | Ring shear Test | Triaxial Quick Undrained | Triaxial Consolidated Undrained | Rock Uniaxial compression | Point Load | LA Abrasion | Water absorption | Slake Durability | Magnesium Sulphate Soundness | Flakiness Index | Lime Stabilisation Suite | Notes |
| TPT18 | 2.00 | 2.30 | B | 5 | 30/03/21 | | | | | | 1 | | | | | | | | | | | | | | 1 | | | | | | | | | | | | NMTL 28.04.21 |
| TPT18 | 2.30 | 2.40 | D | 6 | 30/03/21 | AV04 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT20 | 0.40 | 0.50 | D | 1 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT20 | 0.40 | 0.70 | B | 2 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT20 | 0.90 | 1.20 | B | 3 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT20 | 1.20 | 1.30 | D | 4 | 09/04/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPT20 | 1.60 | 1.90 | B | 5 | 09/04/21 | | | | | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT20 | 1.90 | 2.00 | D | 6 | 09/04/21 | | 1 | 1 | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPT20 | 2.40 | 2.70 | B | 7 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT20 | 2.70 | | D | 8 | 09/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT21 | 0.30 | 0.50 | D | 1 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT21 | 0.30 | 0.60 | B | 2 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT21 | 0.90 | 1.20 | B | 3 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT21 | 1.20 | 1.30 | D | 4 | 01/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT21 | 1.60 | 1.90 | B | 5 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT21 | 1.90 | 2.00 | D | 6 | 01/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT21 | 3.20 | 3.50 | B | 7 | 01/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT22 | 0.50 | 0.80 | B | 1 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT22 | 0.80 | 0.90 | D | 2 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT22 | 1.50 | 1.80 | B | 3 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT22 | 1.80 | 1.90 | D | 4 | 07/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT22 | 2.20 | 2.50 | B | 5 | 07/04/21 | AV06 | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | |
| TPT22 | 2.50 | 2.60 | D | 6 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT22 | 3.10 | 3.40 | B | 7 | 07/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT22 | 3.40 | 3.50 | D | 8 | 07/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT23 | 0.30 | 0.40 | D | 1 | 12/04/21 | AU96 | | | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | ALS 210817-59 |
| TPT23 | 0.30 | 0.60 | B | 2 | 12/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT23 | 0.90 | 1.20 | B | 3 | 12/04/21 | AU96 | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | | |
| TPT23 | 1.20 | 1.30 | D | 4 | 12/04/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT24 | 0.30 | 0.40 | D | 1 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT24 | 0.30 | 0.50 | B | 2 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT24 | 1.50 | 1.70 | B | 3 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT24 | 1.70 | 1.80 | D | 4 | 13/04/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT24 | 2.50 | 2.70 | B | 5 | 13/04/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPT24 | 2.70 | 2.80 | D | 6 | 13/04/21 | AV10 | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | ALS: 210817-60 |
| TPTCCA | 0.40 | 0.50 | D | 1 | 19/02/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCA | 1.00 | 1.10 | B | 2 | 19/02/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCA | 1.50 | 1.80 | B | 3 | 19/02/21 | | 1 | 1 | | | | | | | 1 | | | 1 | | | | | | | | | | | | | | | | | | | als 210407-62 |
| TPTCCA | 3.50 | 4.00 | B | 4 | 19/02/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCB | 0.30 | 0.40 | D | 1 | 05/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCB | 0.30 | 0.60 | B | 2 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCB | 0.60 | 0.70 | D | 3 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCB | 1.60 | 1.90 | B | 4 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCB | 1.90 | 2.00 | D | 5 | 05/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCB | 3.70 | 4.00 | B | 6 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCB | 4.00 | | D | 7 | 05/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCC | 0.30 | 0.40 | D | 1 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCC | 0.30 | 0.60 | B | 2 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCC | 1.30 | 1.60 | B | 3 | 08/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCC | 1.60 | | D | 4 | 08/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCD1 | 0.30 | 0.40 | D | 1 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCD1 | 0.30 | 0.60 | B | 2 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCD1 | 1.40 | 1.70 | B | 3 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCD1 | 1.70 | 1.80 | D | 4 | 24/03/21 | | 1 | 1 | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | 210513-119 |
| TPTCCD1 | 2.00 | 2.30 | B | 5 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCD1 | 2.30 | 2.40 | D | 6 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCD1 | 3.10 | 3.40 | B | 7 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCD1 | 3.40 | | D | 8 | 24/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCD2 | 0.30 | 0.40 | D | 1 | 24/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCD2 | 0.30 | 0.60 | B | 2 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCD2 | 1.70 | 2.00 | B | 3 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCD2 | 2.00 | 2.10 | D | 4 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCD2 | 2.70 | 3.00 | B | 5 | 24/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCE | 0.30 | 0.40 | D | 1 | 25/03/21 | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCE | 0.30 | 0.50 | B | 2 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCE | 1.50 | 1.80 | B | 3 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCE | 1.80 | 1.90 | D | 4 | 25/03/21 | | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCE | 2.60 | 2.90 | B | 5 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TPTCCE | 3.50 | 3.80 | B | 6 | 25/03/21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Scheduled: 1-38 | | | | | | | 528 | 304 | 3 | 2 | 153 | 72 | 70 | 0 | 36 | 11 | 2 | 46 | 0 | 3 | 0 | 4 | 1 | 20 | 5 | 0 | 12 | 0 | 2 | 0 | 31 | 57 | 10 | 4 | 10 | 6 | 0 | 2 |
| Completed to date | | | | | | | 528 | 304 | 3 | 2 | 153 | 72 | 70 | 0 | 36 | 11 | 2 | 46 | 0 | 3 | 0 | 4 | 1 | 20 | 5 | 0 | 12 | 0 | 2 | 0 | 31 | 57 | 10 | 4 | 10 | 6 | 0 | 2 |

| Lime stabilization suite: | BHRCSSA11 @ 0.5 | BHRCSSA14 @ 2.0 |
|---|---|---|
| Water soluble (WS) sulphate content | 1 | 1 |
| Oxidisable sulphides (OS) content | 1 | 1 |
| Total potential sulphate (TPS) content | 1 | 1 |
| Initial consumption of lime | 1 | 1 |
| pH | 1 | 1 |
| Organic content | 1 | 1 |

0 = test scheduled,
1 = test completed as scheduled,
0 = sample not suitable for scheduled test

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BHRC01A | 2 | 1.00 | | D | | PEAT | | | 726.0 | | 443 | 378 | 65 | | MEO |
| BHRC01A | 14 | 4.50 | | D | | Grey slightly gravelly sandy silty CLAY. | | | 12.0 | 70 | 25 | 16 | 9 | | CL |
| BHRC01B | 2 | 1.00 | | D | | Black PEAT. | | | 192.0 | | 557 | 480 | 77 | | MEO |
| BHRC01B | 11 | 3.50 | | D | | Dark grey slightly sandy gravelly silty CLAY. | | | 12.0 | 72 | 29 | 14 | 15 | | CL |
| BHRC02A | 2 | 1.00 | | D | | Dark grey slightly gravelly sandy SILT. | | | 21.0 | 69 | | | | | NP |
| BHRC02B | 1 | 0.00 | 1.00 | B | | Black PEAT. | | | 334.0 | | | | | | |
| BHRC02B | 2 | 1.00 | | D | | Black peaty SILT. | | | 311.0 | | | | | | |
| BHRC02B | 4 | 1.00 | 1.50 | B | | Black peaty SILT. | | | 20.0 | 45 | | | | | |
| BHRC02B | 10 | 3.00 | 3.50 | B | | Dark grey very silty very sandy GRAVEL. | | | 14.0 | 52 | | | | | |
| BHRC03A | 2 | 1.00 | | D | | Dark grey slightly gravelly sandy SILT. | | | 20.0 | 65 | 43 | 26 | 17 | | MI |
| BHRC03A | 8 | 2.50 | | D | | Grey slightly sandy gravelly SILT. | | | 20.0 | 51 | | | | | NP |
| BHRC03B | 2 | 1.00 | | D | | Dark grey slightly gravelly sandy silty CLAY. | | | 14.0 | 57 | 31 | 23 | 8 | | CL |
| BHRC03B | 11 | 3.50 | | D | | Grey slightly sandy slightly gravelly SILT. | | | 11.0 | 60 | | | | | NP |
| BHRC04A | 5 | 1.50 | | D | | Balck slightly silty PEAT. | | | 570.0 | 99 | 611 | 454 | 157 | | MEO |
| BHRC04B | 2 | 1.00 | | D | | Black fibrous PEAT. | | | 526.0 | | | | | | |
| BHRC04B | 5 | 1.50 | | D | | Black fibrous PEAT. | | | 387.0 | 100 | 697 | 482 | 215 | | MEO |
| BHRC05A | 2 | 1.00 | | D | | Grey slightly gravelly sandy SILT. | | | 26.0 | 72 | | | | | NP |
| BHRC05B | 2 | 1.00 | | D | | Grey SILT and black PEAT. | | | 52.0 | | | | | | |
| BHRC05B | 5 | 1.50 | | D | | Dark grey slightly gravelly SILT. | | | 17.0 | | | | | | |
| BHRC05B | 7 | 2.00 | 2.50 | B | | Dark grey very gravelly very silty fine SAND. | | | 19.0 | 64 | | | | | |
| BHRC06A | 5 | 1.50 | | D | | Black PEAT. | | | 417.0 | | | | | | |
| BHRC06A | 10 | 3.50 | | D | | Grey SILT. | | | 105.0 | 97 | 123 | 57 | 66 | | ME |
| BHRC06A | 15 | 5.50 | | D | | Grey slightly sandy slightly gravelly silty CLAY. | | | 12.0 | 62 | 28 | 15 | 13 | | CL |
| BHRC06B | 8 | 2.50 | | D | | Grey SILT. | | | 111.0 | | | | | | |
| BHRC06B | 11 | 3.50 | | D | | Greenish-grey organic SILT. | | | 99.0 | 92 | 159 | 77 | 82 | | MEO |
| BHRC07B | 11 | 3.50 | | D | | Grey slightly silty very sandy GRAVEL. | | | 1.8 | | | | | | |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| Density test | Liquid Limit | Particle density |
|---|---|---|
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 1 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BHRC08A | 7 | 2.50 | | D | | Dark grey organic SILT. | | | 82.0 | 99 | 145 | 92 | 53 | | MEO |
| BHRC08B | 5 | 1.50 | | D | | Grey and black peaty SILT. | | | 26.0 | | | | | | |
| BHRC08B | 14 | 4.00 | | D | | Grey SILT. | | | 642.0 | 99 | | | | | NP |
| BHRC09A | 7 | 2.50 | | D | | Black PEAT. | | | 595.0 | | | | | | |
| BHRC09A | 12 | 4.50 | | D | | Dark grey silty CLAY. | | | 41.0 | | 36 | 21 | 15 | | CI |
| BHRC09B | 2 | 1.00 | | D | | Black PEAT. | | | 690.0 | | | | | | |
| BHRC10B | 5 | 1.50 | | D | | Grey slightly gravelly sandy SILT. | | | 17.0 | | 21 | 16 | 5 | | ML |
| BHRC11B | 2 | 1.00 | | D | | Black PEAT. | | | 207.0 | 89 | 235 | 200 | 35 | | MEO |
| BHRC12A | 4 | 1.50 | | D | | Black PEAT. | | | 686.0 | | | | | | |
| BHRC12A | 7 | 2.50 | | D | | Black PEAT. | | | 72.0 | 98 | 34 | 22 | 12 | | CL |
| BHRC12B | 7 | 2.50 | | D | | Grey slightly sandy SILT. | | | 35.0 | 99 | 38 | 18 | 20 | | CI |
| BHRC12C | 2 | 1.00 | | D | | PEAT. | | | 712.0 | | | | | | |
| BHRC12C | 7 | 3.00 | | D | | Grey silty CLAY. | | | 40.0 | 100 | 45 | 23 | 22 | | CI |
| BHRC13A | 4 | 1.50 | | D | | Black PEAT. | | | 708.0 | | | | | | |
| BHRC13B | 7 | 2.50 | | D | | Black PEAT. | | | 411.0 | | 379 -1pt | 154 | 225 | | MEO |
| BHRC14A | 10 | 3.50 | | D | | Dark grey slightly gravelly slightly sandy SILT. | | | 27.0 | 53 | 63 | 25 | 38 | | CH |
| BHRC14B | 4 | 1.50 | | D | | Black PEAT. | | | 758.0 | | | | | | |
| BHRC15B | 2 | 1.00 | | D | | Black PEAT. | | | 360.0 | 96 | 475 | 339 | 136 | | MEO |
| BHRC15C | 5 | 1.50 | | D | | Grey and black slightly gravelly slightly sandy silty CLAY. | | | 75.0 | | 55 | 47 | 8 | | MH |
| BHRC16A | 5 | 1.50 | | D | | Black PEAT. | | | 726.0 | | | | | | |
| BHRC16A | 8 | 2.50 | | D | | Dark grey slightly sandy SILT. | | | 26.0 | 63 | 21 | 14 | 7 | | CL |
| BHRC16B | 8 | 2.50 | | D | | Light brown slightly gravelly slightly sandy SILT. | | | 14.0 | 67 | 22 | 15 | 7 | | CL |
| BHRC17B | 2 | 1.00 | | D | | Black PEAT. | | | 313.0 | | | | | | |
| BHRC17B | 8 | 2.50 | | D | | Black PEAT. | | | 540.0 | 99 | 511 -1pt | 192 | 319 | | |
| BHRC18A | 5 | 1.50 | | D | | Light grey very silty SAND and GRAVEL. Gravel is medium. | | | 12.0 | 47 | 22 | 9 | 13 | | CL |
| BHRC19A | 5 | 1.50 | | D | | Black PEAT. | | | 91.0 | 67 | 139 | 109 | 30 | | MEO |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | DCD | 1 |
| QC From No: R1 | | sheet 2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BHRC20A | 2 | 1.00 | | D | | Black PEAT. | | | 307.0 | | | | | | |
| BHRC20B | 4 | 1.50 | | D | | Black PEAT. | | | 790.0 | | | | | | |
| BHRC21B | 4 | 1.50 | | D | | Black PEAT. | | | 366.0 | | | | | | |
| BHRC21B | 10 | 3.50 | | D | | Grey sandy CLAY. | | | 28.0 | 76 | 31 | 26 | 5 | | ML |
| BHRC23B | 5 | 1.50 | | D | | Grey sandy CLAY. | | | 14.0 | 59 | 25 | 11 | 14 | | CL |
| BHRC24B | 11 | 3.50 | | D | | Grey sandy CLAY. | | | 14.0 | 55 | 31 | 20 | 11 | | CL |
| BHRCBPA1 | 4 | 1.50 | | D | | Black PEAT. | | | 708.0 | 100 | 799 | 583 | 216 | | MEO |
| BHRCBPB2 | 5 | 1.50 | | D | | Grey very silty fmc SAND and medium GRAVEL. | | | 22.0 | | | | | | NP |
| BHRCBPB4 | 2 | 1.00 | | D | | Black PEAT. | | | 346.0 | | | | | | |
| BHRCBPB4 | 8 | 2.50 | | D | | Grey slightly gravelly sandy SILT. | | | 20.0 | | | | | | NP |
| BHRCBPC1 | 2 | 1.00 | | D | | Dark grey very gravelly very silty fine and medium SAND. | | | 23.0 | 65 | | | | | NP |
| BHRCBPC2 | 5 | 1.50 | | D | | Grey slightly gravelly slightly sandy SILT. | | | 37.0 | 67 | | | | | NP |
| BHRCBPD2 | 2 | 1.00 | | D | | Grey SILT. | | | 33.0 | 68 | | | | | NP |
| BHRCBPE2 | 2 | 1.00 | | D | | Grey slightly gravelly sandy SILT. | | | 27.0 | 65 | | | | 2.48-gj | NP |
| BHRCMMA | 2 | 1.00 | | D | | Black PEAT. | | | 742.0 | | | | | | |
| BHRCMMA | 5 | 1.50 | | D | | Black fibrous PEAT. | | | 721.0 | | | | | | |
| BHRCMMA | 10 | 3.50 | | D | | Black PEAT. | | | 743.0 | | | | | | |
| BHRCMMA | 13 | 4.50 | | D | | Dark grey slightly sandy gravelly SILT. | | | 26.0 | | | | | | |
| BHRCMMB | 4 | 1.50 | | D | | Grey sandy CLAY. | | | 20.0 | 63 | 25 | 17 | 8 | | CL |
| BHRCMMC | | 8.80 | 12.20 | C | | Brown slightly gravelly slightly sandy SILT. | | | 20.0 | 95 | 52 | 25 | 27 | | MH |
| BHRCMMC | | 12.20 | 15.20 | C | | Light brown slightly gravelly slightly sandy silty CLAY. | | | 10.0 | 93 | 48 | 26 | 22 | | CI |
| BHRCPSA | 2 | 1.00 | | D | | Black PEAT. | | | 468.0 | | | | | | |
| BHRCPSA | 8 | 2.50 | | D | | Dark grey slightly gravelly slightly sandy SILT. | | | 38.0 | 77 | | | | | |
| BHRCPSB | 5 | 1.50 | | D | | Black PEAT. | | | 703.0 | | | | | | |
| BHRCPSB | 8 | 2.50 | | D | | Black PEAT. | | | 623.0 | 100 | 688 | 596 | 92 | | MEO |
| BHRCPSB | 14 | 4.50 | | D | | Dark grey silty CLAY. | | | 62.0 | | 51 | 25 | 26 | | CH |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 3 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BHRCPSC | 5 | 1.50 | | D | | Black PEAT. | | | 621.0 | | | | | | |
| BHRCPSC | 11 | 3.50 | | D | | Grey peaty SILT. | | | 112.0 | 75 | 203 | 59 | 144 | | MEO |
| BHRCPSC | 16 | 5.50 | | D | | Grey slightly sandy gravelly SILT. | | | 12.0 | 61 | 30 | 17 | 13 | | CL |
| BHRCPSD | 5 | 1.50 | | D | | Black PEAT. | | | 713.0 | 100 | 665 | 446 | 219 | | MEO |
| BHRCPSD | 7 | 2.50 | | D | | Grey peaty SILT. | | | 103.0 | 97 | 85 | 59 | 26 | | MV |
| BHRCPSE | 8 | 2.50 | | D | | Black PEAT. | | | 318.0 | | | | | | |
| BHRCPSE | 20 | 6.00 | | D | | Grey silty CLAY. | | | 36.0 | 100 | 35 | 22 | 13 | | CL |
| BHRCPSF | 8 | 2.50 | | D | | Dark grey organic SILT. | | | 80.0 | 99 | 95 | 70 | 25 | | ME |
| BHRCPSG | 5 | 1.50 | | D | | Black and grey silty PEAT. | | | 57.0 | | | | | | |
| BHRCPSG | 11 | 3.50 | | D | | Black PEAT. | | | 92.0 | 72 | 114 | 56 | 58 | | MEO |
| BHRCPSH | 2 | 1.00 | | D | | Black PEAT. | | | 652.0 | | | | | | |
| BHRCPSH | 9 | 3.50 | | D | | Black PEAT. | | | 723.0 | 100 | 649 | 383 | 266 | | MEO |
| BHRCPSI | 5 | 1.50 | | D | | Grey sandy SILT. | | | 11.0 | 44 | 26 | 21 | 5 | | ML |
| BHRCPSK | 12 | 4.50 | | D | | Grey sandy SILT. | | | 51.0 | 100 | 47 | 23 | 24 | | CI |
| BHRCPSM | 5 | 1.50 | | D | | Grey silty SAND. | | | 23.0 | 52 | 38 | 30 | 8 | | MI |
| BHRCPSN | 5 | 1.50 | | D | | Black PEAT. | | | 343.0 | 89 | 486 | 471 | 15 | | MEO |
| BHRCPSN | 10 | 2.50 | | D | | Grey sandy SILT. | | | 17.0 | 45 | | | | | NP |
| BHRCSSA01 | 2 | 1.00 | | D | | Grey slightly sandy SILT. | | | 38.0 | 99 | 30 | 20 | 10 | | CL |
| BHRCSSA01 | 11 | 3.50 | | D | | Grey slightly gravelly sandy SILT. | | | 10.0 | 56 | | | | | |
| BHRCSSA02 | 2 | 1.00 | | D | | Dark grey silty CLAY. | | | 30.0 | 99 | 43 | 21 | 22 | | CI |
| BHRCSSA03 | 4 | 1.50 | | D | | Grey slightly gravelly silty CLAY. | | | 17.0 | 79 | 24 | 16 | 8 | | CL |
| BHRCSSA03 | 7 | 2.50 | | D | | Grey slightly gravelly slightly sandy silty CLAY. | | | 11.0 | 66 | 21 | 15 | 6 | | CL |
| BHRCSSA05 | 4 | 1.50 | | D | | Grey silty CLAY. | | | 44.0 | 100 | 51 | 29 | 22 | | CH |
| BHRCSSA06 | 2 | 1.00 | | D | | Grey sandy CLAY. | | | 385.0 | 99 | 321 | 138 | 183 | | MEO |
| BHRCSSA06 | 7 | 2.50 | | D | | Grey sandy SILT. | | | 23.0 | 66 | 33 | 17 | 16 | | CL |
| BHRCSSA07 | 8 | 2.50 | | D | | Black PEAT. | | | 613.0 | | | | | | |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 4 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BHRCSSA07 | 13 | 4.50 | | D | | Grey SILT. | | | 38.0 | | 52 | 34 | 18 | | MH |
| BHRCSSA08 | 12 | 4.50 | | D | | Dark grey SILT. | | | 49.0 | | | | | | |
| BHRCSSA09 | 7 | 2.50 | | D | | Black PEAT. | | | 383.0 | | | | | | |
| BHRCSSA09 | 13 | 4.50 | | D | | Dark grey slightly gravelly slightly sandy SILT. | | | 17.0 | 65 | 39 | 27 | 12 | | MI |
| BHRCSSA09 | 16 | 5.50 | | D | | Dark grey slightly sandy slightly gravelly SILT. | | | 14.0 | | 29 | 18 | 11 | | CL |
| BHRCSSA10 | 5 | 1.50 | | D | | Black fibrous PEAT. | | | 683.0 | | | | | | |
| BHRCSSA10 | 13 | 4.50 | | D | | Dark grey slightly gravelly sandy SILT. | | | 22.0 | 60 | | | | | NP |
| BHRCSSA11 | 2 | 0.50 | | D | | Grey slightly sandy SILT. | | | 30.0 | | 34 | 25 | 9 | | ML |
| BHRCSSA11 | 5 | 1.00 | 1.80 | P | | Grey sandy SILT. | | | 35.0 | 100 | 41 | 15 | 26 | | CI |
| BHRCSSA12 | 2 | 0.50 | | D | | Grey silty CLAY. | | | 29.0 | 100 | 29 | 17 | 12 | | CL |
| BHRCSSA12 | 6 | 2.00 | | D | | Grey slightly gravelly slightly sandy silty CLAY. | | | 10.0 | | 21 | 11 | 10 | | CL |
| BHRCSSA13 | 2 | 0.50 | | D | | Black PEAT. | | | 409.0 | 69 | 324 | 69 | 255 | | |
| BHRCSSA13 | 4 | 1.00 | | D | | Dark grey peaty slightly sandy organic SILT. | | | 388.0 | 94 | 470 | 436 | 34 | | MEO |
| BHRCSSA13 | 10 | 2.00 | | D | | Grey slightly sandy silty CLAY. | | | 39.0 | | 35 | 22 | 13 | | CL |
| BHRCSSA14 | 2 | 0.50 | | D | | Grey slightly sandy silty CLAY. | | | 629.0 | 98 | 583 | 400 | 183 | | MEO |
| BHRCSSA14 | 4 | 1.50 | | D | | Grey sandy SILT. | | | 37.0 | 99 | 50 | 25 | 25 | | CH |
| BHRCSSA14 | 7 | 2.50 | | D | | Grey slightly gravelly slightly sandy SILT. | | | 15.0 | | 28 | 14 | 14 | | CL |
| TP002 | 1 | 0.60 | 0.90 | D | | Dark grey slightly gravelly sandy SILT. Sand is fine. | | | 17.0 | | | | | | NP |
| TP100 | 4 | 1.60 | 1.70 | D | | Black PEAT. | | | 970.0 | | | | | | |
| TP101 | 4 | 1.50 | 1.60 | D | | Grey slightly gravelly sandy SILT. | | | 26.0 | 72 | 35 | 25 | 10 | | MI |
| TP102 | 4 | 2.10 | 2.20 | D | | Black PEAT. | | | 650.0 | | | | | | |
| TP102 | 5 | 2.80 | 3.10 | B | | Grey slightly gravelly slightly sandy silty CLAY. | | | 20.0 | 61 | 29 | 17 | 12 | | CL |
| TP103 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 841.0 | | | | | | |
| TP103 | 6 | 4.50 | | D | | Dark grey marly SILT. | | | 65.0 | 95 | 59 | 44 | 15 | | MH |
| TP104 | 4 | 2.30 | 2.40 | D | | Grey slightly gravelly sandy clayey SILT. | | | 11.0 | | 22 | 14 | 8 | | CL |
| TP106 | 4 | 2.40 | 2.50 | D | | Black PEAT. | | | 945.0 | | | | | | |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 5 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | *w* % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TP106 | 6 | 3.60 | 3.70 | D | | Grey slightly gravelly sandy SILT. | | | 11.0 | 47 | | | | | NP |
| TP108 | 1 | 0.30 | 0.40 | D | | Reddish-brown fibrous PEAT. | | | 918.0 | | | | | | |
| TP108 | 4 | 1.90 | 2.00 | D | | Grey SILT. | | | 30.0 | 99 | 34 | 23 | 11 | | MI |
| TP108 | 6 | 3.20 | 3.30 | D | | Grey slightly gravelly slightly sandy SILT. | | | 9.9 | 63 | | | | | NP |
| TP109 | 4 | 1.20 | 1.30 | D | | Grey slightly gravelly slightly sandy silty CLAY. | | | 17.0 | 39 | 36 | 23 | 13 | | CI |
| TP111 | 4 | 2.10 | 2.20 | D | | Grey silty CLAY. | | | 48.0 | 100 | 51 | 21 | 30 | | CH |
| TP113 | 4 | 1.00 | 1.10 | D | | Dark grey slightly gravelly silty CLAY. | | | 29.0 | 73 | 40 | 19 | 21 | | CI |
| TP113 | 6 | 2.10 | 2.20 | D | | Grey slightly gravelly sandy SILT. | | | 7.8 | | | | | | NP |
| TP116 | 1 | 0.20 | 0.30 | D | | Black PEAT. | | | 589.0 | | | | | | |
| TP116 | 4 | 2.20 | 2.30 | D | | gREY slightly gravelly slightly sandy silty CLAY. | | | 21.0 | 72 | 32 | 18 | 14 | | CL |
| TP117R | 3 | 1.60 | 1.90 | B | | Light brown very silty very gravelly SAND. | | | 9.1 | 49 | | | | | NP |
| TP118R | 4 | 0.90 | 1.00 | D | | Brown slightly gravelly slightly sandy SILT. | | | 32.0 | 77 | 38 | 24 | 14 | | MI |
| TP120R | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 605.0 | | | | | | |
| TP120R | 6 | 2.60 | 2.70 | D | | Light brownish-grey slightly gravelly slightly sandy silty CLAY. | | | 9.6 | 42 | 25 | 16 | 9 | | CL |
| TP121R | 4 | 1.60 | 1.70 | D | | Black PEAT. | | | 650.0 | | | | | | |
| TP123 | 4 | 2.30 | 2.40 | D | | Black PEAT. | | | 494.0 | | | | | | |
| TP124 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 760.0 | | | | | | |
| TP124 | 4 | 2.50 | 2.60 | D | | Black PEAT. | | | 606.0 | | | | | | |
| TP125 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 887.0 | | | | | | |
| TP125 | 4 | 2.40 | | D | | Grey silty CLAY. | | | 45.0 | 79 | 41 | 20 | 21 | | CI |
| TP128 | 4 | 1.20 | 1.30 | D | | Grey-brown slightly gravelly slightly sandy SILT. | | | 27.0 | 84 | | | | | NP |
| TP128 | 6 | 2.30 | 2.40 | D | | Grey slightly gravelly sandy silty CLAY. | | | 14.0 | 64 | 24 | 14 | 10 | | CL |
| TP131 | 4 | 0.90 | 1.00 | D | | Black PEAT. | | | 499.0 | | | | | | |
| TP131 | 8 | 2.60 | 2.70 | D | | Grey slightly gravelly slightly sandy SILT. | | | 8.5 | 54 | | | | | NP |
| TP132 | 4 | 1.00 | 1.10 | D | | Grey slightly gravelly slightly sandy silty CLAY. | | | 14.0 | | 28 | 17 | 11 | | CL |
| TP135 | 4 | 0.80 | 0.90 | D | | Grey slightly gravelly sandy SILT. | | | 19.0 | 84 | | | | | NP |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| Density test | Liquid Limit | Particle density |
|---|---|---|
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | DCD | 1 |
| QC From No: R1 | | sheet 6 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TP135 | 6 | 2.00 | 2.10 | D | | Grey slightly sandy gravelly silty CLAY. | | | 8.7 | 63 | 23 | 13 | 10 | | CL |
| TP137 | 6 | 1.90 | 2.00 | D | | Dark grey slightly gravelly silty CLAY. | | | 19.0 | 68 | 24 | 16 | 8 | | CL |
| TP138 | 4 | 1.70 | 1.80 | D | | White MARL. | | | 198.0 | 99 | 138 | 121 | 17 | | MEO |
| TP138 | 6 | 2.60 | 2.70 | D | | Grey gravelly SILT. | | | 18.0 | 55 | 39 | 28 | 11 | | MI |
| TP139 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 713.0 | | | | | | |
| TP139 | 4 | 1.50 | 1.60 | D | | Orange slightly sandy coarse SILT (MARL). | | | 204.0 | | 208 | 111 | 97 | | MEO |
| TP140 | 4 | 1.30 | 1.40 | D | | Grey slightly gravelly slightly sandy SILT. | | | 16.0 | 56 | 40 | 35 | 5 | | MI |
| TP141 | 4 | 1.60 | 1.70 | D | | Grey slightly sandy slightly gravelly SILT. | | | 11.0 | 65 | 20 | 14 | 6 | | ML |
| TP143 | 4 | 1.20 | 1.40 | B | | Pale multicoloured silty MARL. | | | 246.0 | 99 | 210 | 90 | 120 | | MEO |
| TP143 | 5 | 1.50 | 1.80 | B | | Grey slightly sandy slightly gravelly SILT. | | | 10.0 | 61 | | | | | NP |
| TP146 | 2 | 0.60 | 0.90 | B | | Grey very gravelly very silty fine SAND. | | | 12.0 | 63 | 24 | 13 | 11 | | CL |
| TP147 | 4 | 0.90 | 1.00 | D | | Greenish-grey slightly gravelly sandy SILT. | | | 17.0 | | | | | | |
| TP150 | 1 | 0.40 | 0.50 | D | | Brownish-grey slightly gravelly sandy SILT. | | | 18.0 | 64 | 32 | 23 | 9 | | ML |
| TP150 | 4 | 1.80 | 1.90 | D | | Grey slightly sandy slightly gravelly silty CLAY. | | | 9.9 | 68 | 23 | 13 | 10 | | CL |
| TP152 | 2 | 0.50 | 0.60 | D | | Black PEAT. | | | 680.0 | | | | | | |
| TP152 | 4 | 1.50 | 1.60 | D | | Dark grey slightly gravelly sandy SILT. | | | 37.0 | 77 | | | | | NP |
| TP153 | 4 | 1.10 | 1.20 | D | | Grey slightly gravelly slightly sandy SILT. | | | 20.0 | 53 | | | | | NP |
| TP154 | 4 | 2.00 | 2.10 | D | | Black PEAT. | | | 754.0 | | | | | | |
| TP154 | 6 | 2.80 | 2.90 | D | | Light brown slightly gravelly sandy SILT. Sand is fine. | | | 29.0 | | | | | | NP |
| TP156 | 4 | 1.60 | 1.70 | D | | Grey slightly gravelly sandy SILT. | | | 15.0 | | 24 | 16 | 8 | | CL |
| TP157 | 4 | 1.00 | 1.10 | D | | Grey sligtly gravelly sandy SILT. | | | 36.0 | 64 | | | | | NP |
| TP157 | 6 | 2.40 | 2.50 | D | | Grey slightly gravelly sandy SILT. | | | 10.0 | 49 | | | | | NP |
| TP158 | 1 | 0.20 | 0.30 | D | | Black PEAT. | | | 767.0 | | | | | | |
| TP159 | 4 | 1.50 | 1.60 | D | | Brownish-grey very gravelly very silty SAND. | | | 13.0 | | | | | | NP |
| TP160 | 4 | 1.00 | 1.10 | D | | Grey slightly gravelly sandy SILT. | | | 22.0 | 77 | | | | | NP |
| TP162 | 1 | 0.20 | 0.30 | D | | Black PEAT. | | | 185.0 | 70 | 153 | 117 | 36 | | MEO |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| Density test | Liquid Limit | Particle density |
|---|---|---|
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 7 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TP163 | 1 | 0.20 | 0.30 | D | | Black PEAT. | | | 479.0 | | | | | | |
| TP164 | 4 | 1.30 | 1.40 | D | | Grey organic SILT. | | | 109.0 | 77 | 123 | 71 | 52 | | MEO |
| TP165 | 4 | 2.20 | 2.30 | D | | Grey slightly gravelly sandy SILT. | | | 6.5 | 42 | | | | | NP |
| TP167 | 4 | 1.10 | 1.20 | D | | Grey slightly gravelly sandy SILT. | | | 14.0 | | | | | | NP |
| TP170 | 5 | 1.20 | 1.30 | D | | Grey slightly gravelly sandy SILT. | | | 11.0 | 62 | | | | | NP |
| TP173 | 4 | 2.00 | 2.10 | D | | Black PEAT. | | | 697.0 | 99 | 587 | 405 | 182 | | MEO |
| TP173 | 6 | 3.50 | | D | | Dark grey silty CLAY. | | | 67.0 | 100 | 56 | 26 | 30 | | CH |
| TP174 | 1 | 0.20 | 0.50 | D | | Black PEAT. | | | 591.0 | | | | | | |
| TP174 | 4 | 1.60 | 1.70 | D | | Greenish-grey slightly gravelly sandy SILT. | | | 21.0 | | 36 | 23 | 13 | | MI |
| TP176 | 4 | 1.10 | 1.20 | D | | Grey slightly gravelly sandy CLAY. | | | 12.0 | 59 | 23 | 13 | 10 | | CL |
| TP177 | 7 | 3.00 | 3.10 | D | | Grey slightly gravelly sandy silty CLAY. | | | 12.0 | 62 | 24 | 13 | 11 | | CL |
| TP179 | 2 | 0.50 | 0.60 | D | | Dark brown slightly gravelly peaty SILT. | | | 37.0 | 49 | 58 | 37 | 21 | | MH |
| TP180 | 4 | 1.80 | 1.90 | D | | Black PEAT. | | | 639.0 | | | | | | |
| TP180 | 6 | 2.90 | 3.00 | D | | Black slightly gravelly slightly sandy peaty SILT. | | | 84.0 | 79 | 96 | 51 | 45 | | ME |
| TP181 | 4 | 1.90 | 2.00 | D | | Black PEAT. | | | 714.0 | | | | | | |
| TP181 | 6 | 3.60 | | D | | Grey silty MARL. | | | 205.0 | | 221 | 77 | 144 | | MEO |
| TP183 | 4 | 1.70 | 1.80 | D | | Dark grey slightly gravelly SILT. | | | 68.0 | 40 | | | | | NP |
| TP183 | 6 | 2.70 | 2.80 | D | | Grey slightly gravelly slightly sandy silty CLAY. | | | 9.6 | 65 | 21 | 12 | 9 | | CL |
| TP184 | 4 | 1.50 | 1.60 | D | | Black PEAT. | | | 748.0 | | | | | | |
| TP184 | 8 | 2.50 | 2.60 | D | | Grey silty MARL. | | | 163.0 | | 124 | 91 | 33 | | ME |
| TP186 | 1 | 0.50 | 0.60 | D | | Black PEAT. | | | 669.0 | | | | | | |
| TP186 | 4 | 1.20 | 1.30 | D | | Dark brown slightly sandy gravelly SILT. | | | 29.0 | 43 | 68 | 43 | 25 | | MH |
| TP188 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 573.0 | 99 | 648 | 395 | 253 | | MEO |
| TP188 | 4 | 1.70 | 1.80 | D | | Greenish-grey slightly gravelly slightly sandy silty CLAY. | | | 30.0 | | 37 | 20 | 17 | | CI |
| TP191R | 2 | 0.80 | 0.90 | D | | Black PEAT | | | 246.0 | | | | | | |
| TP191R | 4 | 1.90 | 2.00 | D | | Grey slightly gravelly slightly sandy CLAY. | | | 15.0 | 72 | 24 | 16 | 8 | | CL |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 8 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TP192R | 4 | 1.80 | 1.90 | D | | Black PEAT. | | | 335.0 | 97 | 383 | 240 | 143 | | MEO |
| TP194R | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 639.0 | | | | | | |
| TP194R | 4 | 1.30 | 1.40 | D | | Black PEAT. | | | 536.0 | | | | | | |
| TP196R | 6 | 2.70 | 2.80 | D | | Light grey slightly gravelly slightly sandy SILT. | | | 20.0 | 61 | | | | | NP |
| TP196R | 8 | 3.80 | | D | | Light brown slightly sandy gravelly SILT. | | | 27.0 | | | | | | NP |
| TP199 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 564.0 | | | | | | |
| TP199 | 4 | 1.60 | 1.70 | D | | Dark grey slightly gravelly slightly sandy SILT. | | | 44.0 | 80 | | | | | NP |
| TP206 | 3 | 1.20 | 1.50 | B | | Black PEAT. | | | 1019.0 | | | | | | |
| TP206 | 6 | 3.00 | 3.10 | D | | Grey slightly gravelly slightly sandy CLAY. | | | 14.0 | 65 | 31 | 17 | 14 | | CL |
| TP211 | 3 | 0.70 | 0.80 | D | | Black PEAT. | | | 795.0 | 96 | 710 | 507 | 203 | | MEO |
| TP213 | 4 | 1.20 | 1.30 | D | | Dark grey SILT. | | | 65.0 | 100 | 76 | 38 | 38 | | MV |
| TP213 | 6 | 2.10 | 2.20 | D | | Grey slightly gravelly slightly sandy silty CLAY. | | | 11.0 | 71 | 29 | 16 | 13 | | CL |
| TP214 | 6 | 3.00 | 3.10 | D | | Grey slightly gravelly slightly sandy silty CLAY. | | | 10.0 | | 23 | 12 | 11 | | CL |
| TP217 | 4 | 1.60 | 1.70 | D | | Dark grey SILT. | | | 62.0 | | 64 | 39 | 25 | | MH |
| TP218 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 747.0 | | | | | | |
| TP218 | 4 | 1.70 | 1.80 | D | | Dark grey SILT. | | | 115.0 | 100 | 84 | 58 | 26 | | MV |
| TP218 | 6 | 3.00 | 3.10 | D | | Dark grey silty CLAY. | | | 43.0 | 100 | 45 | 26 | 19 | | CI |
| TP221 | 4 | 1.20 | 1.30 | D | | Dark grey slightly sandy slightly gravelly SILT. | | | 23.0 | 79 | 32 | 24 | 8 | | ML |
| TP222 | 4 | 2.00 | 2.10 | D | | Dark grey marl SILT. | | | 101.0 | 98 | 97 | 73 | 24 | | ME |
| TP222 | 6 | 3.20 | 3.30 | D | | Dark grey CLAY. | | | 47.0 | 100 | 71 | 31 | 40 | | CV |
| TP226 | 1 | 0.40 | 0.50 | D | | Grey slightly gravelly sandy SILT. | | | 25.0 | 71 | 42 | 23 | 19 | | CI |
| TP227 | 3 | 1.40 | 1.70 | B | | Dark grey slightly sandy SILT. | | | 48.0 | 68 | 58 | 45 | 13 | | MH |
| TP229 | 4 | 1.50 | 1.60 | D | | Brown slightly gravelly sandy CLAY. | | | 14.0 | | 29 | 18 | 11 | | CL |
| TP233 | 2 | 0.30 | 0.50 | B | | Black PEAT. | | | 703.0 | | | | | | |
| TP233 | 4 | 1.50 | 1.60 | D | | Dark grey SILT. | | | 91.0 | 100 | 100 | 82 | 18 | | ME |
| TP234 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 592.0 | | | | | | |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 9 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TP236 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 718.0 | | | | | | |
| TP236 | 4 | 1.20 | 1.30 | D | | Black PEAT. | | | 928.0 | | | | | | |
| TP236 | 6 | 2.30 | 2.40 | D | | Grey slightly sandy gravelly CLAY. | | | 11.0 | 70 | 22 | 12 | 10 | | CL |
| TP237 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 846.0 | | | | | | |
| TP237 | 4 | 1.50 | 1.60 | D | | Black PEAT. | | | 827.0 | | | | | | |
| TP238 | 4 | 2.20 | 2.30 | D | | Dark grey SILT. | | | 131.0 | 99 | | | | | NP |
| TP238 | 6 | 3.50 | 3.90 | D | | Dark grey silty CLAY. | | | 49.0 | | 50 | 25 | 25 | | CI |
| TP239 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 647.0 | | | | | | |
| TP239 | 4 | 2.00 | 2.10 | D | | Grey slightly gravelly slightly sandy SILT. | | | 12.0 | | | | | | |
| TP241 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 898.0 | | | | | | |
| TP241 | 4 | 1.70 | 2.70 | D | | Dark grey organic SILT. | | | 85.0 | 99 | 114 | 57 | 57 | | ME |
| TP241 | 6 | 4.00 | | D | | Dark grey silty CLAY. | | | 75.0 | | 58 | 26 | 32 | | CH |
| TP243 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 884.0 | | | | | | |
| TP243 | 4 | 1.50 | 1.60 | D | | Dark grey organic SILT. | | | 101.0 | 99 | 97 | 61 | 36 | | MEO |
| TP243 | 6 | 3.10 | | D | | Dark grey silty CLAY. | | | 69.0 | 100 | 82 | 29 | 53 | | CV |
| TP245 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 857.0 | | | | | | |
| TP245 | 4 | 1.10 | 1.20 | D | | Grey SILT. | | | 40.0 | 100 | 56 | 33 | 23 | | MH |
| TP247 | 4 | 1.10 | 1.20 | D | | Grey SILT. | | | 40.0 | 100 | 47 | 30 | 17 | | MI |
| TP248 | 4 | 1.80 | 1.90 | D | | Grey silty CLAY. | | | 40.0 | 100 | 52 | 29 | 23 | | CH |
| TP249R | 1 | 0.50 | 0.60 | D | | Black PEAT. | | | 730.0 | | | | | | |
| TP249R | 6 | 3.80 | | D | | Grey silty CLAY. | | | 61.0 | 100 | 60 | 29 | 31 | | CH |
| TP250 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 807.0 | | | | | | |
| TP250 | 3 | 1.50 | 1.70 | B | | Black and brown silty PEAT. | | | 170.0 | | | | | | |
| TP252 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 676.0 | | | | | | |
| TP252 | 4 | 2.30 | 2.40 | D | | Grey slightly sandy slightly gravelly silty CLAY. | | | 9.4 | 60 | 36 | 19 | 17 | | CI |
| TP253 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 954.0 | | | | | | |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 10 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TP253 | 6 | 2.60 | 2.70 | D | | Dark grey slightly gravelly slightly sandy SILT. | | | 148.0 | 66 | 140 | 74 | 66 | | MEO |
| TP256 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 789.0 | | | | | | |
| TP256 | 4 | 1.50 | 1.60 | D | | Brown organic SILT. | | | 69.0 | | 139 | 64 | 75 | | MEO |
| TP256 | 6 | 2.90 | 3.00 | D | | Grey CLAY. | | | 39.0 | | 57 | 32 | 25 | | CH |
| TP258 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 862.0 | | | | | | |
| TP266 | 1 | 0.40 | 0.50 | D | | Grey slightly gravelly slightly sandy silty CLAY. | | | 51.0 | | 58 | 29 | 29 | | CH |
| TP267 | 3 | 1.20 | 1.50 | B | | Brown very gravelly very silty SAND. | | | 10.0 | 57 | | | | | |
| TP269 | 1 | 0.20 | 0.30 | D | | Brown slightly gravelly sandy SILT. | | | 19.0 | 59 | | | | | NP |
| TP269 | 4 | 1.40 | 1.50 | D | | Light brown slightly gravelly slightly sandy SILT. | | | 11.0 | | | | | | NP |
| TP270 | 4 | 1.60 | 1.70 | D | | Grey SILT. | | | 154.0 | 99 | 175 | 93 | 82 | | MEO |
| TP276 | 3 | 1.30 | 1.60 | B | | Light grey gravelly CLAY. | | | 9.4 | 58 | 30 | 15 | 15 | | CL |
| TP277 | 1 | 0.40 | 0.50 | D | | Grey SILT. | | | 71.0 | | | | | | |
| TP277 | 3 | 1.10 | 1.20 | D | | Grey SILT. | | | 79.0 | 98 | 94 | 51 | 43 | | ME |
| TP277 | 5 | 2.60 | 2.70 | D | | Grey SILT. | | | 43.0 | | 45 | 27 | 18 | | MI |
| TP278 | 1 | 0.40 | 0.50 | D | | Dark grey SILT. | | | 75.0 | 100 | 65 | 51 | 14 | | MH |
| TP279R | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 729.0 | | | | | | |
| TP279R | 3 | 2.60 | 2.70 | D | | Black PEAT. | | | 700.0 | | | | | | |
| TP279R | 6 | 4.50 | | D | | Grey slightly gravelly organic SILT. | | | 82.0 | 99 | 92 | 53 | 39 | | MEO |
| TP280 | 3 | 1.40 | 1.50 | D | | Black PEAT. | | | 441.0 | | | | | | |
| TP282 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 801.0 | | | | | | |
| TP282 | 3 | 1.80 | 2.10 | B | | Dark grey sandy SILT. | | | 30.0 | | | | | | |
| TP283 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 773.0 | | | | | | |
| TP284 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 872.0 | | | | | | |
| TP284 | 2 | 0.60 | 0.80 | B | | Dark grey SILT. | | | 20.0 | | | | | | |
| TP284 | 3 | 2.80 | 3.00 | B | | Dark grey slightly sandy SILT. | | | 27.0 | | | | | | |
| TP286 | 2 | 1.10 | 1.20 | D | | Black PEAT. | | | 802.0 | | | | | | |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 11 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TP286 | 3 | 2.00 | 2.30 | B | | Dark grey SILT. | | | 52.0 | 97 | 69 | 46 | 23 | | MH |
| TP286 | 4 | 4.00 | 4.50 | B | | Dark grey slightly gravelly slightly sandy SILT. | | | 15.0 | 69 | | | | | |
| TP287 | 2 | 1.00 | 1.20 | D | | Black PEAT | | | 735.0 | | | | | | |
| TP287 | 3 | 1.80 | 2.00 | B | | Dark grey sandy SILT. Sand is fine. | | | 18.0 | 99 | | | | | |
| TP288 | 1 | 0.60 | 0.70 | D | | Black PEAT. | | | 904.0 | 100 | 689 | 389 | 300 | | MEO |
| TP289 | 1 | 0.20 | 0.30 | D | | Brownish-grey sandy SILT. | | | 26.0 | | | | | | |
| TP289 | 3 | 0.90 | 1.20 | B | | Grey sandy SILT. Sand is fine and medium. | | | 23.0 | 95 | | | | | |
| TP290 | 2 | 0.80 | 1.20 | B | | Dark grey SILT. | | | 81.0 | 100 | 97 | 43 | 54 | | ME |
| TP291 | 1 | 0.60 | 0.70 | D | | Black PEAT. | | | 808.0 | | | | | | |
| TP291 | 3 | 2.00 | 2.30 | B | | Dark grey sandy SILT. | | | 19.0 | 91 | | | | | NP |
| TP293 | 1 | 0.50 | 0.60 | D | | Black PEAT. | | | 920.0 | | 763 | 537 | 226 | | MEO |
| TP293 | 3 | 2.20 | 2.50 | B | | Dark grey slightly sandy SILT. | | | 23.0 | 100 | | | | | NP |
| TP294 | 1 | 0.70 | 0.80 | D | | Black PEAT. | | | 931.0 | | | | | | |
| TP294 | 2 | 1.20 | 1.50 | B | | Dark grey slightly gravelly sandy clayey SILT. Sand is fine. | | | 68.0 | 68 | 74 | 35 | 39 | | MV |
| TP295 | 1 | 0.60 | 0.70 | D | | Black PEAT. | | | 699.0 | | | | | | |
| TP297 | 2 | 1.40 | 1.70 | B | | Dark grey sandy SILT. | | | 80.0 | 92 | 67 | 48 | 19 | | MH |
| TP301 | 1 | 0.50 | 0.60 | D | | Black Fibrous PEAT. | | | 866.0 | | | | | | |
| TP301 | 3 | 3.00 | 3.40 | B | | Dark grey SILT. | | | 116.0 | 100 | 125 | 85 | 40 | | ME |
| TP303 | 2 | 0.80 | 1.20 | B | | Dark grey SILT. | | | 86.0 | 99 | 95 | 50 | 45 | | ME |
| TP304 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 901.0 | | | | | | |
| TP305 | 1 | 0.50 | 0.60 | D | | Black PEAT. | | | 904.0 | | | | | | |
| TP306 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 783.0 | | | | | | |
| TP306 | 2 | 0.70 | 1.00 | B | | Dark grey SILT. | | | 122.0 | 97 | 108 | 44 | 64 | | ME |
| TP310 | 2 | 0.50 | 0.80 | B | | Dark grey slightly gravelly sandy SILT. | | | 14.0 | 54 | | | | | NP |
| TP311 | 1 | 0.50 | 0.80 | B | | Dark grey slightly gravelly silty medium SAND. | | | 32.0 | 81 | | | | | |
| TP311 | 2 | 2.00 | 2.30 | B | | Dark grey sandy SILT. Sand is fine. | | | 19.0 | 100 | | | | | NP |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 12 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TP312 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 599.0 | | | | | | |
| TP312 | 3 | 1.20 | 1.50 | B | | Dark brown slightly gravelly sandy SILT. | | | 23.0 | | | | | | NP |
| TP313 | 1 | 0.30 | 0.40 | D | | Black Fibrous PEAT. | | | 789.0 | | | | | | |
| TP313 | 2 | 1.10 | 1.40 | B | | Dark grey silty CLAY. | | | 41.0 | 98 | 44 | 22 | 22 | | CI |
| TP313 | 3 | 1.80 | 2.10 | B | | Dark grey silty gravelly f,m,c SAND. | | | 20.0 | 58 | | | | | |
| TP314 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 798.0 | | | | | | |
| TP314 | 2 | 1.60 | 1.90 | B | | Dark grey silty gravelly fine and medium SAND. | | | 26.0 | 75 | | | | | |
| TP314 | 3 | 3.20 | 3.50 | B | | Dark grey slighlty sandy SILT. | | | 18.0 | 99 | | | | | NP |
| TP317 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 515.0 | | | | | | |
| TP317 | 3 | 2.70 | 3.00 | B | | Black PEAT. | | | 1094.0 | | | | | | |
| TP317 | 4 | 4.10 | 4.30 | B | | Dark grey silty CLAY. | | | 66.0 | 99 | 57 | 25 | 32 | | CH |
| TP318 | 1 | 0.50 | 0.60 | D | | Black fibrous PEAT. | | | 1121.0 | | | | | | |
| TP318 | 3 | 3.20 | 3.50 | B | | Black fibrous PEAT. | | | 1106.0 | | | | | | |
| TP320 | 1 | 0.30 | 0.40 | D | | Black fibrous PEAT. | | | 1062.0 | | | | | | |
| TP320 | 3 | 2.70 | 3.00 | B | | Black PEAT. | | | 958.0 | | | | | | |
| TP322 | 1 | 0.30 | 0.50 | B | | Grey silty medium and fine SAND. | | | 26.0 | 93 | | | | | |
| TP322 | 2 | 0.90 | 1.20 | B | | Dark grey slightly sandy SILT. | | | 35.0 | | | | | | |
| TP322 | 3 | 2.20 | 2.50 | B | | Dark grey slightly gravelly SILT. | | | 9.7 | | | | | | |
| TP326 | 1 | 0.50 | 0.60 | D | | Black PEAT. | | | 760.0 | | | | | | |
| TP326 | 3 | 2.00 | 2.30 | B | | Dark brown slightly gravelly sandy silty CLAY. | | | 9.3 | 68 | 30 | 17 | 13 | | CL |
| TP330 | 2 | 0.40 | 0.70 | B | | Dark grey slightly gravelly sandy silty CLAY. | | | 16.0 | 59 | 26 | 16 | 10 | | CL |
| TP331 | 1 | 0.70 | 0.80 | D | | Black PEAT. | | | 258.0 | | | | | | |
| TP331 | 2 | 2.00 | 2.30 | B | | Dark grey very sandy very silty coarse GRAVEL. | | | 15.0 | 51 | | | | | |
| TP331 | 3 | 3.00 | 3.40 | B | | Dark grey slightly sandy gravelly SILT. | | | 10.0 | | | | | | |
| TP334 | 3 | 2.00 | 2.20 | B | | Dark grey slighlty gravelly sandy SILT. | | | 9.5 | 66 | | | | | NP |
| TP335 | 2 | 0.50 | 0.70 | B | | Dark grey slightly gravelly SILT. | | | 24.0 | | | | | | |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 13 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TP336 | 1 | 0.50 | 0.60 | D | | Black fibrous PEAT. | | | 865.0 | | | | | | |
| TP336 | 2 | 1.10 | 1.40 | B | | Dark grey gravelly very silty fine SAND. | | | 59.0 | 88 | | | | | |
| TP336 | 3 | 2.40 | 2.60 | B | | Dark grey slightly sandy gravelly silty CLAY. | | | 9.9 | 63 | 28 | 14 | 14 | | CL |
| TP337 | 2 | 0.80 | 1.00 | B | | Dark grey slighlty gravelly slightly sandy silty CLAY. | | | 36.0 | 86 | 45 | 23 | 22 | | CI |
| TP339 | 1 | 0.30 | 0.40 | D | | Grey gravelly organic SILT. | | | 456.0 | 100 | 675 | 508 | 167 | | MEO |
| TP341 | 2 | 0.70 | 1.00 | B | | Dark grey slightly gravelly SILT. | | | 42.0 | 70 | 37 | 27 | 10 | | MI |
| TP343 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 461.0 | | | | | | |
| TP344 | 2 | 0.70 | 1.00 | D | | Dark grey SILT. | | | 54.0 | 85 | 44 | 27 | 17 | | MI |
| TP344 | 3 | 1.70 | 1.90 | B | | Grey slightly sandy silty CLAY. | | | 14.0 | 64 | 24 | 16 | 8 | | CL |
| TP345 | 1 | 0.40 | 0.50 | D | | Dark grey peaty SILT. | | | 497.0 | | | | | | |
| TP345 | 2 | 0.90 | 1.20 | B | | Dark grey sandy clayey SILT. Sand is fine. | | | 89.0 | 99 | 76 | 21 | 55 | | CV |
| TP345 | 3 | 2.50 | 2.70 | B | | Dark grey slightly gravelly sandy CLAY. | | | 14.0 | 64 | 26 | 15 | 11 | | CL |
| TP347 | 1 | 0.40 | 0.50 | D | | Black fibrous PEAT. | | | 750.0 | | | | | | |
| TP347 | 2 | 1.00 | 1.30 | B | | Dark grey silty CLAY. | | | 54.0 | 100 | 46 | 24 | 22 | | CI |
| TP347 | 3 | 2.70 | 3.00 | B | | Dark grey clayey SILT. | | | 58.0 | 99 | 55 | 28 | 27 | | MH |
| TP348 | 2 | 0.70 | 1.00 | B | | Dark grey organic clayey SILT. | | | 43.0 | 100 | | | | | |
| TP349 | 2 | 0.40 | 0.70 | D | | Dark grey slightly gravelly slightly sandy SILT. | | | 17.0 | 60 | | | | | NP |
| TP349 | 3 | 1.10 | 1.30 | B | | Dark grey slightly gravelly slightly sandy silty CLAY. | | | 14.0 | 60 | 24 | 13 | 11 | | CL |
| TP352 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 569.0 | | | | | | |
| TP352 | 3 | 2.00 | 2.40 | B | | Grey very sandy very silty coarse GRAVEL. | | | 22.0 | 51 | | | | | NP |
| TP354 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 636.0 | | | | | | |
| TP354 | 3 | 2.50 | 3.00 | B | | Brownish-grey slightly sandy gravelly silty CLAY. | | | 15.0 | 65 | 28 | 15 | 13 | 2.76-gj | CL |
| TP356 | 1 | 0.50 | 0.60 | D | | Dark grey SILT. | | | 82.0 | | | | | | |
| TP356 | 2 | 0.60 | 0.90 | B | | Dark grey SILT. | | | 60.0 | 100 | 73 | 42 | 31 | | MV |
| TP356 | 4 | 3.00 | 3.50 | B | | Dark grey slightly sandy clayey silty CLAY. | | | 15.0 | 70 | 23 | 14 | 9 | | CL |
| TP357 | 3 | 2.10 | 2.40 | B | | Dark grey slightly sandy clayey silty CLAY. | | | 29.0 | 88 | 30 | 17 | 13 | | CL |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 14 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TP360 | 1 | 0.50 | 0.60 | D | | Black PEAT. | | | 307.0 | | | | | | |
| TP360 | 3 | 2.40 | 2.70 | B | | Dark grey silty SAND. | | | 32.0 | | | | | | |
| TP362 | 1 | 0.20 | 0.30 | D | | Black PEAT. | | | 575.0 | | | | | | |
| TP362 | 3 | 1.20 | 1.50 | B | | Grey slightly sandy silty CLAY. | | | 61.0 | 98 | 62 | 38 | 24 | | MH |
| TP363 | 2 | 0.50 | 1.00 | B | | Black PEAT. | | | 758.0 | | | | | | |
| TP365 | 1 | 0.70 | 0.80 | D | | Black PEAT. | | | 738.0 | | | | | | |
| TP365 | 3 | 2.30 | 2.60 | B | | Grey slightly gravelly slightly sandy clayey SILT. | | | 19.0 | 69 | 32 | 15 | 17 | | CL |
| TP369 | 1 | 0.50 | 0.60 | D | | Black PEAT. | | | 754.0 | | | | | | |
| TP369 | 3 | 2.10 | 2.50 | B | | Bluish-grey organic CLAY. | | | 53.0 | 100 | 61 | 16 | 45 | | CH |
| TP371 | 3 | 2.50 | 3.00 | B | | Black PEAT | | | 998.0 | | | | | | |
| TP371 | 4 | 3.70 | 4.00 | B | | Grey slightly sandy SILT. | | | 26.0 | | | | | | |
| TP372 | 1 | 0.90 | 1.00 | D | | Black PEAT | | | 667.0 | | | | | | |
| TP372 | 3 | 2.50 | 3.00 | B | | Grey slightly sandy SILT. | | | 24.0 | | | | | | |
| TPACPA | 1 | 0.80 | 0.90 | D | | Black PEAT. | | | 754.0 | | | | | | |
| TPACPA | 3 | 2.10 | 2.40 | B | | Grey slightly gravelly silty CLAY. | | | 42.0 | 83 | 44 | 23 | 21 | | CI |
| TPACPB | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 868.0 | | | | | | |
| TPACPB | 4 | 1.80 | 1.90 | D | | Black PEAT. | | | 1167.0 | | | | | | |
| TPACPC | 4 | 1.70 | 1.80 | D | | Black PEAT. | | | 627.0 | | | | | | |
| TPACPC | 8 | 3.50 | 3.60 | D | | Grey slightly gravelly slightly sandy SILT. | | | 15.0 | 64 | | | | | NP |
| TPAR01 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 409.0 | | | | | | |
| TPAR01 | 3 | 1.70 | 1.80 | D | | Reddish-brown fibrous PEAT. | | | 783.0 | | | | | | |
| TPAR01 | 5 | 4.00 | | D | | Black PEAT. | | | 621.0 | | | | | | |
| TPAR04 | 3 | 1.20 | 1.30 | D | | Black PEAT. | | | 734.0 | | | | | | |
| TPAR04 | 7 | 2.90 | | D | | Dark grey silty CLAY. | | | 38.0 | | 55 | 26 | 29 | | CH |
| TPAR09 | 1 | 0.50 | 0.60 | D | | Black PEAT. | | | 511.0 | | | | | | |
| TPAR09 | 2 | 2.40 | 2.70 | B | | Grey slightly gravelly silty CLAY. | | | 31.0 | 82 | 46 | 20 | 26 | | CI |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 15 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPAR10 | 1 | 1.00 | 1.20 | B | | Black PEAT | | | 777.0 | | | | | | |
| TPAR10 | 3 | 3.00 | 3.40 | B | | Grey slightly gravelly sandy SILT. | | | 14.0 | 63 | | | | | |
| TPAR12 | 1 | 0.60 | 1.00 | B | | Grey slightly gravelly slightly sandy silty CLAY. | | | 32.0 | 83 | 37 | 23 | 14 | | CI |
| TPAR12 | 3 | 2.50 | 3.00 | B | | Grey slightly sandy gravelly SILT. | | | 15.0 | | | | | | |
| TPAR14 | 1 | 0.30 | 0.40 | B | | Black PEAT. | | | 553.0 | | | | | | |
| TPAR14 | 2 | 1.00 | 1.50 | B | | Black PEAT. | | | 784.0 | | | | | | |
| TPAR14 | 3 | 2.50 | 2.60 | D | | Black PEAT. | | | 861.0 | | 455 | 420 | 35 | | MEO |
| TPAR14 | 4 | 3.00 | 3.50 | B | | Dark grey slightly sandy clayey SILT. | | | 44.0 | 100 | | | | | |
| TPAR15 | 2 | 0.50 | 1.00 | B | | Dark grey SILT. | | | 74.0 | | | | | | |
| TPAR17 | 1 | 0.60 | 0.70 | D | | Black PEAT. | | | 921.0 | | | | | | |
| TPAR18 | 1 | 0.80 | 0.90 | D | | Black PEAT. | | | 757.0 | | | | | | |
| TPBPA01 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 756.0 | | | | | | |
| TPBPA01 | 4 | 1.40 | 1.50 | D | | Dark grey slightly gravelly sandy SILT. Sand is fine. | | | 61.0 | | 74 | 51 | 23 | | MV |
| TPBPA03 | 1 | 0.40 | 0.60 | D | | Black PEAT. | | | 582.0 | | | | | | |
| TPBPA03 | 4 | 1.30 | 1.40 | D | | Dark grey slightly gravelly sandy SILT. | | | 17.0 | | | | | | |
| TPBPA03 | 5 | 2.50 | 2.80 | B | | Grey slightly gravelly sandy SILT. | | | 9.4 | 61 | | | | | |
| TPBPA04 | 1 | 0.40 | 0.60 | D | | Black PEAT. | | | 526.0 | | | | | | |
| TPBPA04 | 3 | 1.00 | 1.10 | D | | Dark grey slightly gravelly sandy clayey SILT. Sand is fine and medium. | | | 21.0 | 75 | 41 | 31 | 10 | | MI |
| TPBPB03 | 6 | 2.10 | | D | | Brown very silty SAND and GRAVEL. Gravel is medium. | | | 7.5 | 48 | | | | | NP |
| TPBPB04 | 4 | 1.40 | 1.50 | D | | Grey very silty SAND and medium GRAVEL. | | | 14.0 | 54 | | | | | |
| TPBPB04 | 6 | 2.60 | 2.70 | D | | Grey slightly gravelly slightly sandy SILT. | | | 11.0 | | | | | | |
| TPBPC01 | 4 | 1.70 | 1.80 | D | | Grey very silty SAND and GRAVEL. | | | 9.5 | | | | | | |
| TPBPC02 | 1 | 0.30 | 0.40 | D | | Grey slightly gravelly sandy SILT. | | | 20.0 | | | | | | |
| TPBPC02 | 4 | 1.60 | 1.70 | D | | Grey slightly gravelly sandy SILT. | | | 23.0 | | | | | | |
| TPBPD01 | 1 | 0.30 | 0.40 | D | | Dark grey slightly gravelly slightly sandy SILT. | | | 27.0 | | | | | | |
| TPBPD02 | 4 | 1.80 | | D | | Brown very silty SAND and GRAVEL. Gravel is medium. | | | 15.0 | | | | | | |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 16 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPBPE01 | 5 | 1.10 | 1.40 | B | | Greyish-brown vvery silty SAND and GRAVEL. Gravel is medium, Sand is fmc. | | | 11.0 | 52 | | | | | |
| TPBPE01 | 7 | 3.10 | | D | | Grey slightly sandy gravelly SILT. | | | 11.0 | | | | | | |
| TPMMA01 | 1 | 0.20 | 0.30 | D | | Black PEAT. | | | 698.0 | | | | | | |
| TPMMA02 | 3 | 2.00 | 2.30 | B | | Dark grey very clayey very sandy fine and medium GRAVEL. | | | 13.0 | 43 | 29 | 16 | 13 | | CL |
| TPMMB01 | 4 | 1.70 | 1.80 | D | | Black fibrous PEAT. | | | 628.0 | | | | | | |
| TPMMB01 | 6 | 2.20 | 2.30 | D | | Dark grey slightly gravely sandy SILT. | | | 30.0 | 68 | 36 | 30 | 6 | | MI |
| TPMMB02 | 3 | 1.00 | 1.10 | D | | Dark grey slightly sandy gravelly CLAY. | | | 17.0 | 68 | 30 | 19 | 11 | | CL |
| TPMMC01 | 4 | 0.70 | 0.80 | D | | Grey slightly gravelly sandy SILT. | | | 23.0 | 62 | 40 | 25 | 15 | | MI |
| TPMMC02 | 4 | 1.10 | 1.20 | D | | Grey slightly sandy gravelly SILT. | | | 34.0 | 39 | 86 | 54 | 32 | | MV |
| TPPSA03 | 1 | 0.60 | | D | | Black PEAT. | | | 244.0 | | | | | | |
| TPPSA03 | 2 | 2.10 | 2.40 | B | | Dark grey SILT. | | | 61.0 | 100 | 57 | 31 | 26 | | MH |
| TPPSA04 | 2 | 2.20 | 2.50 | B | | Dark grey organic silty CLAY. | | | 70.0 | 100 | 55 | 29 | 26 | | MH |
| TPPSD01 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 845.0 | | | | | | |
| TPPSD01 | 2 | 1.00 | 1.30 | B | | Dark grey sandy SILT. Sand is fine. | | | 99.0 | 98 | 87 | 74 | 13 | | MV |
| TPPSD01 | 3 | 2.00 | 2.30 | B | | Dark grey sandy SILT. Sand is fine. | | | 19.0 | 99 | | | | | |
| TPPSD01 | 4 | 3.40 | 3.70 | B | | Dark grey sandy SILT. Sand is fine. | | | 42.0 | 97 | | | | | |
| TPPSD02 | 1 | 0.60 | 0.70 | D | | Black PEAT. | | | 255.0 | | | | | | |
| TPPSD02 | 3 | 1.80 | 2.10 | B | | Dark grey silty CLAY. | | | 78.0 | 99 | 115 | 22 | 93 | | CE |
| TPPSD02 | 4 | 3.00 | 3.30 | B | | Dark grey slightly gravelly slightly sandy SILT. Sand is fine. | | | 17.0 | 75 | 39 | 25 | 14 | | MI |
| TPPSE01 | 1 | 0.50 | 0.60 | D | | Black PEAT. | | | 596.0 | | | | | | |
| TPPSE01 | 2 | 0.70 | 1.00 | B | | Dark grey silty CLAY. | | | 69.0 | 98 | 70 | 30 | 40 | | CH |
| TPPSE01 | 4 | 2.00 | 2.30 | B | | Dark grey sandy SILT. Sand is fine. | | | 23.0 | 100 | | | | | |
| TPPSE02 | 1 | 0.60 | 0.70 | D | | Black PEAT. | | | 959.0 | | | | | | |
| TPPSE02 | 2 | 0.80 | 1.20 | B | | Dark grey silty CLAY. | | | 85.0 | 99 | 111 | 38 | 73 | | CE |
| TPPSE02 | 3 | 2.50 | 2.80 | B | | Dark grey slightly sandy SILT. | | | 24.0 | 99 | | | | | |
| TPPSE04 | 2 | 1.50 | 2.00 | B | | Dark grey slightly sandy SILT. | | | 84.0 | 100 | | | | | |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 17 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPPSE04 | 3 | 3.80 | 4.00 | B | | Dark grey SILT. | | | 66.0 | | | | | | |
| TPPSF01 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 899.0 | | | | | | |
| TPPSF01 | 5 | 2.40 | 2.50 | B | | Dark grey slightly sandy clayey SILT. | | | 130.0 | 99 | 124 | 80 | 44 | | ME |
| TPPSF01 | 7 | 3.80 | | D | | Grey SILT. | | | 58.0 | | | | | | |
| TPPSG01 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 608.0 | | | | | | |
| TPPSG01 | 3 | 1.30 | 1.40 | D | | Dark grey silty CLAY. | | | 31.0 | | 42 | 26 | 16 | | MI |
| TPPSG01 | 5 | 2.60 | 2.70 | D | | Dark grey SILT. | | | 51.0 | 99 | 53 | 30 | 23 | | MH |
| TPPSG02 | 3 | 1.60 | 1.70 | D | | Black PEAT. | | | 862.0 | | | | | | |
| TPPSG02 | 5 | 2.90 | 3.00 | D | | Black PEAT. | | | 799.0 | | | | | | |
| TPPSH01 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 571.0 | | | | | | |
| TPPSH01 | 4 | 2.50 | 2.60 | D | | Black PEAT. | | | 966.0 | | | | | | |
| TPPSH03 | 1 | 0.60 | 0.70 | D | | Black PEAT. | | | 610.0 | | | | | | |
| TPPSH03 | 4 | 2.70 | 2.80 | D | | Black PEAT. | | | 527.0 | | | | | | |
| TPPSI01 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 813.0 | | | | | | |
| TPPSI01 | 4 | 1.60 | 1.70 | D | | Dark grey SILT. | | | 137.0 | 93 | 156 | 64 | 92 | | ME |
| TPPSI01 | 8 | 4.00 | | D | | Grey slightly sandy gravelly silty CLAY. | | | 9.7 | 59 | 22 | 12 | 10 | | CL |
| TPPSI02 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 707.0 | 96 | 512 | 282 | 230 | | MEO |
| TPPSI02 | 4 | 2.40 | 2.50 | D | | Dark grey SILT. | | | 116.0 | 94 | 94 | 65 | 29 | | ME |
| TPPSI03 | 4 | 1.30 | 1.40 | D | | Grey slightly gravelly sandy SILT. | | | 14.0 | | | | | | |
| TPPSI05 | 4 | 1.30 | 1.40 | D | | Grey slightly gravelly slightly sandy silty CLAY. | | | 12.0 | 59 | 30 | 19 | 11 | | CL |
| TPPSJ02 | 3 | 0.70 | 1.00 | B | | Black PEAT. | | | 686.0 | | | | | | |
| TPPSJ02 | 5 | 2.30 | 2.40 | D | | Grey slightly sandy gravelly SILT. | | | 18.0 | 74 | 31 | 23 | 8 | | ML |
| TPPSJ02 | 7 | 3.40 | 3.50 | D | | Dark grey slightly gravelly silty CLAY. | | | 12.0 | 64 | 38 | 23 | 15 | | CI |
| TPS277 | 1 | 0.70 | 0.80 | D | | Grey slightly sandy silty CLAY. | | | 69.0 | | 104 | 36 | 68 | | CE |
| TPS277 | 4 | 2.20 | | D | | Grey silty CLAY. | | | 46.0 | | 51 | 21 | 30 | | CH |
| TPS278 | 1 | 0.30 | 0.40 | D | | Dark brown silty CLAY. | | | 123.0 | 94 | 150 | 94 | 56 | | MEO |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 18 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPS278 | 4 | 2.00 | 2.10 | D | | Grey slightly gravelly slightly sandy silty CLAY. | | | 69.0 | 99 | 81 | 26 | 55 | | CV |
| TPS278 | 6 | 3.20 | | D | | Grey slightly gravelly slightly sandy silty CLAY. | | | 14.0 | 71 | 29 | 17 | 12 | | CL |
| TPS279 | 3 | 1.00 | 1.10 | D | | Grey SILT. | | | 90.0 | 97 | 99 | 43 | 56 | | ME |
| TPS279 | 5 | 1.80 | 1.90 | D | | Dark grey silty CLAY. | | | 35.0 | 100 | 63 | 26 | 37 | | CH |
| TPS282 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 754.0 | | | | | | |
| TPSSA01 | 1 | 0.30 | 0.40 | D | | Dark grey slightly sandy clayey SILT. | | | 63.0 | | 63 | 40 | 23 | | MH |
| TPSSA01 | 4 | 2.20 | 2.30 | D | | Dark grey slightly sandy gravelly SILT. Grael is medium and coarse. | | | 20.0 | | | | | | |
| TPSSA02 | 1 | 0.40 | 0.50 | D | | Dark grey SILT. | | | 47.0 | 98 | 97 | 59 | 38 | | ME |
| TPSSA02 | 3 | 1.10 | 1.40 | B | | Dark grey SILT. | | | 35.0 | 100 | 44 | 28 | 16 | | MI |
| TPSSA02 | 6 | 2.50 | | D | | Brown slightly sandy gravelly SILT. | | | 9.3 | | 23 | 18 | 5 | | ML |
| TPSSA04 | 3 | 1.20 | 1.30 | D | | Black PEAT. | | | 634.0 | | | | | | |
| TPSSA04 | 5 | 2.20 | 2.30 | D | | Dark grey silty CLAY. | | | 56.0 | 100 | 56 | 28 | 28 | | CH |
| TPSSA05 | 1 | 0.40 | 0.50 | D | | Dark grey silty CLAY. | | | 35.0 | 100 | 60 | 22 | 38 | | CH |
| TPSSA05 | 5 | 2.10 | 2.40 | B | | Brown slightly gravelly sandy silty CLAY. | | | 11.0 | 63 | 32 | 14 | 18 | | CL |
| TPT01 | 1 | 0.40 | 0.60 | D | | Black PEAT. | | | 677.0 | | | | | | |
| TPT01 | 2 | 1.00 | 1.50 | D | | Dark grey very silty fine SAND. | | | 30.0 | 100 | | | | | |
| TPT01 | 3 | 1.50 | 2.00 | B | | Dark grey slightly gravelly slightly sandy SILT. | | | 24.0 | 82 | 28 | 15 | 13 | | CL |
| TPT02 | 1 | 0.60 | 0.70 | D | | Black PEAT. | | | 504.0 | | | | | | |
| TPT02 | 2 | 1.00 | 1.30 | B | | Dark grey slightly gravelly sandy SILT. | | | 37.0 | 67 | | | | | |
| TPT06 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 903.0 | | | | | | |
| TPT06 | 2 | 1.50 | 1.80 | D | | Dark grey SILT. | | | 88.0 | 100 | 103 | 53 | 50 | | ME |
| TPT06 | 3 | 3.00 | 3.30 | B | | Dark grey sandy SILT. Sand is fine. | | | 20.0 | 99 | | | | | |
| TPT07 | 1 | 0.40 | 0.70 | B | | Dark grey slightly gravelly silty medium SAND. | | | 28.0 | | | | | | |
| TPT08 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 791.0 | | | | | | |
| TPT08 | 3 | 1.30 | 1.60 | B | | Dark grey slightly silty medium SAND. | | | 26.0 | 94 | | | | | |
| TPT08 | 4 | 2.70 | 3.00 | B | | Dark grey sandy SILT. Sand is fine. | | | 18.0 | 99 | | | | | NP |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 19 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPT09 | 3 | 2.40 | 2.70 | B | | Dark grey silty SAND. | | | 39.0 | 96 | | | | | NP |
| TPT09 | 4 | 3.90 | 4.20 | B | | Dark grey silty CLAY. | | | 35.0 | 98 | 37 | 21 | 16 | | CI |
| TPT11 | 1 | 0.30 | 0.40 | D | | Grey slightly gravelly slightly sandy SILT. | | | 35.0 | 88 | 51 | 29 | 22 | | MH |
| TPT12 | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 904.0 | | | | | | |
| TPT12 | 4 | 1.50 | 1.60 | D | | Grey silty CLAY. | | | 40.0 | | 68 | 26 | 42 | | CH |
| TPT12 | 6 | 2.60 | 2.70 | D | | Grey silty CLAY. | | | 69.0 | 100 | 68 | 30 | 38 | | CH |
| TPT12 | 8 | 3.90 | 4.00 | D | | Grey slightly gravelly slightly sandy CLAY. | | | 15.0 | 63 | 43 | 19 | 24 | | CI |
| TPT13 | 4 | 1.50 | 1.60 | D | | Dark grey SILT. | | | 76.0 | 99 | 86 | 56 | 30 | | MV |
| TPT13 | 6 | 3.10 | | D | | Dark grey slightly gravelly silty CLAY. | | | 47.0 | 76 | 54 | 25 | 29 | | CH |
| TPT14 | 4 | 1.50 | 1.60 | D | | Grey slightly gravelly slightly sandy silty CLAY. | | | 14.0 | 63 | 25 | 14 | 11 | | CL |
| TPT15 | 4 | 0.90 | 1.00 | D | | Dark grey SILT. | | | 61.0 | 100 | 80 | 43 | 37 | | MV |
| TPT16 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 758.0 | | | | | | |
| TPT16 | 4 | 1.50 | 1.60 | D | | Black PEAT. | | | 728.0 | | | | | | |
| TPT16 | 6 | 2.30 | 2.40 | D | | Dark grey slightly gravelly SILT. | | | 56.0 | 57 | 95 | 47 | 48 | | ME |
| TPT17 | 4 | 1.00 | 1.10 | D | | Dark grey slightly gravely slightly sandy SILT. | | | 30.0 | 66 | 59 | 40 | 19 | | MH |
| TPT18 | 6 | 2.30 | 2.40 | D | | Brownish-grey slightly gravelly slightly sandy SILT. | | | 35.0 | 62 | | | | | NP |
| TPT20 | 4 | 1.20 | 1.30 | D | | Dark grey organic SILT. | | | 161.0 | 79 | 132 | 106 | 26 | | MEO |
| TPT20 | 6 | 1.90 | 2.00 | D | | Grey slightly gravelly slightly sandy SILT. | | | 11.0 | | | | | | NP |
| TPT21 | 4 | 1.20 | 1.30 | D | | Dark grey slightly sandy gravelly SILT. | | | 27.0 | 72 | | | | | NP |
| TPT21 | 6 | 1.90 | 2.00 | D | | Grey slightly gravelly sandy silty CLAY. | | | 13.0 | 64 | 20 | 12 | 8 | | CL |
| TPT22 | 4 | 1.80 | 1.90 | D | | Black PEAT | | | 570.0 | | | | | | |
| TPT22 | 8 | 3.40 | 3.50 | D | | Grey slightly gravelly sandy silty CLAY. | | | 15.0 | 65 | 20 | 14 | 6 | | CL |
| TPT23 | 4 | 1.20 | 1.30 | D | | Grey slightly gravelly slightly sandy SILT. | | | 12.0 | 56 | 23 | 14 | 9 | | CL |
| TPT24 | 4 | 1.70 | 1.80 | D | | Black PEAT. | | | 802.0 | | | | | | |
| TPT24 | 6 | 2.70 | 2.80 | D | | Grey silty MARL. | | | 283.0 | 99 | 261 | 99 | 162 | | MEO |
| TPTCCA | 1 | 0.40 | 0.50 | D | | Black PEAT. | | | 768.0 | | | | | | |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 20 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Summary of Classification Test Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | | Soil Description | Density bulk Mg/m3 | Density dry Mg/m3 | w % | Passing 425µm % | LL % | PL % | PI % | Particle density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPTCCA | 3 | 1.50 | 1.80 | B | | Dark grey SILT. | | | 90.0 | 100 | 107 | 66 | 41 | | ME |
| TPTCCA | 4 | 3.50 | 4.00 | B | | Dark grey SILT. | | | 52.0 | 98 | 54 | 29 | 25 | | MH |
| TPTCCB | 1 | 0.30 | 0.40 | D | | Dark grey SILT. | | | 56.0 | 100 | 79 | 39 | 40 | | MV |
| TPTCCB | 5 | 1.90 | 2.00 | D | | Dark grey silty CLAY. | | | 62.0 | 100 | 51 | 22 | 29 | | CH |
| TPTCCC | 4 | 1.60 | | D | | Light grey slightly gravelly sandy SILT. | | | 9.5 | 68 | | | | | NP |
| TPTCCD1 | 4 | 1.70 | 1.80 | D | | Dark and light brown fibrous SILT. | | | 298.0 | 71 | 191 | 87 | 104 | | MEO |
| TPTCCD1 | 8 | 3.40 | | D | | Grey slightly sandy gravelly SILT. | | | 13.0 | 61 | 29 | 15 | 14 | | CL |
| TPTCCD2 | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 889.0 | | | | | | |
| TPTCCE | 1 | 0.30 | 0.40 | D | | Black PEAT. | | | 622.0 | | | | | | |
| TPTCCE | 4 | 1.80 | 1.90 | D | | Dark grey silty CLAY. | | | 33.0 | 99 | 51 | 22 | 29 | | CH |

All tests performed in accordance with BS1377:1990 unless specified otherwise

Key w = water content, LL = Liquid Limit, PL = Plastic Limit, PI = Plasticity Index

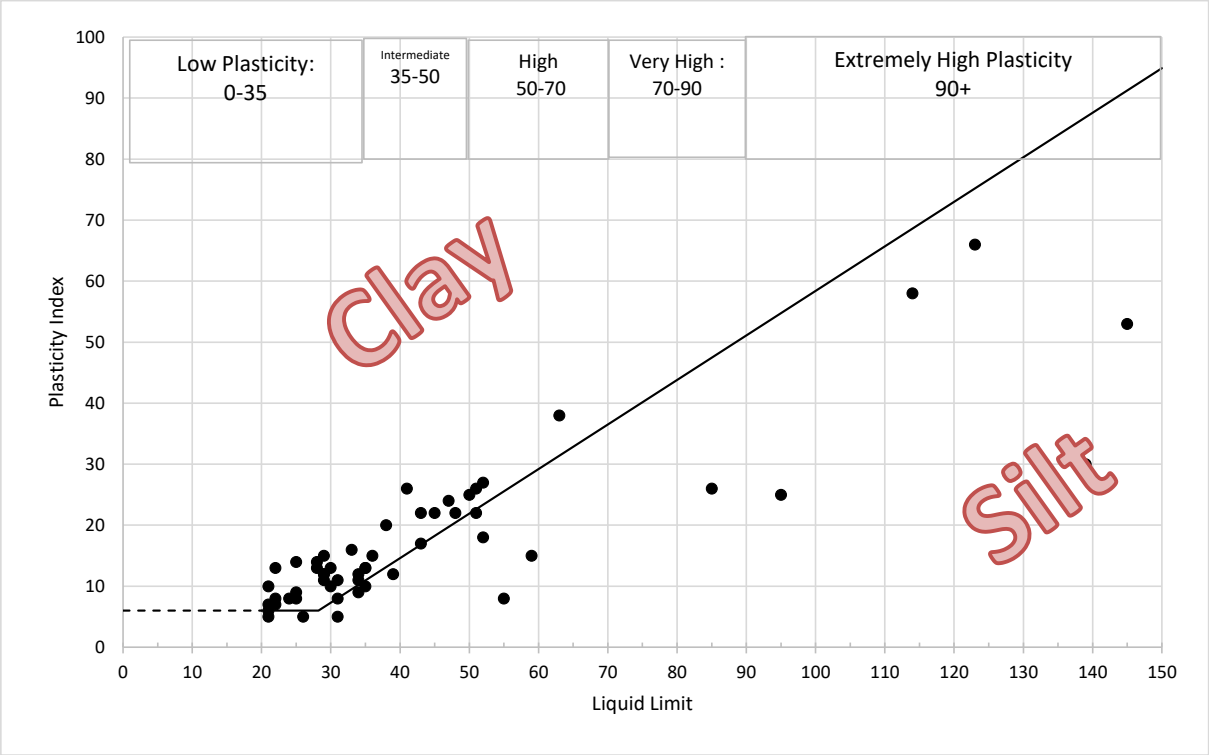
| | | |
|---|---|---|
| Density test | Liquid Limit | Particle density |
| Linear measurement unless : | 4pt cone unless : | sp - small pyknometer |
| wd - water displacement | 1pt - single point test | gj - gas jar |
| wi - immersion in water | NP - Non Plastic | |

| Date Printed | Approved By | Table |
|---|---|---|
| 13/09/2021 | | 1 |
| QC From No: R1 | DCD | sheet 21 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | Plasticity (A-Line) Chart | | Project Number |
|---|---|---|---|
| | Project Name: | **Derryadd Wind Farm** | |
| | Location: | | 2021LD101 |




Abreviations in the remarks column of the Classification Summary Sheet: C = Clay, M = Silt

Plasticity abeviations: L = Low, I = Intermediate = H = High, V = Very High, E = Extremely High.

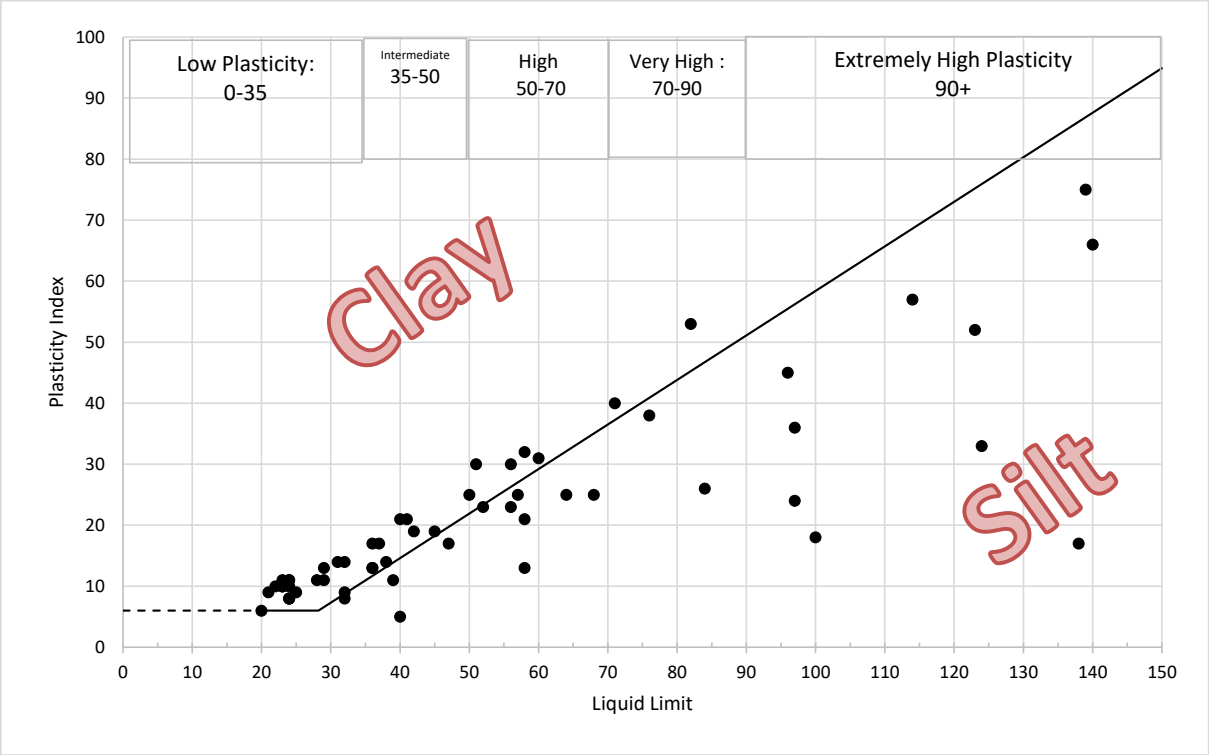
The letter O is added to the symbol of any material containing a significant proportion of organic material.

Chart taken from BS5930: 2010

DCD 13.09.21

QC Form: R1

| | | |
|---|---|---|
| **Plasticity (A-Line) Chart** | | Project Number |
| Project Name: | **Derryadd Wind Farm** | |
| Location: | | 2021LD101 |




Abreviations in the remarks column of the Classification Summary Sheet: C = Clay, M = Silt

Plasticity abeviations: L = Low, I = Intermediate = H = High, V = Very High, E = Extremely High.

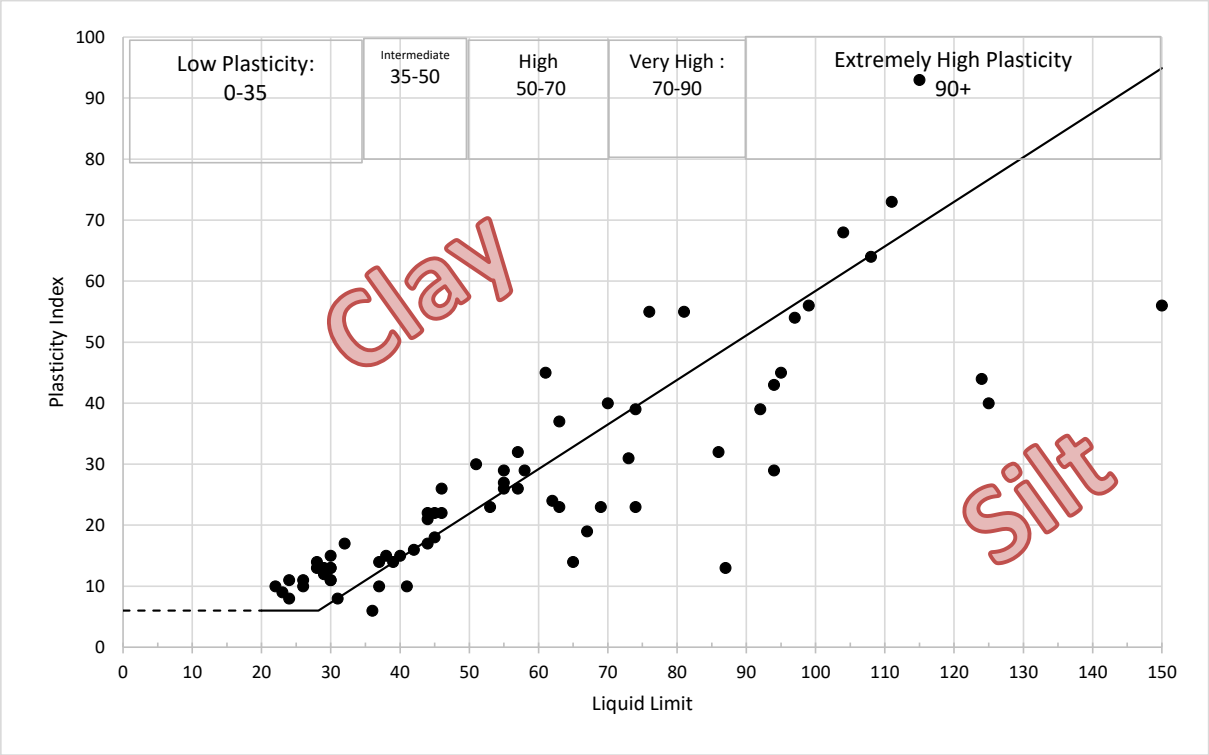
The letter O is added to the symbol of any material containing a significant proportion of organic material.

Chart taken from BS5930: 2010

DCD 13.09.21

QC Form: R1

| | Plasticity (A-Line) Chart | | Project Number |
|---|---|---|---|
| | Project Name: | Derryadd Wind Farm | |
| | Location: | | 2021LD101 |




Abreviations in the remarks column of the Classification Summary Sheet: C = Clay, M = Silt

Plasticity abeviations: L = Low, I = Intermediate = H = High, V = Very High, E = Extremely High.

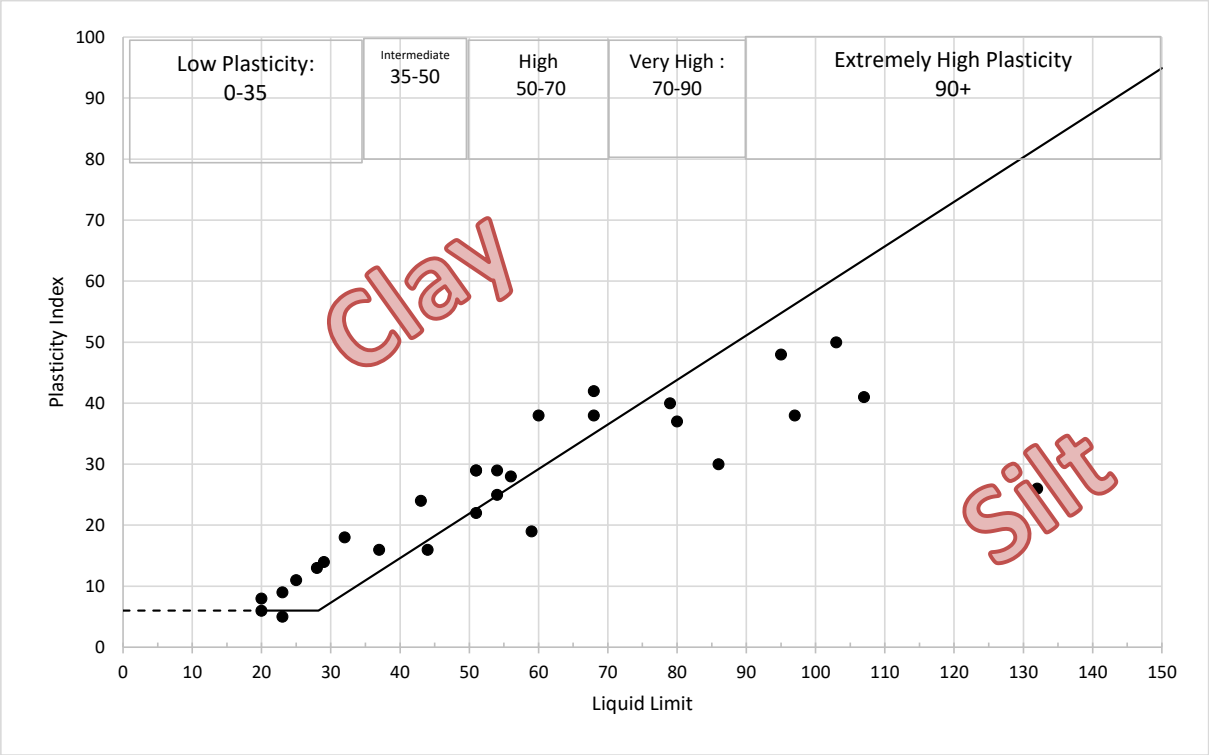
The letter O is added to the symbol of any material containing a significant proportion of organic material.

Chart taken from BS5930: 2010

DCD 13.09.21

QC Form: R1

| | Plasticity (A-Line) Chart | | Project Number |
|---|---|---|---|
| | Project Name: | **Derryadd Wind Farm** | |
| | Location: | | 2021LD101 |




Abreviations in the remarks column of the Classification Summary Sheet: C = Clay, M = Silt

Plasticity abeviations: L = Low, I = Intermediate = H = High, V = Very High, E = Extremely High.

The letter O is added to the symbol of any material containing a significant proportion of organic material.

Chart taken from BS5930: 2010

DCD 13.09.21

QC Form: R1

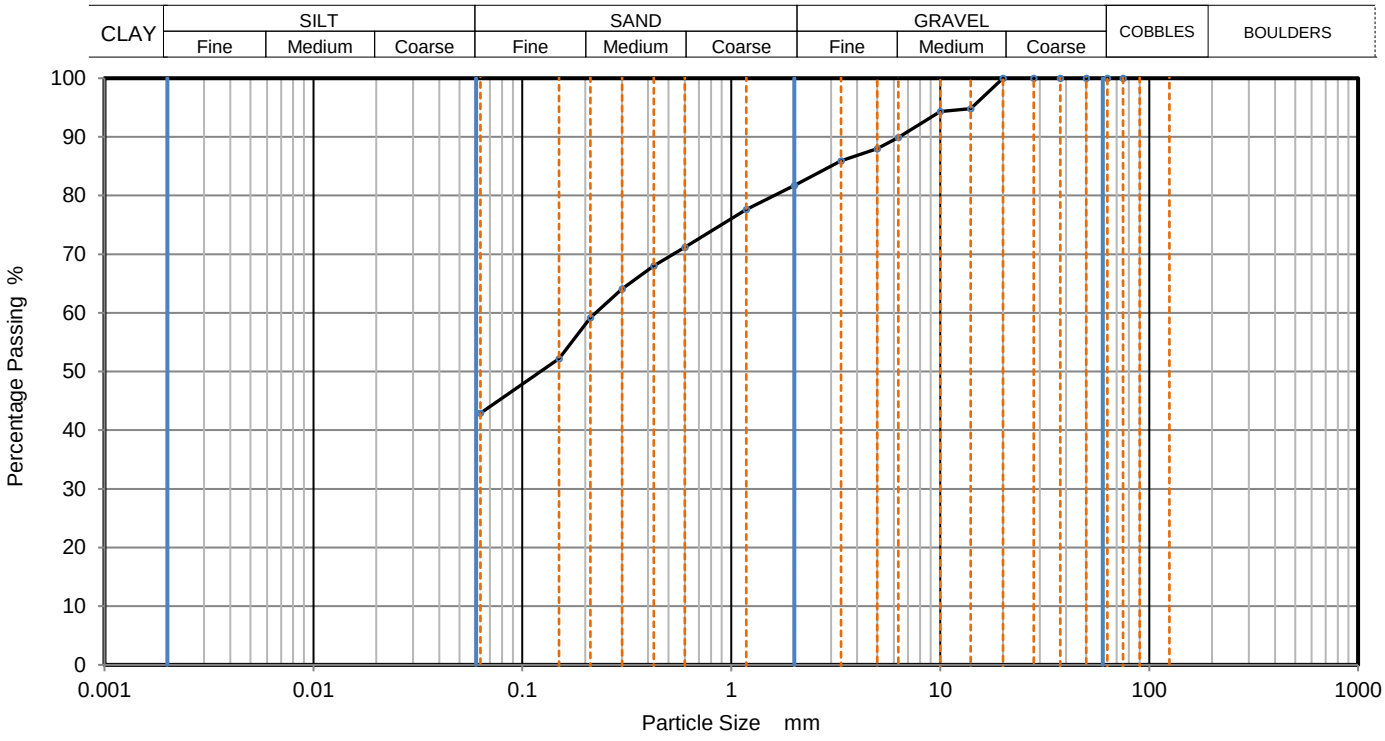
***National Materials Testing Laboratory Ltd.***

## SUMMARY OF TEST RESULTS

| | | | | Particle | | | Index Properties | | Bulk | Cell | Undrained Triaxial Tests | | Shear Strength |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BH/TP | Depth | Sample | Moisture | Density | <425um | LL | PL | PI | Density | Presssure | Compressive | Strain at | Cu |
| No | m | No. | % | Mg/m3 | % | % | % | % | Mg/m3 | kPa | Stress kPa | Failure % | kPa |
| | | | | | | | | | | | | | |
| TPT11 | 1.40-1.60 | B3 | 16.3 | | | | | | | | | | |

| | | | | |
|---|---|---|---|---|
| NMTL | Notes : | Job ref No. | NMTL 3360 | IDL Project ID-2021LD |
| | 1. All BS tests carried out using preferred (definitive) method unless otherwise stated. | Location | Derryadd Wind Farm | |

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC01A |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Dark grey slightly gravelly sandy SILT. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL1202103053 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 95 | | |
| 10 | 94 | | |
| 6.3 | 90 | | |
| 5 | 88 | | |
| 3.35 | 86 | | |
| 2 | 82 | | |
| 1.18 | 78 | | |
| 0.6 | 71 | | |
| 0.425 | 68 | | |
| 0.3 | 64 | | |
| 0.212 | 59 | | |
| 0.15 | 52 | | |
| 0.063 | 43 | | |

| | |
|---|---|
| Dry Mass of sample, g | 516 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 18 |
| Sand | 39 |
| | |
| Fines <0.063mm | 43 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.224 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

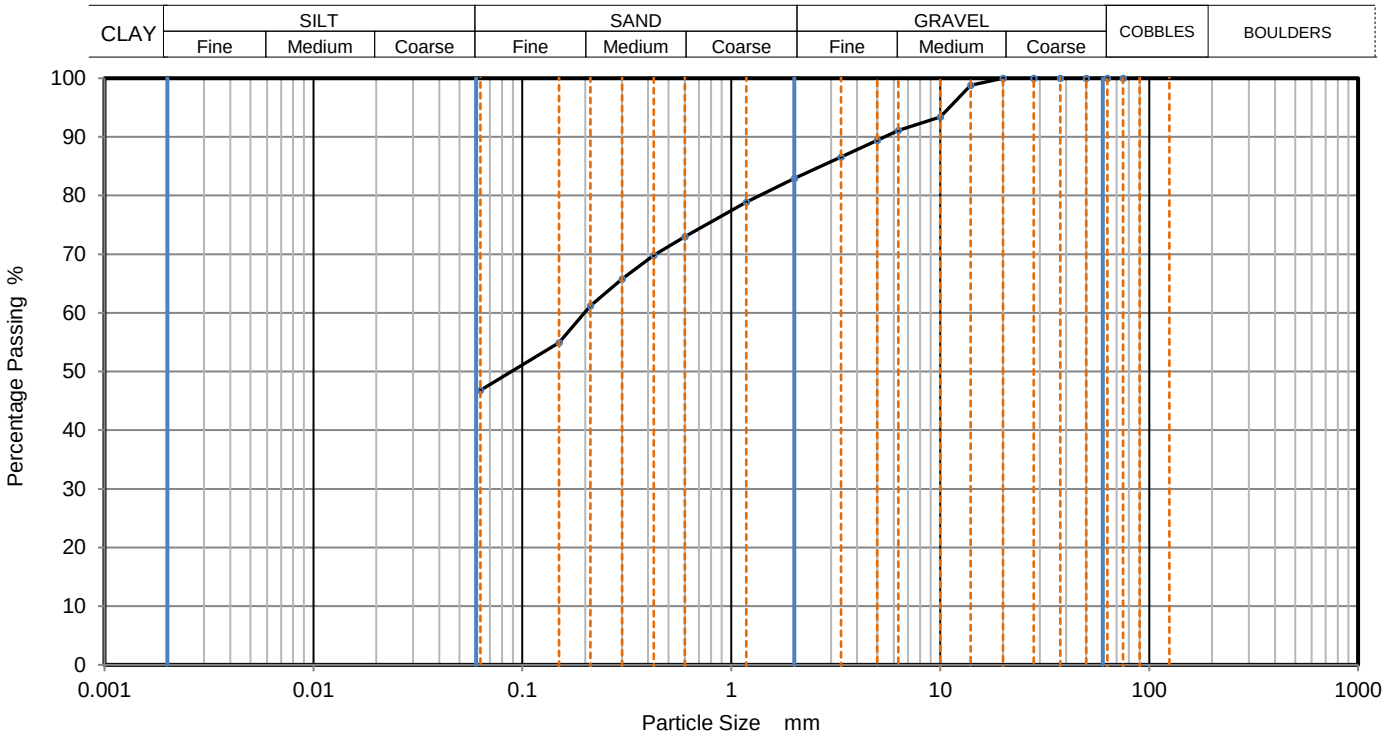
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:31 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC02A |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Dark grey slightly gravelly sandy SILT. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021022649 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 99 | | |
| 10 | 93 | | |
| 6.3 | 91 | | |
| 5 | 89 | | |
| 3.35 | 87 | | |
| 2 | 83 | | |
| 1.18 | 79 | | |
| 0.6 | 73 | | |
| 0.425 | 70 | | |
| 0.3 | 66 | | |
| 0.212 | 61 | | |
| 0.15 | 55 | | |
| 0.063 | 47 | | |

| | |
|---|---|
| Dry Mass of sample, g | 665 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 17 |
| Sand | 36 |
| | |
| Fines <0.063mm | 47 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.198 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

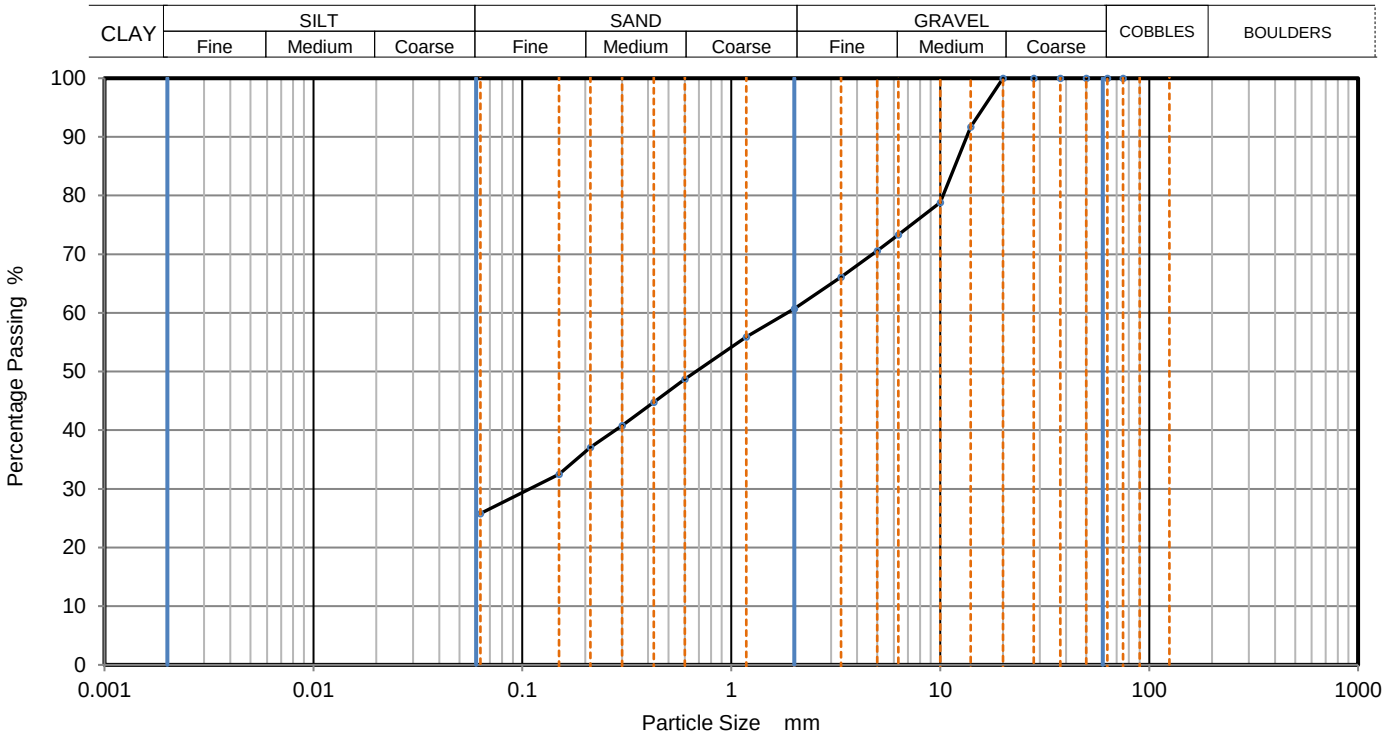
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:31 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | | | |
|---|---|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | | | Job Ref | **2021LD101** |
| | | | | Borehole/Pit No. | BHRC02B |
| Site Name | Derryadd Wind Farm | | | Sample No. | 4 |
| Soil Description | Black peaty SILT. | | | Depth, m | 1.00 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | | | KeyLAB ID | IDL12021022658 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 92 | | |
| 10 | 79 | | |
| 6.3 | 73 | | |
| 5 | 71 | | |
| 3.35 | 66 | | |
| 2 | 61 | | |
| 1.18 | 56 | | |
| 0.6 | 49 | | |
| 0.425 | 45 | | |
| 0.3 | 41 | | |
| 0.212 | 37 | | |
| 0.15 | 33 | | |
| 0.063 | 26 | | |

| | |
|---|---|
| Dry Mass of sample, g | 267 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 39 |
| Sand | 35 |
| | |
| Fines <0.063mm | 26 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.85 |
| D30 | mm | 0.108 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

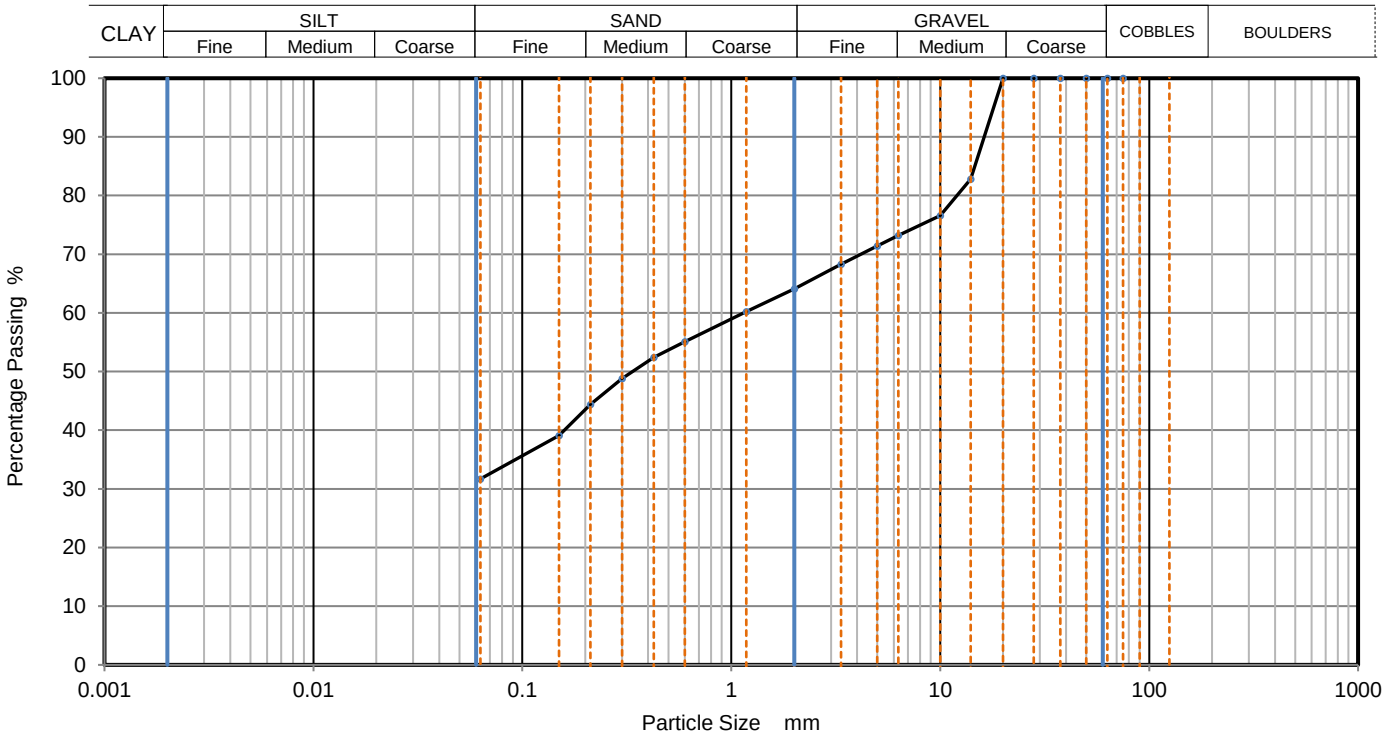
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:31 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC02B |
| Site Name | Derryadd Wind Farm | Sample No. | 10 |
| Soil Description | Dark grey very silty very sandy GRAVEL. | Depth, m | 3.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021022664 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 83 | | |
| 10 | 77 | | |
| 6.3 | 73 | | |
| 5 | 71 | | |
| 3.35 | 68 | | |
| 2 | 64 | | |
| 1.18 | 60 | | |
| 0.6 | 55 | | |
| 0.425 | 52 | | |
| 0.3 | 49 | | |
| 0.212 | 44 | | |
| 0.15 | 39 | | |
| 0.063 | 32 | | |

| | |
|---|---|
| Dry Mass of sample, g | 671 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 36 |
| Sand | 32 |
| | |
| Fines <0.063mm | 32 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.15 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

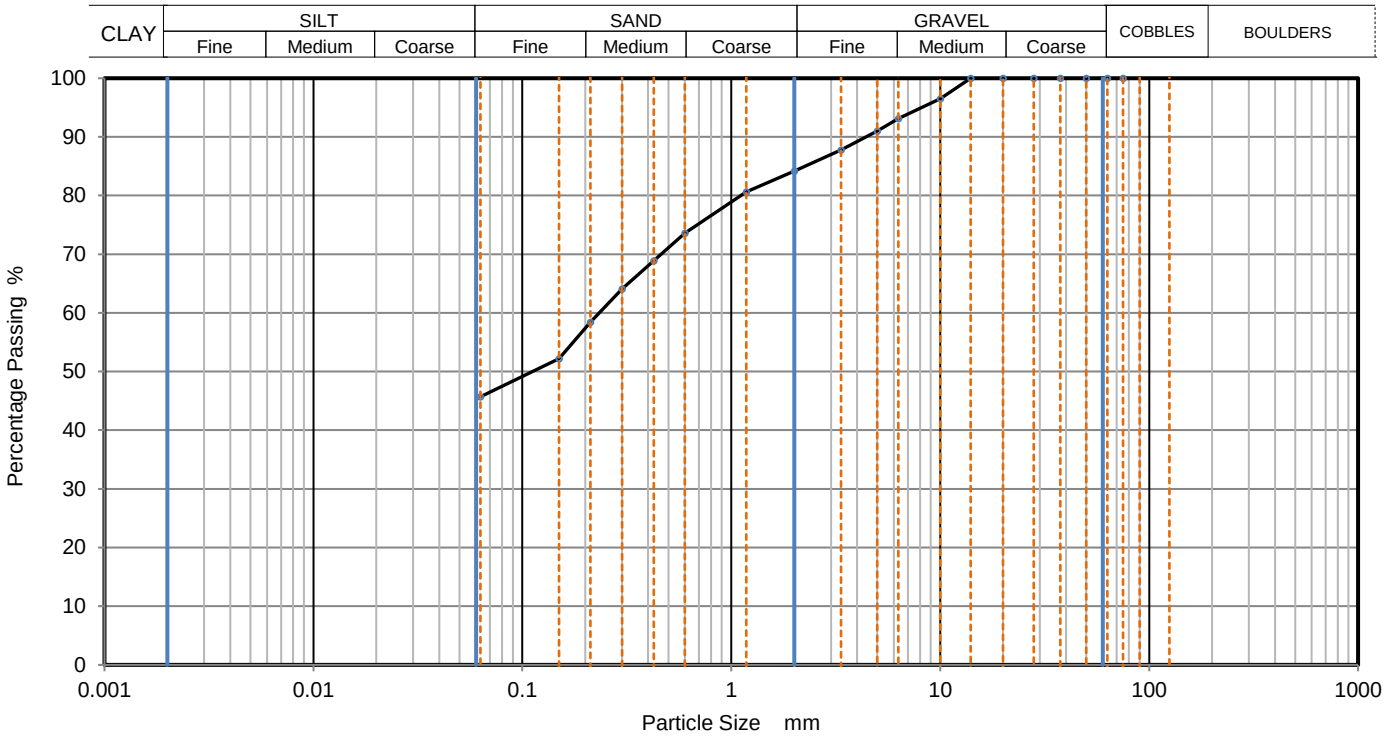
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:31 | **1** QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC03A |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Dark grey slightly gravelly sandy SILT. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021030532 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 97 | | |
| 6.3 | 93 | | |
| 5 | 91 | | |
| 3.35 | 88 | | |
| 2 | 84 | | |
| 1.18 | 81 | | |
| 0.6 | 74 | | |
| 0.425 | 69 | | |
| 0.3 | 64 | | |
| 0.212 | 58 | | |
| 0.15 | 52 | | |
| 0.063 | 46 | | |

| | |
|---|---|
| Dry Mass of sample, g | 768 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 16 |
| Sand | 39 |
| | |
| Fines <0.063mm | 46 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.234 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

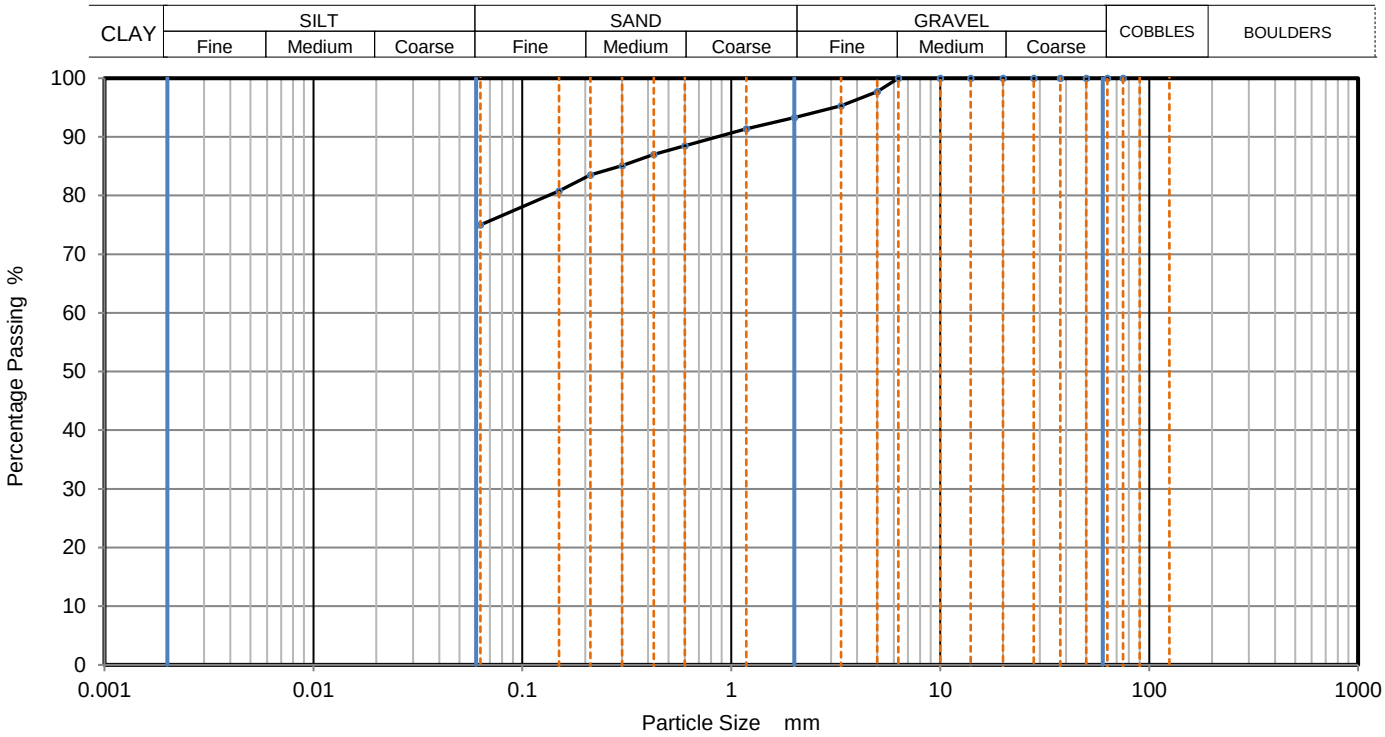
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:31 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC04A |
| Site Name | Derryadd Wind Farm | Sample No. | 10 |
| Soil Description | Dark grey slightly gravelly slightly sandy SILT. | Depth, m | 3.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL1202103239 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 98 | | |
| 3.35 | 95 | | |
| 2 | 93 | | |
| 1.18 | 91 | | |
| 0.6 | 89 | | |
| 0.425 | 87 | | |
| 0.3 | 85 | | |
| 0.212 | 84 | | |
| 0.15 | 81 | | |
| 0.063 | 75 | | |

| | |
|---|---|
| Dry Mass of sample, g | 306 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 7 |
| Sand | 18 |
| | |
| Fines <0.063mm | 75 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:31 | 1<br>QC From No:R2 |

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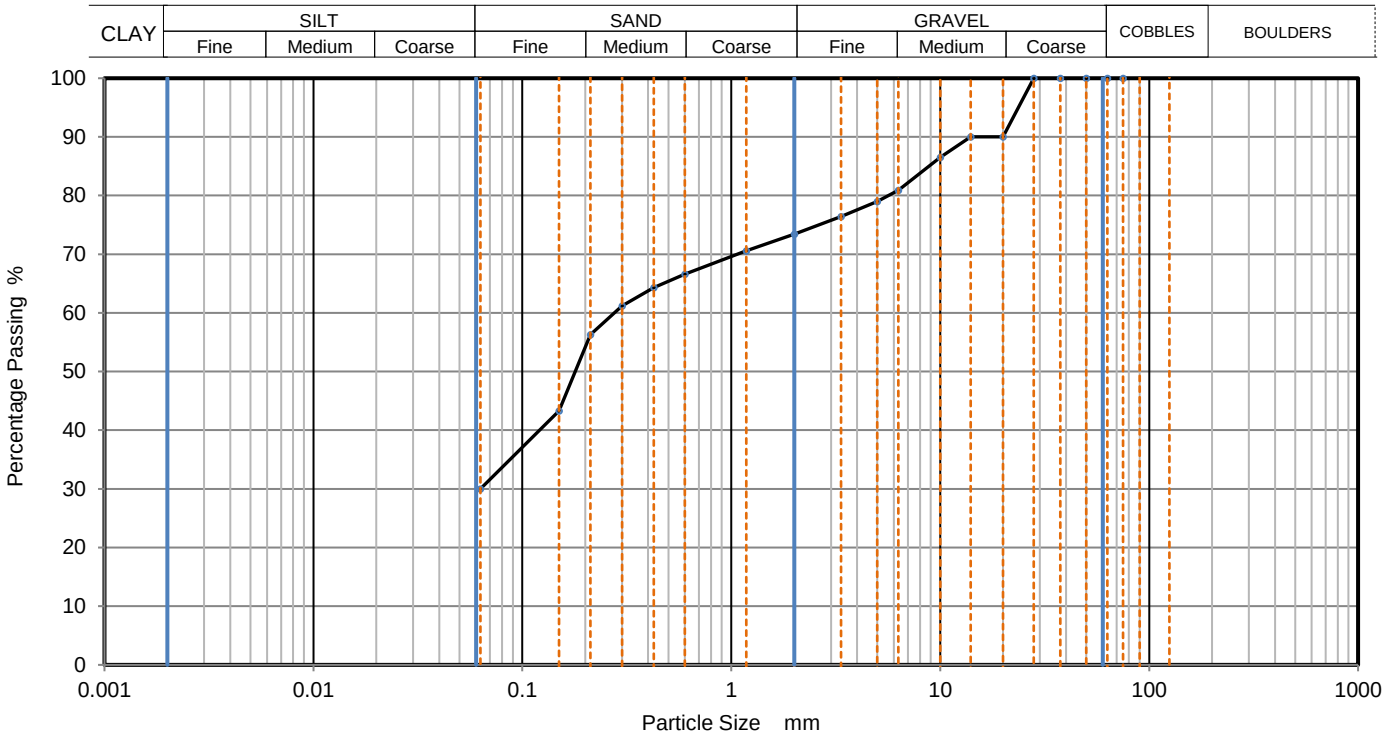
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC05B |
| Site Name | Derryadd Wind Farm | Sample No. | 7 |
| Soil Description | Dark grey very gravelly very silty fine SAND. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021030563 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 90 | | |
| 14 | 90 | | |
| 10 | 87 | | |
| 6.3 | 81 | | |
| 5 | 79 | | |
| 3.35 | 76 | | |
| 2 | 73 | | |
| 1.18 | 71 | | |
| 0.6 | 67 | | |
| 0.425 | 64 | | |
| 0.3 | 61 | | |
| 0.212 | 56 | | |
| 0.15 | 43 | | |
| 0.063 | 30 | | |

Dry Mass of sample, g: 605

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 27 |
| Sand | 43 |
| | |
| Fines <0.063mm | 30 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.276 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:31 | 1<br>QC From No:R2 |

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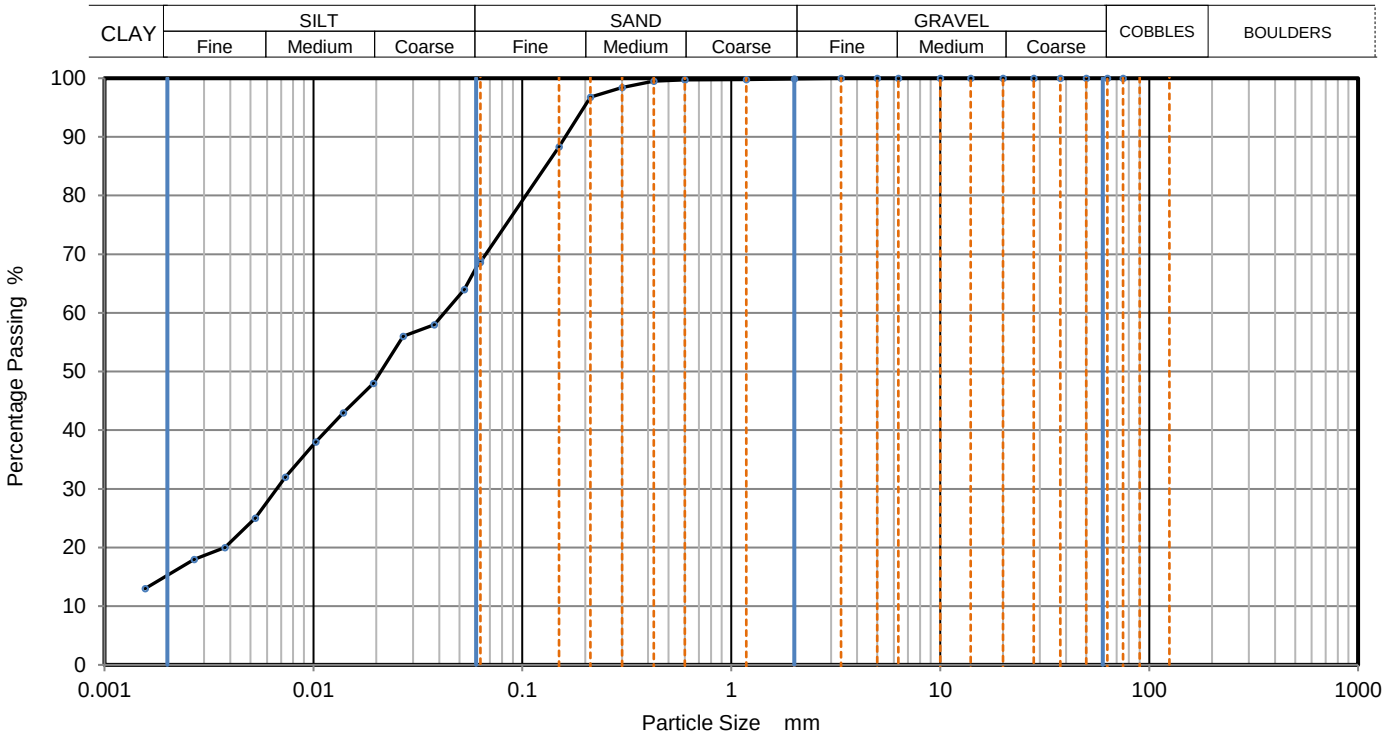
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC07A |
| Site Name | Derryadd Wind Farm | Sample No. | 9 |
| Soil Description | Dark grey slightly sandy SILT. Sand is fine. | Depth, m | 3.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021032364 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 69 |
| | | 0.0528 | 64 |
| 75 | 100 | 0.0378 | 58 |
| 63 | 100 | 0.0269 | 56 |
| 50 | 100 | 0.0194 | 48 |
| 37.5 | 100 | 0.0139 | 43 |
| 28 | 100 | 0.0103 | 38 |
| 20 | 100 | 0.0074 | 32 |
| 14 | 100 | 0.0053 | 25 |
| 10 | 100 | 0.0038 | 20 |
| 6.3 | 100 | 0.0027 | 18 |
| 5 | 100 | 0.0016 | 13 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density (assumed) | |
| 0.425 | 100 | 2.65 Mg/m3 | |
| 0.3 | 98 | | |
| 0.212 | 97 | | |
| 0.15 | 88 | | |
| 0.063 | 69 | | |

| | |
|---|---|
| Dry Mass of sample, g | 431 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 31 |
| Silt | 54 |
| Clay | 15 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0419 |
| D30 | mm | 0.00664 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:31 | 1<br>QC From No:R2 |

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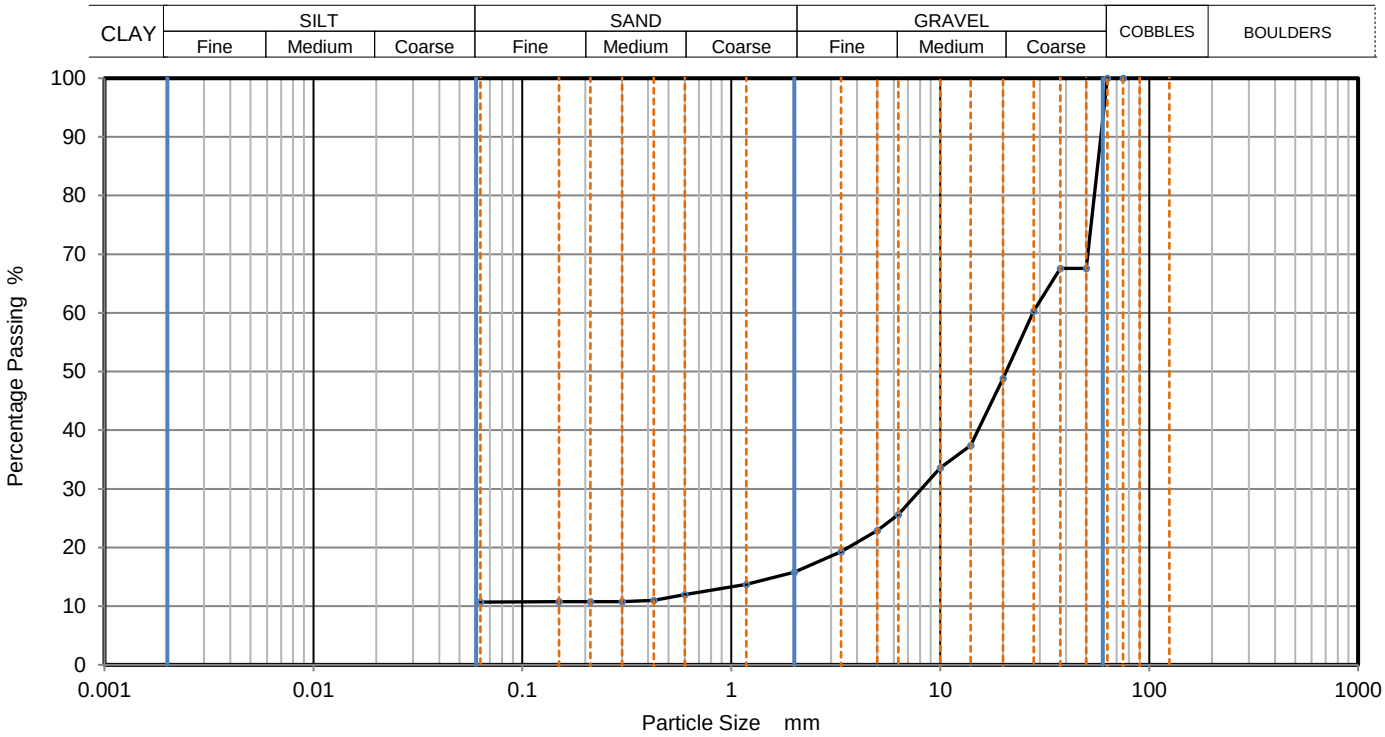
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC07B |
| Site Name | Derryadd Wind Farm | Sample No. | 16 |
| Soil Description | Grey sandy silty coarse GRAVEL. | Depth, m | 5.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021032388 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 68 | | |
| 37.5 | 68 | | |
| 28 | 60 | | |
| 20 | 49 | | |
| 14 | 37 | | |
| 10 | 34 | | |
| 6.3 | 26 | | |
| 5 | 23 | | |
| 3.35 | 19 | | |
| 2 | 16 | | |
| 1.18 | 14 | | |
| 0.6 | 12 | | |
| 0.425 | 11 | | |
| 0.3 | 11 | | |
| 0.212 | 11 | | |
| 0.15 | 11 | | |
| 0.063 | 11 | | |

Dry Mass of sample, g: 1465

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 84 |
| Sand | 5 |
| | |
| Fines <0.063mm | 11 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 27.7 |
| D30 | mm | 8.12 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:31 | 1<br>QC From No:R2 |

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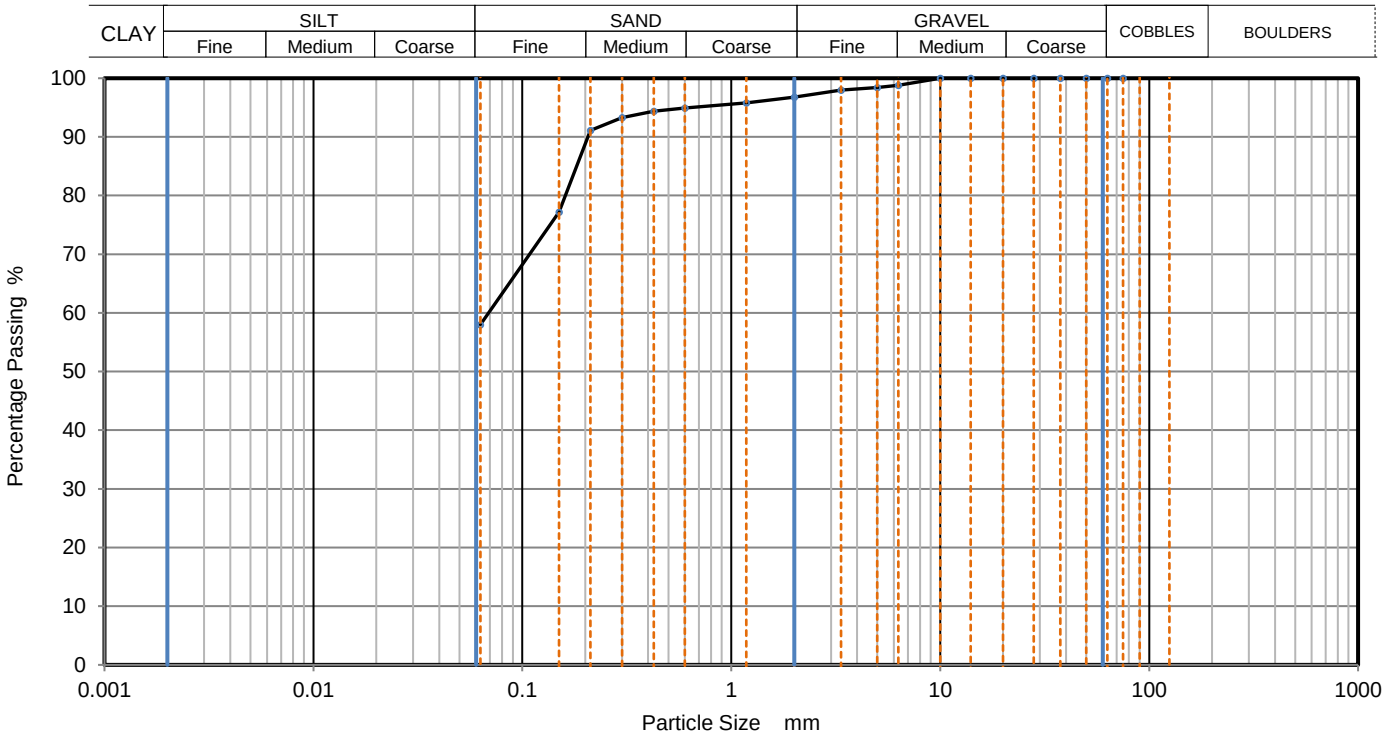
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC08A |
| Site Name | Derryadd Wind Farm | Sample No. | 9 |
| Soil Description | Dark grey slightly gravelly sandy SILT. Sand is fine. | Depth, m | 3.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210323102 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 99 | | |
| 5 | 98 | | |
| 3.35 | 98 | | |
| 2 | 97 | | |
| 1.18 | 96 | | |
| 0.6 | 95 | | |
| 0.425 | 94 | | |
| 0.3 | 93 | | |
| 0.212 | 91 | | |
| 0.15 | 77 | | |
| 0.063 | 58 | | |

| | |
|---|---|
| Dry Mass of sample, g | 420 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 3 |
| Sand | 39 |
| | |
| Fines <0.063mm | 58 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.069 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:31 | 1<br>QC From No:R2 |

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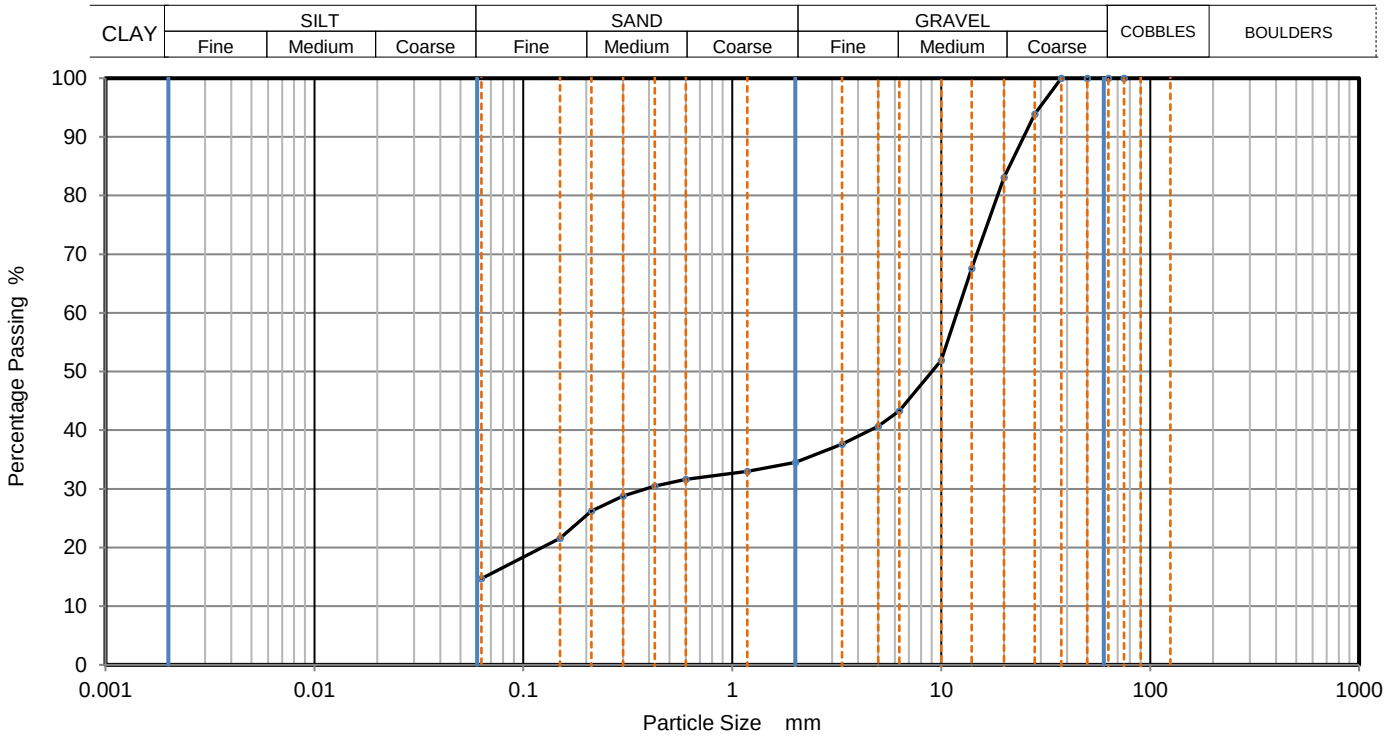
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC08A |
| Site Name | Derryadd Wind Farm | Sample No. | 12 |
| Soil Description | Dark grey silty very sandy medium GRAVEL. | Depth, m | 4.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210323105 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 94 | | |
| 20 | 83 | | |
| 14 | 68 | | |
| 10 | 52 | | |
| 6.3 | 43 | | |
| 5 | 41 | | |
| 3.35 | 38 | | |
| 2 | 35 | | |
| 1.18 | 33 | | |
| 0.6 | 32 | | |
| 0.425 | 31 | | |
| 0.3 | 29 | | |
| 0.212 | 26 | | |
| 0.15 | 22 | | |
| 0.063 | 15 | | |

Dry Mass of sample, g: 733

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 66 |
| Sand | 20 |
| | |
| Fines <0.063mm | 15 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 11.9 |
| D30 | mm | 0.383 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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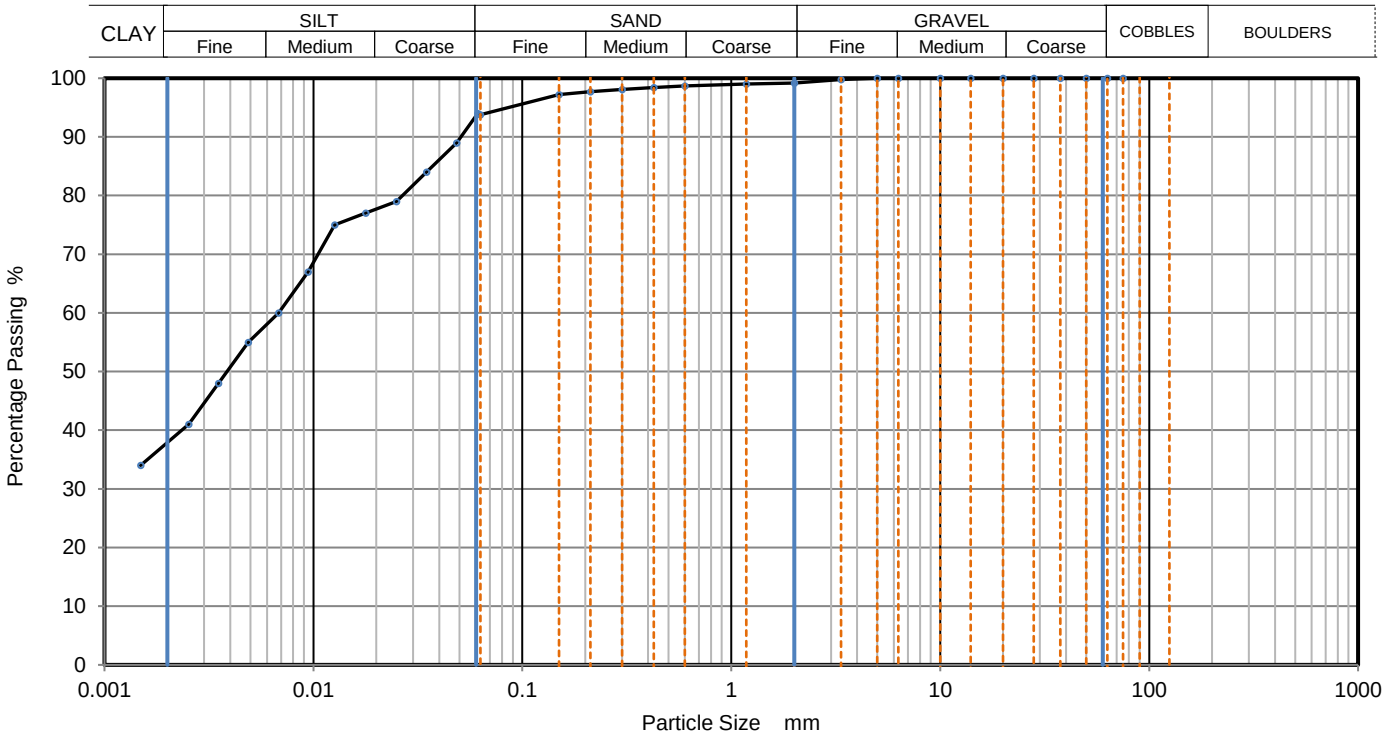
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC09A |
| Site Name | Derryadd Wind Farm | Sample No. | 11 |
| Soil Description | Dark grey slightly sandy SILT. | Depth, m | 4.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021032631 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0611 | 94 |
| | | 0.0484 | 89 |
| 75 | 100 | 0.0347 | 84 |
| 63 | 100 | 0.0249 | 79 |
| 50 | 100 | 0.0178 | 77 |
| 37.5 | 100 | 0.0127 | 75 |
| 28 | 100 | 0.0094 | 67 |
| 20 | 100 | 0.0068 | 60 |
| 14 | 100 | 0.0049 | 55 |
| 10 | 100 | 0.0035 | 48 |
| 6.3 | 100 | 0.0025 | 41 |
| 5 | 100 | 0.0015 | 34 |
| 3.35 | 100 | | |
| 2 | 99 | | |
| 1.18 | 99 | | |
| 0.6 | 99 | Particle density | (assumed) |
| 0.425 | 98 | 2.65 | Mg/m3 |
| 0.3 | 98 | | |
| 0.212 | 98 | | |
| 0.15 | 97 | | |
| 0.063 | 94 | | |

| | |
|---|---|
| Dry Mass of sample, g | 318 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 1 |
| Sand | 5 |
| Silt | 56 |
| Clay | 38 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00675 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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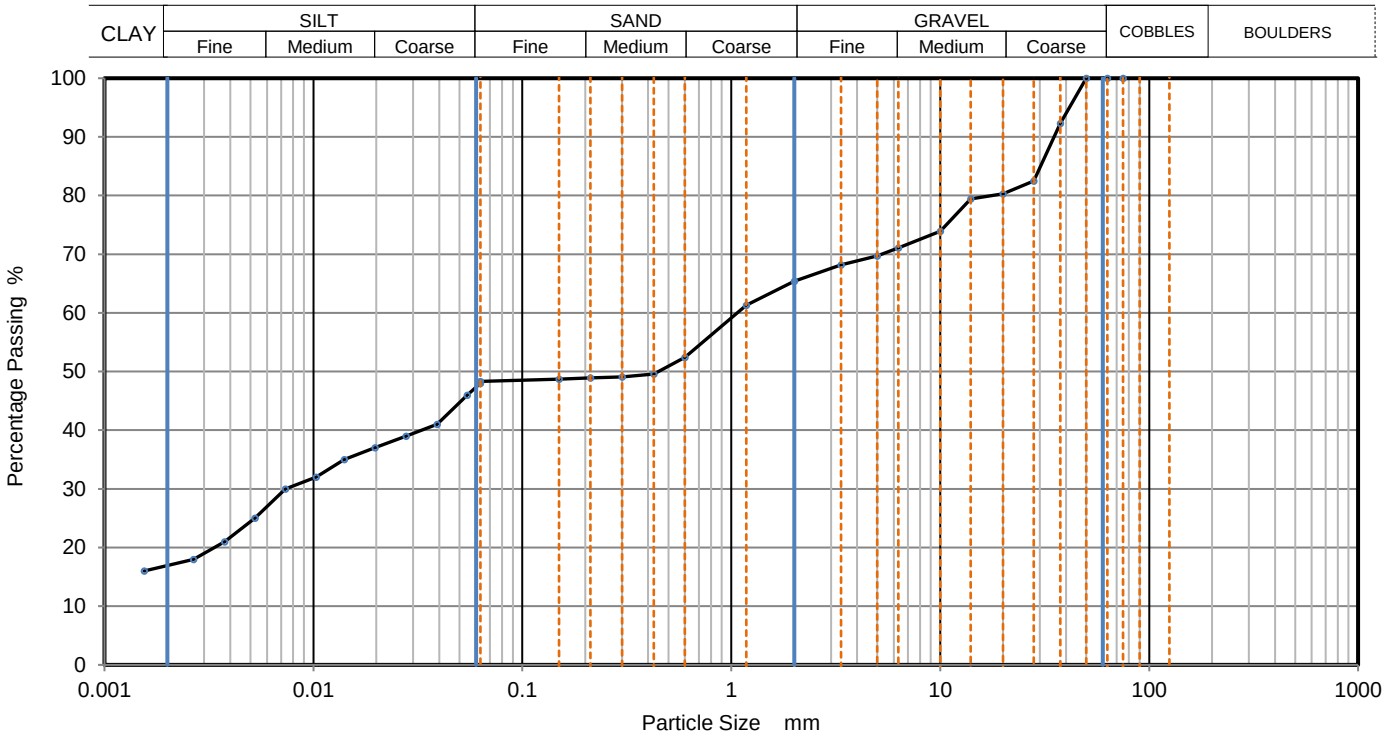
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC09B |
| Site Name | Derryadd Wind Farm | Sample No. | 15 |
| Soil Description | Dark grey slightly sandy gravelly SILT. Gravel is coarse. | Depth, m | 5.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021032653 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 48 |
| | | 0.0545 | 46 |
| 75 | 100 | 0.0390 | 41 |
| 63 | 100 | 0.0278 | 39 |
| 50 | 100 | 0.0197 | 37 |
| 37.5 | 92 | 0.0140 | 35 |
| 28 | 83 | 0.0103 | 32 |
| 20 | 80 | 0.0073 | 30 |
| 14 | 79 | 0.0052 | 25 |
| 10 | 74 | 0.0038 | 21 |
| 6.3 | 71 | 0.0027 | 18 |
| 5 | 70 | 0.0015 | 16 |
| 3.35 | 68 | | |
| 2 | 65 | | |
| 1.18 | 61 | | |
| 0.6 | 52 | Particle density | (assumed) |
| 0.425 | 50 | 2.65 | Mg/m3 |
| 0.3 | 49 | | |
| 0.212 | 49 | | |
| 0.15 | 49 | | |
| 0.063 | 48 | | |

| | |
|---|---|
| Dry Mass of sample, g | 853 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 35 |
| Sand | 17 |
| Silt | 31 |
| Clay | 17 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.07 |
| D30 | mm | 0.00745 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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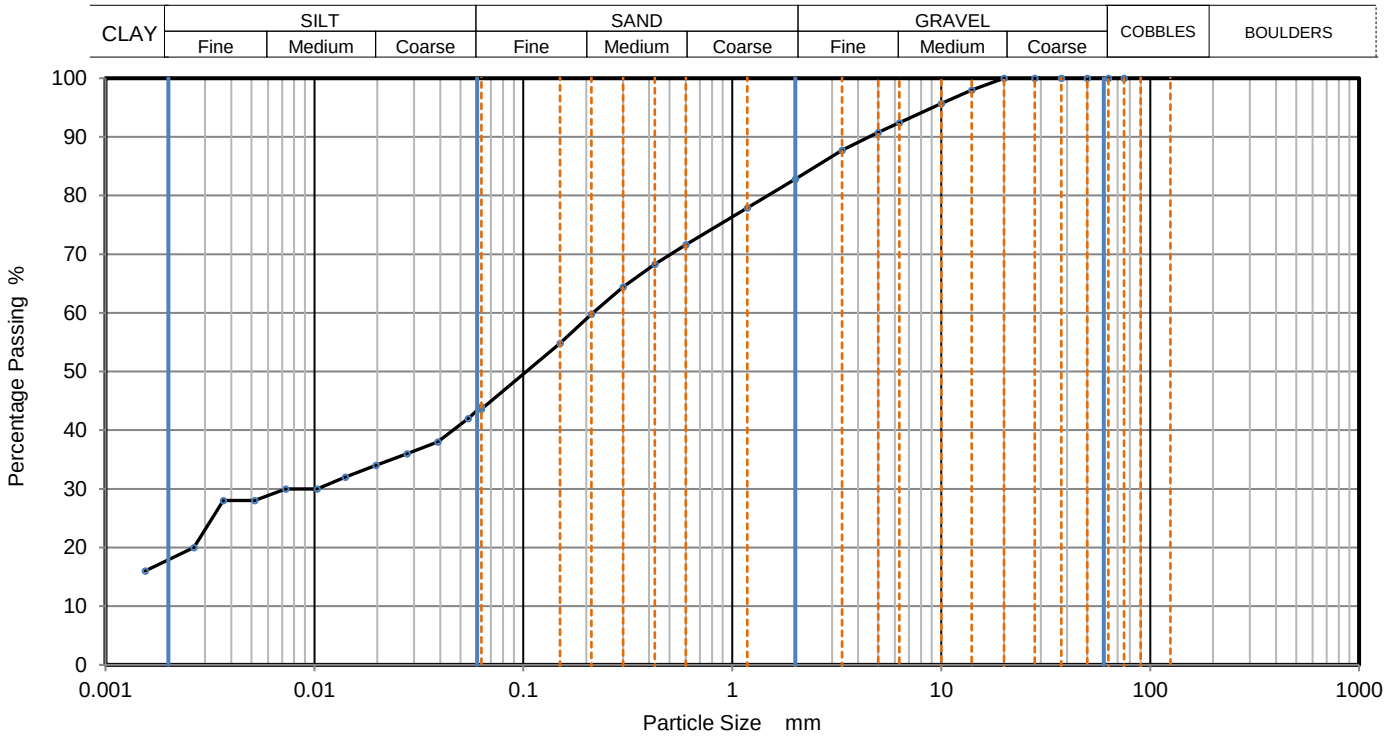
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC10B |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Grey slightly gravelly sandy SILT. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210518188 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 44 |
| | | 0.0544 | 42 |
| 75 | 100 | 0.0390 | 38 |
| 63 | 100 | 0.0277 | 36 |
| 50 | 100 | 0.0197 | 34 |
| 37.5 | 100 | 0.0140 | 32 |
| 28 | 100 | 0.0103 | 30 |
| 20 | 100 | 0.0073 | 30 |
| 14 | 98 | 0.0052 | 28 |
| 10 | 96 | 0.0037 | 28 |
| 6.3 | 92 | 0.0027 | 20 |
| 5 | 91 | 0.0015 | 16 |
| 3.35 | 88 | | |
| 2 | 83 | | |
| 1.18 | 78 | | |
| 0.6 | 72 | Particle density (assumed) | |
| 0.425 | 68 | 2.65 Mg/m3 | |
| 0.3 | 64 | | |
| 0.212 | 60 | | |
| 0.15 | 55 | | |
| 0.063 | 44 | | |

| | |
|---|---|
| Dry Mass of sample, g | 422 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 17 |
| Sand | 39 |
| Silt | 26 |
| Clay | 18 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.215 |
| D30 | mm | 0.0108 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

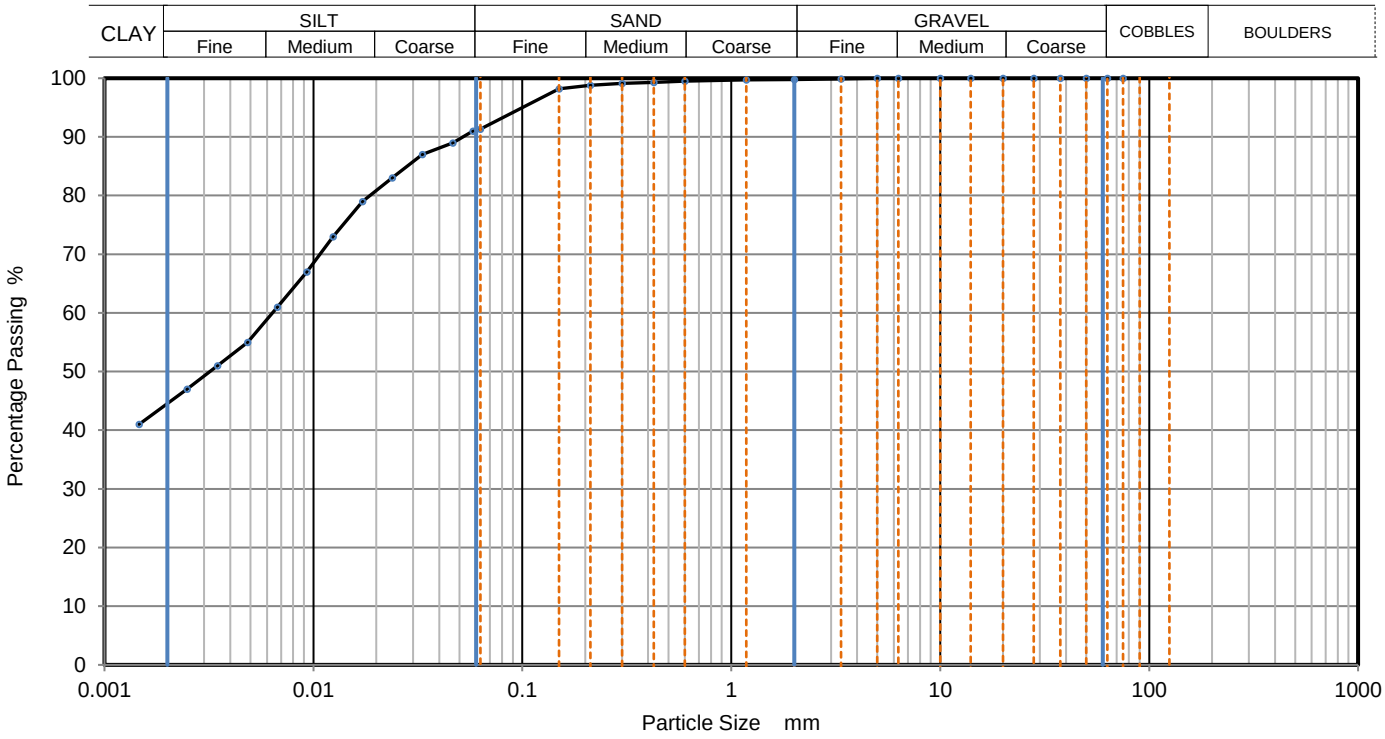
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC12B |
| Site Name | Derryadd Wind Farm | Sample No. | 7 |
| Soil Description | Grey slightly sandy SILT. | Depth, m | 2.50 |
| Specimen Reference | Specimen Depth m | Sample Type | D |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021041360 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0580 | 91 |
| | | 0.0465 | 89 |
| 75 | 100 | 0.0332 | 87 |
| 63 | 100 | 0.0239 | 83 |
| 50 | 100 | 0.0172 | 79 |
| 37.5 | 100 | 0.0124 | 73 |
| 28 | 100 | 0.0093 | 67 |
| 20 | 100 | 0.0067 | 61 |
| 14 | 100 | 0.0048 | 55 |
| 10 | 100 | 0.0035 | 51 |
| 6.3 | 100 | 0.0025 | 47 |
| 5 | 100 | 0.0015 | 41 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density (assumed) | |
| 0.425 | 99 | 2.65 Mg/m3 | |
| 0.3 | 99 | | |
| 0.212 | 99 | | |
| 0.15 | 98 | | |
| 0.063 | 91 | | |

Dry Mass of sample, g: 190

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 9 |
| Silt | 47 |
| Clay | 44 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00641 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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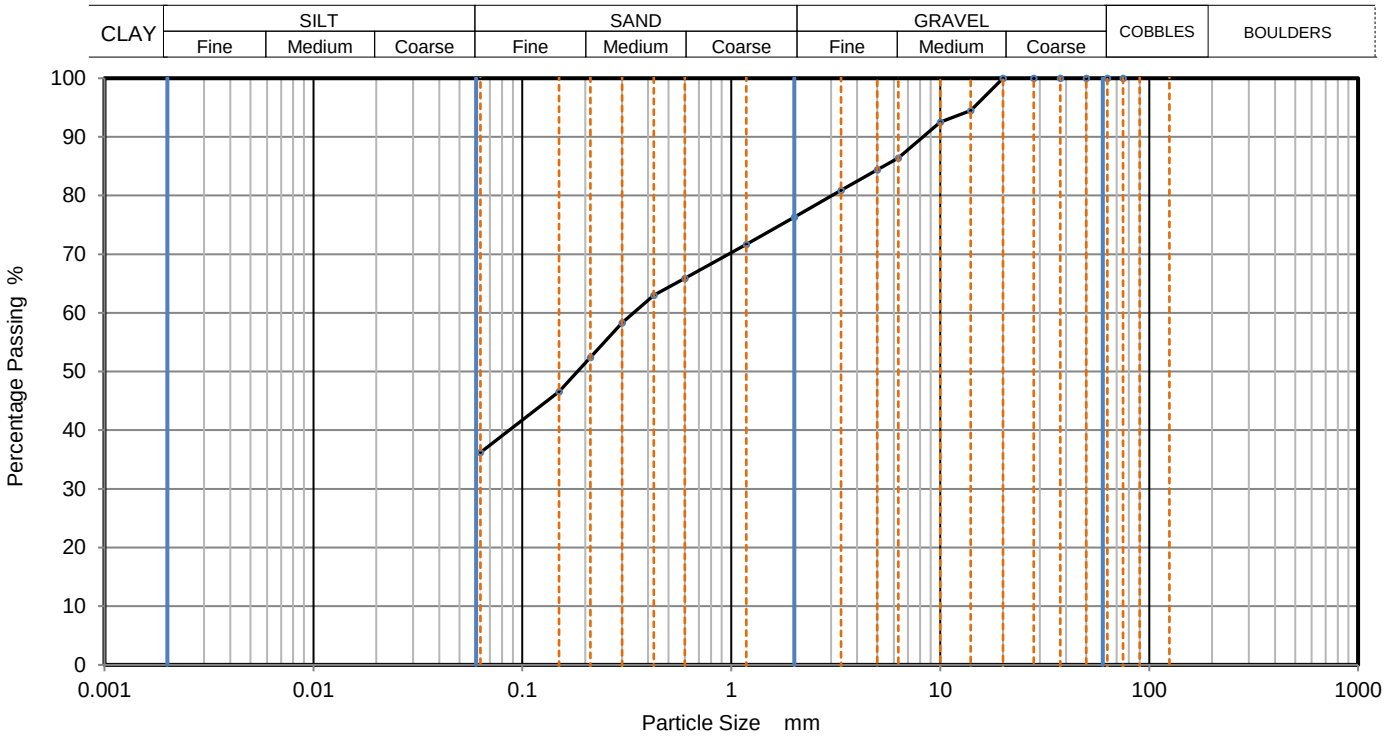
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC14B |
| Site Name | Derryadd Wind Farm | Sample No. | 9 |
| Soil Description | Grey slightly gravelly sandy SILT. | Depth, m | 3.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210423184 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 95 | | |
| 10 | 93 | | |
| 6.3 | 86 | | |
| 5 | 84 | | |
| 3.35 | 81 | | |
| 2 | 76 | | |
| 1.18 | 72 | | |
| 0.6 | 66 | | |
| 0.425 | 63 | | |
| 0.3 | 58 | | |
| 0.212 | 52 | | |
| 0.15 | 47 | | |
| 0.063 | 36 | | |

| | |
|---|---|
| Dry Mass of sample, g | 446 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 24 |
| Sand | 40 |
| | |
| Fines <0.063mm | 36 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.34 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | **1** QC From No:R2 |

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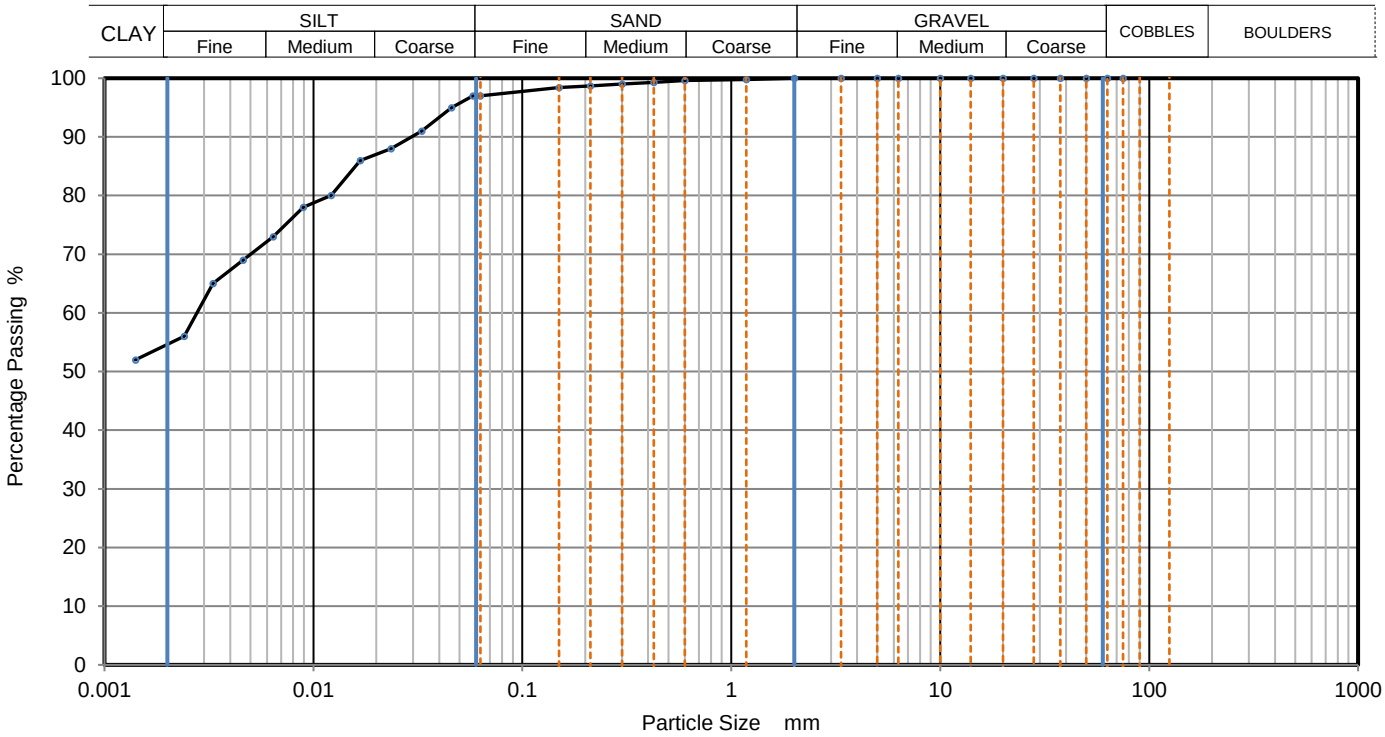
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC15B |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Grey slightly sandy silty CLAY. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210423201 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0580 | 97 |
| | | 0.0459 | 95 |
| 75 | 100 | 0.0330 | 91 |
| 63 | 100 | 0.0235 | 88 |
| 50 | 100 | 0.0168 | 86 |
| 37.5 | 100 | 0.0122 | 80 |
| 28 | 100 | 0.0089 | 78 |
| 20 | 100 | 0.0064 | 73 |
| 14 | 100 | 0.0046 | 69 |
| 10 | 100 | 0.0033 | 65 |
| 6.3 | 100 | 0.0024 | 56 |
| 5 | 100 | 0.0014 | 52 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density | (assumed) |
| 0.425 | 99 | 2.65 | Mg/m3 |
| 0.3 | 99 | | |
| 0.212 | 99 | | |
| 0.15 | 98 | | |
| 0.063 | 97 | | |

| | |
|---|---|
| Dry Mass of sample, g | 230 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 3 |
| Silt | 42 |
| Clay | 55 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00278 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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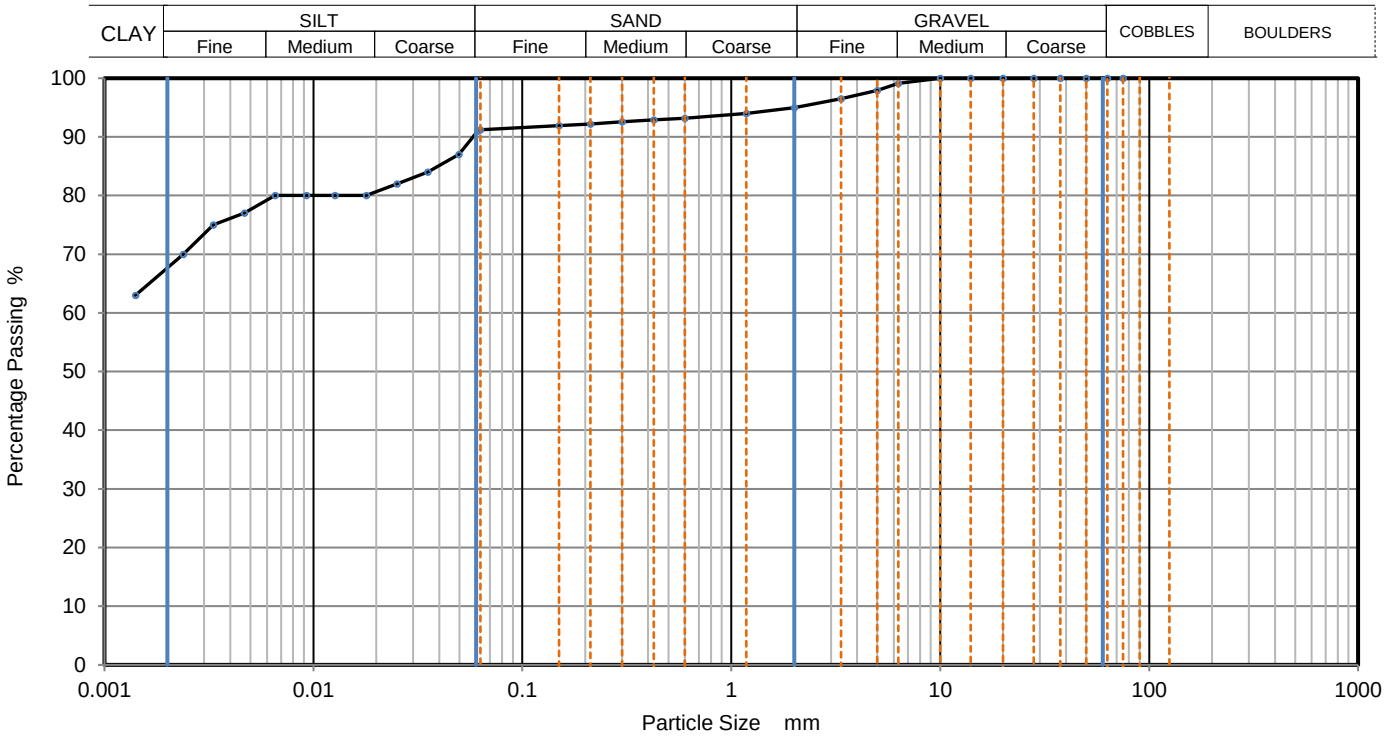
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC15C |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Grey and black slightly gravelly slightly sandy silty CLAY. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210518205 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0611 | 91 |
| | | 0.0496 | 87 |
| 75 | 100 | 0.0353 | 84 |
| 63 | 100 | 0.0252 | 82 |
| 50 | 100 | 0.0179 | 80 |
| 37.5 | 100 | 0.0127 | 80 |
| 28 | 100 | 0.0093 | 80 |
| 20 | 100 | 0.0066 | 80 |
| 14 | 100 | 0.0047 | 77 |
| 10 | 100 | 0.0033 | 75 |
| 6.3 | 99 | 0.0024 | 70 |
| 5 | 98 | 0.0014 | 63 |
| 3.35 | 97 | | |
| 2 | 95 | | |
| 1.18 | 94 | | |
| 0.6 | 93 | Particle density | (assumed) |
| 0.425 | 93 | 2.65 | Mg/m3 |
| 0.3 | 93 | | |
| 0.212 | 92 | | |
| 0.15 | 92 | | |
| 0.063 | 91 | | |

| | |
|---|---|
| Dry Mass of sample, g | 215 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 5 |
| Sand | 4 |
| Silt | 24 |
| Clay | 68 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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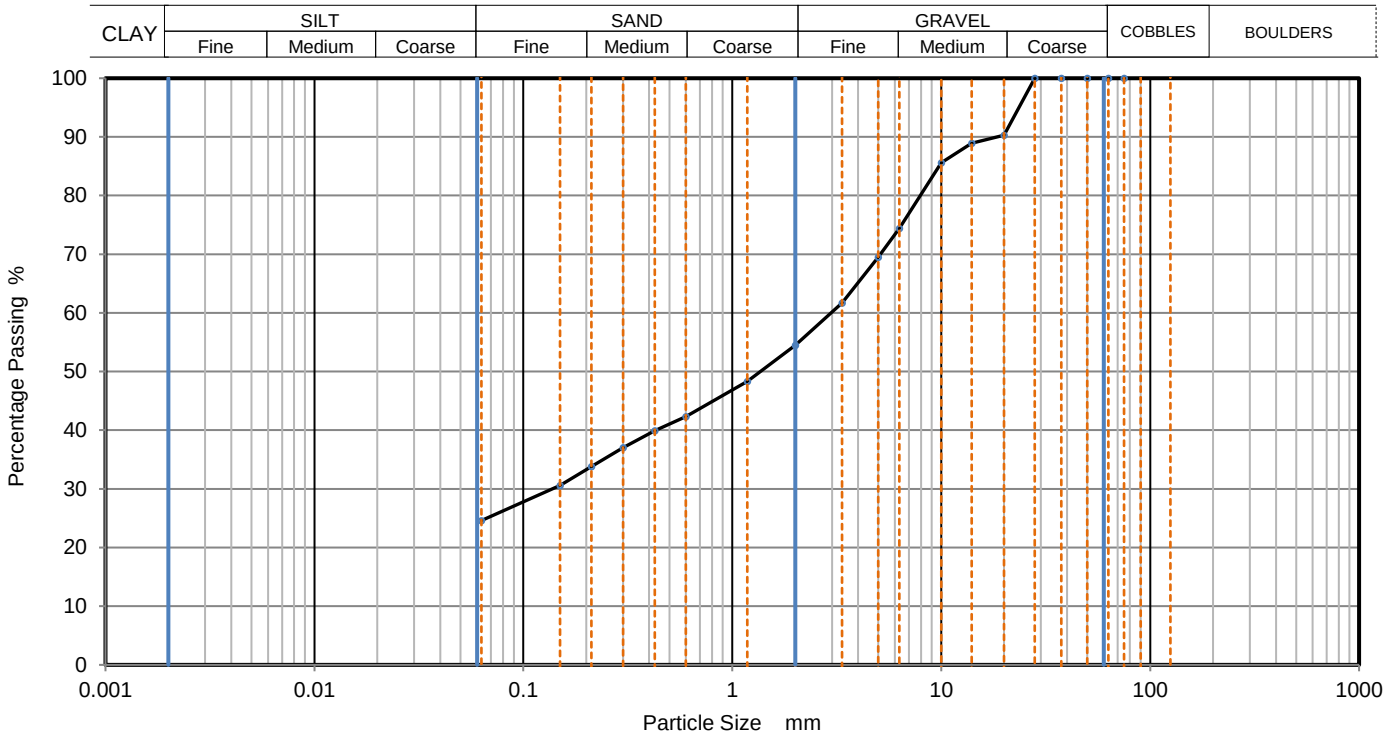
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC16B |
| Site Name | Derryadd Wind Farm | Sample No. | 12 |
| Soil Description | Grey very silty very sandy fine and medium GRAVEL. | Depth, m | 3.60 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210423226 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 90 | | |
| 14 | 89 | | |
| 10 | 86 | | |
| 6.3 | 74 | | |
| 5 | 70 | | |
| 3.35 | 62 | | |
| 2 | 55 | | |
| 1.18 | 48 | | |
| 0.6 | 42 | | |
| 0.425 | 40 | | |
| 0.3 | 37 | | |
| 0.212 | 34 | | |
| 0.15 | 31 | | |
| 0.063 | 25 | | |

| | |
|---|---|
| Dry Mass of sample, g | 591 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 46 |
| Sand | 30 |
| | |
| Fines <0.063mm | 25 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 2.96 |
| D30 | mm | 0.137 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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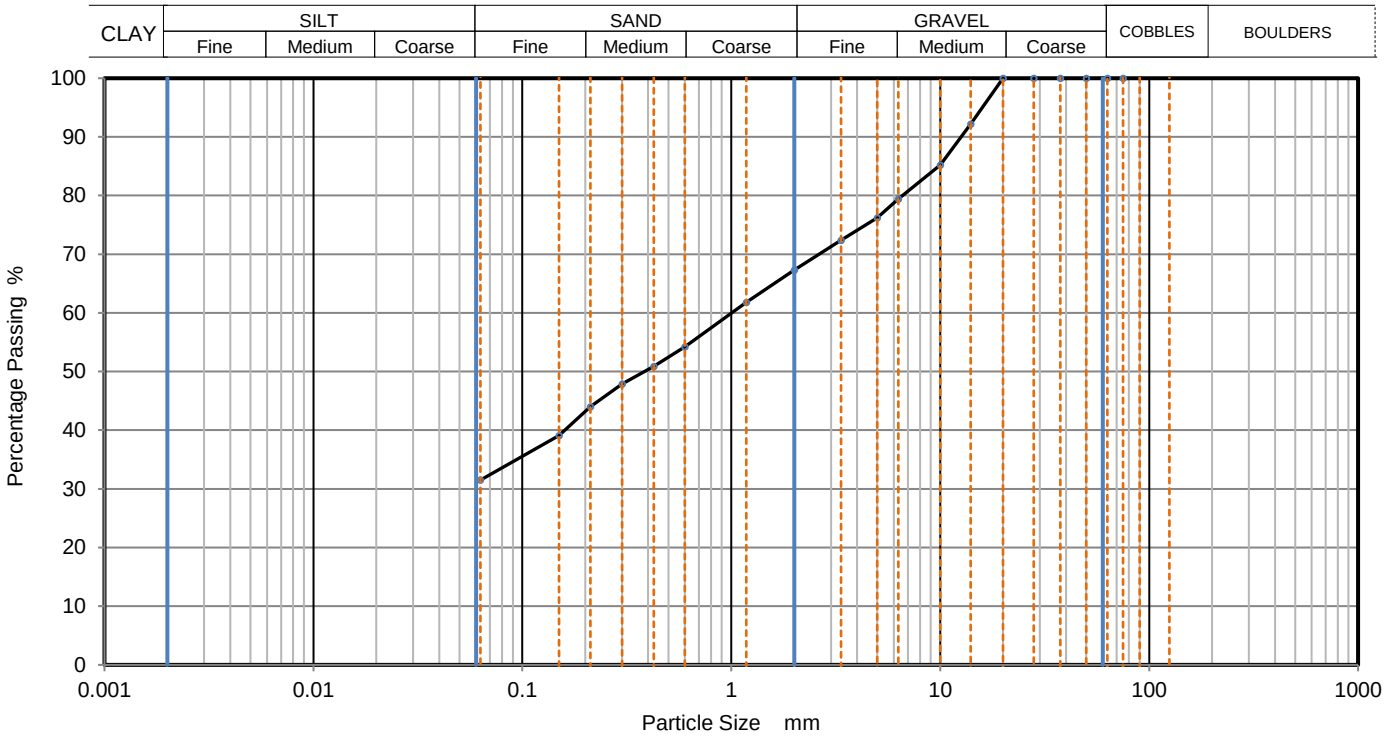
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC18A |
| Site Name | Derryadd Wind Farm | Sample No. | 7 |
| Soil Description | Light grey very silty SAND and GRAVEL. Gravel is medium. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL1202104306 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 92 | | |
| 10 | 85 | | |
| 6.3 | 79 | | |
| 5 | 76 | | |
| 3.35 | 72 | | |
| 2 | 67 | | |
| 1.18 | 62 | | |
| 0.6 | 54 | | |
| 0.425 | 51 | | |
| 0.3 | 48 | | |
| 0.212 | 44 | | |
| 0.15 | 39 | | |
| 0.063 | 32 | | |

| | |
|---|---|
| Dry Mass of sample, g | 509 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 33 |
| Sand | 36 |
| | |
| Fines <0.063mm | 32 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | **1** QC From No:R2 |

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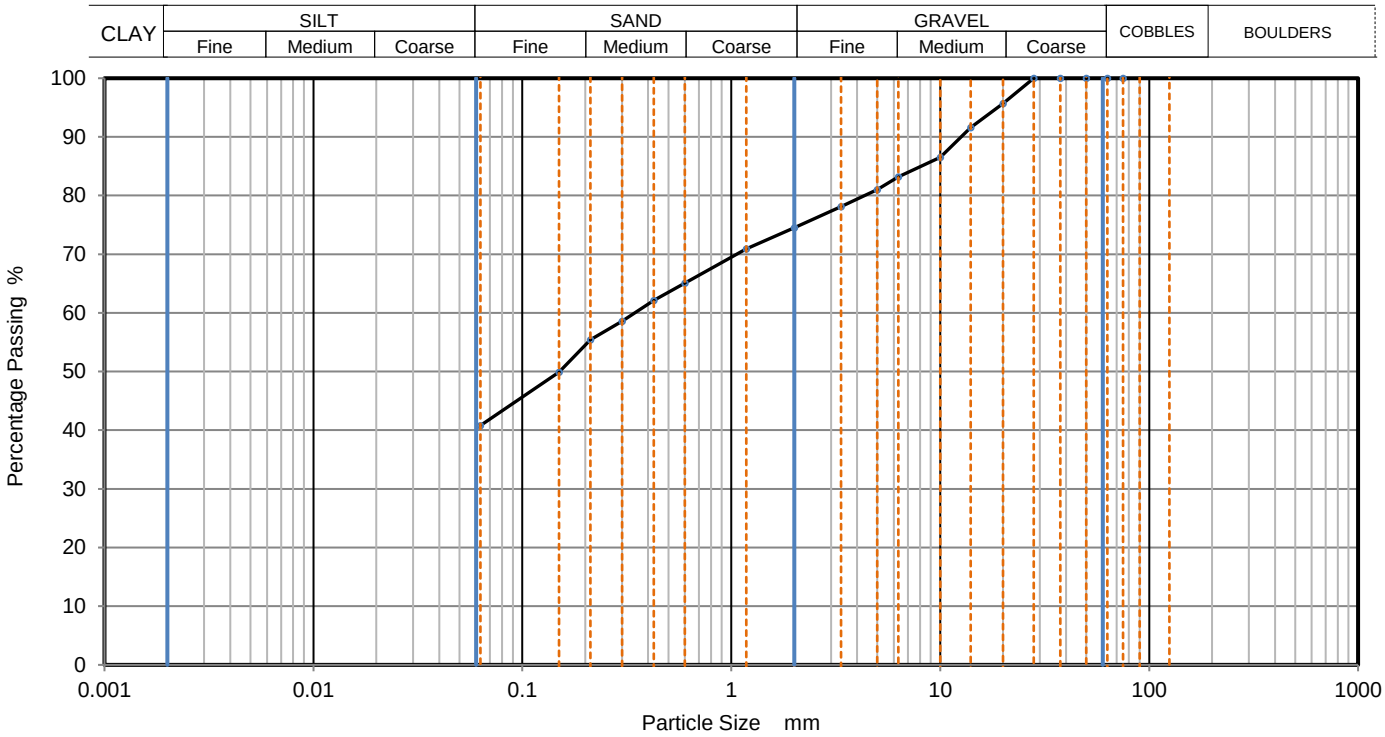
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC19B |
| Site Name | Derryadd Wind Farm | Sample No. | 10 |
| Soil Description | Brownish-grey slightly gravelly sandy SILT. | Depth, m | 3.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210511161 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 96 | | |
| 14 | 92 | | |
| 10 | 87 | | |
| 6.3 | 83 | | |
| 5 | 81 | | |
| 3.35 | 78 | | |
| 2 | 75 | | |
| 1.18 | 71 | | |
| 0.6 | 65 | | |
| 0.425 | 62 | | |
| 0.3 | 59 | | |
| 0.212 | 55 | | |
| 0.15 | 50 | | |
| 0.063 | 41 | | |

Dry Mass of sample, g: 578

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 26 |
| Sand | 34 |
| | |
| Fines <0.063mm | 41 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.345 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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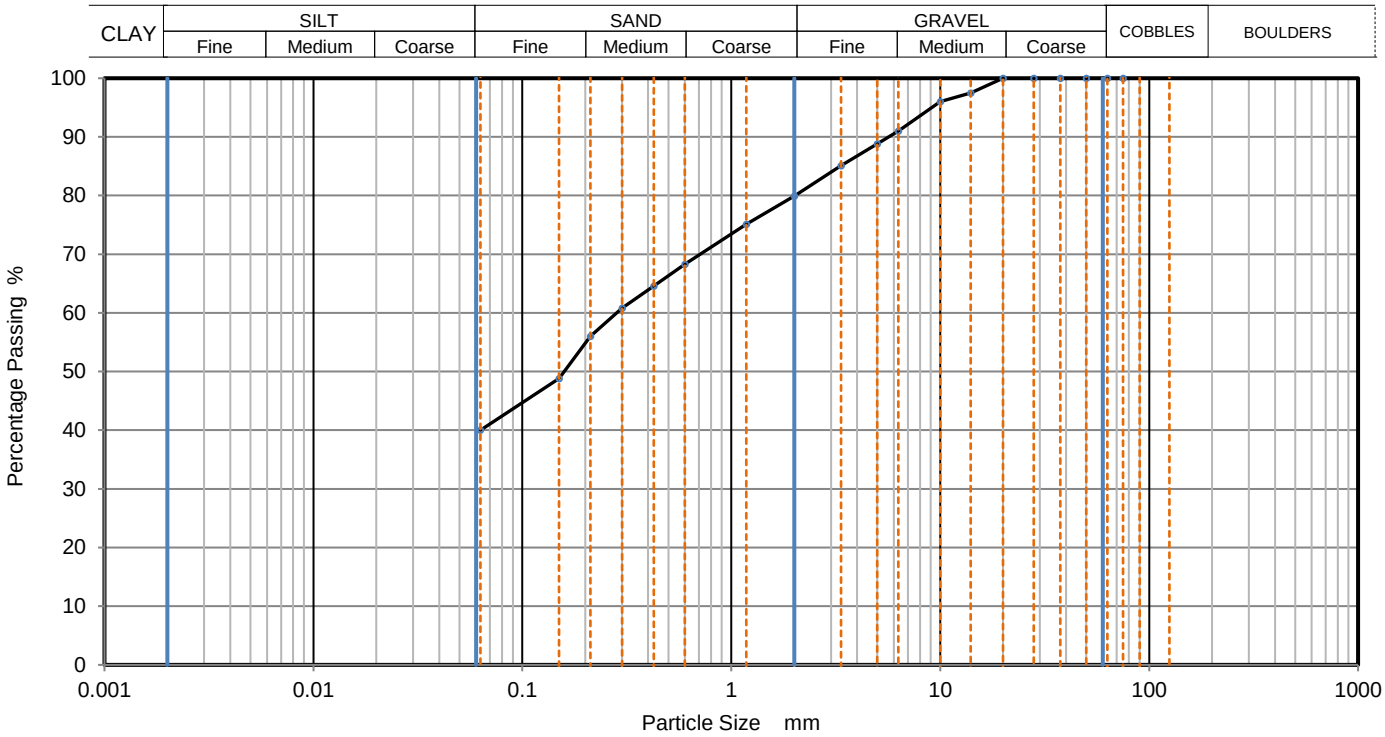
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRC22B |
| Site Name | Derryadd Wind Farm | Sample No. | 9 |
| Soil Description | Grey slightly gravelly sandy SILT. | Depth, m | 3.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210511228 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 98 | | |
| 10 | 96 | | |
| 6.3 | 91 | | |
| 5 | 89 | | |
| 3.35 | 85 | | |
| 2 | 80 | | |
| 1.18 | 75 | | |
| 0.6 | 68 | | |
| 0.425 | 65 | | |
| 0.3 | 61 | | |
| 0.212 | 56 | | |
| 0.15 | 49 | | |
| 0.063 | 40 | | |

| | |
|---|---|
| Dry Mass of sample, g | 569 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 20 |
| Sand | 40 |
| | |
| Fines <0.063mm | 40 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.282 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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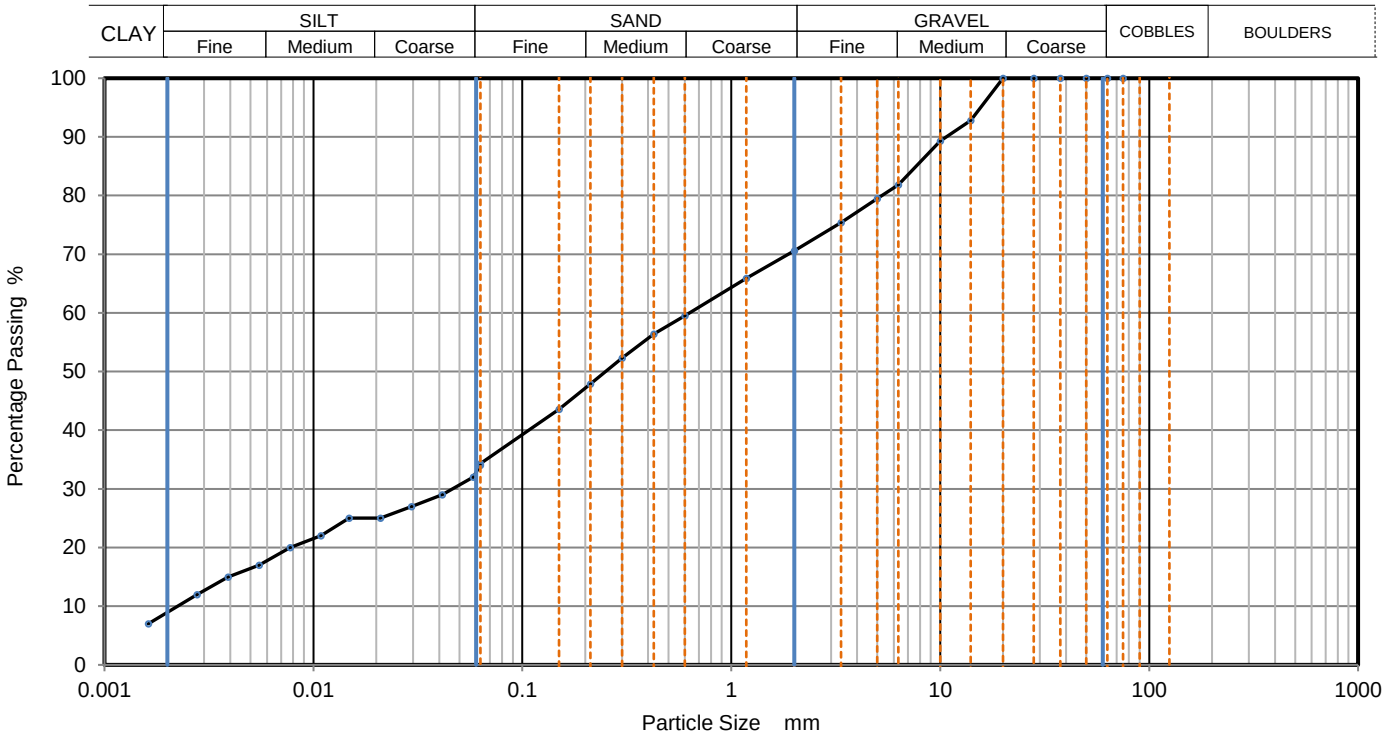
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCBPA1 |
| Site Name | Derryadd Wind Farm | Sample No. | 6 |
| Soil Description | Dark grey slightly gravelly sandy SILT. Gravel is medium. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021041390 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 34 |
| | | 0.0582 | 32 |
| 75 | 100 | 0.0414 | 29 |
| 63 | 100 | 0.0294 | 27 |
| 50 | 100 | 0.0209 | 25 |
| 37.5 | 100 | 0.0148 | 25 |
| 28 | 100 | 0.0109 | 22 |
| 20 | 100 | 0.0077 | 20 |
| 14 | 93 | 0.0055 | 17 |
| 10 | 89 | 0.0039 | 15 |
| 6.3 | 82 | 0.0028 | 12 |
| 5 | 80 | 0.0016 | 7 |
| 3.35 | 75 | | |
| 2 | 71 | | |
| 1.18 | 66 | | |
| 0.6 | 60 | Particle density | (assumed) |
| 0.425 | 56 | 2.65 | Mg/m3 |
| 0.3 | 52 | | |
| 0.212 | 48 | | |
| 0.15 | 44 | | |
| 0.063 | 34 | | |

| | |
|---|---|
| Dry Mass of sample, g | 458 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 29 |
| Sand | 36 |
| Silt | 25 |
| Clay | 9 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.632 |
| D30 | mm | 0.045 |
| D10 | mm | 0.00217 |
| Uniformity Coefficient | | 290 |
| Curvature Coefficient | | 1.5 |

Remarks

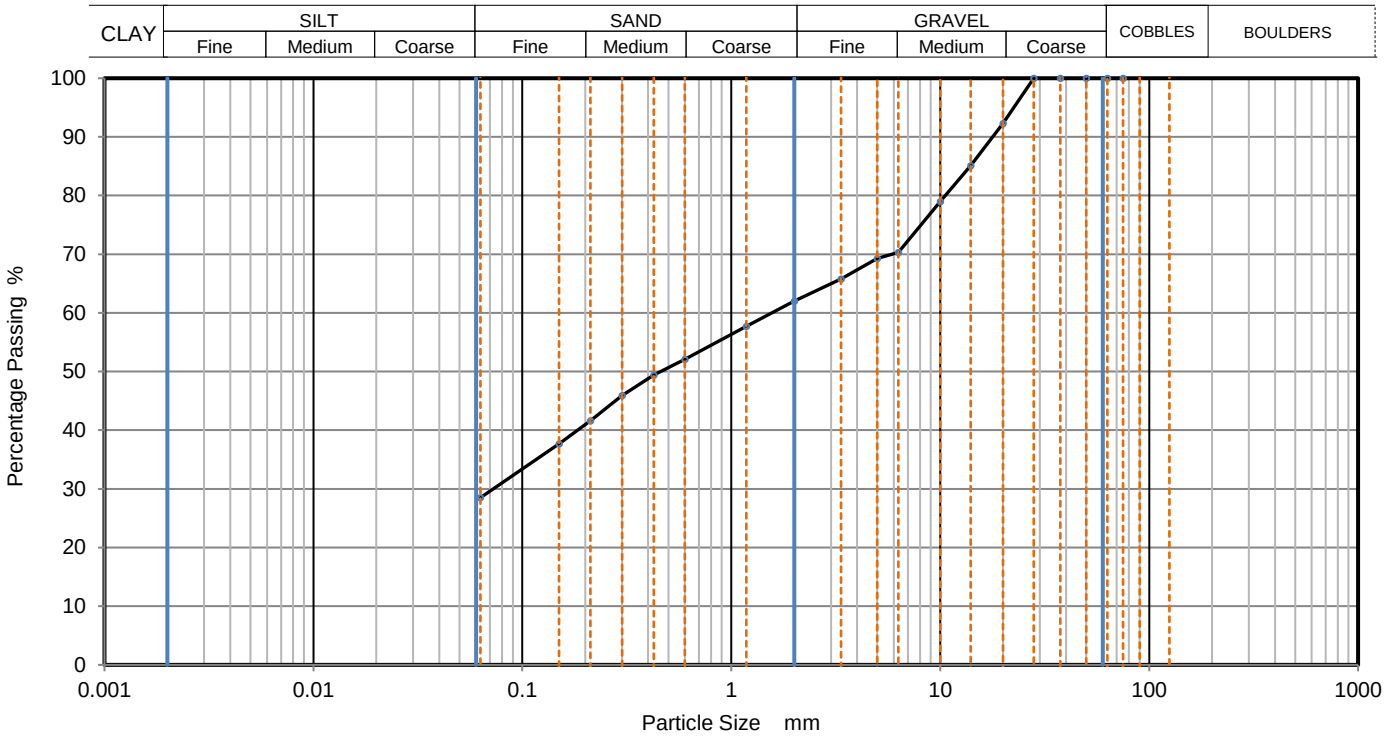
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCBPB2 |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Grey very silty fmc SAND and medium GRAVEL. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210423262 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 92 | | |
| 14 | 85 | | |
| 10 | 79 | | |
| 6.3 | 70 | | |
| 5 | 69 | | |
| 3.35 | 66 | | |
| 2 | 62 | | |
| 1.18 | 58 | | |
| 0.6 | 52 | | |
| 0.425 | 49 | | |
| 0.3 | 46 | | |
| 0.212 | 42 | | |
| 0.15 | 38 | | |
| 0.063 | 29 | | |

Dry Mass of sample, g: 428

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 38 |
| Sand | 34 |
| | |
| Fines <0.063mm | 28 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.57 |
| D30 | mm | 0.0727 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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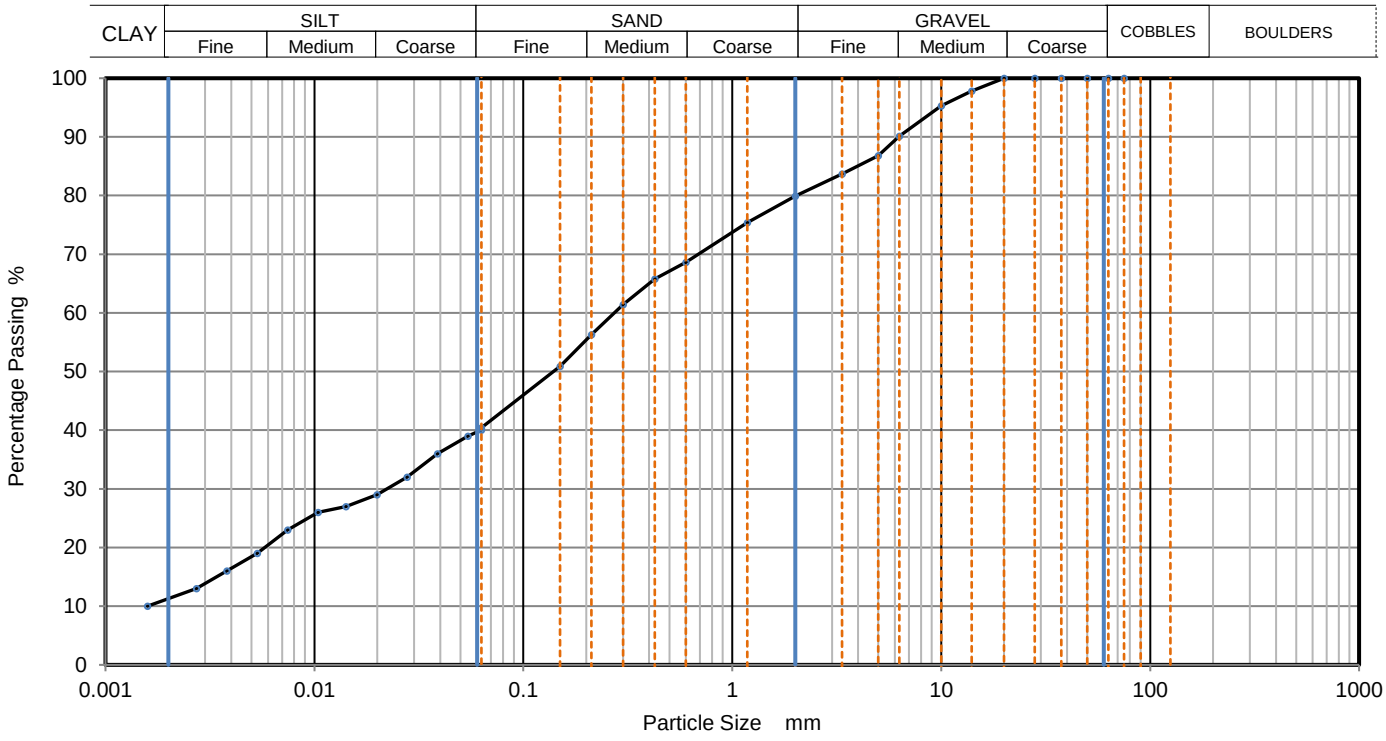
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCBPB4 |
| Site Name | Derryadd Wind Farm | Sample No. | 7 |
| Soil Description | Grey slightly gravelly sandy SILT. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210423277 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 40 |
| | | 0.0542 | 39 |
| 75 | 100 | 0.0388 | 36 |
| 63 | 100 | 0.0278 | 32 |
| 50 | 100 | 0.0199 | 29 |
| 37.5 | 100 | 0.0141 | 27 |
| 28 | 100 | 0.0104 | 26 |
| 20 | 100 | 0.0074 | 23 |
| 14 | 98 | 0.0053 | 19 |
| 10 | 95 | 0.0038 | 16 |
| 6.3 | 90 | 0.0027 | 13 |
| 5 | 87 | 0.0016 | 10 |
| 3.35 | 84 | | |
| 2 | 80 | | |
| 1.18 | 75 | | |
| 0.6 | 69 | Particle density | (assumed) |
| 0.425 | 66 | 2.65 | Mg/m3 |
| 0.3 | 61 | | |
| 0.212 | 56 | | |
| 0.15 | 51 | | |
| 0.063 | 40 | | |

Dry Mass of sample, g: 457

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 20 |
| Sand | 40 |
| Silt | 29 |
| Clay | 11 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.272 |
| D30 | mm | 0.0219 |
| D10 | mm | 0.00167 |
| Uniformity Coefficient | | 160 |
| Curvature Coefficient | | 1.1 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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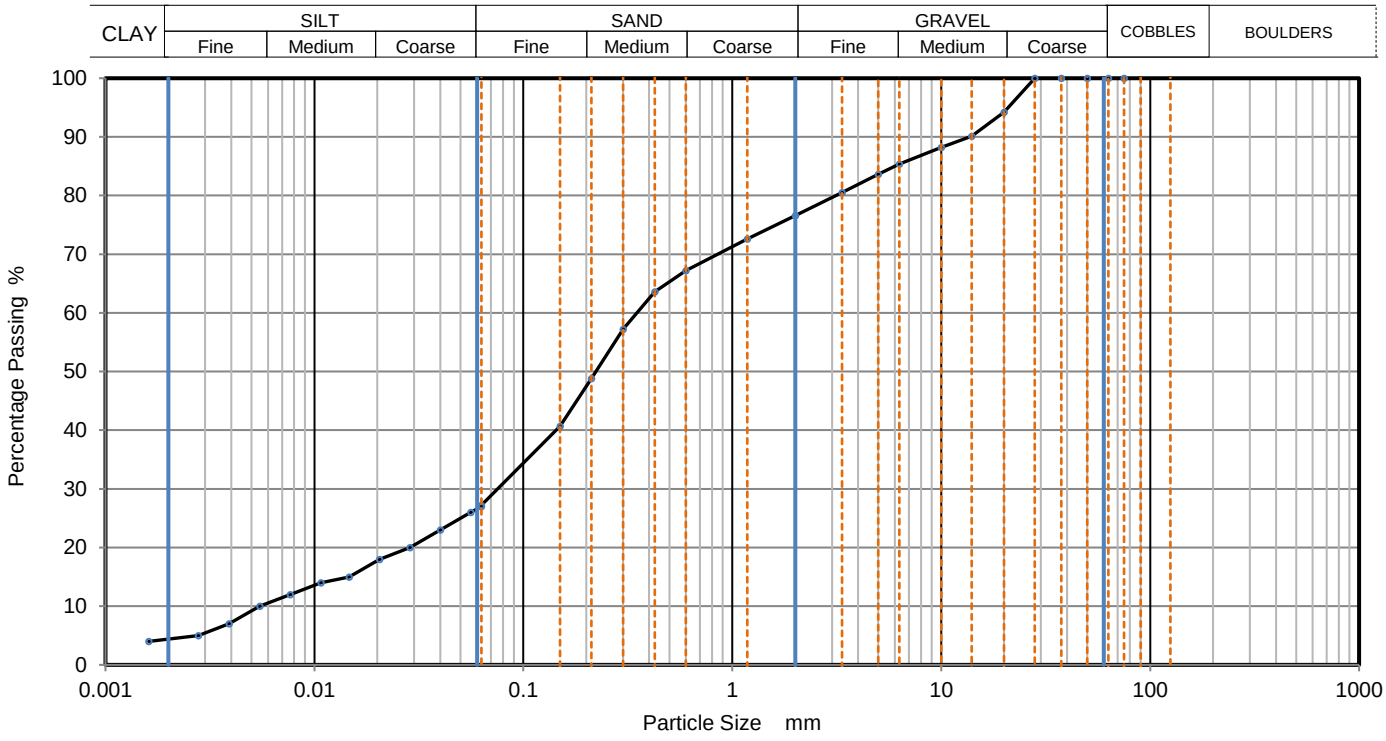
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCBPC1 |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Dark grey very gravelly very silty fine and medium SAND. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210423285 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 27 |
| | | 0.0559 | 26 |
| 75 | 100 | 0.0400 | 23 |
| 63 | 100 | 0.0286 | 20 |
| 50 | 100 | 0.0205 | 18 |
| 37.5 | 100 | 0.0146 | 15 |
| 28 | 100 | 0.0108 | 14 |
| 20 | 94 | 0.0076 | 12 |
| 14 | 90 | 0.0055 | 10 |
| 10 | 88 | 0.0039 | 7 |
| 6.3 | 85 | 0.0028 | 5 |
| 5 | 84 | 0.0016 | 4 |
| 3.35 | 81 | | |
| 2 | 77 | | |
| 1.18 | 73 | | |
| 0.6 | 67 | Particle density | (assumed) |
| 0.425 | 64 | 2.65 | Mg/m3 |
| 0.3 | 57 | | |
| 0.212 | 49 | | |
| 0.15 | 41 | | |
| 0.063 | 27 | | |

Dry Mass of sample, g: 279

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 23 |
| Sand | 49 |
| Silt | 23 |
| Clay | 5 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.349 |
| D30 | mm | 0.0754 |
| D10 | mm | 0.0058 |
| Uniformity Coefficient | | 60 |
| Curvature Coefficient | | 2.8 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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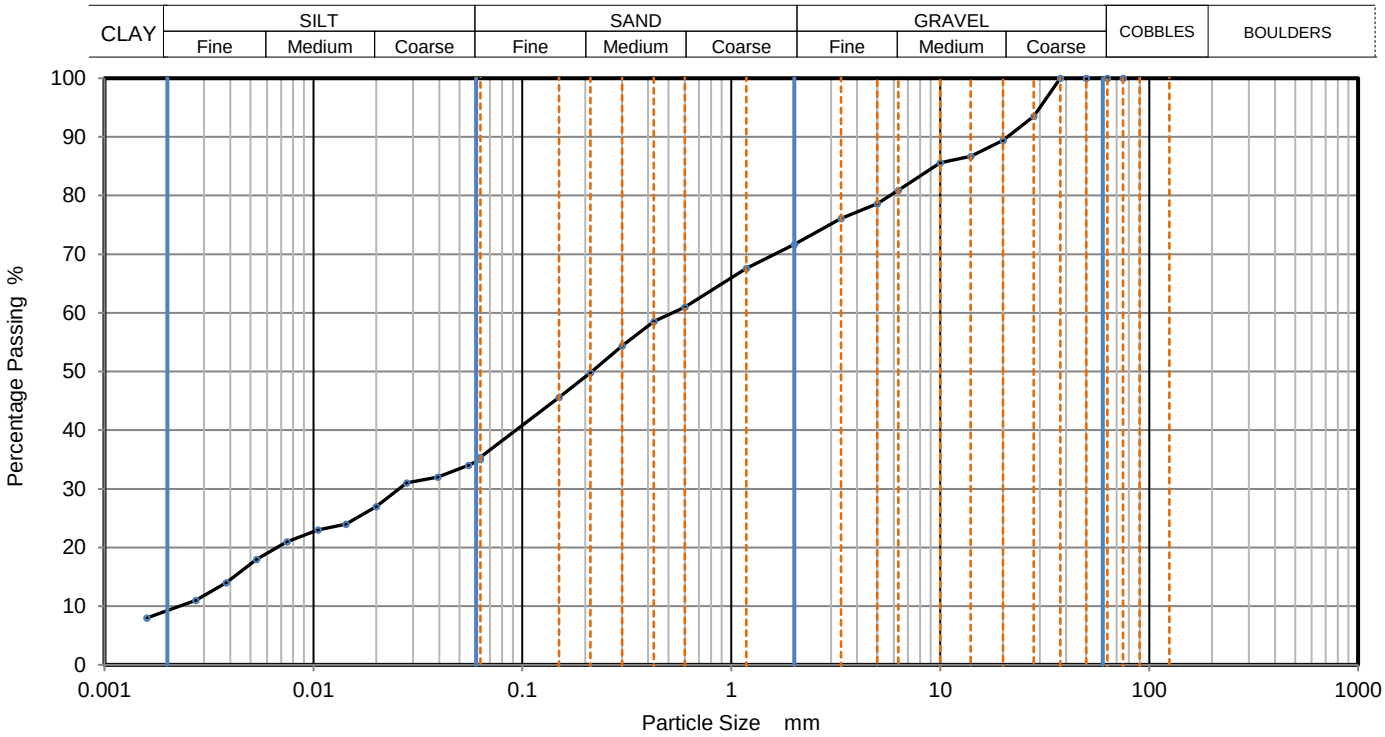
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCBPE2 |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Grey slightly gravelly sandy SILT. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210423322 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 35 |
| | | 0.0552 | 34 |
| 75 | 100 | 0.0393 | 32 |
| 63 | 100 | 0.0280 | 31 |
| 50 | 100 | 0.0200 | 27 |
| 37.5 | 100 | 0.0143 | 24 |
| 28 | 94 | 0.0105 | 23 |
| 20 | 89 | 0.0075 | 21 |
| 14 | 87 | 0.0053 | 18 |
| 10 | 86 | 0.0038 | 14 |
| 6.3 | 81 | 0.0027 | 11 |
| 5 | 79 | 0.0016 | 8 |
| 3.35 | 76 | | |
| 2 | 72 | | |
| 1.18 | 68 | | |
| 0.6 | 61 | Particle density | (assumed) |
| 0.425 | 59 | 2.65 | Mg/m3 |
| 0.3 | 54 | | |
| 0.212 | 50 | | |
| 0.15 | 46 | | |
| 0.063 | 35 | | |

| | |
|---|---|
| Dry Mass of sample, g | 388 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 28 |
| Sand | 36 |
| Silt | 26 |
| Clay | 9 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.522 |
| D30 | mm | 0.0263 |
| D10 | mm | 0.00221 |
| Uniformity Coefficient | | 240 |
| Curvature Coefficient | | 0.6 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | **1** QC From No:R2 |

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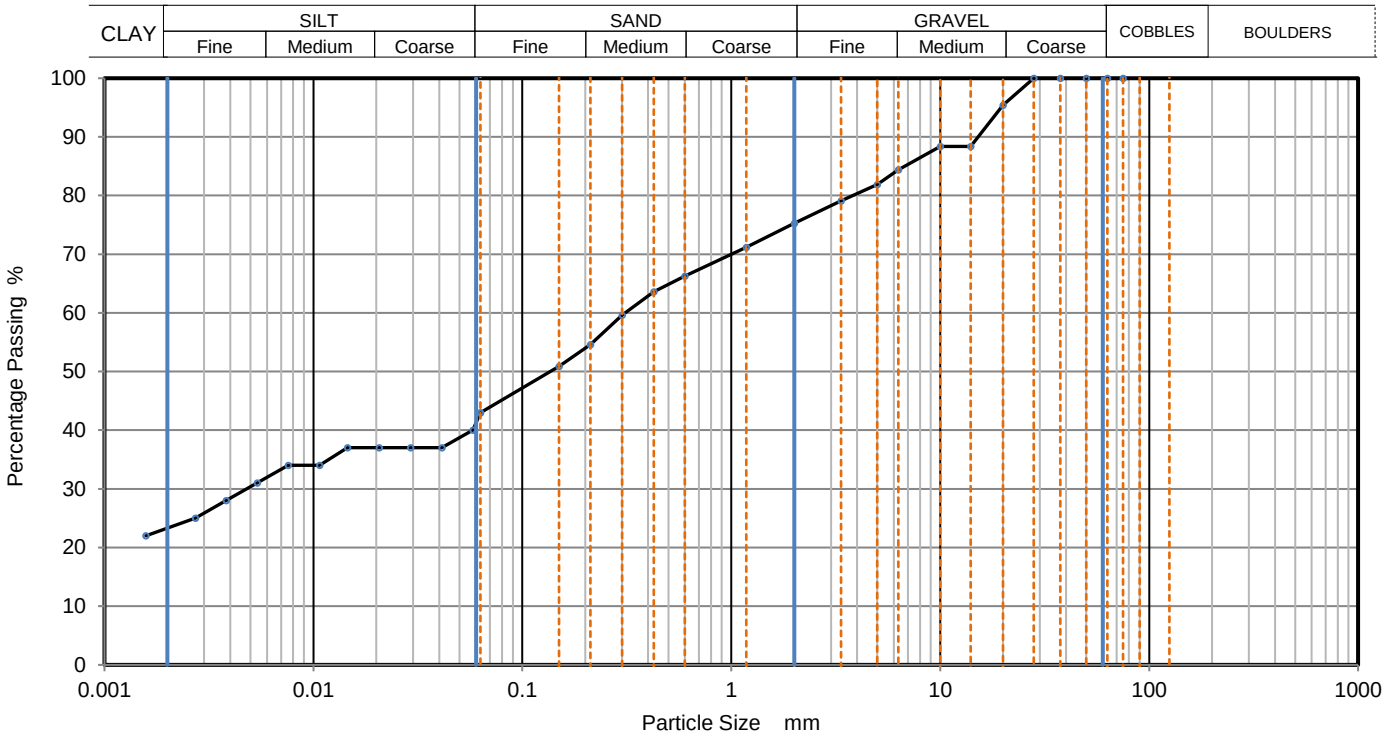
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCBPE2 |
| Site Name | Derryadd Wind Farm | Sample No. | 7 |
| Soil Description | Grey slightly gravelly slightly sandy SILT. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210423325 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 43 |
| | | 0.0579 | 40 |
| 75 | 100 | 0.0412 | 37 |
| 63 | 100 | 0.0291 | 37 |
| 50 | 100 | 0.0206 | 37 |
| 37.5 | 100 | 0.0146 | 37 |
| 28 | 100 | 0.0107 | 34 |
| 20 | 95 | 0.0076 | 34 |
| 14 | 88 | 0.0054 | 31 |
| 10 | 88 | 0.0038 | 28 |
| 6.3 | 84 | 0.0027 | 25 |
| 5 | 82 | 0.0016 | 22 |
| 3.35 | 79 | | |
| 2 | 75 | | |
| 1.18 | 71 | | |
| 0.6 | 66 | Particle density (assumed) | |
| 0.425 | 64 | 2.65 Mg/m3 | |
| 0.3 | 60 | | |
| 0.212 | 55 | | |
| 0.15 | 51 | | |
| 0.063 | 43 | | |

| | |
|---|---|
| Dry Mass of sample, g | 798 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 25 |
| Sand | 32 |
| Silt | 20 |
| Clay | 23 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.311 |
| D30 | mm | 0.00497 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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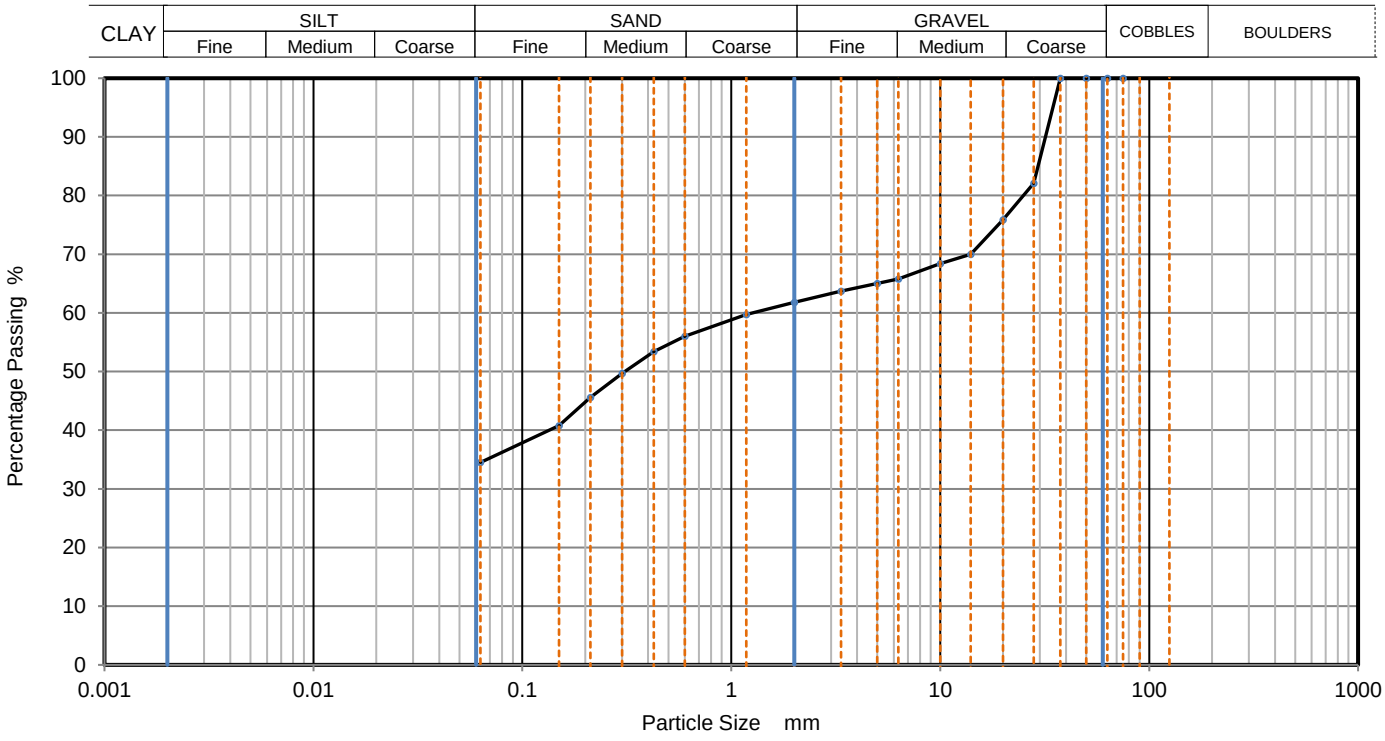
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCMMA |
| Site Name | Derryadd Wind Farm | Sample No. | 15 |
| Soil Description | Dark grey slightly sandy gravelly SILT. | Depth, m | 4.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021022681 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 82 | | |
| 20 | 76 | | |
| 14 | 70 | | |
| 10 | 68 | | |
| 6.3 | 66 | | |
| 5 | 65 | | |
| 3.35 | 64 | | |
| 2 | 62 | | |
| 1.18 | 60 | | |
| 0.6 | 56 | | |
| 0.425 | 53 | | |
| 0.3 | 50 | | |
| 0.212 | 46 | | |
| 0.15 | 41 | | |
| 0.063 | 35 | | |

| | |
|---|---|
| Dry Mass of sample, g | 697 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 38 |
| Sand | 27 |
| | |
| Fines <0.063mm | 34 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.28 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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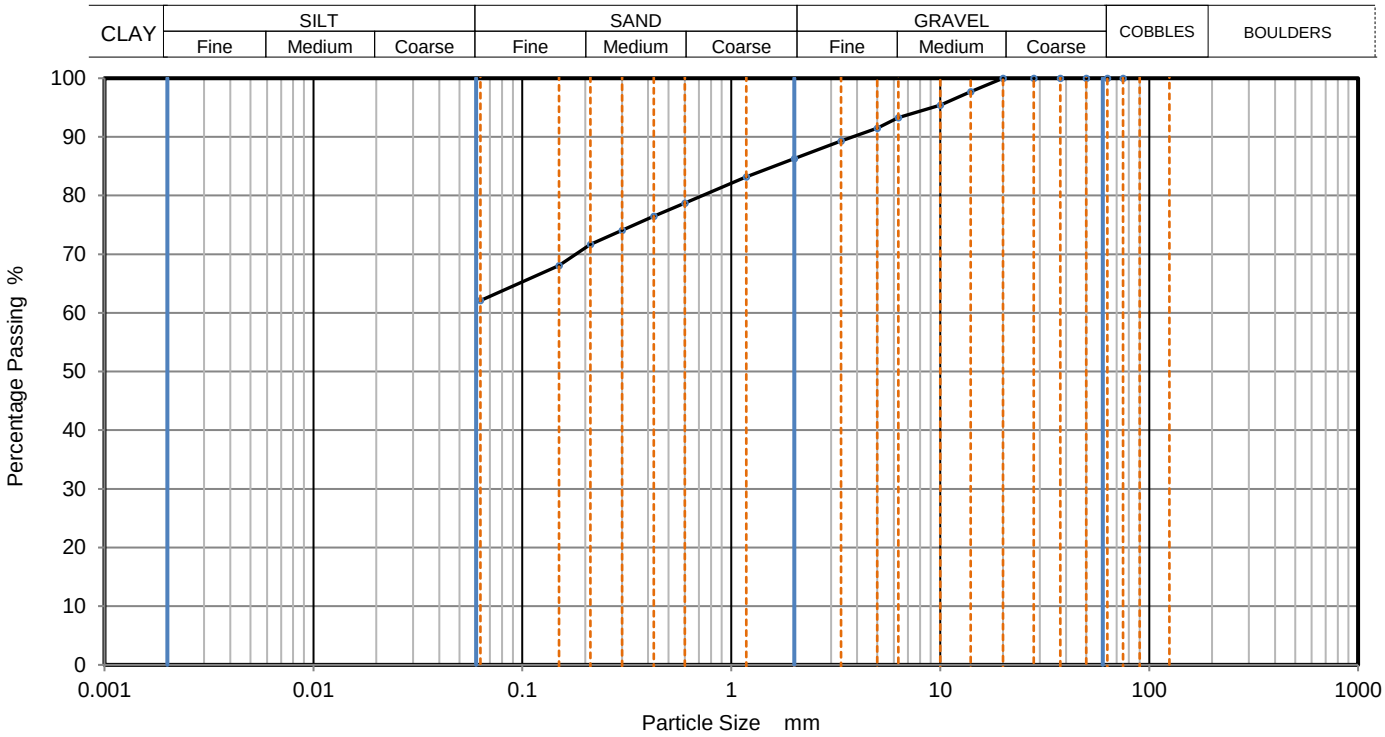
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCPSA |
| Site Name | Derryadd Wind Farm | Sample No. | 8 |
| Soil Description | Dark grey slightly gravelly slightly sandy SILT. | Depth, m | 2.50 |
| Specimen Reference | Specimen Depth m | Sample Type | D |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021022694 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 98 | | |
| 10 | 95 | | |
| 6.3 | 93 | | |
| 5 | 92 | | |
| 3.35 | 89 | | |
| 2 | 86 | | |
| 1.18 | 83 | | |
| 0.6 | 79 | | |
| 0.425 | 77 | | |
| 0.3 | 74 | | |
| 0.212 | 72 | | |
| 0.15 | 68 | | |
| 0.063 | 62 | | |

| | |
|---|---|
| Dry Mass of sample, g | 509 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 14 |
| Sand | 24 |
| | |
| Fines <0.063mm | 62 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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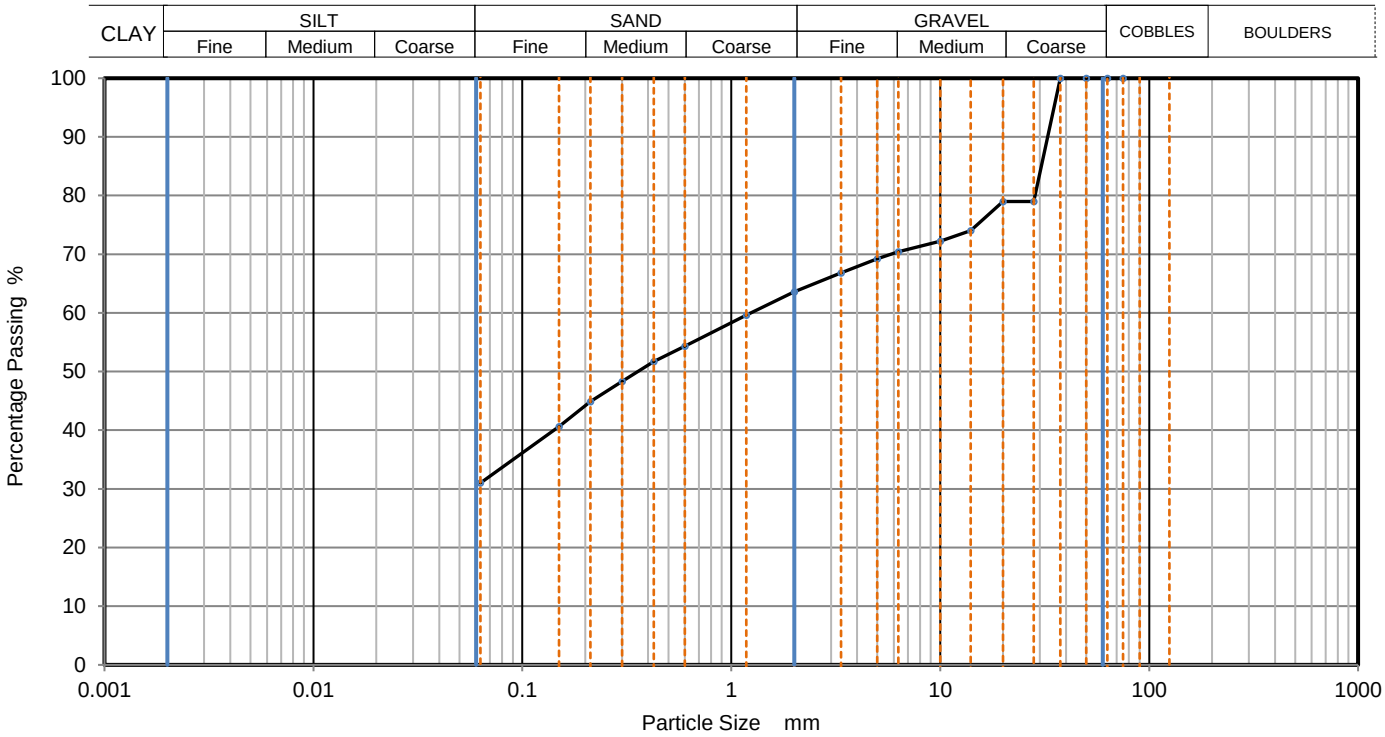
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCPSG |
| Site Name | Derryadd Wind Farm | Sample No. | 7 |
| Soil Description | Black very silty SAND and GRAVEL. Sand is fine and gravel is coarse. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth: m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210413122 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 79 | | |
| 20 | 79 | | |
| 14 | 74 | | |
| 10 | 72 | | |
| 6.3 | 70 | | |
| 5 | 69 | | |
| 3.35 | 67 | | |
| 2 | 64 | | |
| 1.18 | 60 | | |
| 0.6 | 54 | | |
| 0.425 | 52 | | |
| 0.3 | 48 | | |
| 0.212 | 45 | | |
| 0.15 | 41 | | |
| 0.063 | 31 | | |

Dry Mass of sample, g: 251

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 36 |
| Sand | 33 |
| | |
| Fines <0.063mm | 31 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.24 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

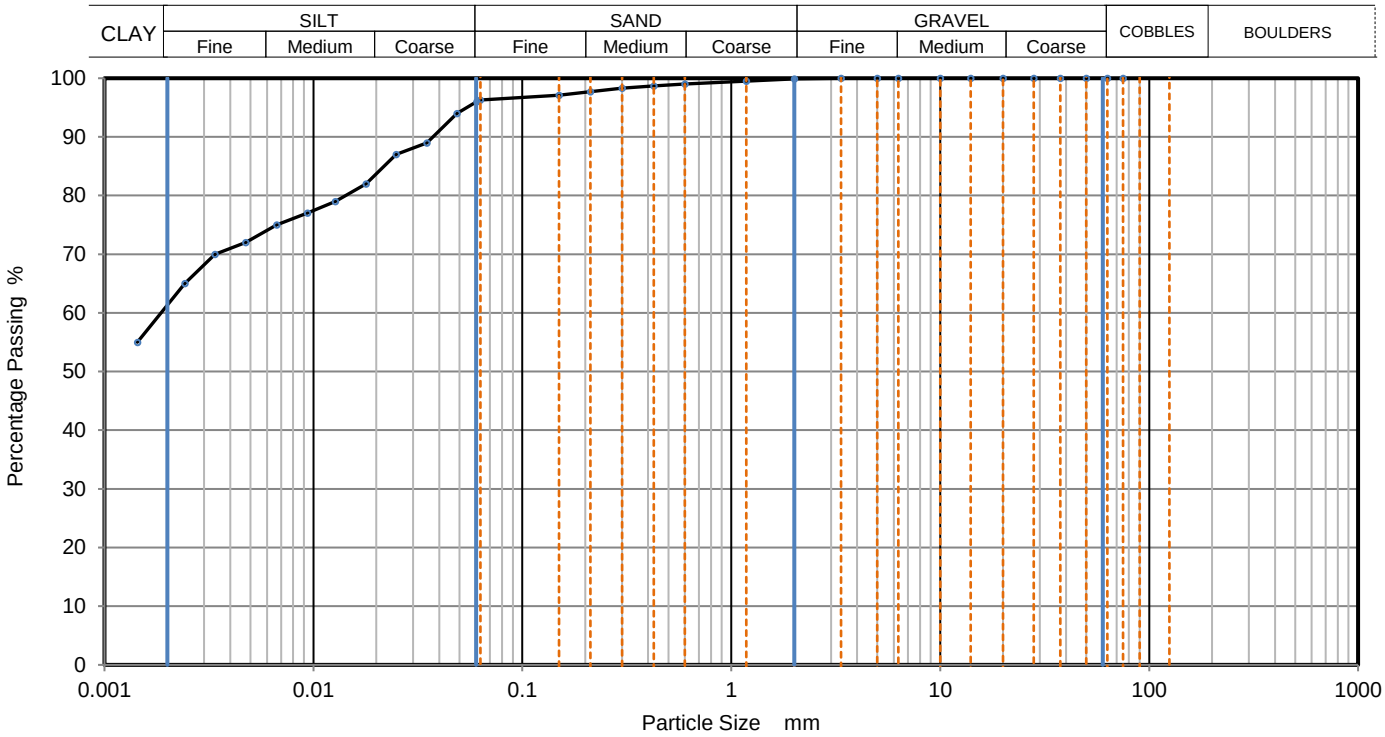
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1 |
| | | | | QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCSSA01 |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Grey slightly sandy SILT. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210413144 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0606 | 96 |
| | | 0.0485 | 94 |
| 75 | 100 | 0.0349 | 89 |
| 63 | 100 | 0.0249 | 87 |
| 50 | 100 | 0.0179 | 82 |
| 37.5 | 100 | 0.0127 | 79 |
| 28 | 100 | 0.0094 | 77 |
| 20 | 100 | 0.0067 | 75 |
| 14 | 100 | 0.0047 | 72 |
| 10 | 100 | 0.0034 | 70 |
| 6.3 | 100 | 0.0024 | 65 |
| 5 | 100 | 0.0014 | 55 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 99 | Particle density (assumed) | |
| 0.425 | 99 | 2.65 Mg/m3 | |
| 0.3 | 98 | | |
| 0.212 | 98 | | |
| 0.15 | 97 | | |
| 0.063 | 96 | | |

| | |
|---|---|
| Dry Mass of sample, g | 301 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 4 |
| Silt | 35 |
| Clay | 62 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00185 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

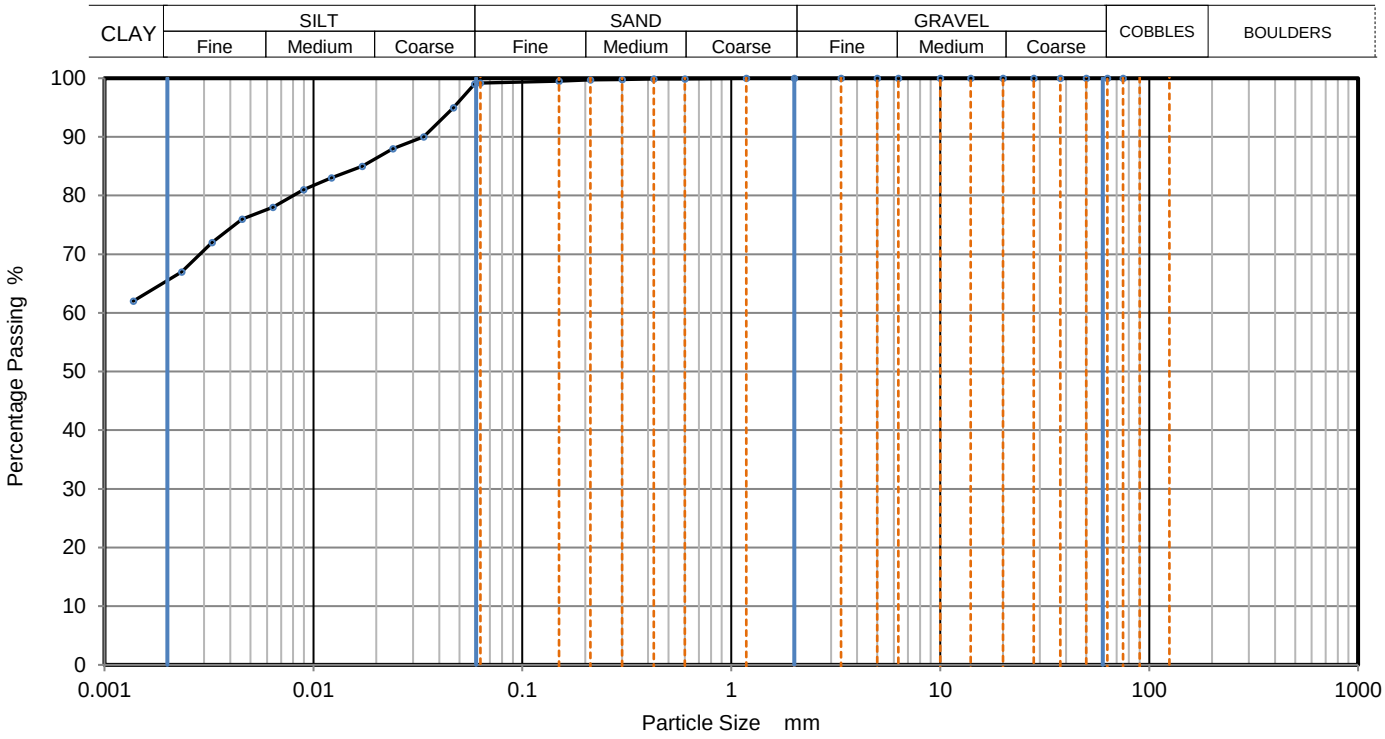
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCSSA07 |
| Site Name | Derryadd Wind Farm | Sample No. | 12 |
| Soil Description | Grey SILT. | Depth, m | 4.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210326130 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0591 | 99 |
| | | 0.0468 | 95 |
| 75 | 100 | 0.0337 | 90 |
| 63 | 100 | 0.0240 | 88 |
| 50 | 100 | 0.0171 | 85 |
| 37.5 | 100 | 0.0122 | 83 |
| 28 | 100 | 0.0090 | 81 |
| 20 | 100 | 0.0064 | 78 |
| 14 | 100 | 0.0046 | 76 |
| 10 | 100 | 0.0033 | 72 |
| 6.3 | 100 | 0.0023 | 67 |
| 5 | 100 | 0.0014 | 62 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density | (assumed) |
| 0.425 | 100 | 2.65 | Mg/m3 |
| 0.3 | 100 | | |
| 0.212 | 100 | | |
| 0.15 | 100 | | |
| 0.063 | 99 | | |

Dry Mass of sample, g: 278

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 1 |
| Silt | 34 |
| Clay | 66 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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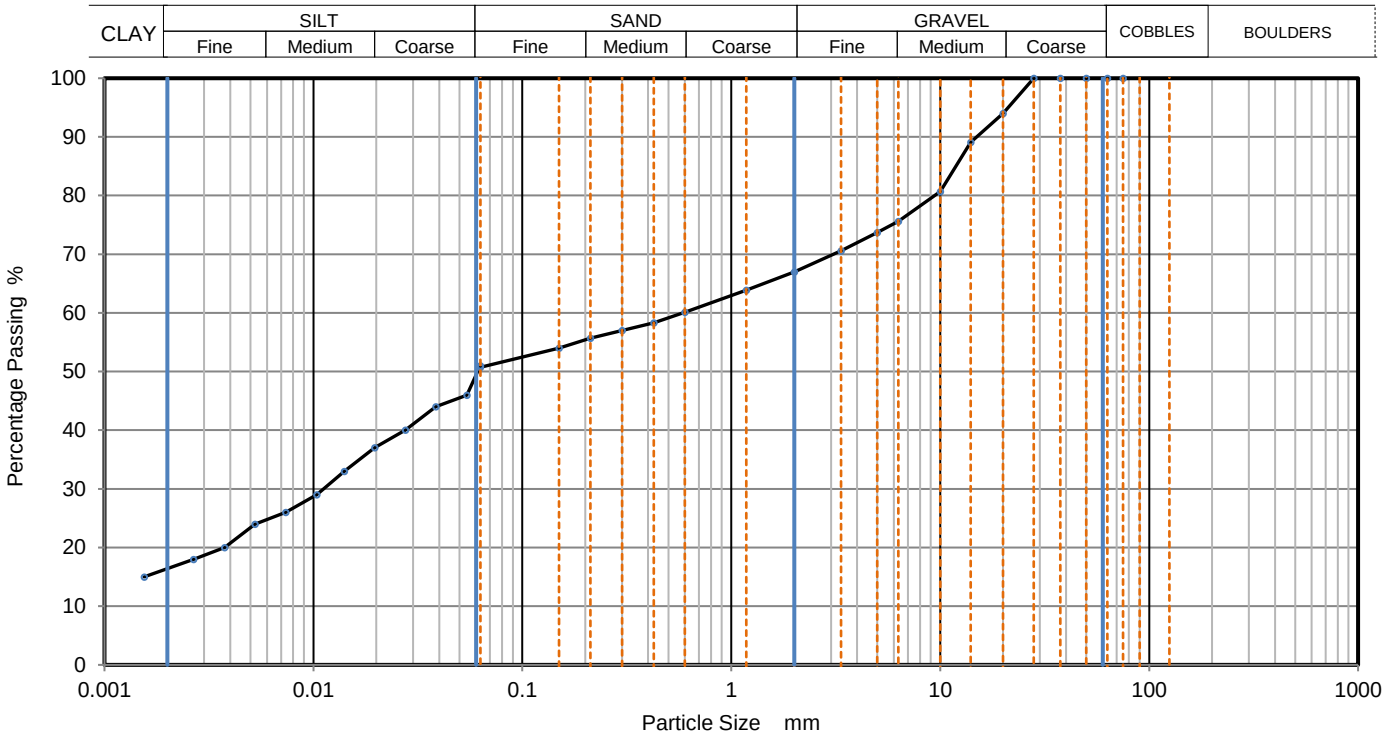
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCSSA09 |
| Site Name | Derryadd Wind Farm | Sample No. | 15 |
| Soil Description | Dark grey slightly sandy slightly gravelly SILT. | Depth, m | 5.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210326168 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 51 |
| | | 0.0542 | 46 |
| 75 | 100 | 0.0385 | 44 |
| 63 | 100 | 0.0276 | 40 |
| 50 | 100 | 0.0196 | 37 |
| 37.5 | 100 | 0.0140 | 33 |
| 28 | 100 | 0.0104 | 29 |
| 20 | 94 | 0.0074 | 26 |
| 14 | 89 | 0.0052 | 24 |
| 10 | 81 | 0.0038 | 20 |
| 6.3 | 76 | 0.0027 | 18 |
| 5 | 74 | 0.0015 | 15 |
| 3.35 | 71 | | |
| 2 | 67 | | |
| 1.18 | 64 | | |
| 0.6 | 60 | Particle density | (assumed) |
| 0.425 | 58 | 2.65 | Mg/m3 |
| 0.3 | 57 | | |
| 0.212 | 56 | | |
| 0.15 | 54 | | |
| 0.063 | 51 | | |

| | |
|---|---|
| Dry Mass of sample, g | 632 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 33 |
| Sand | 16 |
| Silt | 34 |
| Clay | 17 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.591 |
| D30 | mm | 0.0114 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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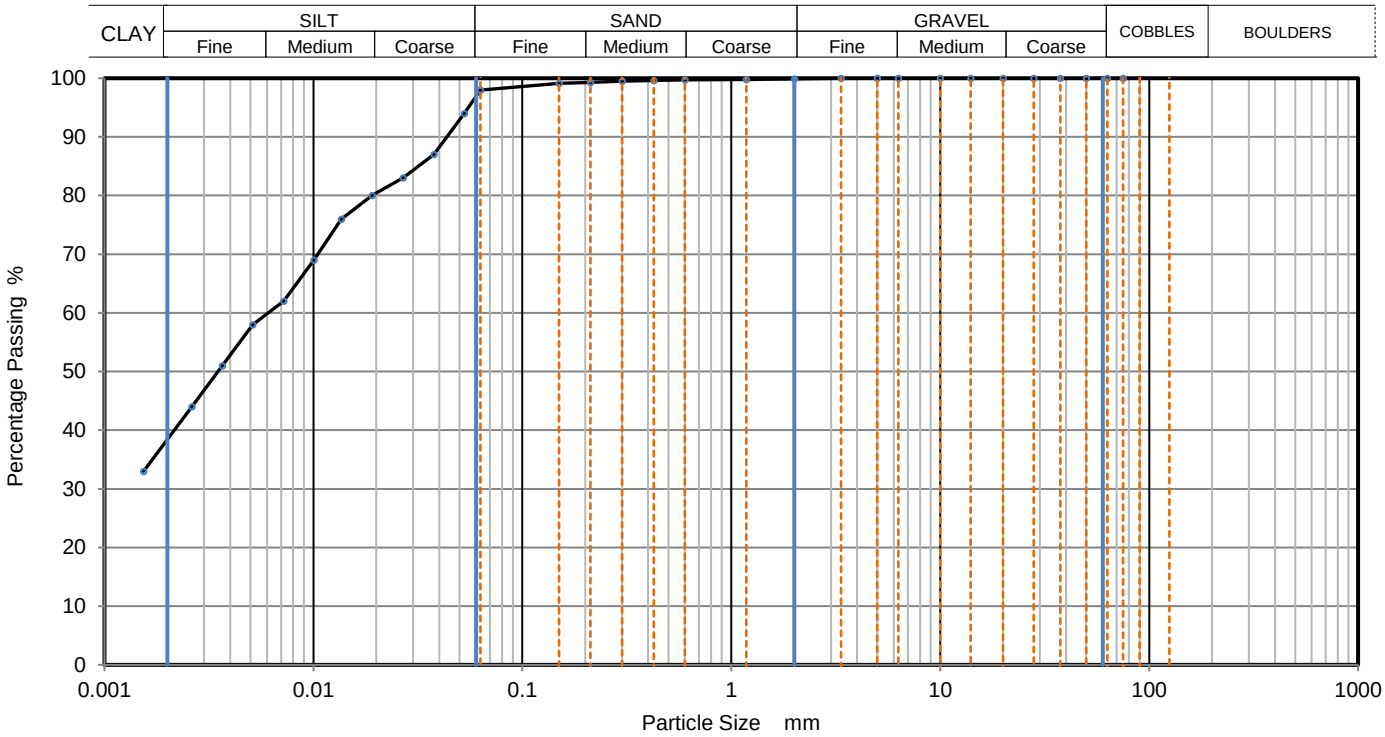
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCSSA11 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey slightly sandy SILT. | Depth, m | 0.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210518216 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 98 |
| | | 0.0527 | 94 |
| 75 | 100 | 0.0377 | 87 |
| 63 | 100 | 0.0269 | 83 |
| 50 | 100 | 0.0191 | 80 |
| 37.5 | 100 | 0.0136 | 76 |
| 28 | 100 | 0.0101 | 69 |
| 20 | 100 | 0.0072 | 62 |
| 14 | 100 | 0.0051 | 58 |
| 10 | 100 | 0.0037 | 51 |
| 6.3 | 100 | 0.0026 | 44 |
| 5 | 100 | 0.0015 | 33 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density | (assumed) |
| 0.425 | 100 | 2.65 | Mg/m3 |
| 0.3 | 100 | | |
| 0.212 | 99 | | |
| 0.15 | 99 | | |
| 0.063 | 98 | | |

Dry Mass of sample, g: 436

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 2 |
| Silt | 60 |
| Clay | 38 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00614 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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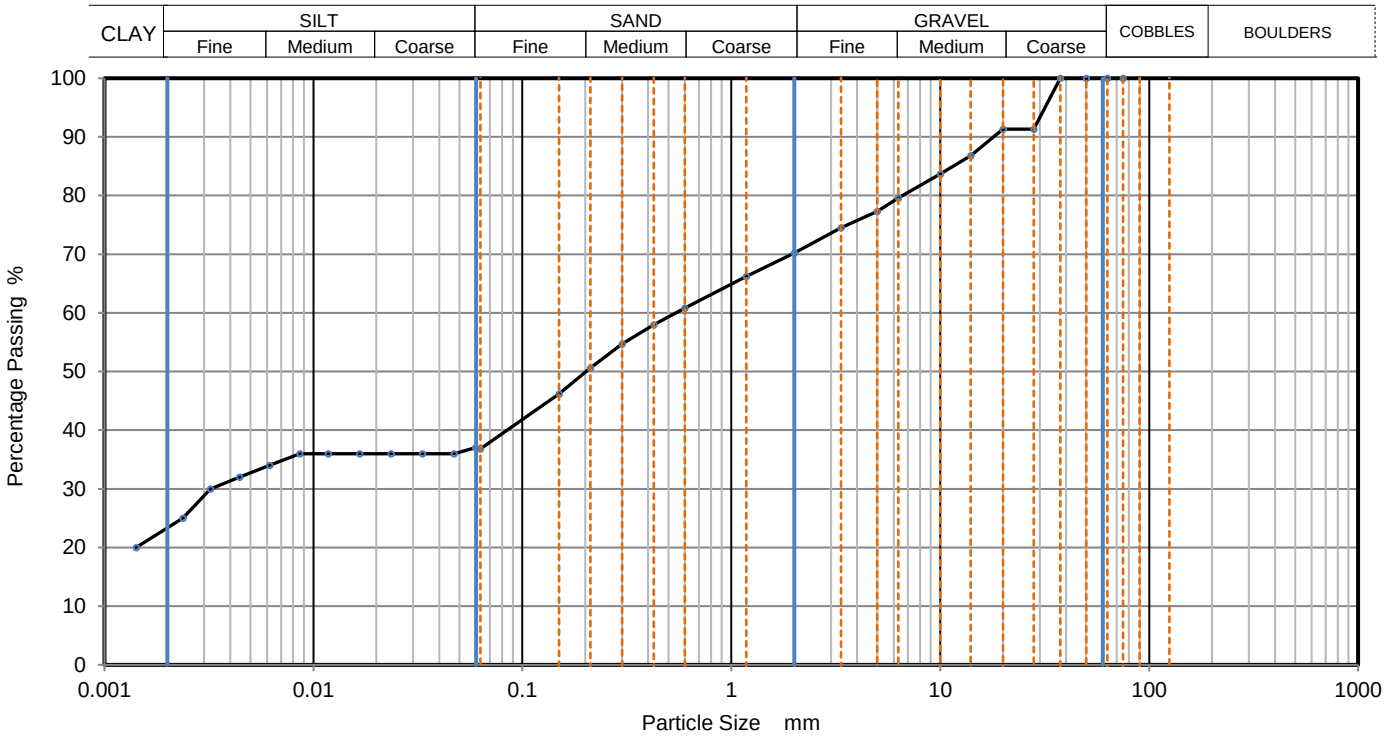
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCSSA12 |
| Site Name | Derryadd Wind Farm | Sample No. | 8 |
| Soil Description | Grey slightly gravelly slightly sandy silty CLAY. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210518232 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0596 | 37 |
| | | 0.0471 | 36 |
| 75 | 100 | 0.0333 | 36 |
| 63 | 100 | 0.0235 | 36 |
| 50 | 100 | 0.0166 | 36 |
| 37.5 | 100 | 0.0118 | 36 |
| 28 | 91 | 0.0086 | 36 |
| 20 | 91 | 0.0062 | 34 |
| 14 | 87 | 0.0044 | 32 |
| 10 | 84 | 0.0032 | 30 |
| 6.3 | 80 | 0.0024 | 25 |
| 5 | 77 | 0.0014 | 20 |
| 3.35 | 75 | | |
| 2 | 70 | | |
| 1.18 | 66 | | |
| 0.6 | 61 | Particle density (assumed) | |
| 0.425 | 58 | 2.65 Mg/m3 | |
| 0.3 | 55 | | |
| 0.212 | 51 | | |
| 0.15 | 46 | | |
| 0.063 | 37 | | |

Dry Mass of sample, g: 716

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 30 |
| Sand | 33 |
| Silt | 14 |
| Clay | 23 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.545 |
| D30 | mm | 0.0033 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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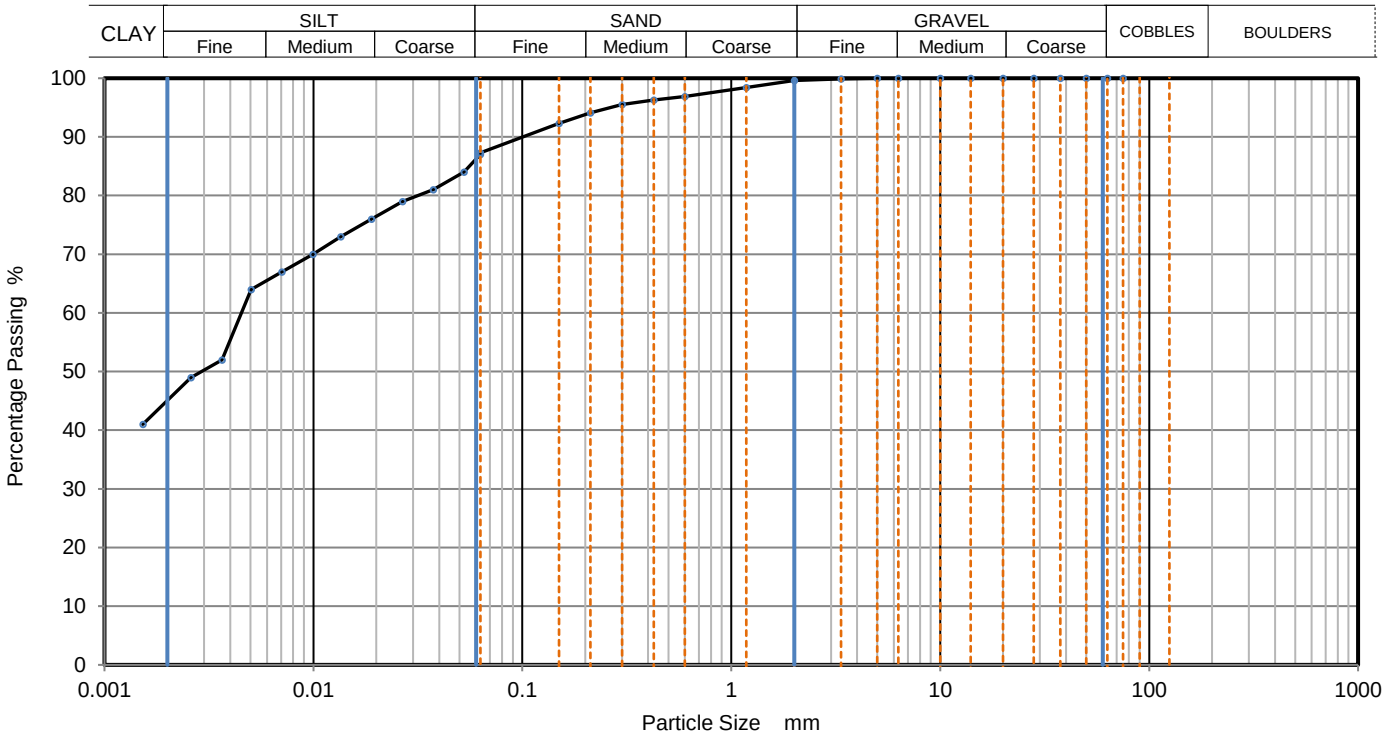
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCSSA13 |
| Site Name | Derryadd Wind Farm | Sample No. | 6 |
| Soil Description | Dark grey slightly sandy organic SILT. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210518243 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 87 |
| | | 0.0526 | 84 |
| 75 | 100 | 0.0375 | 81 |
| 63 | 100 | 0.0267 | 79 |
| 50 | 100 | 0.0190 | 76 |
| 37.5 | 100 | 0.0135 | 73 |
| 28 | 100 | 0.0099 | 70 |
| 20 | 100 | 0.0071 | 67 |
| 14 | 100 | 0.0050 | 64 |
| 10 | 100 | 0.0036 | 52 |
| 6.3 | 100 | 0.0026 | 49 |
| 5 | 100 | 0.0015 | 41 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 98 | | |
| 0.6 | 97 | Particle density | (assumed) |
| 0.425 | 96 | 2.65 | Mg/m3 |
| 0.3 | 96 | | |
| 0.212 | 94 | | |
| 0.15 | 92 | | |
| 0.063 | 87 | | |

| | |
|---|---|
| Dry Mass of sample, g | 330 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 12 |
| Silt | 42 |
| Clay | 45 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0045 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
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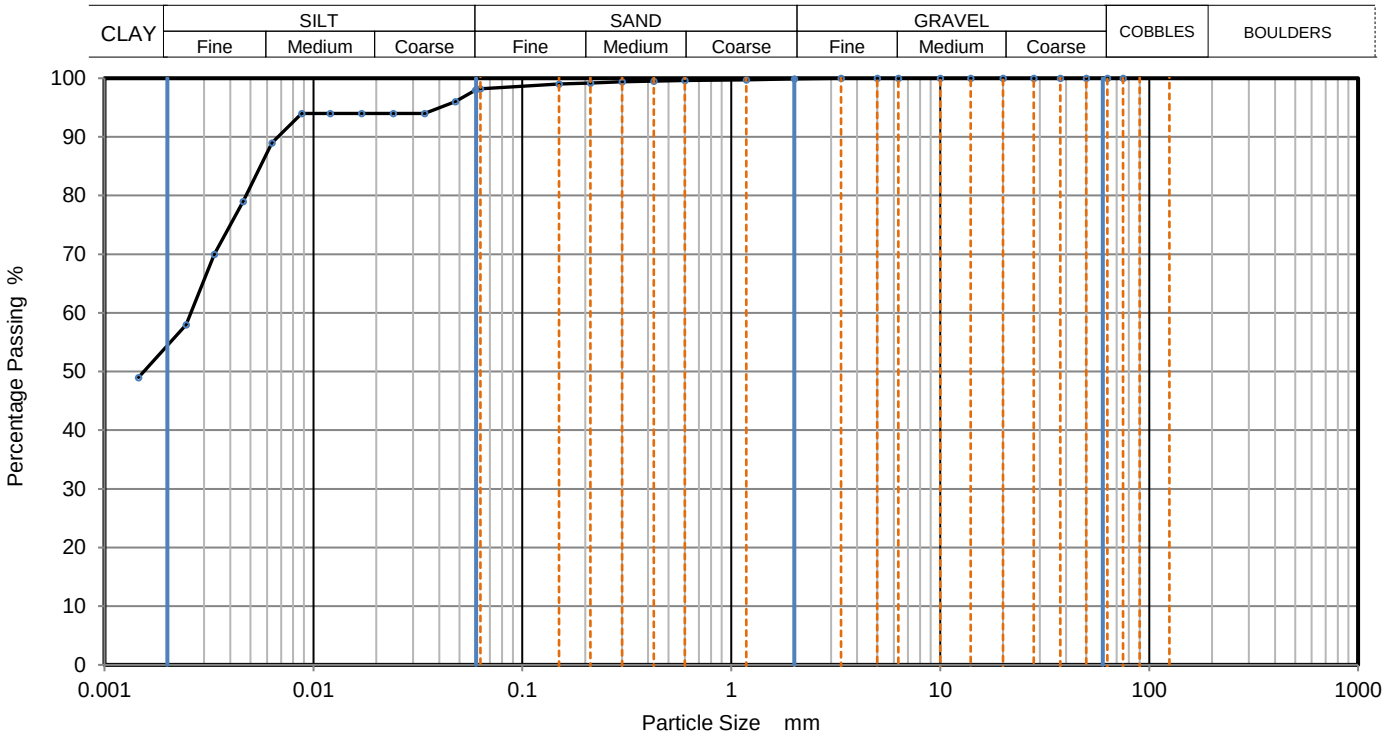
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCSSA13 |
| Site Name | Derryadd Wind Farm | Sample No. | 9 |
| Soil Description | Grey slightly sandy SILT. | Depth, m | 1.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210518246 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0596 | 98 |
| | | 0.0478 | 96 |
| 75 | 100 | 0.0340 | 94 |
| 63 | 100 | 0.0241 | 94 |
| 50 | 100 | 0.0170 | 94 |
| 37.5 | 100 | 0.0120 | 94 |
| 28 | 100 | 0.0088 | 94 |
| 20 | 100 | 0.0063 | 89 |
| 14 | 100 | 0.0046 | 79 |
| 10 | 100 | 0.0034 | 70 |
| 6.3 | 100 | 0.0025 | 58 |
| 5 | 100 | 0.0015 | 49 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density | (assumed) |
| 0.425 | 100 | 2.65 | Mg/m3 |
| 0.3 | 99 | | |
| 0.212 | 99 | | |
| 0.15 | 99 | | |
| 0.063 | 98 | | |

| | |
|---|---|
| Dry Mass of sample, g | 289 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 2 |
| Silt | 43 |
| Clay | 55 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00256 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:32 | 1<br>QC From No:R2 |

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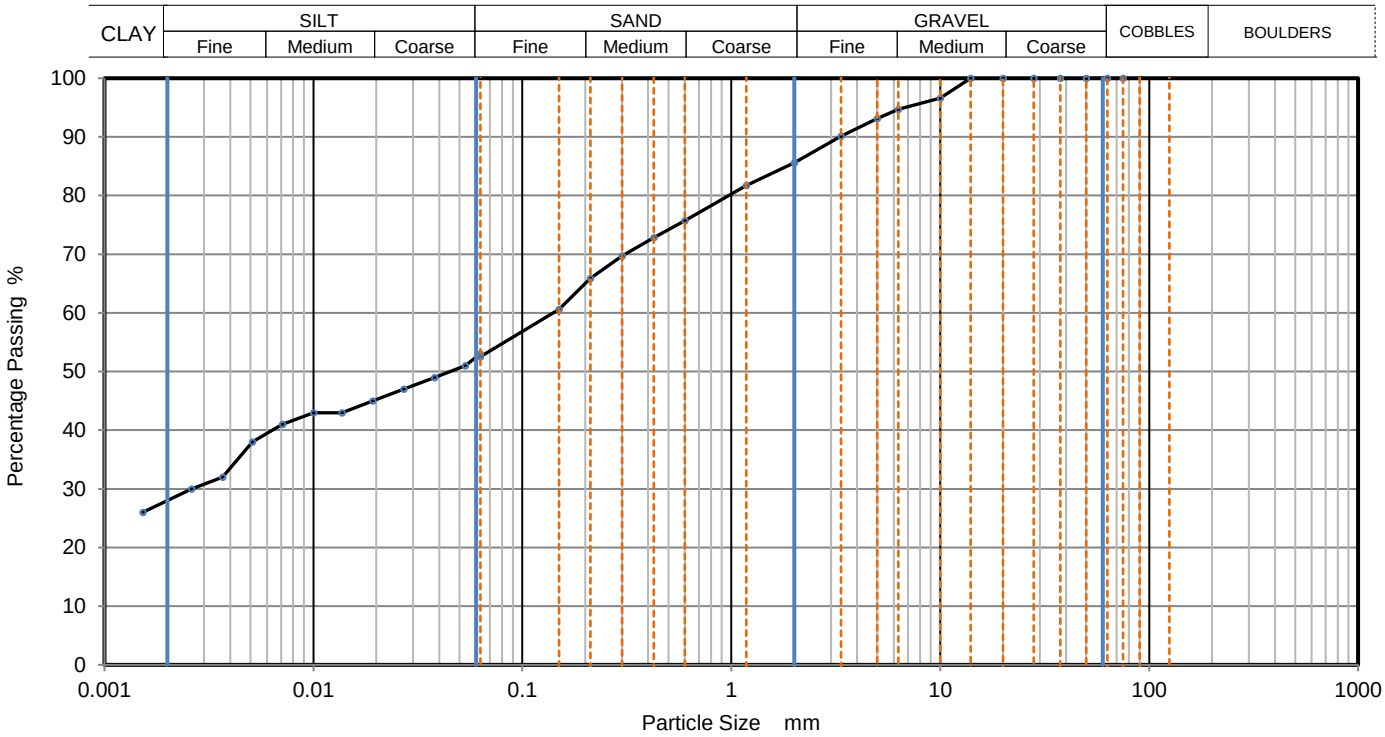
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | BHRCSSA14 |
| Site Name | Derryadd Wind Farm | Sample No. | 6 |
| Soil Description | Grey slightly gravelly slightly sandy SILT. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210518257 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 53 |
| | | 0.0534 | 51 |
| 75 | 100 | 0.0380 | 49 |
| 63 | 100 | 0.0270 | 47 |
| 50 | 100 | 0.0192 | 45 |
| 37.5 | 100 | 0.0137 | 43 |
| 28 | 100 | 0.0100 | 43 |
| 20 | 100 | 0.0071 | 41 |
| 14 | 100 | 0.0051 | 38 |
| 10 | 97 | 0.0037 | 32 |
| 6.3 | 95 | 0.0026 | 30 |
| 5 | 93 | 0.0015 | 26 |
| 3.35 | 90 | | |
| 2 | 86 | | |
| 1.18 | 82 | | |
| 0.6 | 76 | Particle density (assumed) | |
| 0.425 | 73 | 2.65 Mg/m3 | |
| 0.3 | 70 | | |
| 0.212 | 66 | | |
| 0.15 | 61 | | |
| 0.063 | 53 | | |

| | |
|---|---|
| Dry Mass of sample, g | 253 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 14 |
| Sand | 33 |
| Silt | 24 |
| Clay | 28 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.141 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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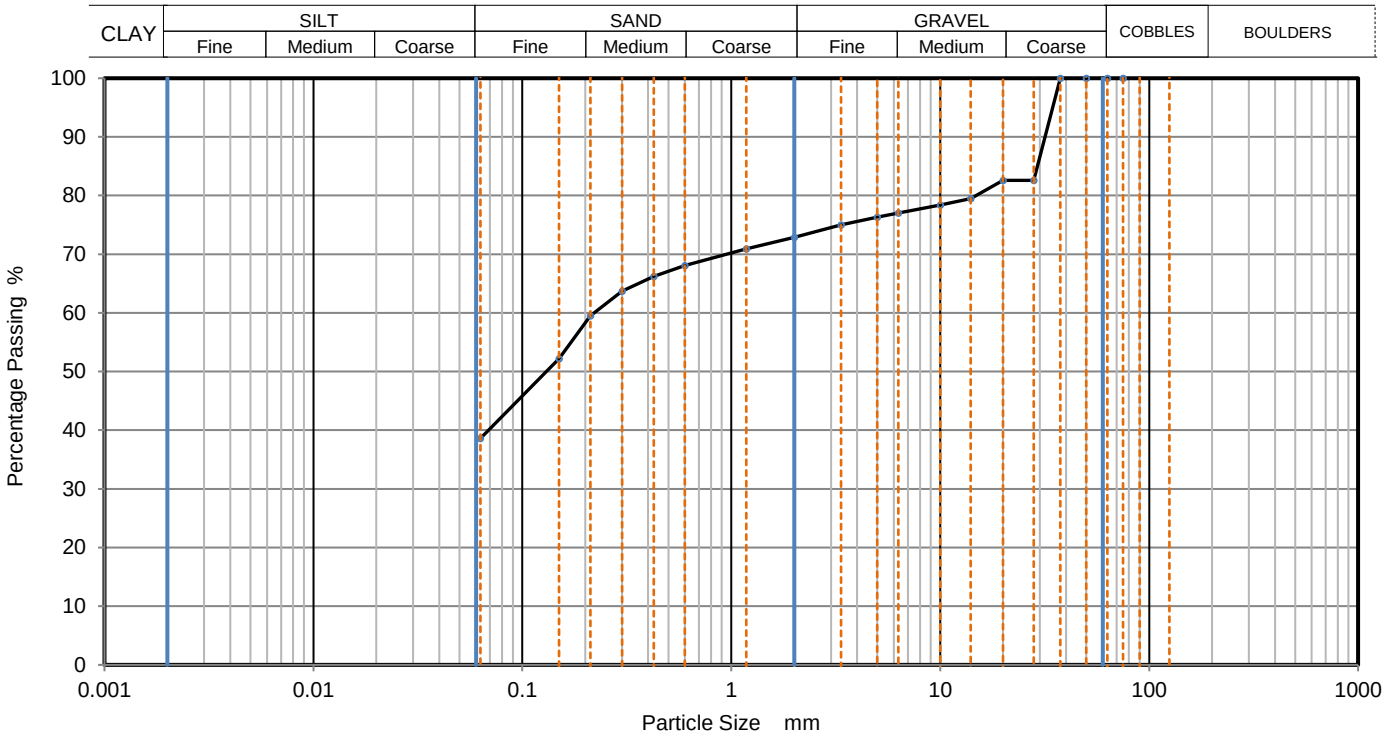
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP002 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey slightly gravelly sandy SILT. Sand is fine. | Depth, m | 0.60 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210222102 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 83 | | |
| 20 | 83 | | |
| 14 | 80 | | |
| 10 | 78 | | |
| 6.3 | 77 | | |
| 5 | 76 | | |
| 3.35 | 75 | | |
| 2 | 73 | | |
| 1.18 | 71 | | |
| 0.6 | 68 | | |
| 0.425 | 66 | | |
| 0.3 | 64 | | |
| 0.212 | 60 | | |
| 0.15 | 52 | | |
| 0.063 | 39 | | |

Dry Mass of sample, g: 830

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 27 |
| Sand | 34 |
| | |
| Fines <0.063mm | 39 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.22 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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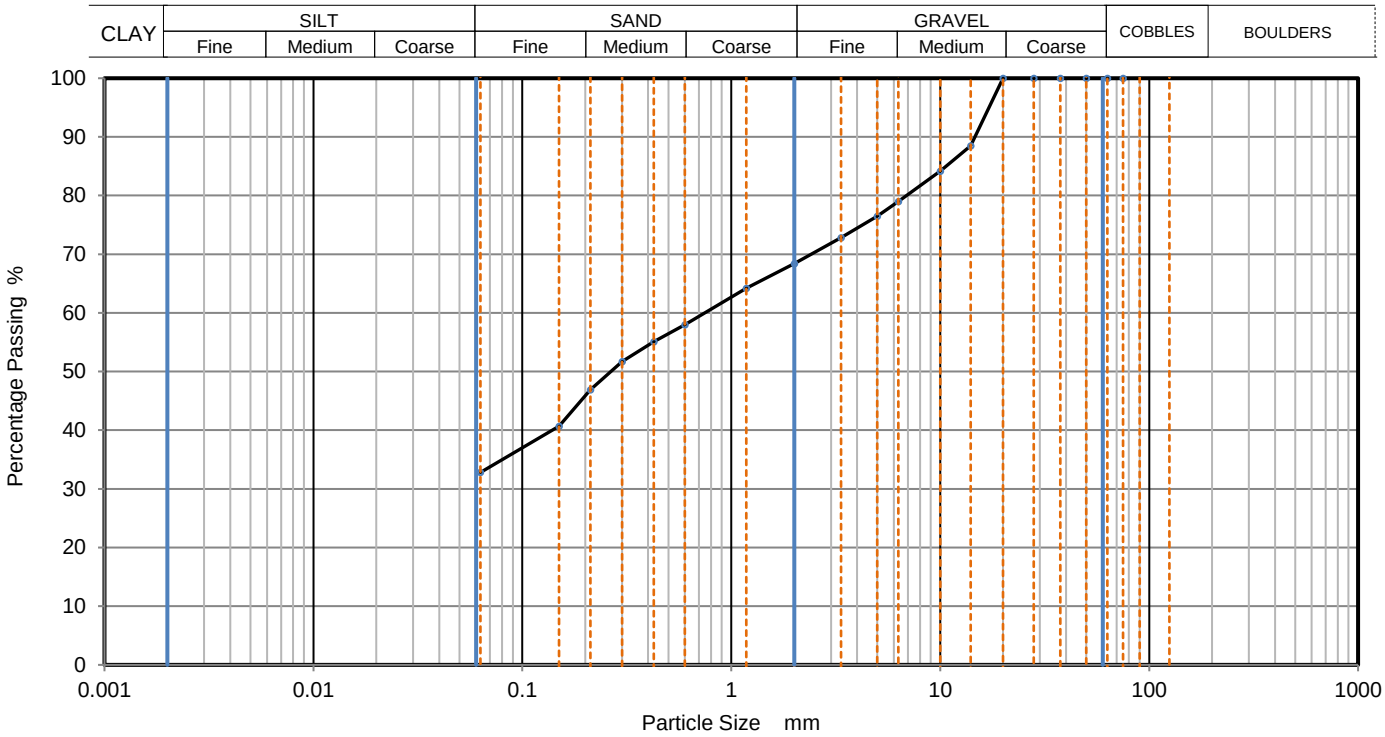
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP104 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey slightly gravelly sandy SILT. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021042728 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 89 | | |
| 10 | 84 | | |
| 6.3 | 79 | | |
| 5 | 77 | | |
| 3.35 | 73 | | |
| 2 | 68 | | |
| 1.18 | 64 | | |
| 0.6 | 58 | | |
| 0.425 | 55 | | |
| 0.3 | 52 | | |
| 0.212 | 47 | | |
| 0.15 | 41 | | |
| 0.063 | 33 | | |

| | |
|---|---|
| Dry Mass of sample, g | 312 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 32 |
| Sand | 36 |
| | |
| Fines <0.063mm | 33 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.745 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

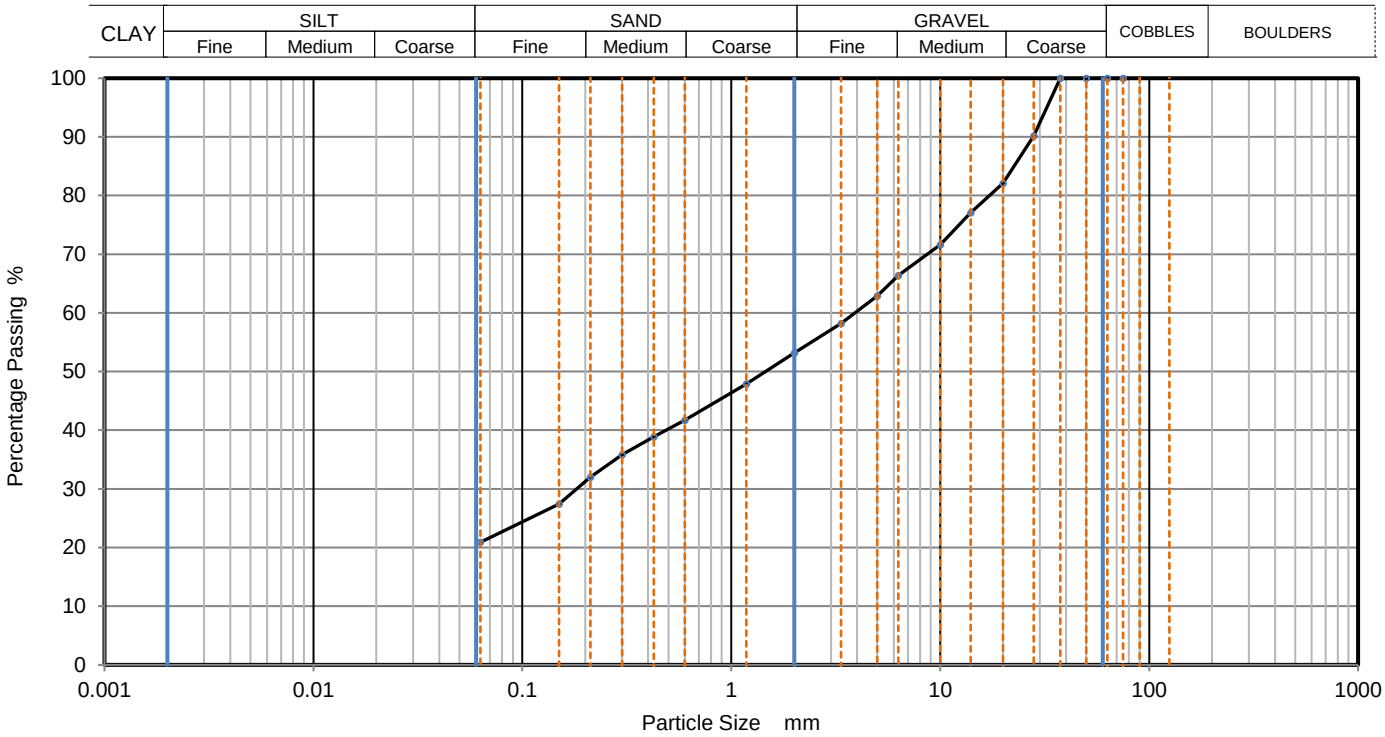
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP113 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Grey very silty very sandy GRAVEL. | Depth, m | 1.80 |
| Specimen Reference | Specimen Depth: m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210427129 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 90 | | |
| 20 | 82 | | |
| 14 | 77 | | |
| 10 | 72 | | |
| 6.3 | 66 | | |
| 5 | 63 | | |
| 3.35 | 58 | | |
| 2 | 53 | | |
| 1.18 | 48 | | |
| 0.6 | 42 | | |
| 0.425 | 39 | | |
| 0.3 | 36 | | |
| 0.212 | 32 | | |
| 0.15 | 27 | | |
| 0.063 | 21 | | |

| | |
|---|---|
| Dry Mass of sample, g | 579 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 47 |
| Sand | 32 |
| | |
| Fines <0.063mm | 21 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 3.91 |
| D30 | mm | 0.182 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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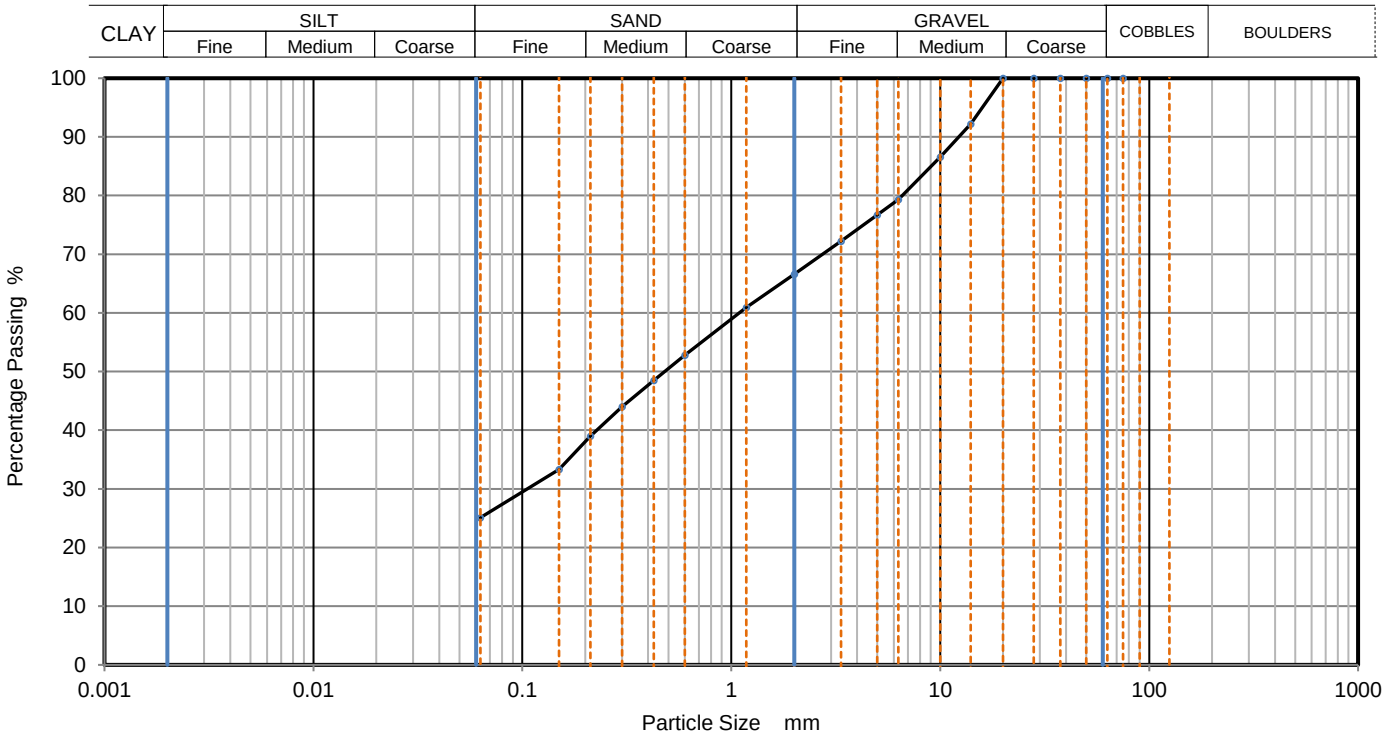
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP117R |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Light brown very silty very gravelly SAND. | Depth, m | 1.60 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210420103 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 92 | | |
| 10 | 87 | | |
| 6.3 | 79 | | |
| 5 | 77 | | |
| 3.35 | 72 | | |
| 2 | 67 | | |
| 1.18 | 61 | | |
| 0.6 | 53 | | |
| 0.425 | 49 | | |
| 0.3 | 44 | | |
| 0.212 | 39 | | |
| 0.15 | 33 | | |
| 0.063 | 25 | | |

| | |
|---|---|
| Dry Mass of sample, g | 496 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 33 |
| Sand | 42 |
| | |
| Fines <0.063mm | 25 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.09 |
| D30 | mm | 0.106 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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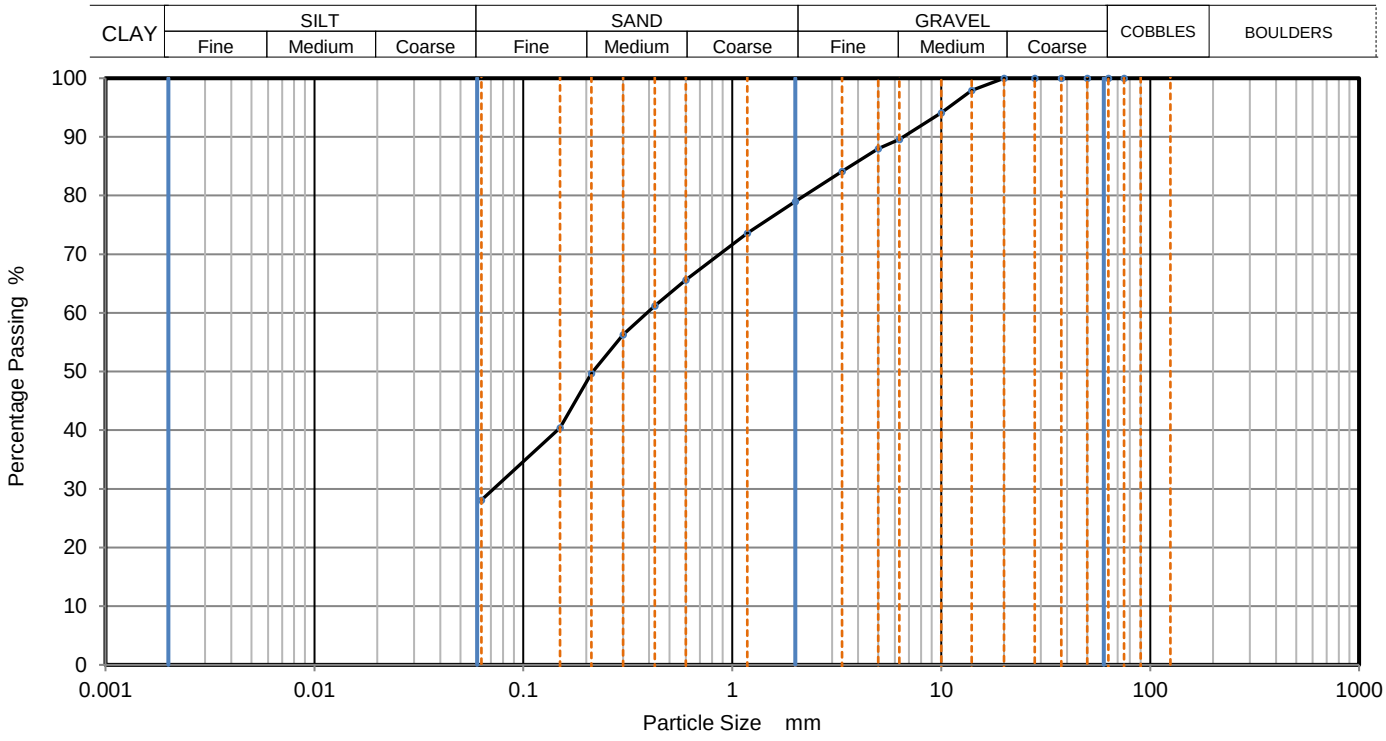
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP118R |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Light brown very gravelly very silty medium and fine SAND. | Depth, m | 1.60 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210420109 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 98 | | |
| 10 | 94 | | |
| 6.3 | 90 | | |
| 5 | 88 | | |
| 3.35 | 84 | | |
| 2 | 79 | | |
| 1.18 | 74 | | |
| 0.6 | 66 | | |
| 0.425 | 61 | | |
| 0.3 | 56 | | |
| 0.212 | 50 | | |
| 0.15 | 40 | | |
| 0.063 | 28 | | |

Dry Mass of sample, g: 593

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 21 |
| Sand | 51 |
| | |
| Fines <0.063mm | 28 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.391 |
| D30 | mm | 0.0721 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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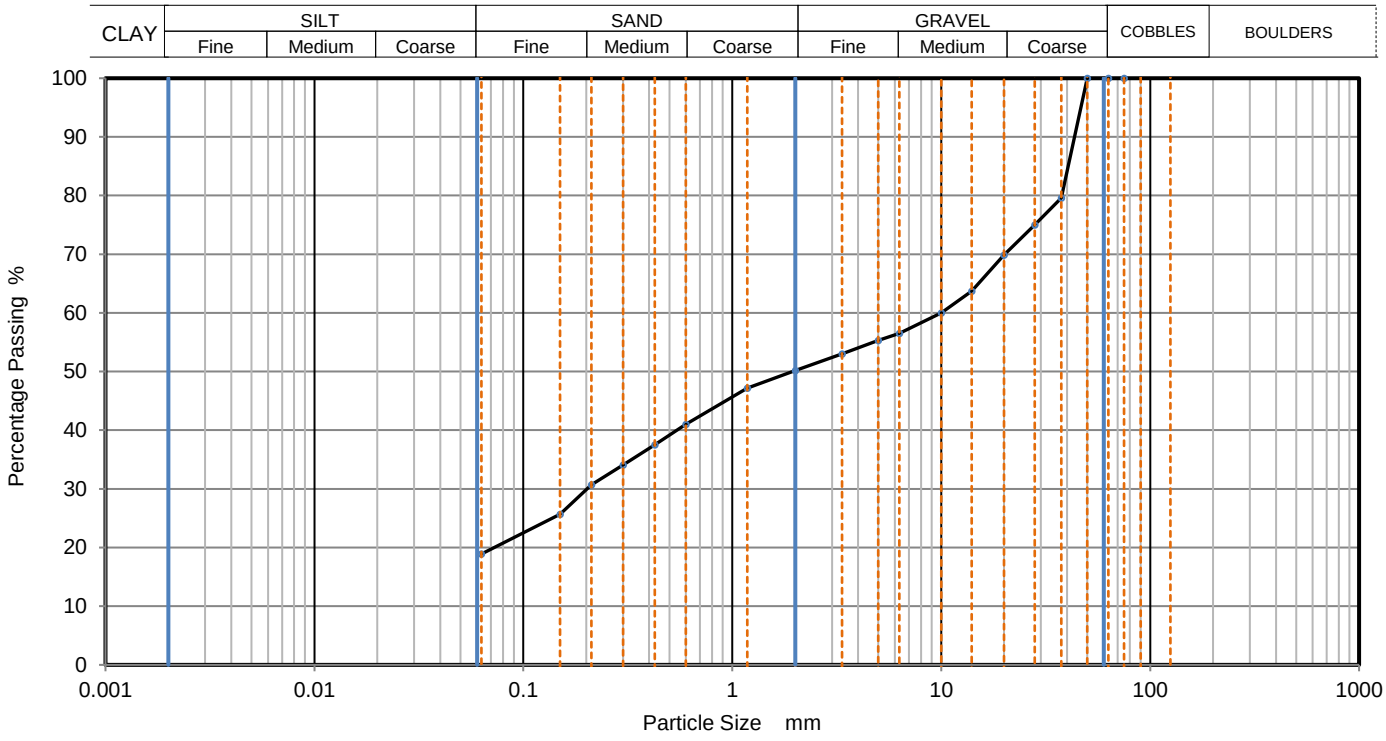
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP123 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Light brown silty very sandy coarse GRAVEL. | Depth, m | 2.70 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210420141 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 80 | | |
| 28 | 75 | | |
| 20 | 70 | | |
| 14 | 64 | | |
| 10 | 60 | | |
| 6.3 | 57 | | |
| 5 | 55 | | |
| 3.35 | 53 | | |
| 2 | 50 | | |
| 1.18 | 47 | | |
| 0.6 | 41 | | |
| 0.425 | 38 | | |
| 0.3 | 34 | | |
| 0.212 | 31 | | |
| 0.15 | 26 | | |
| 0.063 | 19 | | |

Dry Mass of sample, g: 667

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 50 |
| Sand | 31 |
| | |
| Fines <0.063mm | 19 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 10 |
| D30 | mm | 0.201 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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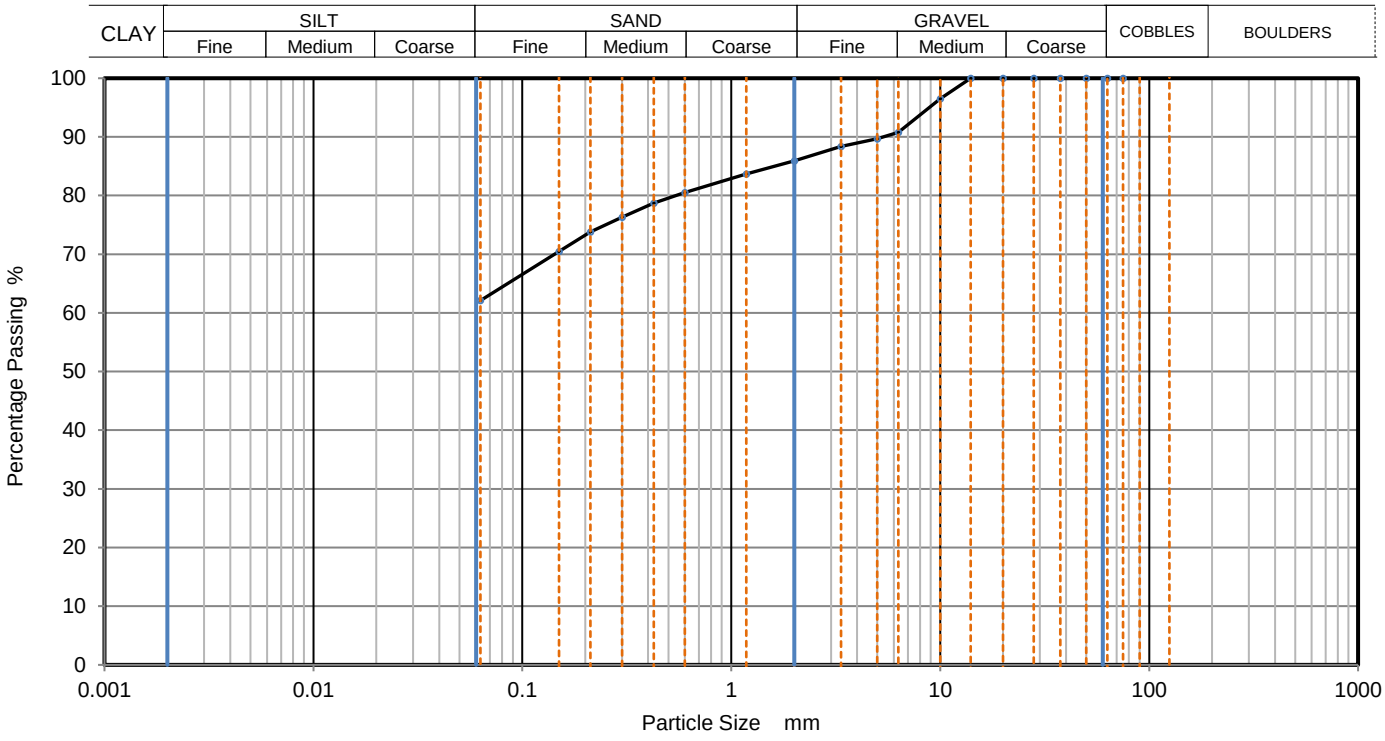
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP131 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Dark grey slightly gravelly slightly sandy SILT. | Depth, m | 1.80 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210427167 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 97 | | |
| 6.3 | 91 | | |
| 5 | 90 | | |
| 3.35 | 88 | | |
| 2 | 86 | | |
| 1.18 | 84 | | |
| 0.6 | 81 | | |
| 0.425 | 79 | | |
| 0.3 | 76 | | |
| 0.212 | 74 | | |
| 0.15 | 71 | | |
| 0.063 | 62 | | |

Dry Mass of sample, g: 219

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 14 |
| Sand | 24 |
| | |
| Fines <0.063mm | 62 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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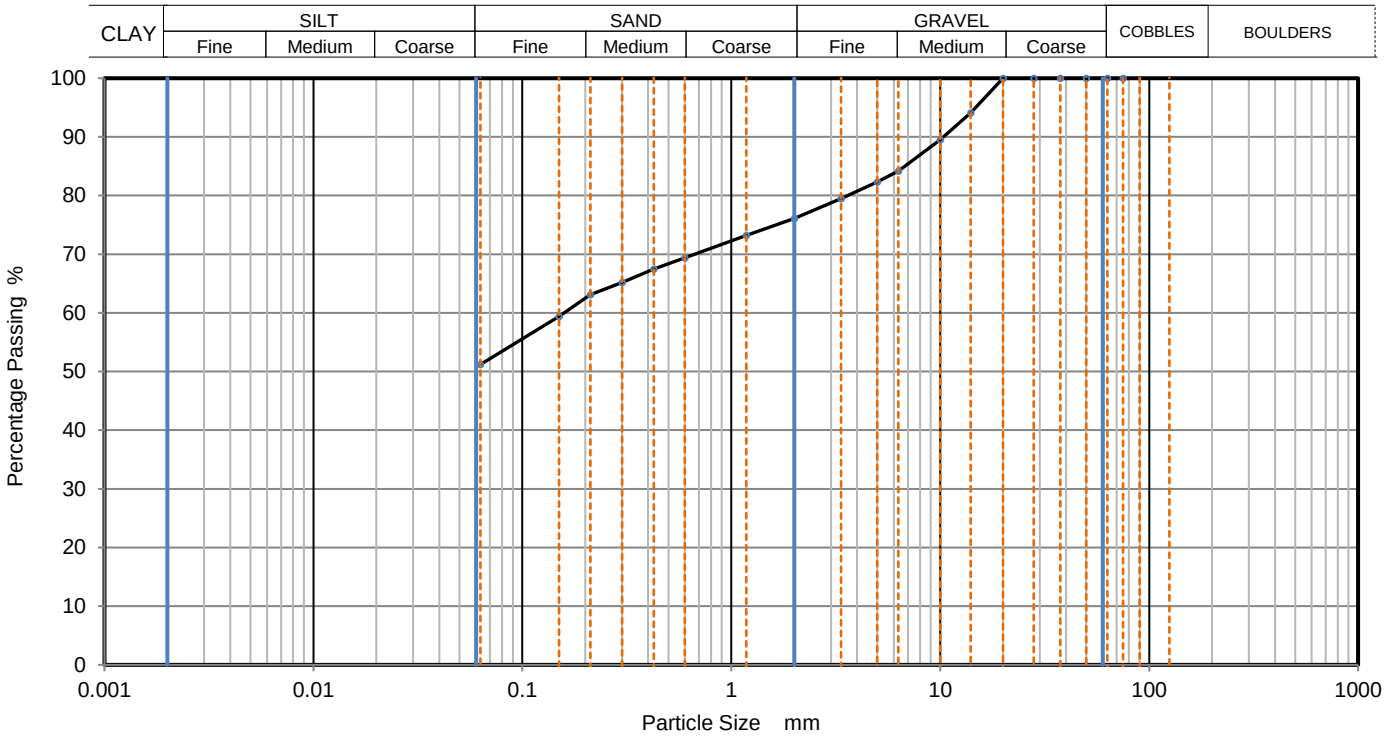
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP132 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey slightly gravelly slightly sandy silty CLAY. | Depth, m | 0.70 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210427173 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 94 | | |
| 10 | 90 | | |
| 6.3 | 84 | | |
| 5 | 82 | | |
| 3.35 | 80 | | |
| 2 | 76 | | |
| 1.18 | 73 | | |
| 0.6 | 69 | | |
| 0.425 | 68 | | |
| 0.3 | 65 | | |
| 0.212 | 63 | | |
| 0.15 | 59 | | |
| 0.063 | 51 | | |

| | |
|---|---|
| Dry Mass of sample, g | 413 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 24 |
| Sand | 25 |
| | |
| Fines <0.063mm | 51 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.158 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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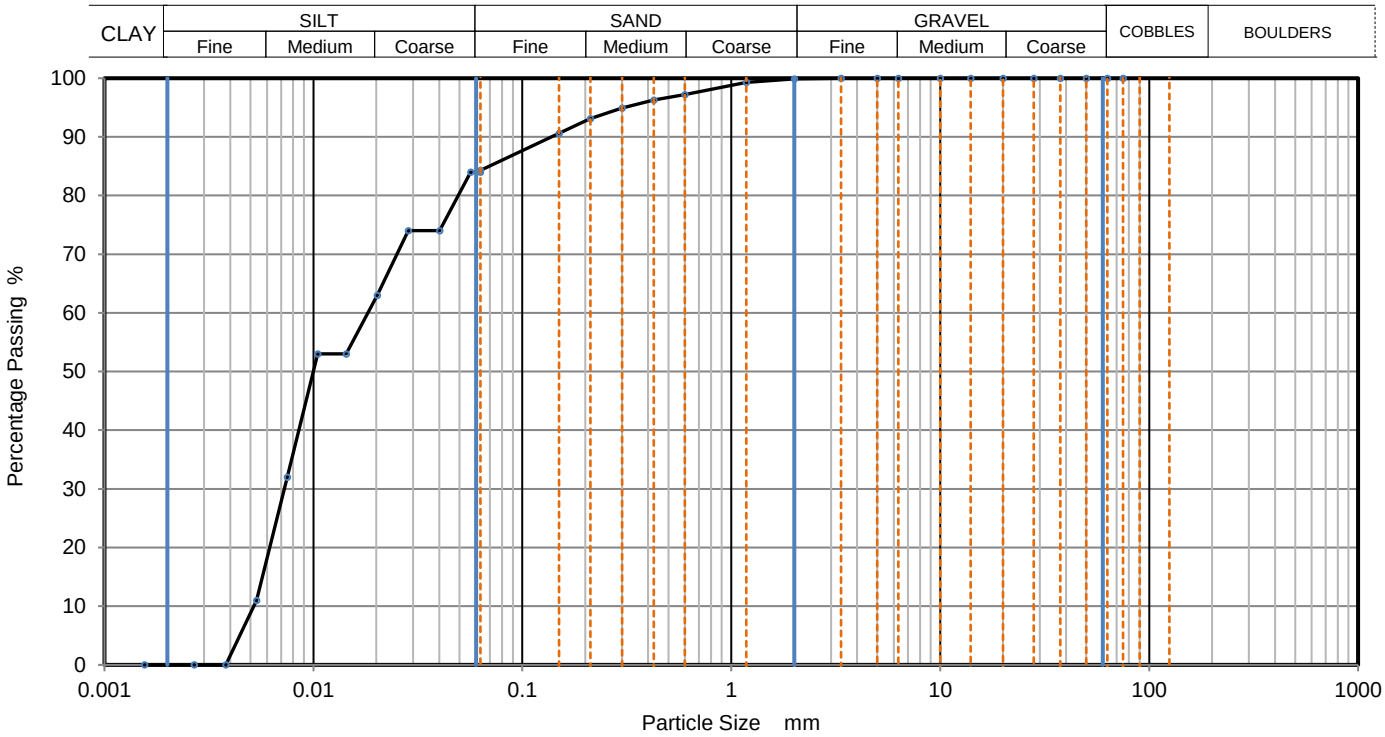
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP139 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Orange slightly sandy coarse SILT (MARL). | Depth, m | 1.20 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210427218 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 84 |
| | | 0.0565 | 84 |
| 75 | 100 | 0.0402 | 74 |
| 63 | 100 | 0.0284 | 74 |
| 50 | 100 | 0.0202 | 63 |
| 37.5 | 100 | 0.0144 | 53 |
| 28 | 100 | 0.0105 | 53 |
| 20 | 100 | 0.0075 | 32 |
| 14 | 100 | 0.0054 | 11 |
| 10 | 100 | 0.0038 | 0 |
| 6.3 | 100 | 0.0027 | 0 |
| 5 | 100 | 0.0016 | 0 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 99 | | |
| 0.6 | 97 | Particle density | (assumed) |
| 0.425 | 96 | 2.65 | Mg/m3 |
| 0.3 | 95 | | |
| 0.212 | 93 | | |
| 0.15 | 91 | | |
| 0.063 | 84 | | |

| | |
|---|---|
| Dry Mass of sample, g | 72 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 16 |
| Silt | 84 |
| Clay | 0 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0182 |
| D30 | mm | 0.0073 |
| D10 | mm | 0.00526 |
| Uniformity Coefficient | | 3.5 |
| Curvature Coefficient | | 0.56 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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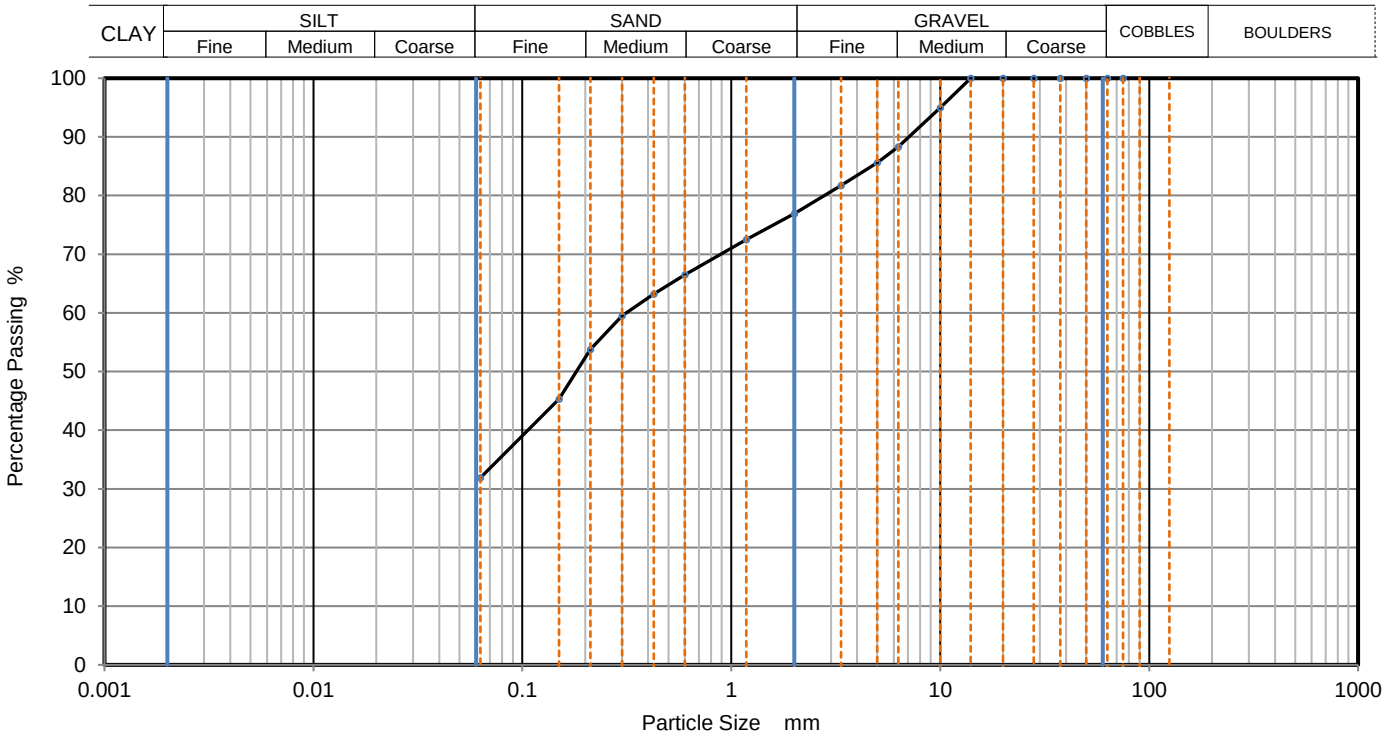
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP146 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Grey very gravelly very silty fine SAND. | Depth, m | 0.60 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021042826 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 95 | | |
| 6.3 | 88 | | |
| 5 | 86 | | |
| 3.35 | 82 | | |
| 2 | 77 | | |
| 1.18 | 73 | | |
| 0.6 | 67 | | |
| 0.425 | 63 | | |
| 0.3 | 60 | | |
| 0.212 | 54 | | |
| 0.15 | 45 | | |
| 0.063 | 32 | | |

| | |
|---|---|
| Dry Mass of sample, g | 367 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 23 |
| Sand | 45 |
| | |
| Fines <0.063mm | 32 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.314 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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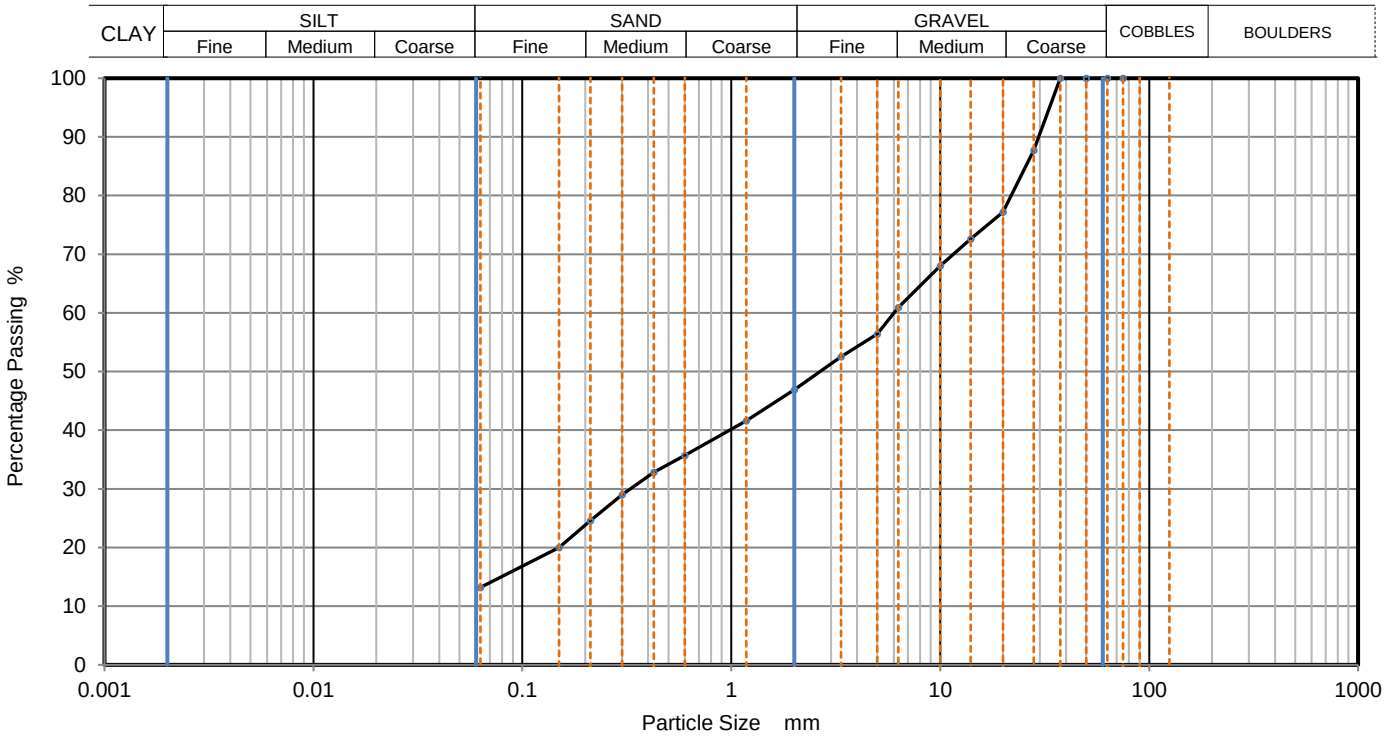
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP147 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Dark grey silty very sandy coarse GRAVEL. | Depth, m | 1.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021042834 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 88 | | |
| 20 | 77 | | |
| 14 | 73 | | |
| 10 | 68 | | |
| 6.3 | 61 | | |
| 5 | 56 | | |
| 3.35 | 53 | | |
| 2 | 47 | | |
| 1.18 | 42 | | |
| 0.6 | 36 | | |
| 0.425 | 33 | | |
| 0.3 | 29 | | |
| 0.212 | 25 | | |
| 0.15 | 20 | | |
| 0.063 | 13 | | |

| | |
|---|---|
| Dry Mass of sample, g | 421 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 53 |
| Sand | 34 |
| | |
| Fines <0.063mm | 13 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 6.02 |
| D30 | mm | 0.33 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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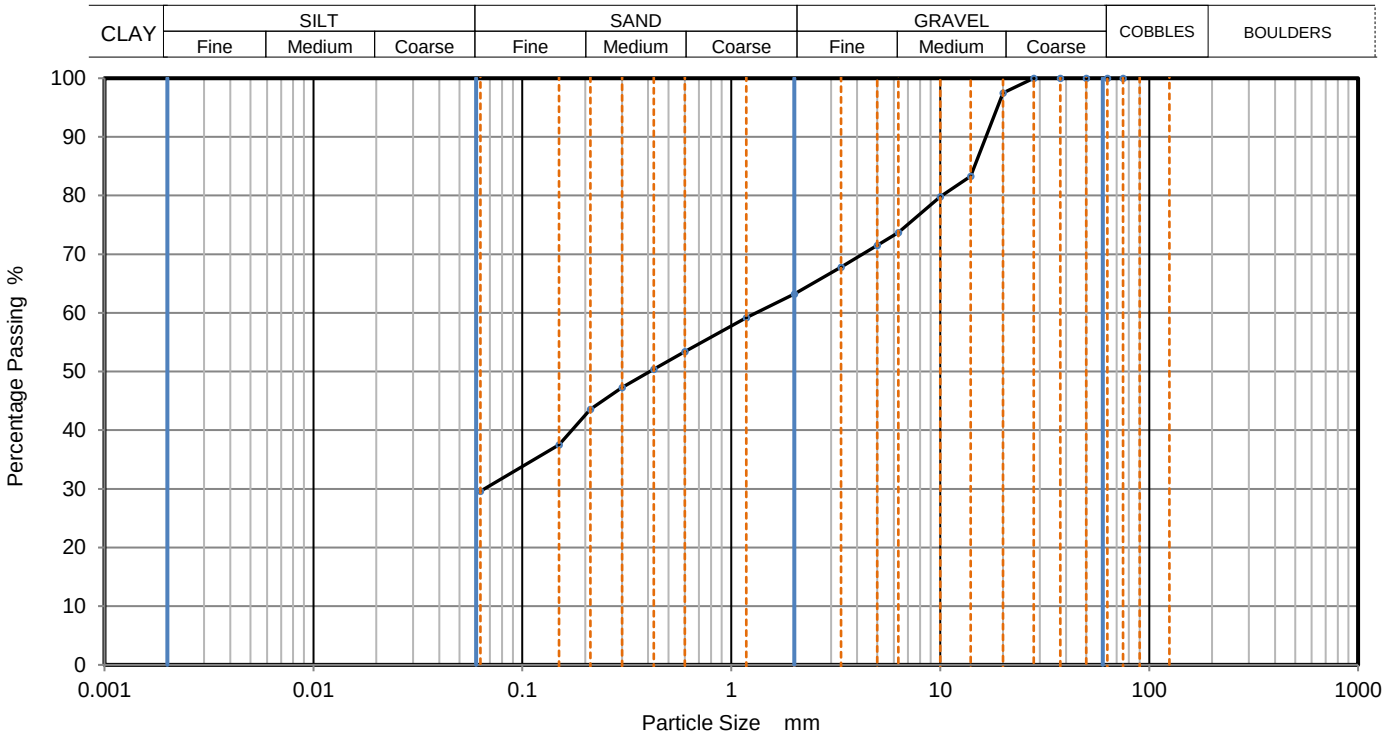
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP152 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Grey very silty SAND and GRAVEL. Gravel is medium. | Depth, m | 2.40 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021043054 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 98 | | |
| 14 | 83 | | |
| 10 | 80 | | |
| 6.3 | 74 | | |
| 5 | 72 | | |
| 3.35 | 68 | | |
| 2 | 63 | | |
| 1.18 | 59 | | |
| 0.6 | 53 | | |
| 0.425 | 50 | | |
| 0.3 | 47 | | |
| 0.212 | 44 | | |
| 0.15 | 38 | | |
| 0.063 | 30 | | |

| | |
|---|---|
| Dry Mass of sample, g | 763 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 37 |
| Sand | 34 |
| | |
| Fines <0.063mm | 30 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.32 |
| D30 | mm | 0.0656 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

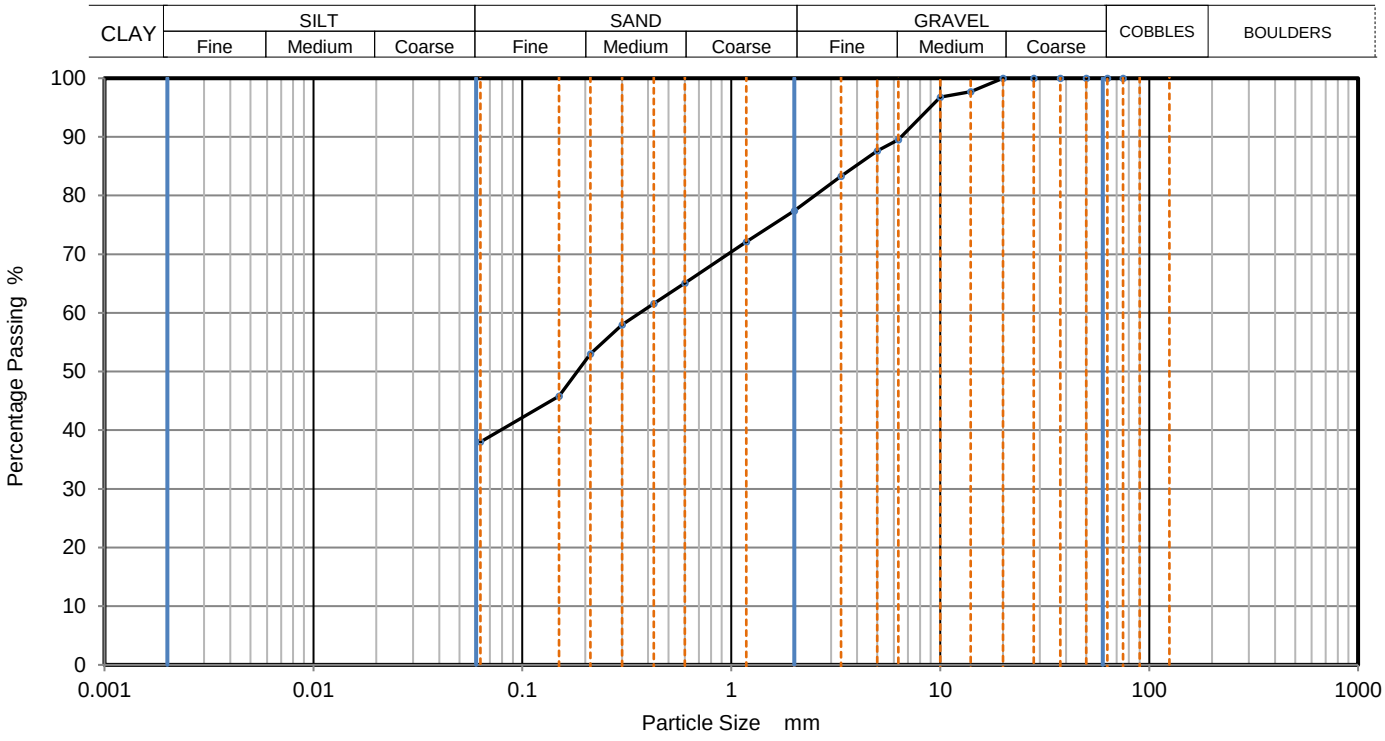
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | | | |
|---|---|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | | | Job Ref | **2021LD101** |
| | | | | Borehole/Pit No. | TP153 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 5 |
| Soil Description | Grey slightly gravelly sandy SILT. | | | Depth, m | 2.70 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | | | KeyLAB ID | IDL12021043061 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 98 | | |
| 10 | 97 | | |
| 6.3 | 90 | | |
| 5 | 88 | | |
| 3.35 | 83 | | |
| 2 | 77 | | |
| 1.18 | 72 | | |
| 0.6 | 65 | | |
| 0.425 | 62 | | |
| 0.3 | 58 | | |
| 0.212 | 53 | | |
| 0.15 | 46 | | |
| 0.063 | 38 | | |

| | |
|---|---|
| Dry Mass of sample, g | 659 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 23 |
| Sand | 39 |
| | |
| Fines <0.063mm | 38 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.364 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

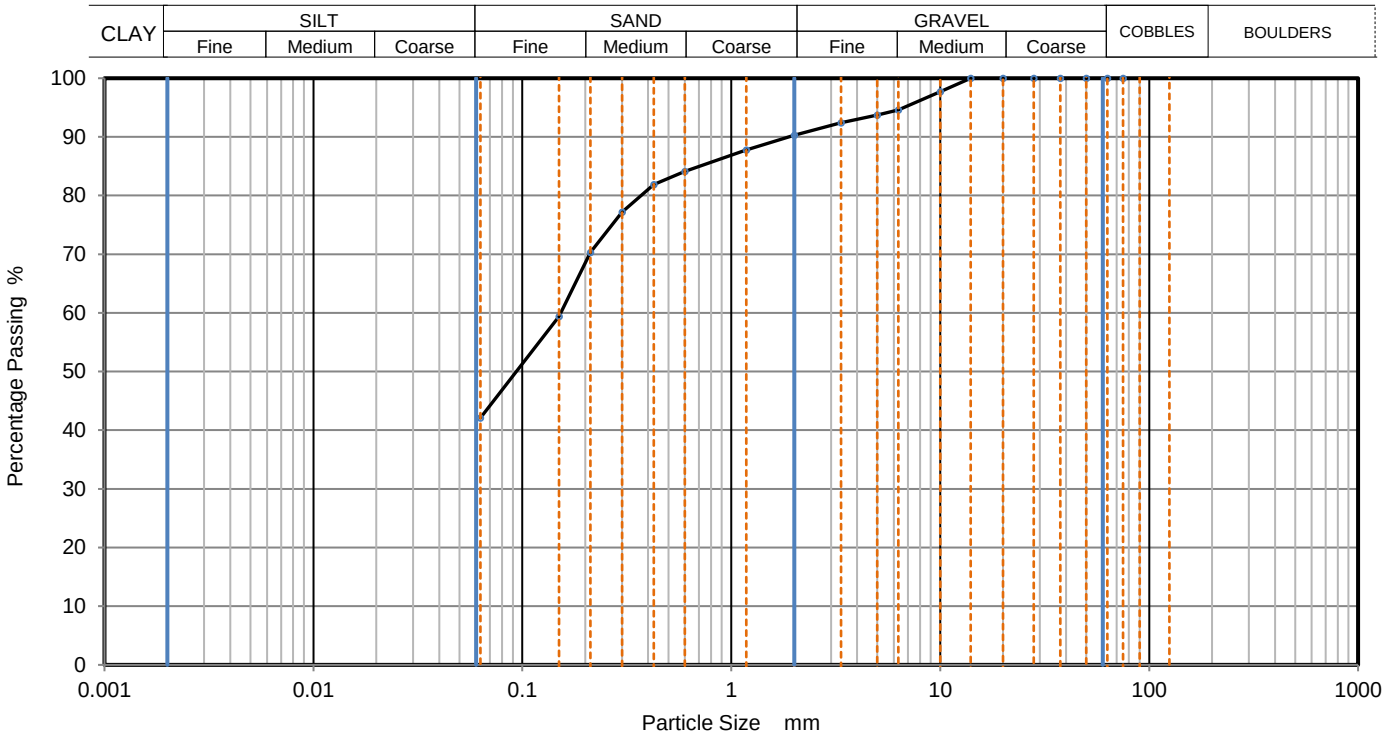
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP154 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Light brown slightly gravelly sandy SILT. Sand is fine. | Depth, m | 2.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021043067 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 98 | | |
| 6.3 | 95 | | |
| 5 | 94 | | |
| 3.35 | 92 | | |
| 2 | 90 | | |
| 1.18 | 88 | | |
| 0.6 | 84 | | |
| 0.425 | 82 | | |
| 0.3 | 77 | | |
| 0.212 | 70 | | |
| 0.15 | 59 | | |
| 0.063 | 42 | | |

| | |
|---|---|
| Dry Mass of sample, g | 521 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 10 |
| Sand | 48 |
| | |
| Fines <0.063mm | 42 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.153 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | **1** QC From No:R2 |

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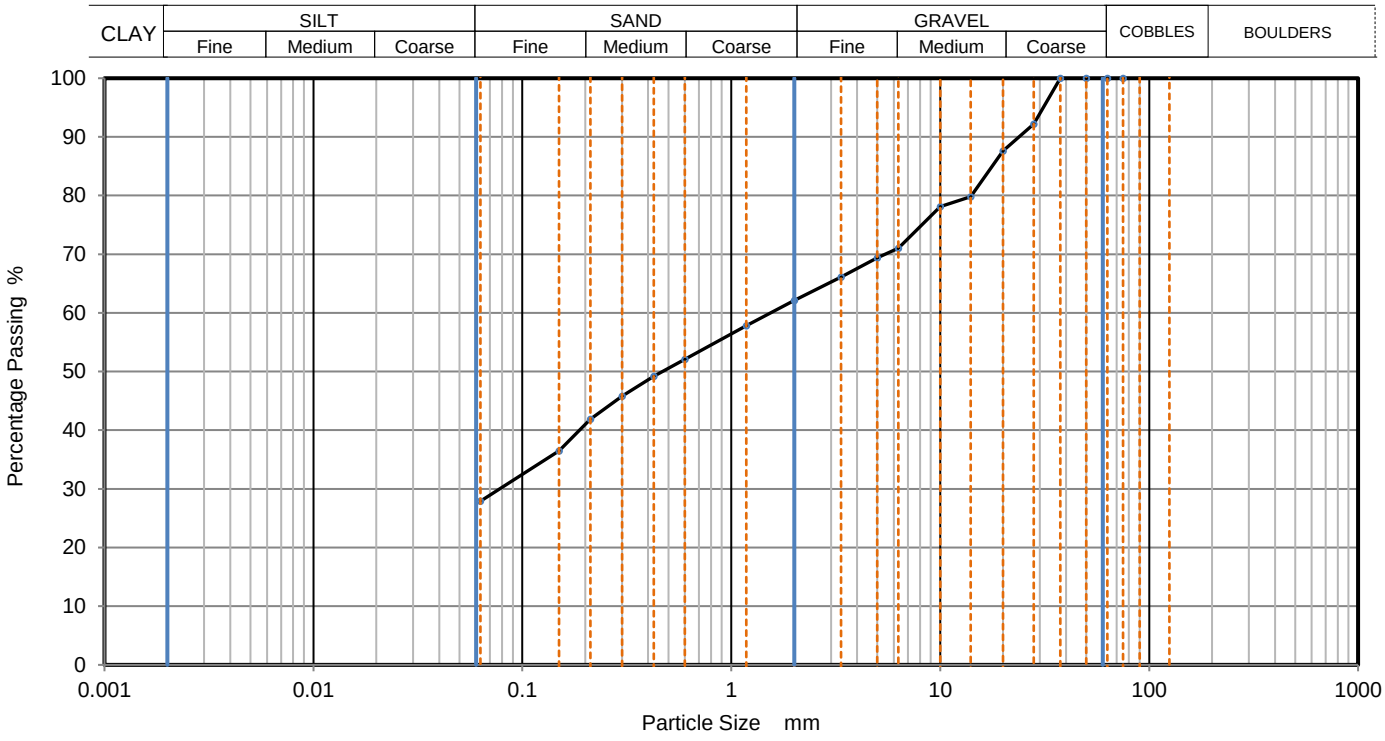
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | | | |
|---|---|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | | | Job Ref | **2021LD101** |
| | | | | Borehole/Pit No. | TP156 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 3 |
| Soil Description | Grey very silty SAND and GRAVEL. | | | Depth, m | 1.30 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | | | KeyLAB ID | IDL12021043079 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 92 | | |
| 20 | 88 | | |
| 14 | 80 | | |
| 10 | 78 | | |
| 6.3 | 71 | | |
| 5 | 69 | | |
| 3.35 | 66 | | |
| 2 | 62 | | |
| 1.18 | 58 | | |
| 0.6 | 52 | | |
| 0.425 | 49 | | |
| 0.3 | 46 | | |
| 0.212 | 42 | | |
| 0.15 | 37 | | |
| 0.063 | 28 | | |

| | |
|---|---|
| Dry Mass of sample, g | 528 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 38 |
| Sand | 34 |
| | |
| Fines <0.063mm | 28 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.55 |
| D30 | mm | 0.078 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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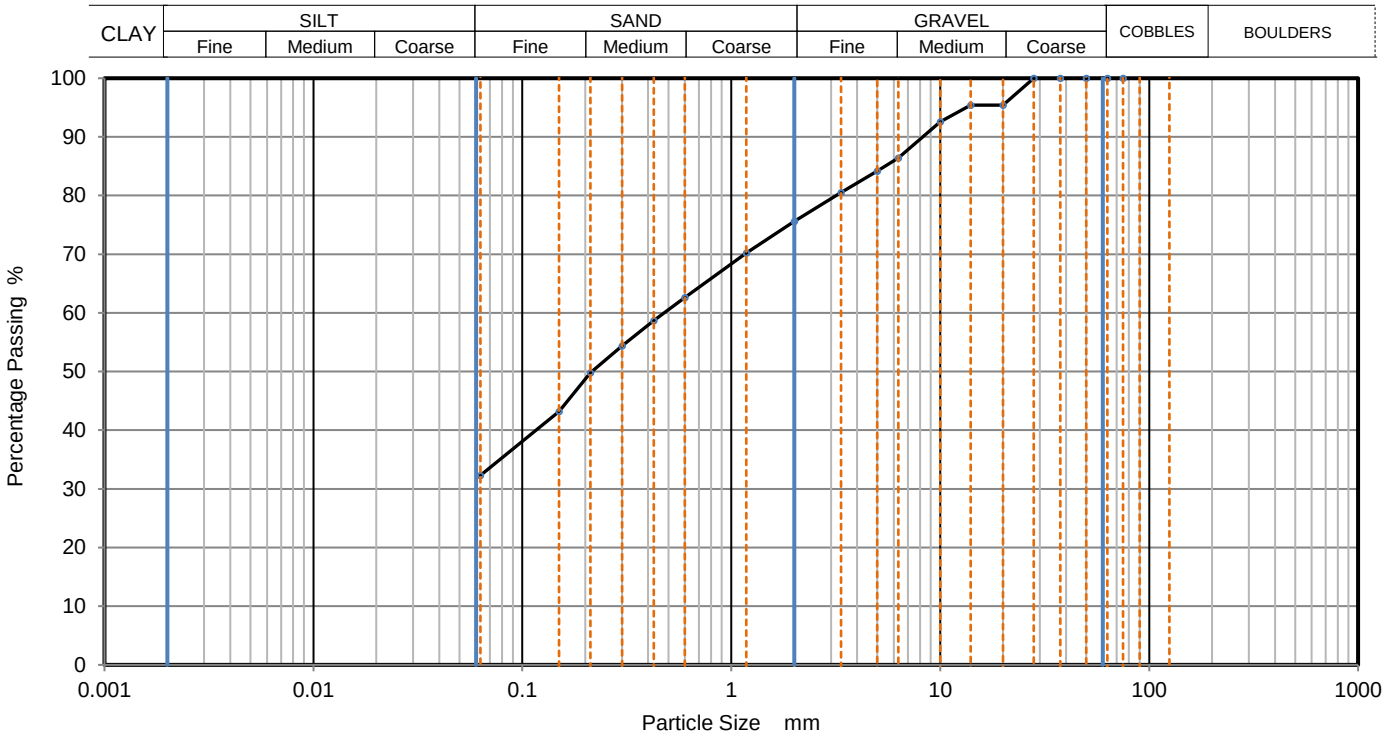
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP159 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Brownish-grey very gravelly very silty SAND. | Depth, m | 1.20 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210430100 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 95 | | |
| 14 | 95 | | |
| 10 | 93 | | |
| 6.3 | 86 | | |
| 5 | 84 | | |
| 3.35 | 81 | | |
| 2 | 76 | | |
| 1.18 | 70 | | |
| 0.6 | 63 | | |
| 0.425 | 59 | | |
| 0.3 | 54 | | |
| 0.212 | 50 | | |
| 0.15 | 43 | | |
| 0.063 | 32 | | |

Dry Mass of sample, g: 457

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 24 |
| Sand | 43 |
| | |
| Fines <0.063mm | 32 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.477 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

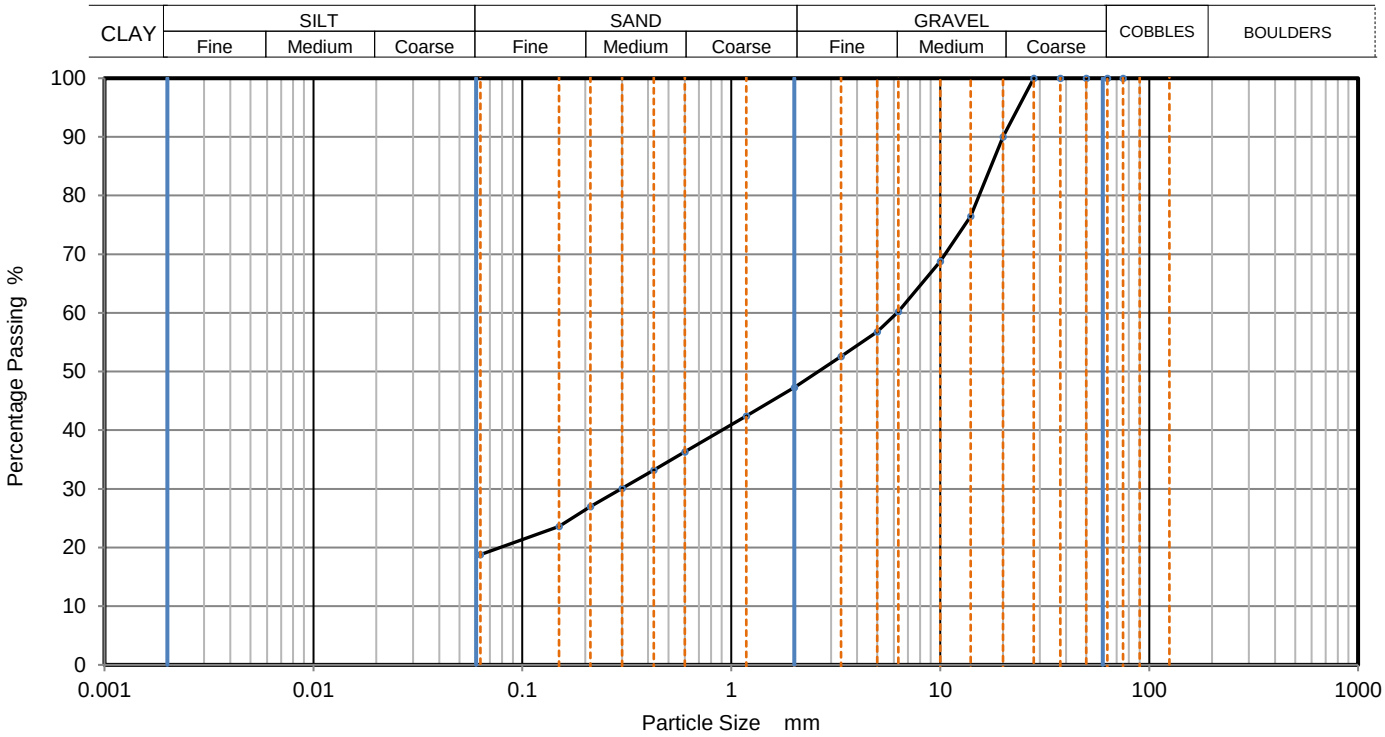
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP162 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Grey silty very sandy medium GRAVEL. | Depth, m | 1.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210430121 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 90 | | |
| 14 | 77 | | |
| 10 | 69 | | |
| 6.3 | 60 | | |
| 5 | 57 | | |
| 3.35 | 53 | | |
| 2 | 47 | | |
| 1.18 | 42 | | |
| 0.6 | 36 | | |
| 0.425 | 33 | | |
| 0.3 | 30 | | |
| 0.212 | 27 | | |
| 0.15 | 24 | | |
| 0.063 | 19 | | |

Dry Mass of sample, g: 753

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 53 |
| Sand | 29 |
| | |
| Fines <0.063mm | 19 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 6.22 |
| D30 | mm | 0.296 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

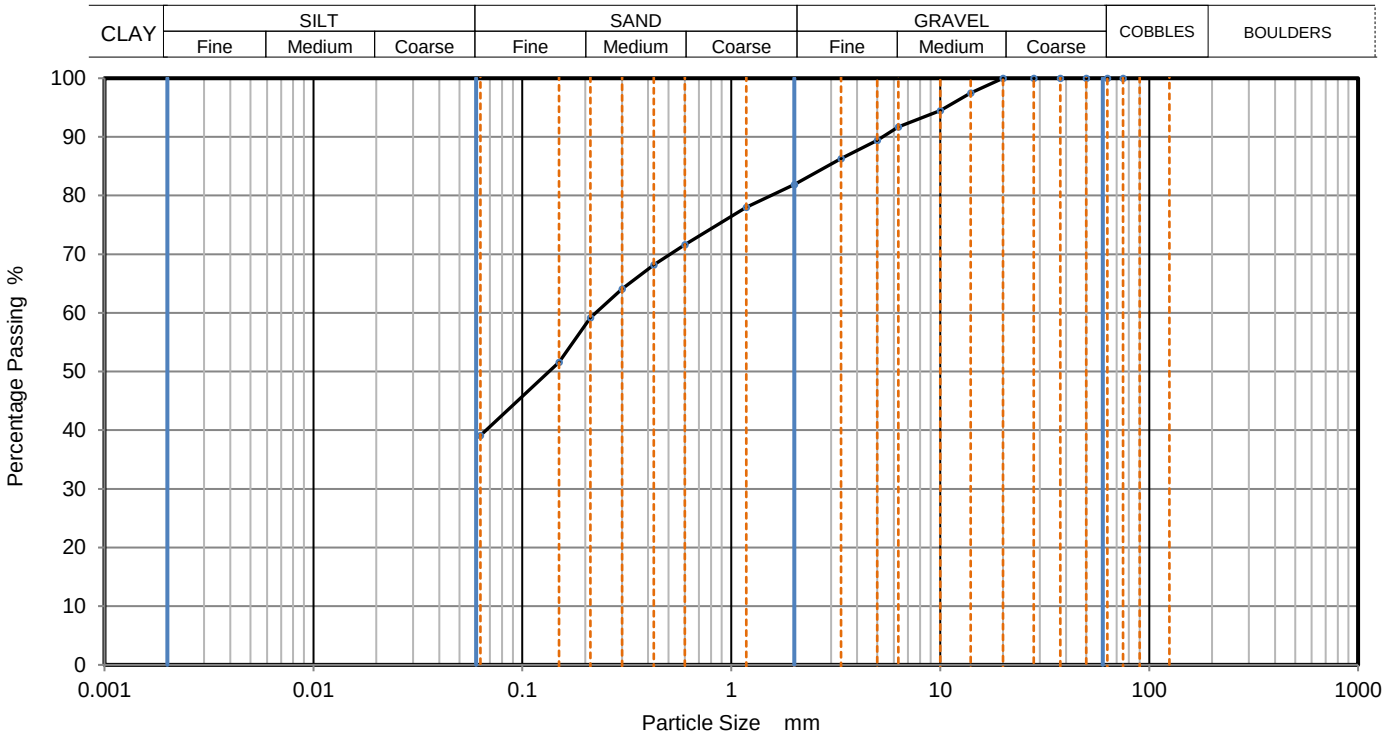
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | | | |
|---|---|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | | | Job Ref | **2021LD101** |
| | | | | Borehole/Pit No. | TP167 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 3 |
| Soil Description | Grey slightly gravelly sandy SILT. | | | Depth, m | 0.80 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | | | KeyLAB ID | IDL1202105059 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 98 | | |
| 10 | 95 | | |
| 6.3 | 92 | | |
| 5 | 89 | | |
| 3.35 | 86 | | |
| 2 | 82 | | |
| 1.18 | 78 | | |
| 0.6 | 72 | | |
| 0.425 | 68 | | |
| 0.3 | 64 | | |
| 0.212 | 59 | | |
| 0.15 | 52 | | |
| 0.063 | 39 | | |

Dry Mass of sample, g: 585

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 18 |
| Sand | 43 |
| | |
| Fines <0.063mm | 39 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.224 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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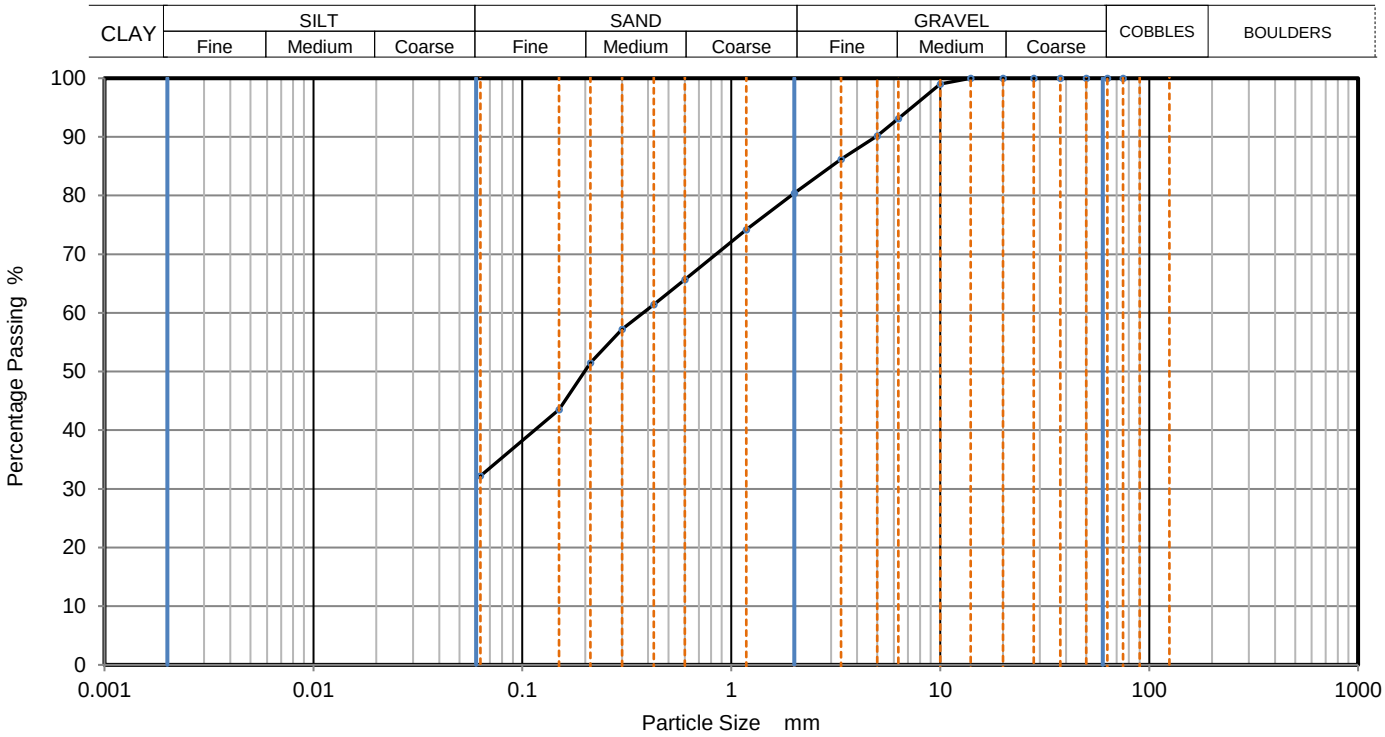
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP171 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey very gravelly very silty SAND. | Depth, m | 1.40 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021050532 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 99 | | |
| 6.3 | 93 | | |
| 5 | 90 | | |
| 3.35 | 86 | | |
| 2 | 80 | | |
| 1.18 | 74 | | |
| 0.6 | 66 | | |
| 0.425 | 61 | | |
| 0.3 | 57 | | |
| 0.212 | 52 | | |
| 0.15 | 44 | | |
| 0.063 | 32 | | |

| | |
|---|---|
| Dry Mass of sample, g | 581 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 20 |
| Sand | 48 |
| | |
| Fines <0.063mm | 32 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.379 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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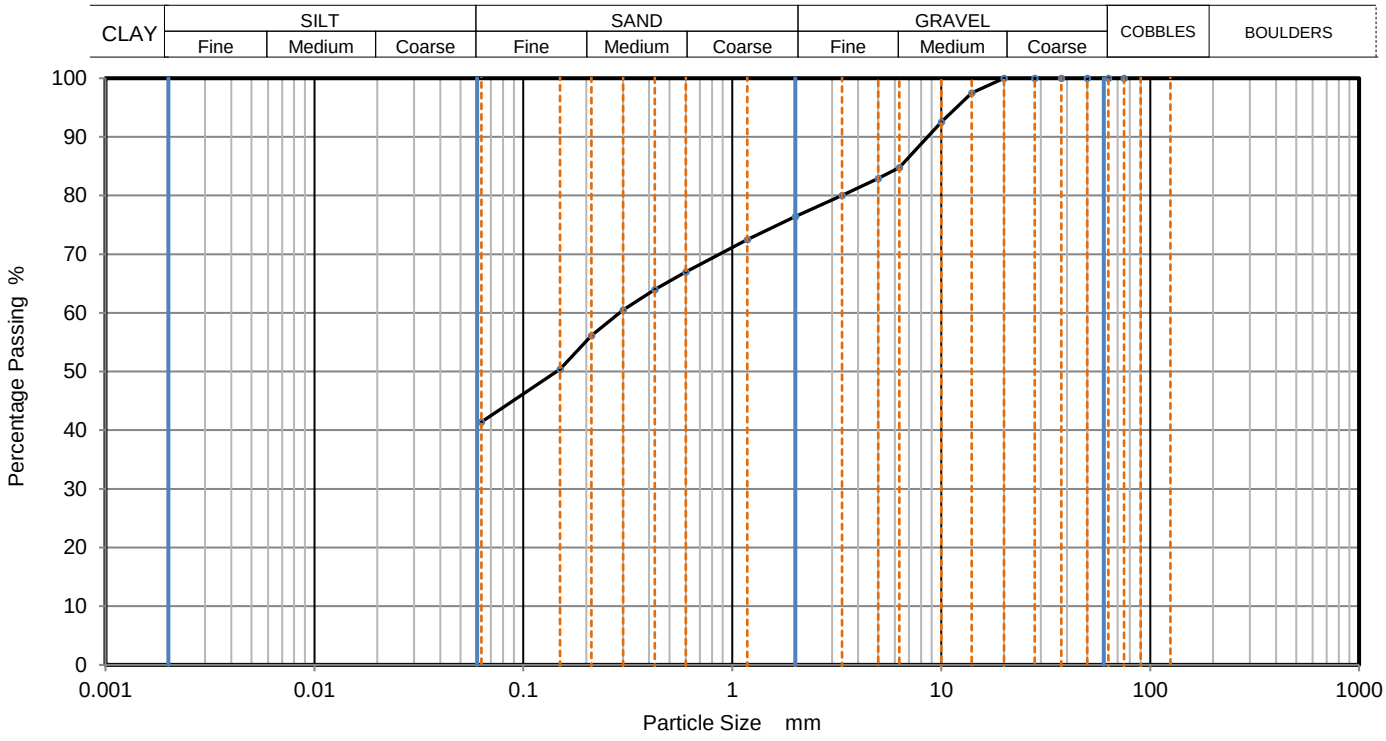
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP174 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Greenish-grey slightly gravelly sandy SILT. | Depth, m | 1.30 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021050539 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 98 | | |
| 10 | 93 | | |
| 6.3 | 85 | | |
| 5 | 83 | | |
| 3.35 | 80 | | |
| 2 | 76 | | |
| 1.18 | 73 | | |
| 0.6 | 67 | | |
| 0.425 | 64 | | |
| 0.3 | 61 | | |
| 0.212 | 56 | | |
| 0.15 | 50 | | |
| 0.063 | 41 | | |

| | |
|---|---|
| Dry Mass of sample, g | 497 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 24 |
| Sand | 35 |
| | |
| Fines <0.063mm | 41 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.288 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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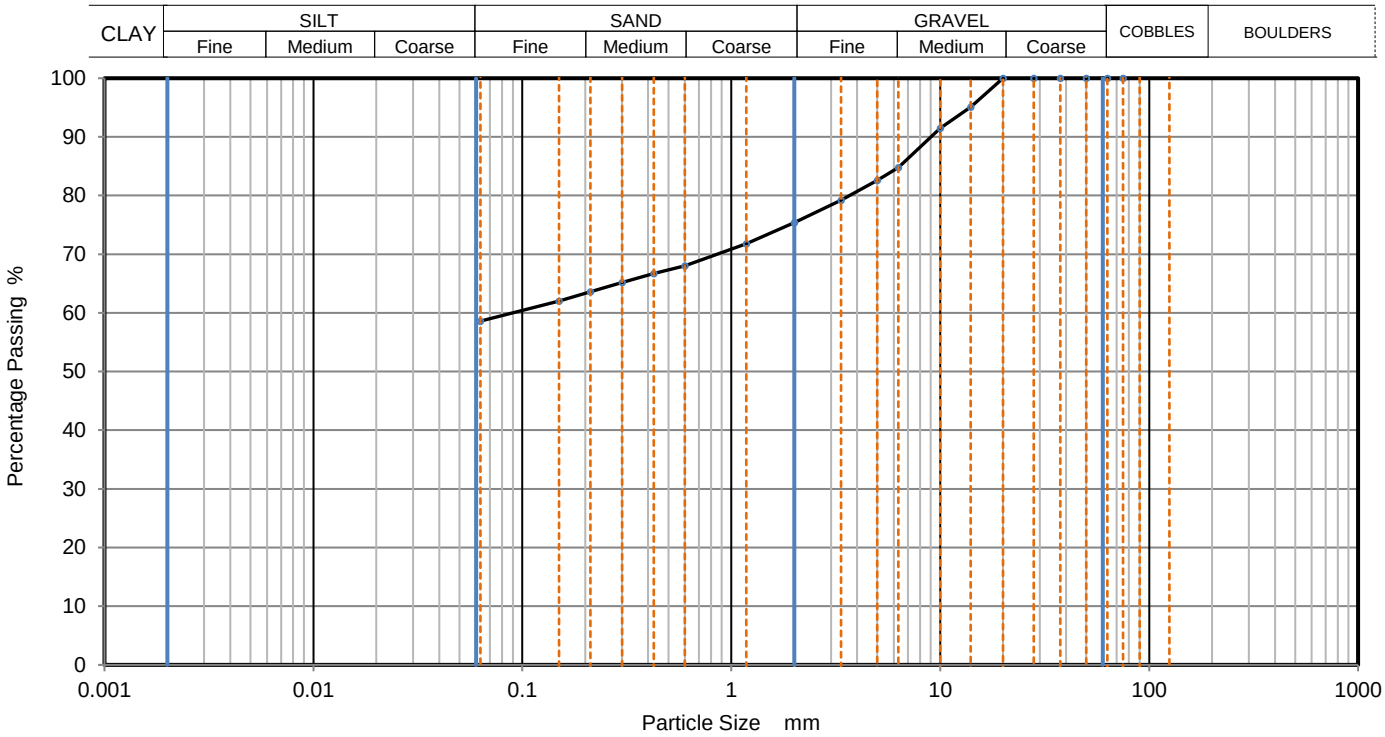
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP179 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey slightly sandy slightly gravelly SILT. | Depth, m | 1.30 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021050567 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 95 | | |
| 10 | 92 | | |
| 6.3 | 85 | | |
| 5 | 83 | | |
| 3.35 | 79 | | |
| 2 | 75 | | |
| 1.18 | 72 | | |
| 0.6 | 68 | | |
| 0.425 | 67 | | |
| 0.3 | 65 | | |
| 0.212 | 64 | | |
| 0.15 | 62 | | |
| 0.063 | 59 | | |

| | |
|---|---|
| Dry Mass of sample, g | 444 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 25 |
| Sand | 17 |
| | |
| Fines <0.063mm | 59 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0901 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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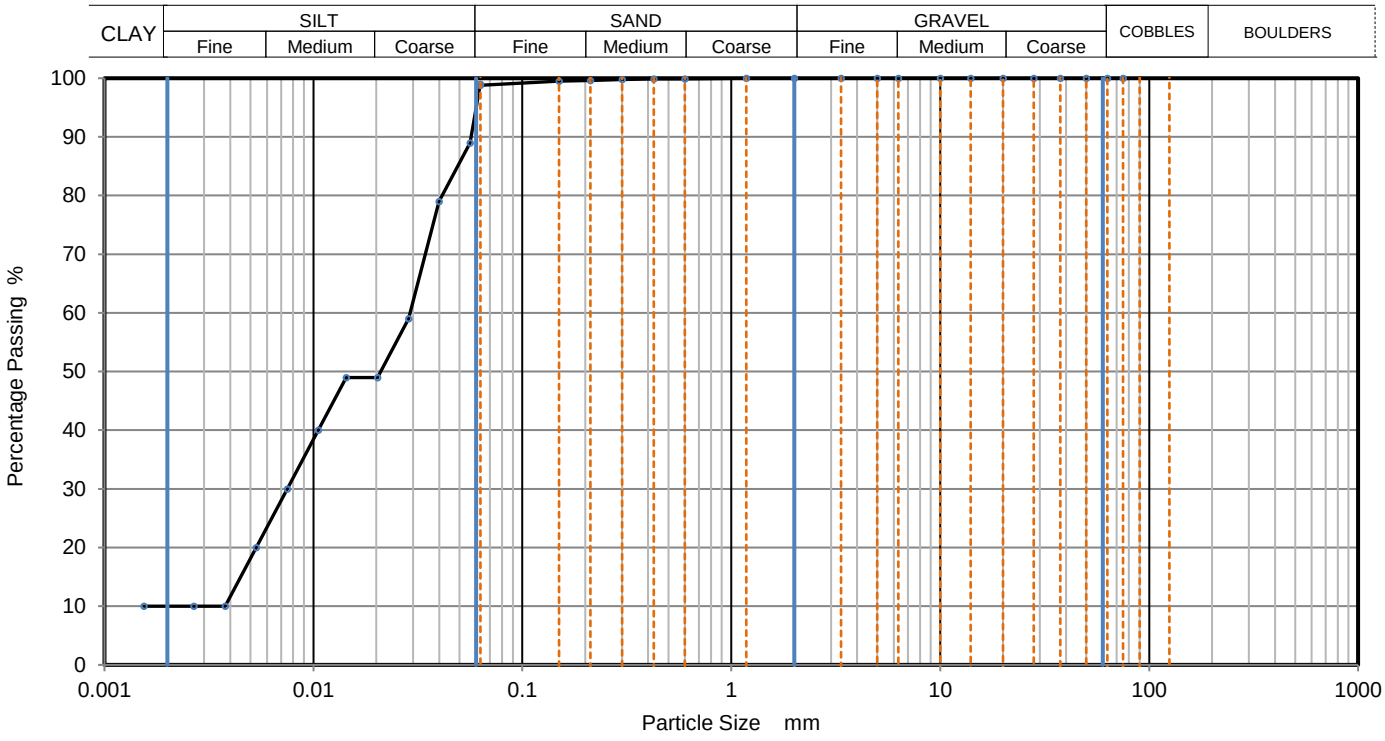
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | | | |
|---|---|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | | | Job Ref | **2021LD101** |
| | | | | Borehole/Pit No. | TP181 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 5 |
| Soil Description | Grey SILT. | | | Depth, m | 3.40 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | | | KeyLAB ID | IDL120210430152 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 99 |
| | | 0.0562 | 89 |
| 75 | 100 | 0.0400 | 79 |
| 63 | 100 | 0.0286 | 59 |
| 50 | 100 | 0.0203 | 49 |
| 37.5 | 100 | 0.0144 | 49 |
| 28 | 100 | 0.0105 | 40 |
| 20 | 100 | 0.0075 | 30 |
| 14 | 100 | 0.0053 | 20 |
| 10 | 100 | 0.0038 | 10 |
| 6.3 | 100 | 0.0027 | 10 |
| 5 | 100 | 0.0015 | 10 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density | (assumed) |
| 0.425 | 100 | 2.65 | Mg/m3 |
| 0.3 | 100 | | |
| 0.212 | 100 | | |
| 0.15 | 100 | | |
| 0.063 | 99 | | |

| | |
|---|---|
| Dry Mass of sample, g | 164 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 1 |
| Silt | 89 |
| Clay | 10 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0289 |
| D30 | mm | 0.00759 |
| D10 | mm | 0.0038 |
| Uniformity Coefficient | | 7.6 |
| Curvature Coefficient | | 0.52 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | **1** QC From No:R2 |

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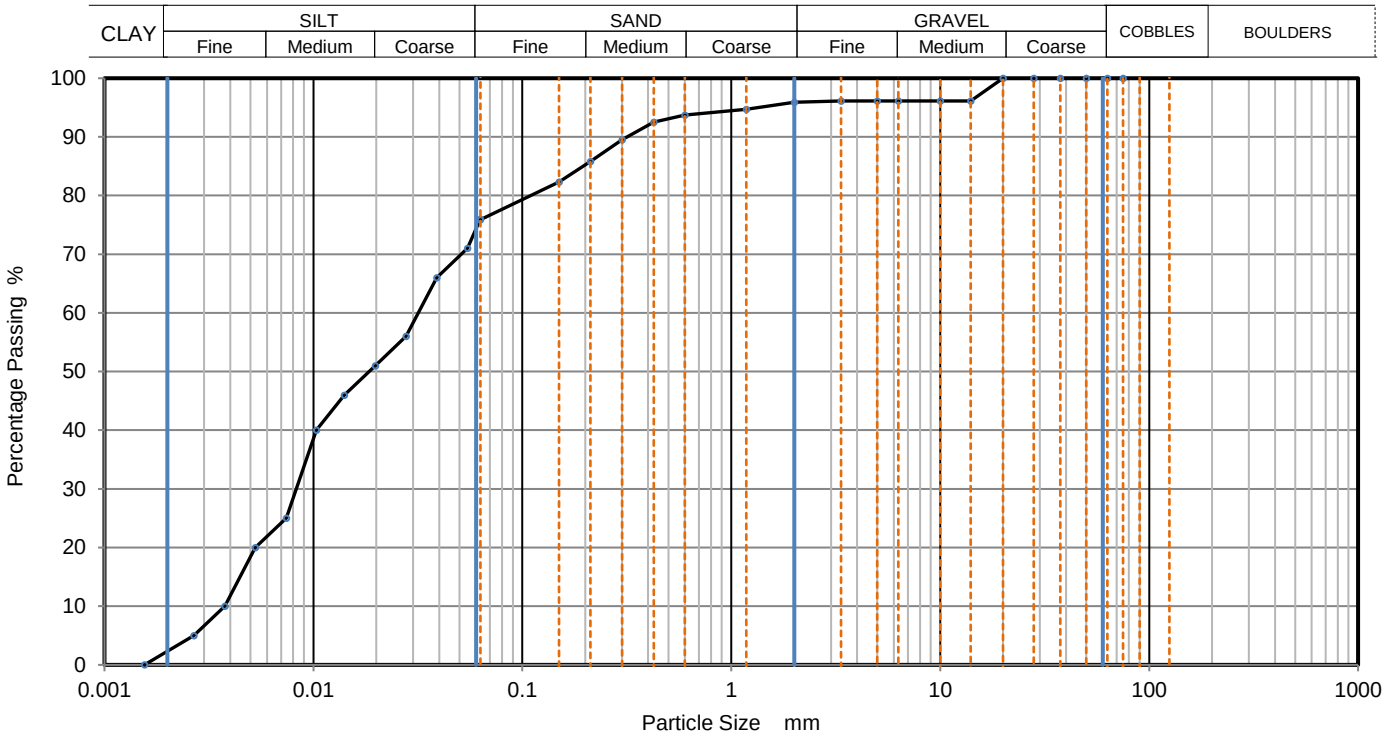
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP184 |
| Site Name | Derryadd Wind Farm | Sample No. | 7 |
| Soil Description | Grey slightly gravelly slightly sandy SILT. | Depth, m | 2.30 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210430181 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 76 |
| | | 0.0547 | 71 |
| 75 | 100 | 0.0389 | 66 |
| 63 | 100 | 0.0278 | 56 |
| 50 | 100 | 0.0198 | 51 |
| 37.5 | 100 | 0.0141 | 46 |
| 28 | 100 | 0.0103 | 40 |
| 20 | 100 | 0.0074 | 25 |
| 14 | 96 | 0.0053 | 20 |
| 10 | 96 | 0.0038 | 10 |
| 6.3 | 96 | 0.0027 | 5 |
| 5 | 96 | 0.0016 | 0 |
| 3.35 | 96 | | |
| 2 | 96 | | |
| 1.18 | 95 | | |
| 0.6 | 94 | Particle density | (assumed) |
| 0.425 | 93 | 2.65 | Mg/m3 |
| 0.3 | 90 | | |
| 0.212 | 86 | | |
| 0.15 | 82 | | |
| 0.063 | 76 | | |

| | |
|---|---|
| Dry Mass of sample, g | 148 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 4 |
| Sand | 20 |
| Silt | 74 |
| Clay | 2 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0321 |
| D30 | mm | 0.00821 |
| D10 | mm | 0.00373 |
| Uniformity Coefficient | | 8.6 |
| Curvature Coefficient | | 0.56 |

Remarks

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|---|---|---|---|---|
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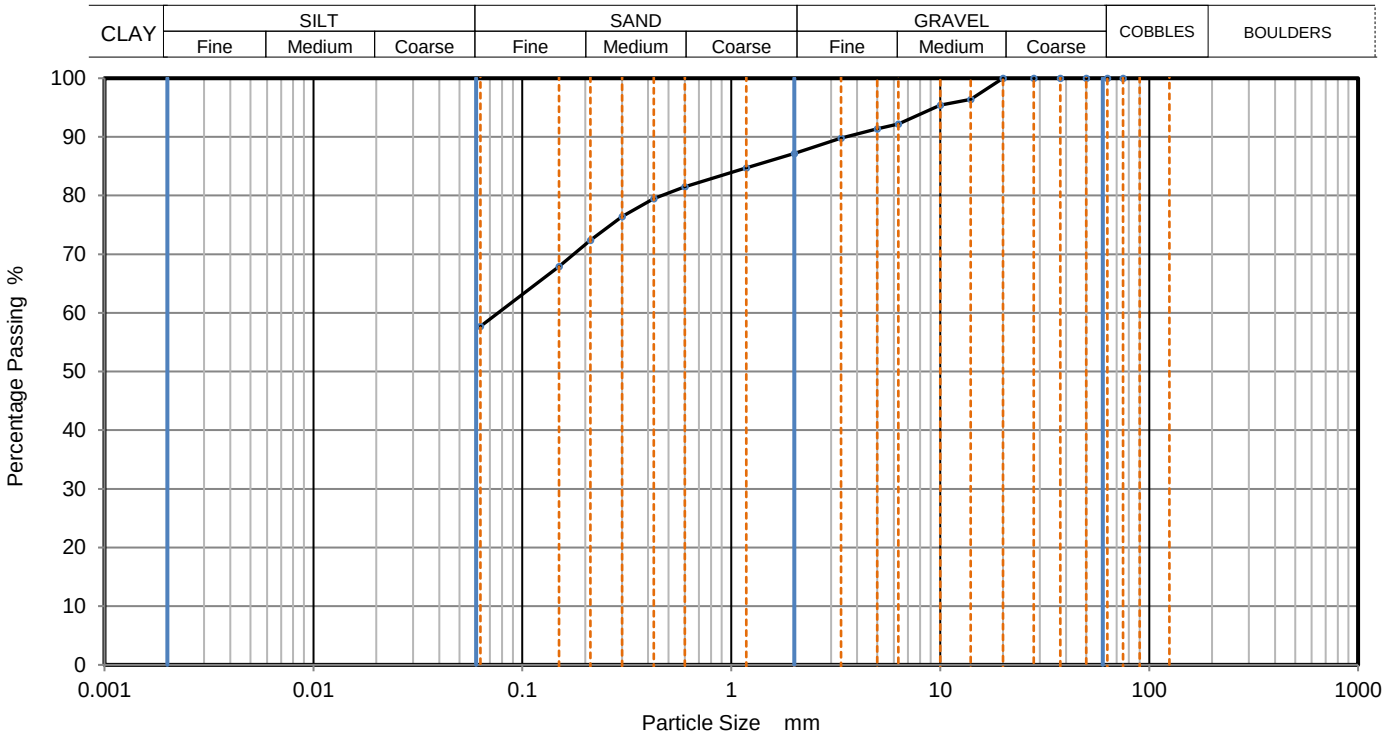
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP188 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Greenish-grey slightly gravelly slightly sandy silty CLAY. | Depth, m | 1.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021050592 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 96 | | |
| 10 | 95 | | |
| 6.3 | 92 | | |
| 5 | 91 | | |
| 3.35 | 90 | | |
| 2 | 87 | | |
| 1.18 | 85 | | |
| 0.6 | 82 | | |
| 0.425 | 80 | | |
| 0.3 | 76 | | |
| 0.212 | 72 | | |
| 0.15 | 68 | | |
| 0.063 | 58 | | |

Dry Mass of sample, g: 353

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 13 |
| Sand | 30 |
| | |
| Fines <0.063mm | 58 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0767 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:33 | 1<br>QC From No:R2 |

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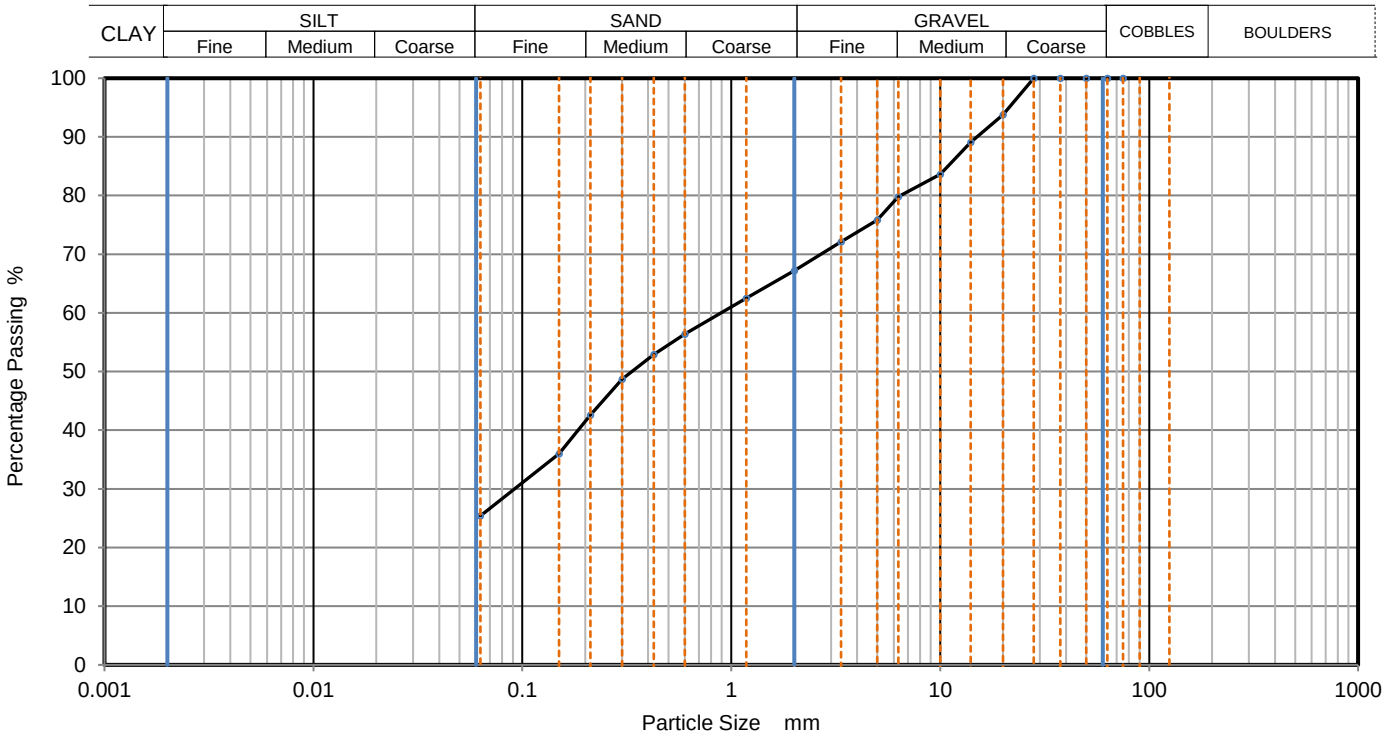
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP196R |
| Site Name | Derryadd Wind Farm | Sample No. | 7 |
| Soil Description | Light brown slightly sandy gravelly SILT. | Depth, m | 3.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021050653 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 94 | | |
| 14 | 89 | | |
| 10 | 84 | | |
| 6.3 | 80 | | |
| 5 | 76 | | |
| 3.35 | 72 | | |
| 2 | 67 | | |
| 1.18 | 63 | | |
| 0.6 | 56 | | |
| 0.425 | 53 | | |
| 0.3 | 49 | | |
| 0.212 | 43 | | |
| 0.15 | 36 | | |
| 0.063 | 25 | | |

| | |
|---|---|
| Dry Mass of sample, g | 464 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 33 |
| Sand | 42 |
| | |
| Fines <0.063mm | 25 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.891 |
| D30 | mm | 0.0919 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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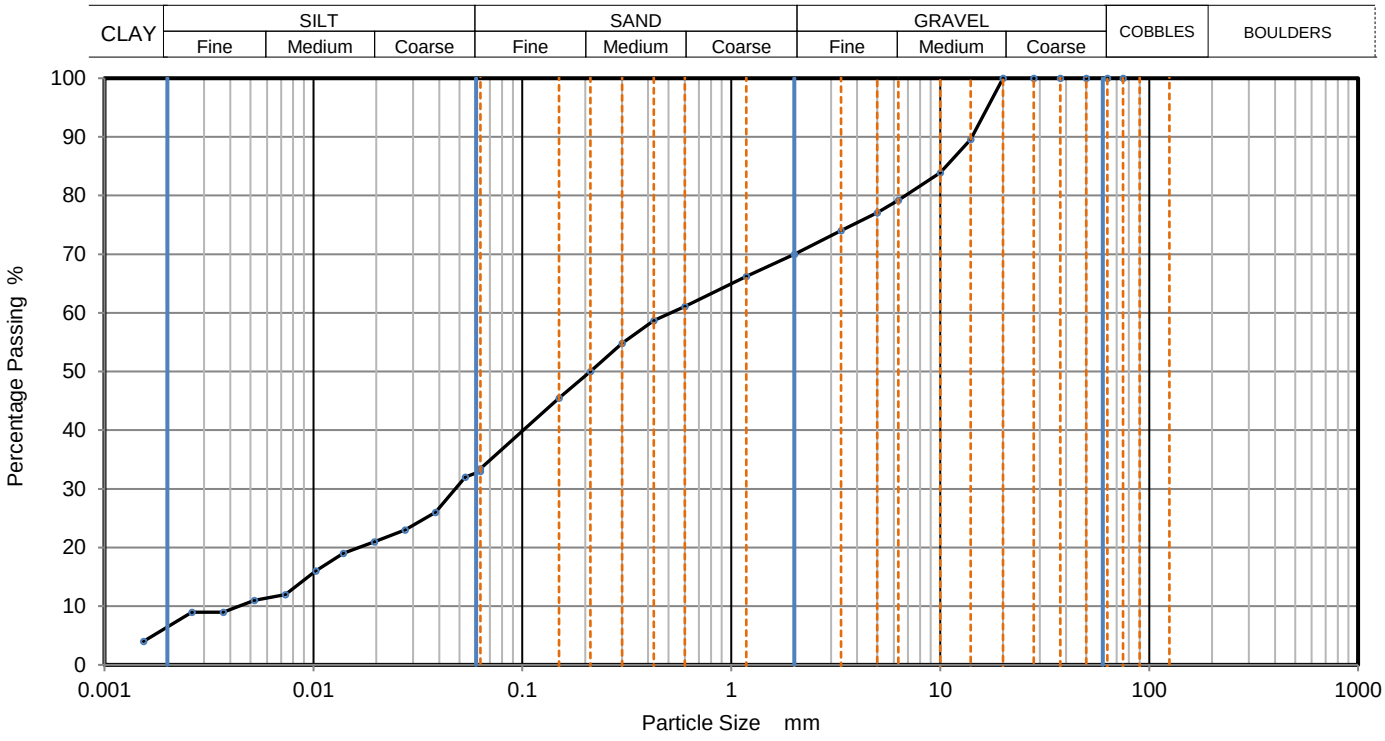
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP214 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Grey very silty very gravelly SAND. | Depth, m | 2.70 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021040974 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 33 |
| | | 0.0534 | 32 |
| 75 | 100 | 0.0384 | 26 |
| 63 | 100 | 0.0275 | 23 |
| 50 | 100 | 0.0195 | 21 |
| 37.5 | 100 | 0.0139 | 19 |
| 28 | 100 | 0.0103 | 16 |
| 20 | 100 | 0.0073 | 12 |
| 14 | 90 | 0.0052 | 11 |
| 10 | 84 | 0.0037 | 9 |
| 6.3 | 79 | 0.0026 | 9 |
| 5 | 77 | 0.0015 | 4 |
| 3.35 | 74 | | |
| 2 | 70 | | |
| 1.18 | 66 | | |
| 0.6 | 61 | Particle density (assumed) | |
| 0.425 | 59 | 2.65 Mg/m3 | |
| 0.3 | 55 | | |
| 0.212 | 50 | | |
| 0.15 | 46 | | |
| 0.063 | 33 | | |

| | |
|---|---|
| Dry Mass of sample, g | 534 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 30 |
| Sand | 37 |
| Silt | 27 |
| Clay | 6 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.514 |
| D30 | mm | 0.0482 |
| D10 | mm | 0.00469 |
| Uniformity Coefficient | | 110 |
| Curvature Coefficient | | 0.96 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | **1** QC From No:R2 |

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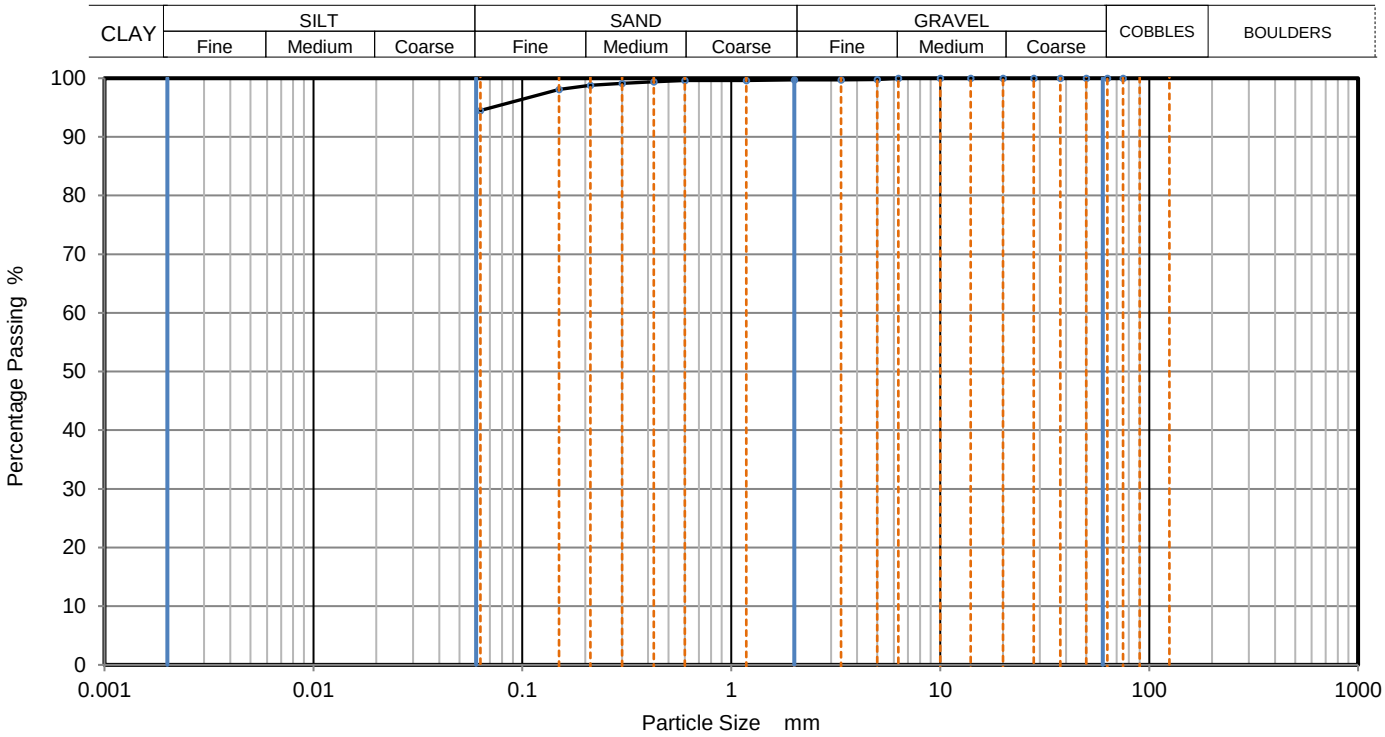
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP217 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey slightly sandy SILT. | Depth, m | 1.30 |
| Specimen Reference | Specimen Depth: m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021040995 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | | |
| 0.425 | 99 | | |
| 0.3 | 99 | | |
| 0.212 | 99 | | |
| 0.15 | 98 | | |
| 0.063 | 95 | | |

| | |
|---|---|
| Dry Mass of sample, g | 196 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 5 |
| | |
| Fines <0.063mm | 95 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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| Operator | Checked | Approved | Sheet printed | |
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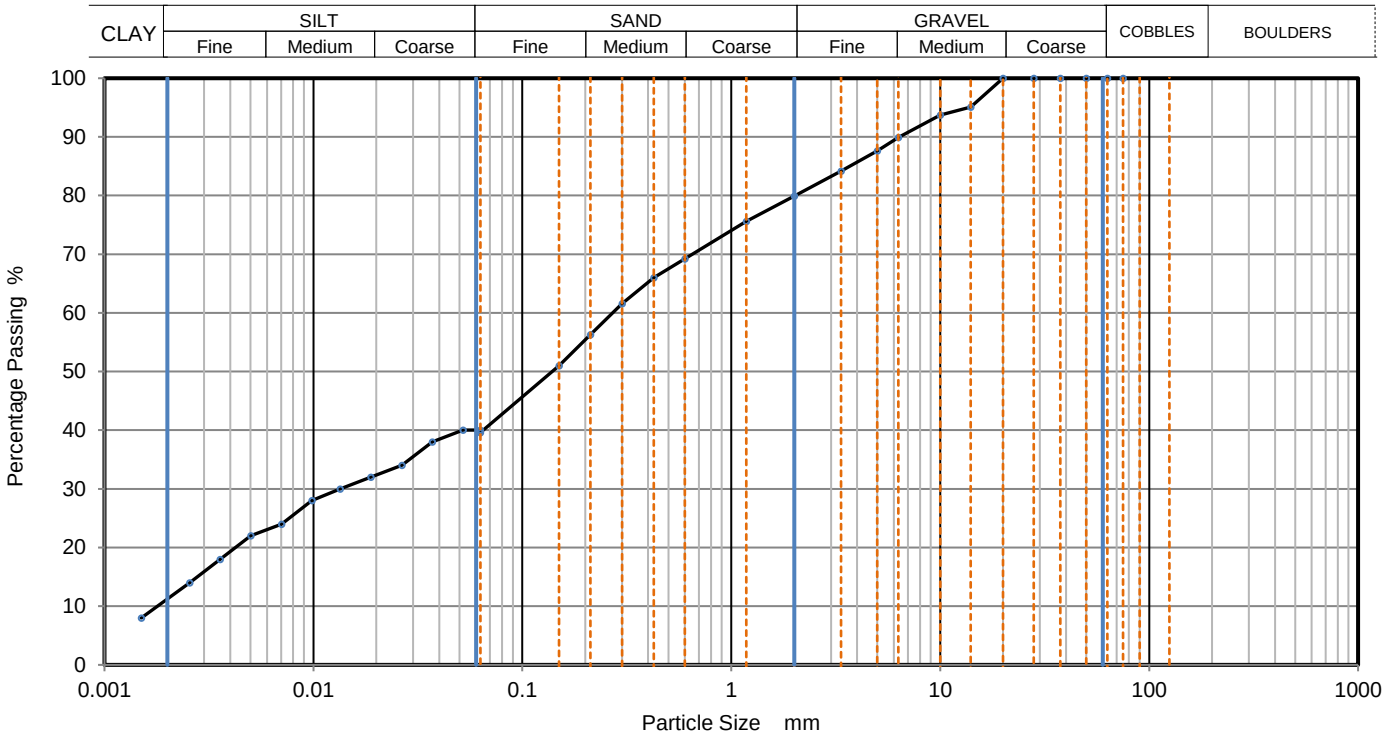
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP229 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Brown slightly gravelly sandy CLAY. | Depth, m | 1.20 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210407122 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 40 |
| | | 0.0520 | 40 |
| 75 | 100 | 0.0370 | 38 |
| 63 | 100 | 0.0265 | 34 |
| 50 | 100 | 0.0188 | 32 |
| 37.5 | 100 | 0.0134 | 30 |
| 28 | 100 | 0.0098 | 28 |
| 20 | 100 | 0.0070 | 24 |
| 14 | 95 | 0.0050 | 22 |
| 10 | 94 | 0.0036 | 18 |
| 6.3 | 90 | 0.0026 | 14 |
| 5 | 88 | 0.0015 | 8 |
| 3.35 | 84 | | |
| 2 | 80 | | |
| 1.18 | 76 | | |
| 0.6 | 69 | Particle density (assumed) | |
| 0.425 | 66 | 2.65 Mg/m3 | |
| 0.3 | 62 | | |
| 0.212 | 56 | | |
| 0.15 | 51 | | |
| 0.063 | 40 | | |

| | |
|---|---|
| Dry Mass of sample, g | 661 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 20 |
| Sand | 40 |
| Silt | 29 |
| Clay | 11 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.27 |
| D30 | mm | 0.0141 |
| D10 | mm | 0.00181 |
| Uniformity Coefficient | | 150 |
| Curvature Coefficient | | 0.41 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

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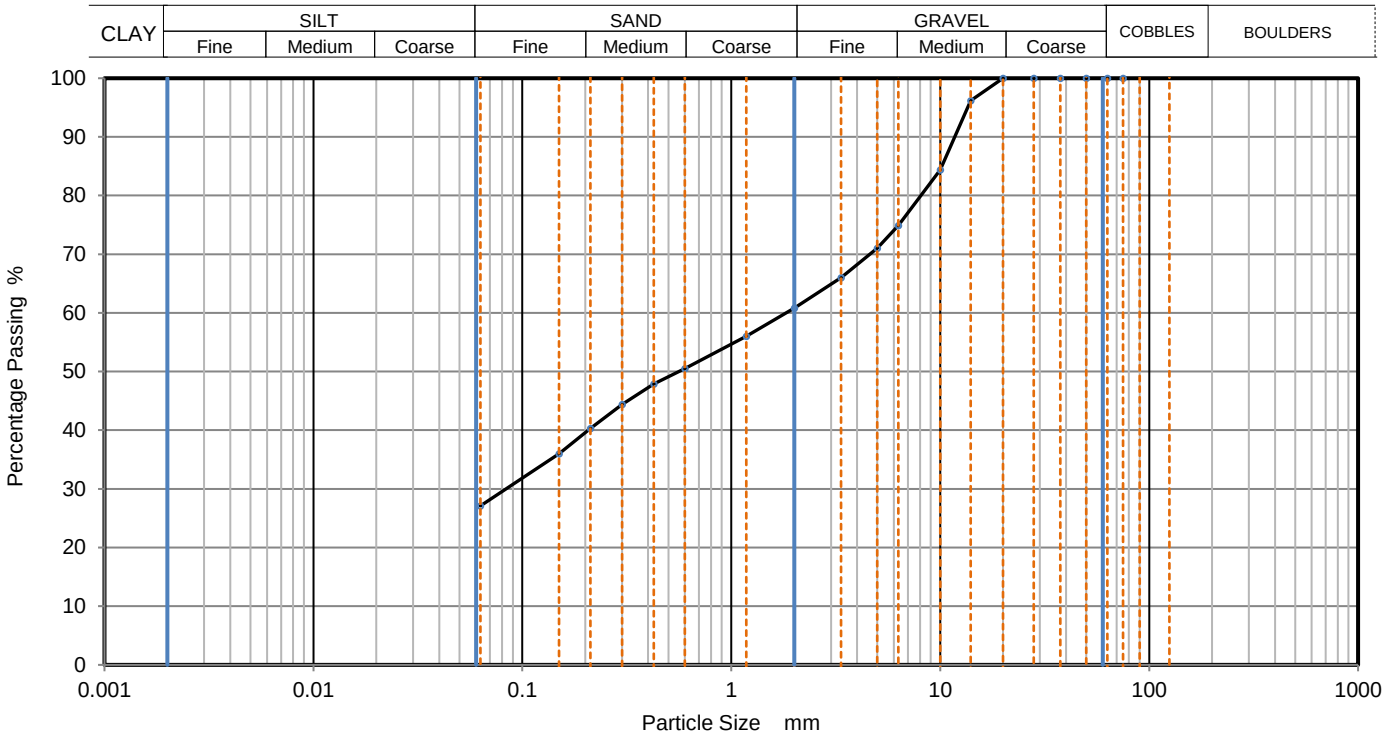
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP231 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey very silty fmc SAND and medium GRAVEL. | Depth, m | 0.60 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210407130 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 96 | | |
| 10 | 84 | | |
| 6.3 | 75 | | |
| 5 | 71 | | |
| 3.35 | 66 | | |
| 2 | 61 | | |
| 1.18 | 56 | | |
| 0.6 | 51 | | |
| 0.425 | 48 | | |
| 0.3 | 44 | | |
| 0.212 | 40 | | |
| 0.15 | 36 | | |
| 0.063 | 27 | | |

| | |
|---|---|
| Dry Mass of sample, g | 562 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 39 |
| Sand | 34 |
| | |
| Fines <0.063mm | 27 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.83 |
| D30 | mm | 0.0835 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

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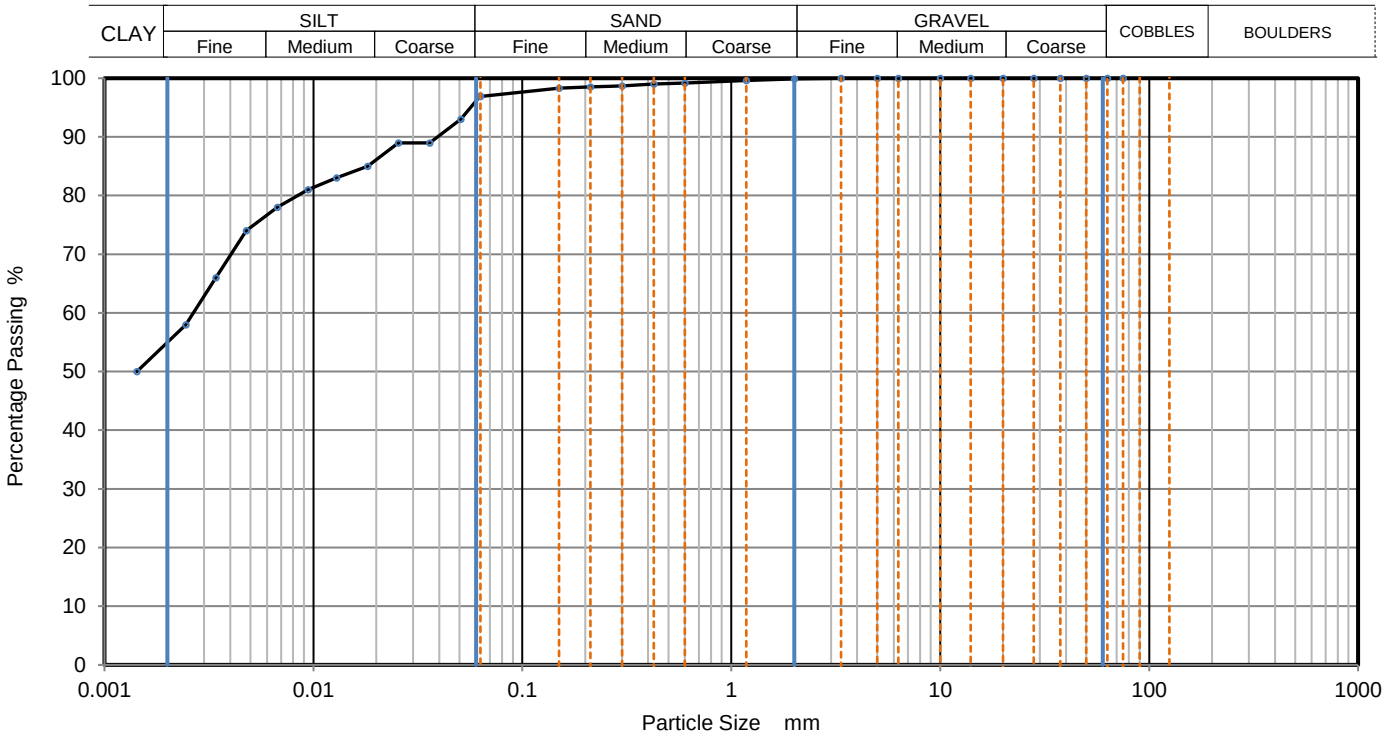
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP238 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Dark grey slightly sandy SILT. | Depth, m | 3.20 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210407185 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 97 |
| | | 0.0507 | 93 |
| 75 | 100 | 0.0361 | 89 |
| 63 | 100 | 0.0255 | 89 |
| 50 | 100 | 0.0182 | 85 |
| 37.5 | 100 | 0.0129 | 83 |
| 28 | 100 | 0.0094 | 81 |
| 20 | 100 | 0.0067 | 78 |
| 14 | 100 | 0.0048 | 74 |
| 10 | 100 | 0.0034 | 66 |
| 6.3 | 100 | 0.0024 | 58 |
| 5 | 100 | 0.0014 | 50 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 99 | Particle density (assumed) | |
| 0.425 | 99 | 2.65 Mg/m3 | |
| 0.3 | 99 | | |
| 0.212 | 99 | | |
| 0.15 | 98 | | |
| 0.063 | 97 | | |

| | |
|---|---|
| Dry Mass of sample, g | 278 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 3 |
| Silt | 42 |
| Clay | 55 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00265 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

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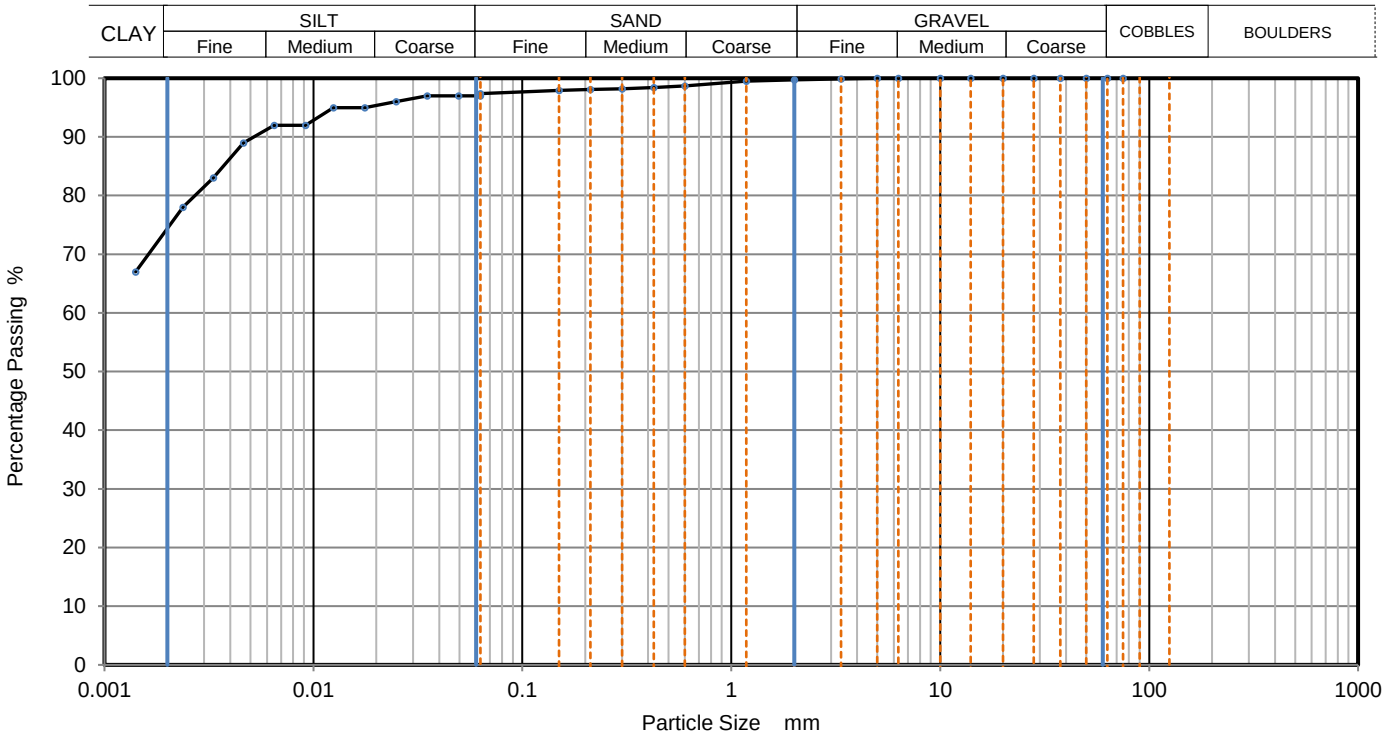
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP241 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Dark grey slightly sandy CLAY. | Depth, m | 3.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210323164 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 97 |
| | | 0.0495 | 97 |
| 75 | 100 | 0.0350 | 97 |
| 63 | 100 | 0.0249 | 96 |
| 50 | 100 | 0.0176 | 95 |
| 37.5 | 100 | 0.0125 | 95 |
| 28 | 100 | 0.0092 | 92 |
| 20 | 100 | 0.0065 | 92 |
| 14 | 100 | 0.0046 | 89 |
| 10 | 100 | 0.0033 | 83 |
| 6.3 | 100 | 0.0024 | 78 |
| 5 | 100 | 0.0014 | 67 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 99 | Particle density | (assumed) |
| 0.425 | 98 | 2.65 | Mg/m3 |
| 0.3 | 98 | | |
| 0.212 | 98 | | |
| 0.15 | 98 | | |
| 0.063 | 97 | | |

Dry Mass of sample, g: 252

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 2 |
| Silt | 23 |
| Clay | 74 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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|---|---|---|---|---|
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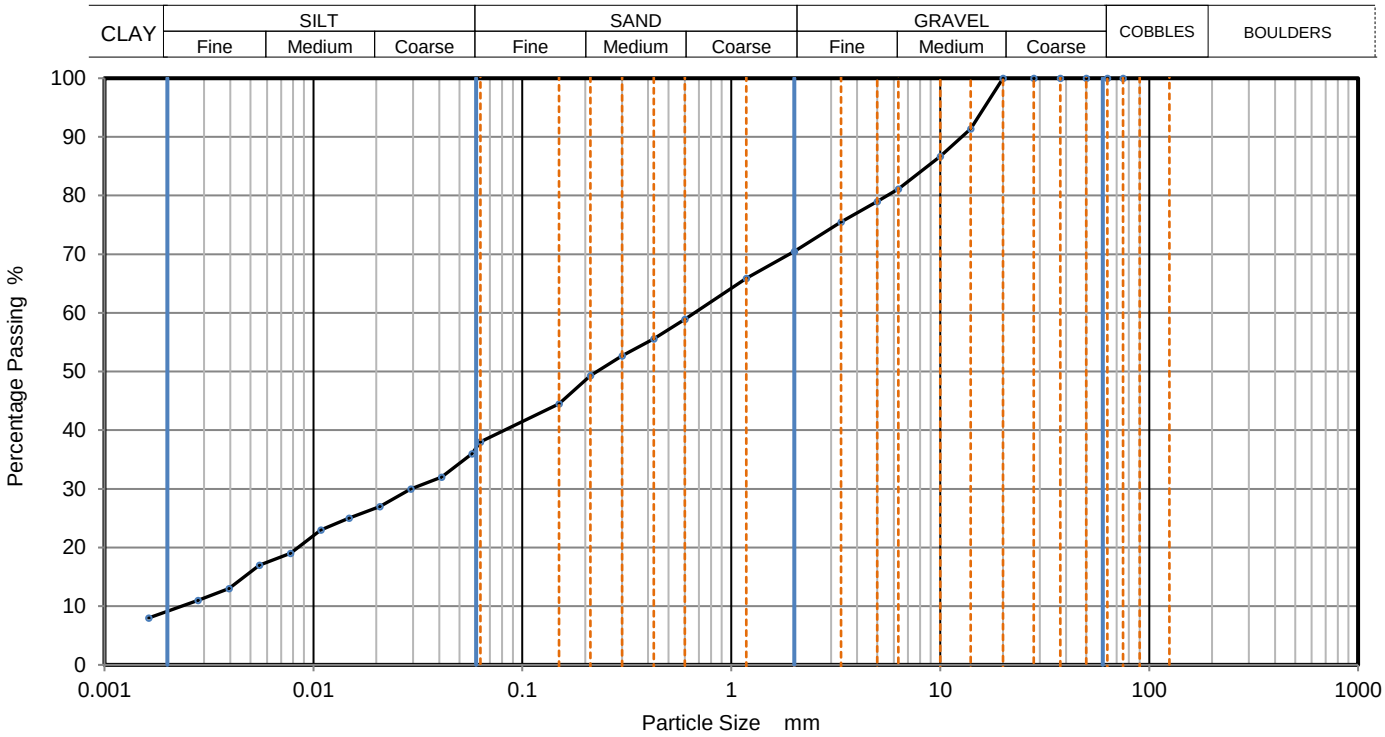
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP250 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Grey slightly gravelly slightly sandy SILT. | Depth, m | 1.80 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021031515 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 38 |
| | | 0.0574 | 36 |
| 75 | 100 | 0.0411 | 32 |
| 63 | 100 | 0.0292 | 30 |
| 50 | 100 | 0.0208 | 27 |
| 37.5 | 100 | 0.0148 | 25 |
| 28 | 100 | 0.0109 | 23 |
| 20 | 100 | 0.0078 | 19 |
| 14 | 91 | 0.0055 | 17 |
| 10 | 87 | 0.0039 | 13 |
| 6.3 | 81 | 0.0028 | 11 |
| 5 | 79 | 0.0016 | 8 |
| 3.35 | 76 | | |
| 2 | 71 | | |
| 1.18 | 66 | | |
| 0.6 | 59 | Particle density (assumed) | |
| 0.425 | 56 | 2.65 Mg/m3 | |
| 0.3 | 53 | | |
| 0.212 | 49 | | |
| 0.15 | 45 | | |
| 0.063 | 38 | | |

| | |
|---|---|
| Dry Mass of sample, g | 454 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 30 |
| Sand | 33 |
| Silt | 29 |
| Clay | 9 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.669 |
| D30 | mm | 0.0314 |
| D10 | mm | 0.00243 |
| Uniformity Coefficient | | 280 |
| Curvature Coefficient | | 0.61 |

Remarks

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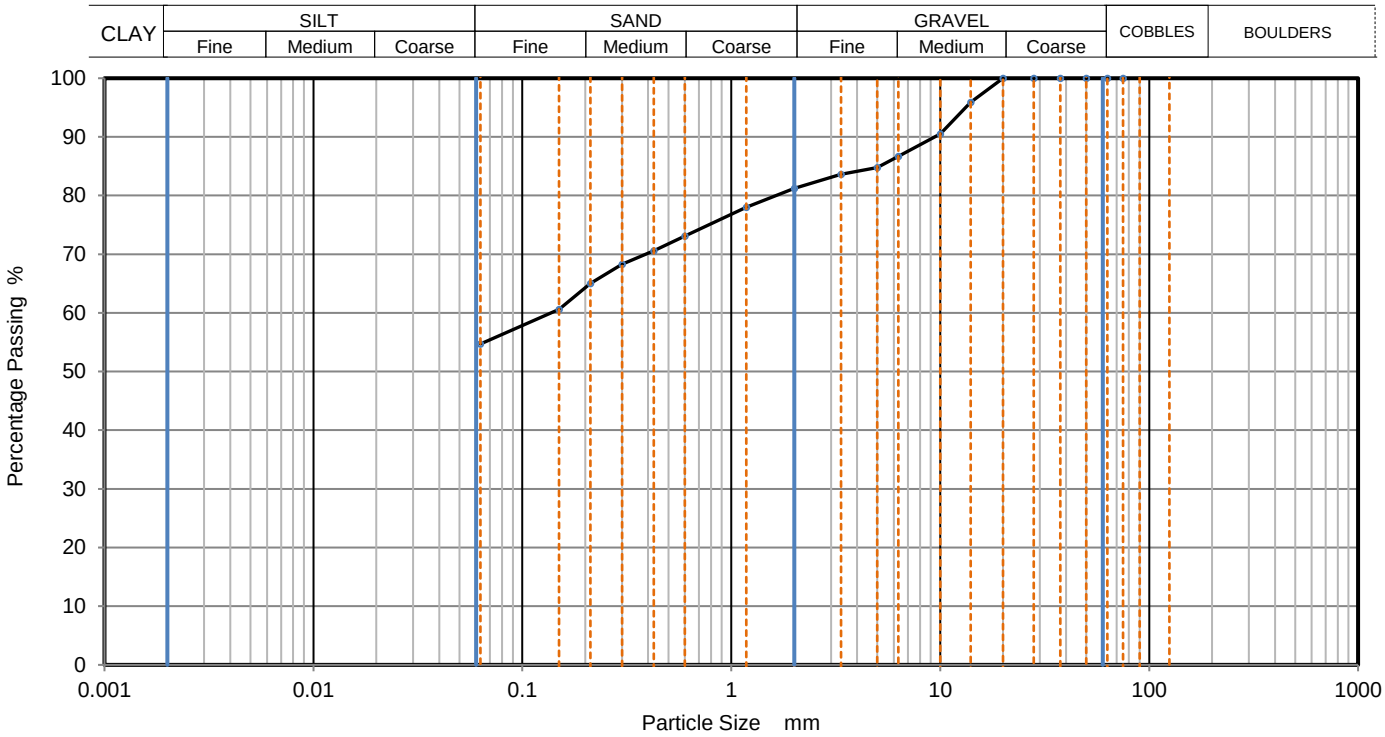
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP253 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey slightly gravelly slightly sandy SILT. | Depth, m | 1.40 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021031533 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 96 | | |
| 10 | 91 | | |
| 6.3 | 87 | | |
| 5 | 85 | | |
| 3.35 | 84 | | |
| 2 | 81 | | |
| 1.18 | 78 | | |
| 0.6 | 73 | | |
| 0.425 | 71 | | |
| 0.3 | 68 | | |
| 0.212 | 65 | | |
| 0.15 | 61 | | |
| 0.063 | 55 | | |

| | |
|---|---|
| Dry Mass of sample, g | 370 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 19 |
| Sand | 27 |
| | |
| Fines <0.063mm | 55 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.138 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

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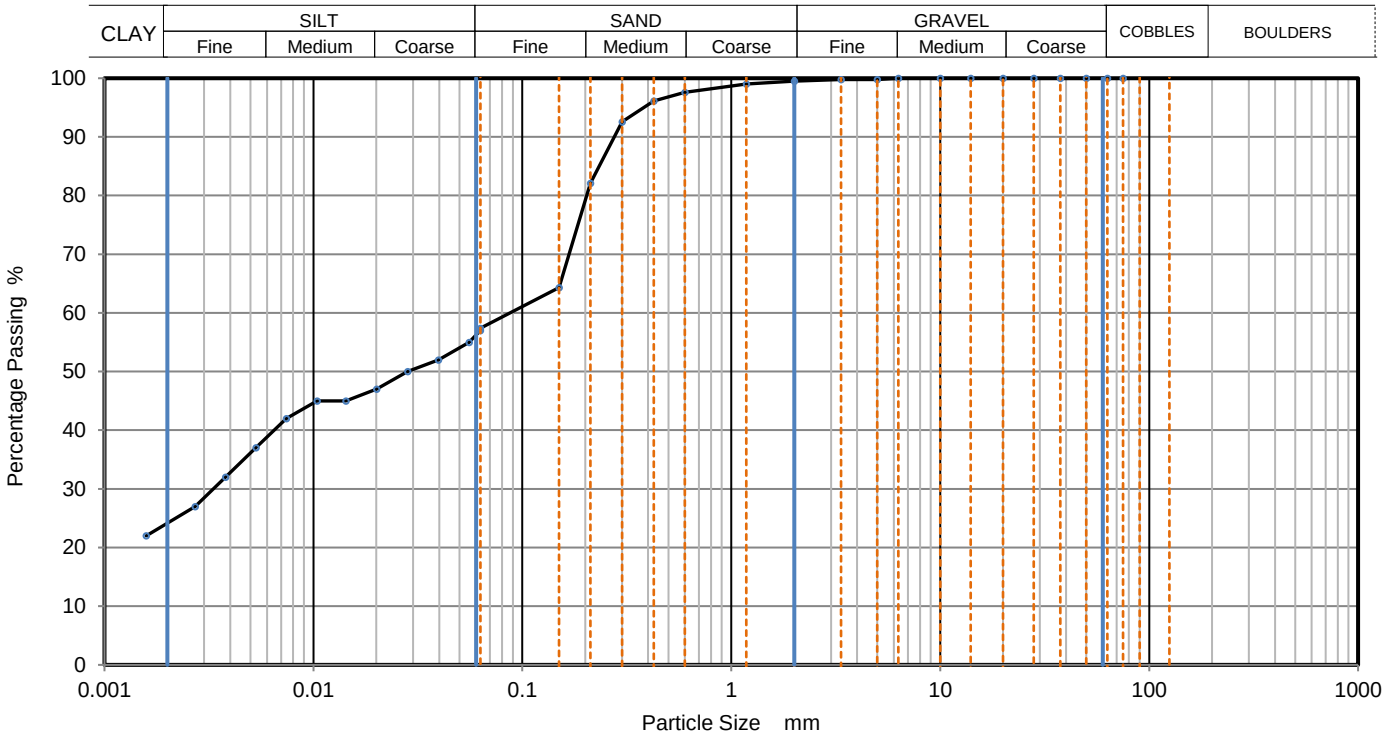
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP256 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Brown sandy SILT. Sand is fine and medium. | Depth, m | 1.20 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021031552 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 57 |
| | | 0.0557 | 55 |
| 75 | 100 | 0.0396 | 52 |
| 63 | 100 | 0.0282 | 50 |
| 50 | 100 | 0.0201 | 47 |
| 37.5 | 100 | 0.0143 | 45 |
| 28 | 100 | 0.0104 | 45 |
| 20 | 100 | 0.0074 | 42 |
| 14 | 100 | 0.0053 | 37 |
| 10 | 100 | 0.0038 | 32 |
| 6.3 | 100 | 0.0027 | 27 |
| 5 | 100 | 0.0016 | 22 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 99 | | |
| 0.6 | 98 | Particle density (assumed) | |
| 0.425 | 96 | 2.65 Mg/m3 | |
| 0.3 | 93 | | |
| 0.212 | 82 | | |
| 0.15 | 64 | | |
| 0.063 | 57 | | |

| | |
|---|---|
| Dry Mass of sample, g | 214 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 1 |
| Sand | 42 |
| Silt | 33 |
| Clay | 25 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0874 |
| D30 | mm | 0.00322 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
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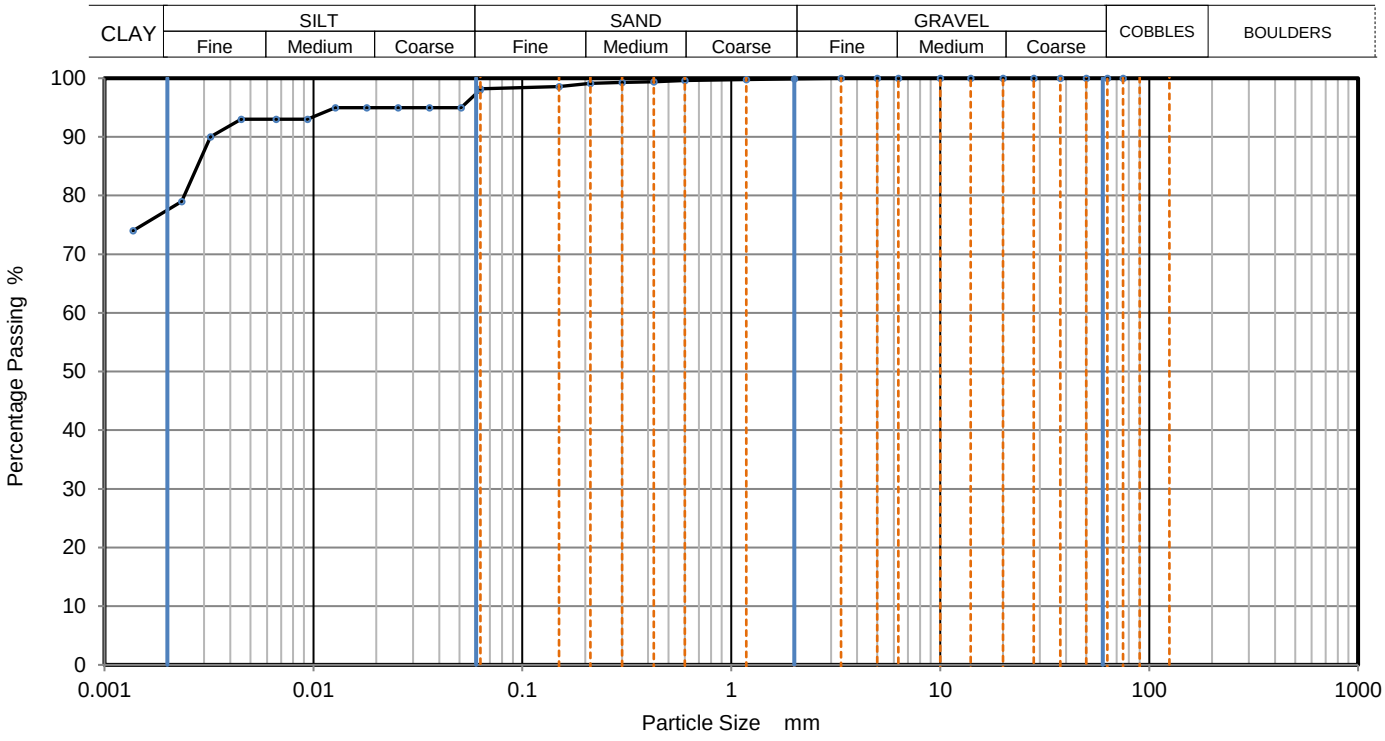
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP256 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Grey slightly sandy CLAY. | Depth, m | 2.60 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021031554 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0626 | 98 |
| | | 0.0509 | 95 |
| 75 | 100 | 0.0360 | 95 |
| 63 | 100 | 0.0254 | 95 |
| 50 | 100 | 0.0180 | 95 |
| 37.5 | 100 | 0.0127 | 95 |
| 28 | 100 | 0.0094 | 93 |
| 20 | 100 | 0.0066 | 93 |
| 14 | 100 | 0.0045 | 93 |
| 10 | 100 | 0.0032 | 90 |
| 6.3 | 100 | 0.0023 | 79 |
| 5 | 100 | 0.0014 | 74 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density (assumed) | |
| 0.425 | 99 | 2.65 Mg/m3 | |
| 0.3 | 99 | | |
| 0.212 | 99 | | |
| 0.15 | 99 | | |
| 0.063 | 98 | | |

| | |
|---|---|
| Dry Mass of sample, g | 238 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 2 |
| Silt | 21 |
| Clay | 78 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
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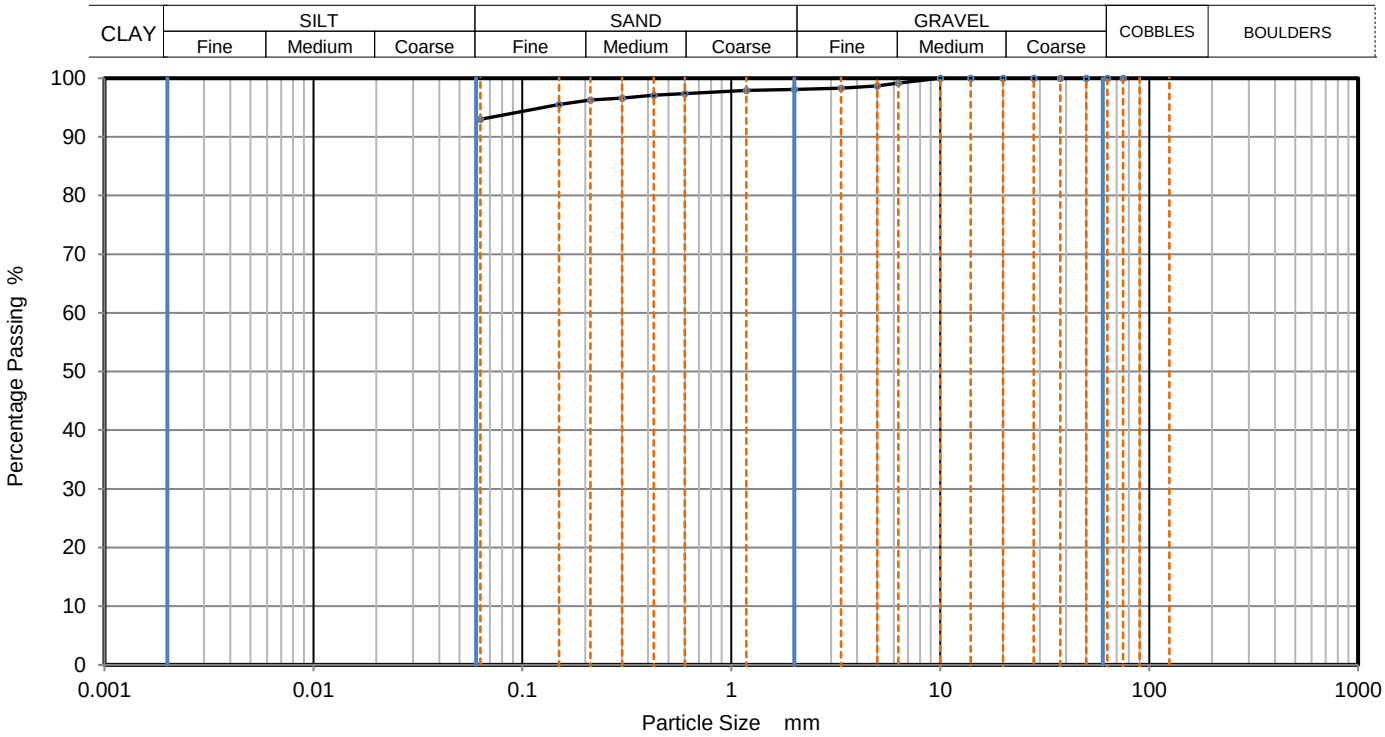
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP266 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Grey slightly gravelly slightly sandy silty CLAY. | Depth, m | 0.40 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021031569 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 99 | | |
| 5 | 99 | | |
| 3.35 | 98 | | |
| 2 | 98 | | |
| 1.18 | 98 | | |
| 0.6 | 97 | | |
| 0.425 | 97 | | |
| 0.3 | 97 | | |
| 0.212 | 96 | | |
| 0.15 | 96 | | |
| 0.063 | 93 | | |

Dry Mass of sample, g: 202

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 2 |
| Sand | 5 |
| | |
| Fines <0.063mm | 93 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

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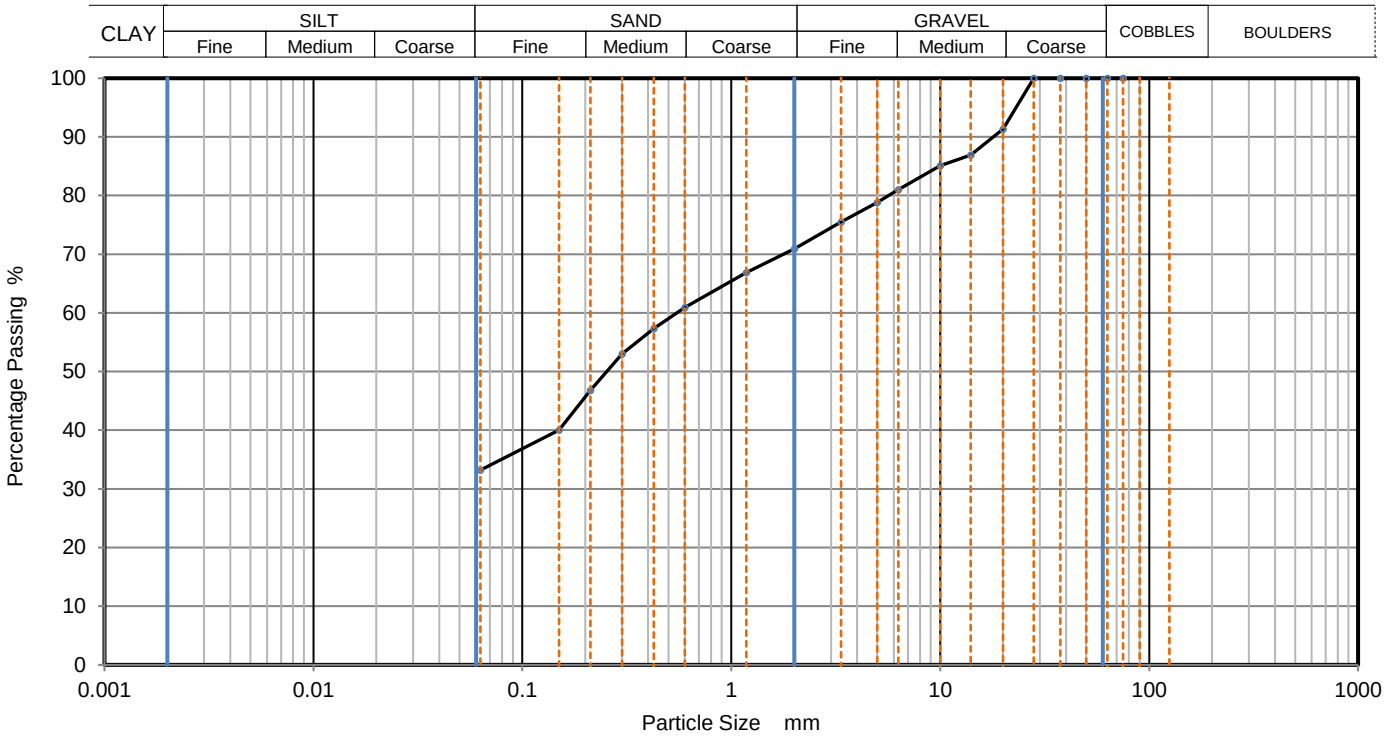
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP267 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Brown very gravelly very silty SAND. | Depth, m | 1.20 |
| Specimen Reference | Specimen Depth: m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021031575 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 91 | | |
| 14 | 87 | | |
| 10 | 85 | | |
| 6.3 | 81 | | |
| 5 | 79 | | |
| 3.35 | 76 | | |
| 2 | 71 | | |
| 1.18 | 67 | | |
| 0.6 | 61 | | |
| 0.425 | 57 | | |
| 0.3 | 53 | | |
| 0.212 | 47 | | |
| 0.15 | 40 | | |
| 0.063 | 33 | | |

Dry Mass of sample, g: 565

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 29 |
| Sand | 38 |
| | |
| Fines <0.063mm | 33 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.55 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

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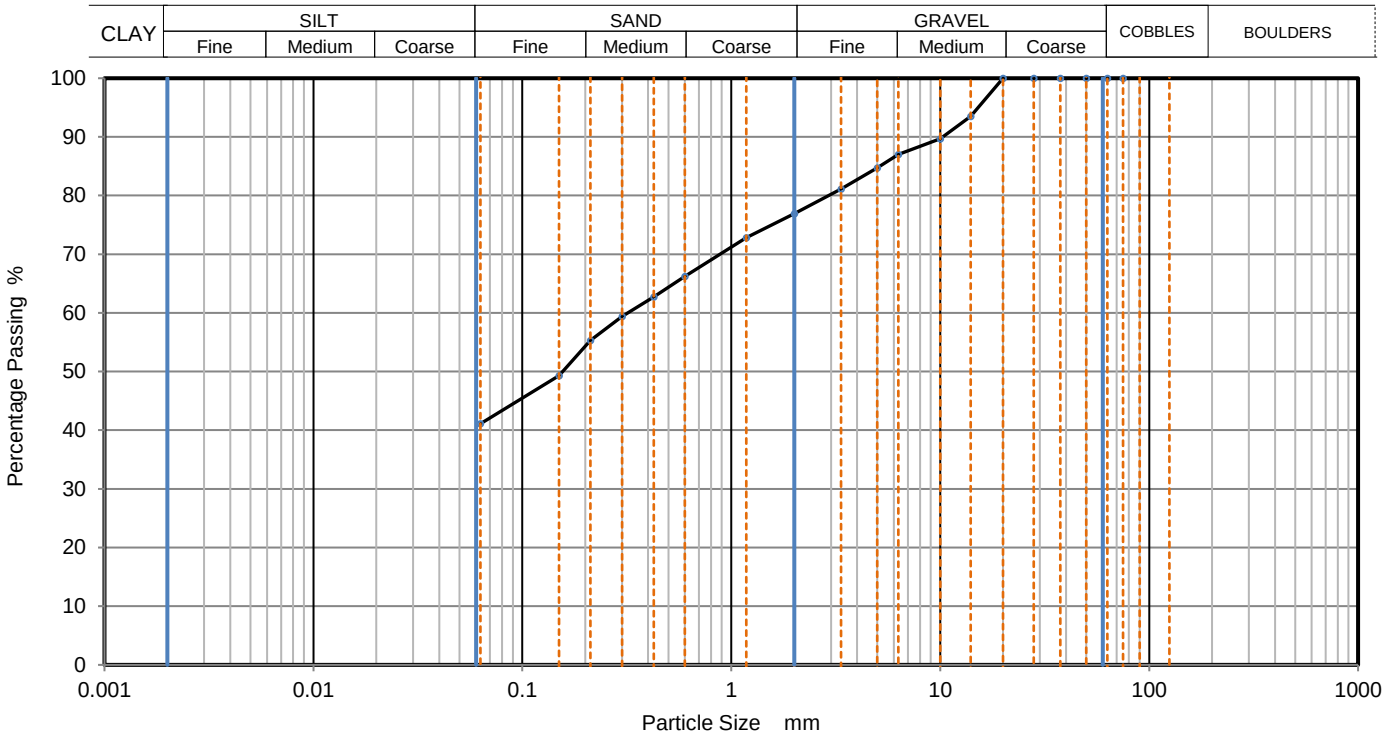
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP269 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Light brown slightly gravelly sandy SILT. | Depth, m | 1.10 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021031584 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 94 | | |
| 10 | 90 | | |
| 6.3 | 87 | | |
| 5 | 85 | | |
| 3.35 | 81 | | |
| 2 | 77 | | |
| 1.18 | 73 | | |
| 0.6 | 66 | | |
| 0.425 | 63 | | |
| 0.3 | 59 | | |
| 0.212 | 55 | | |
| 0.15 | 49 | | |
| 0.063 | 41 | | |

| | |
|---|---|
| Dry Mass of sample, g | 544 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 23 |
| Sand | 36 |
| | |
| Fines <0.063mm | 41 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.319 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

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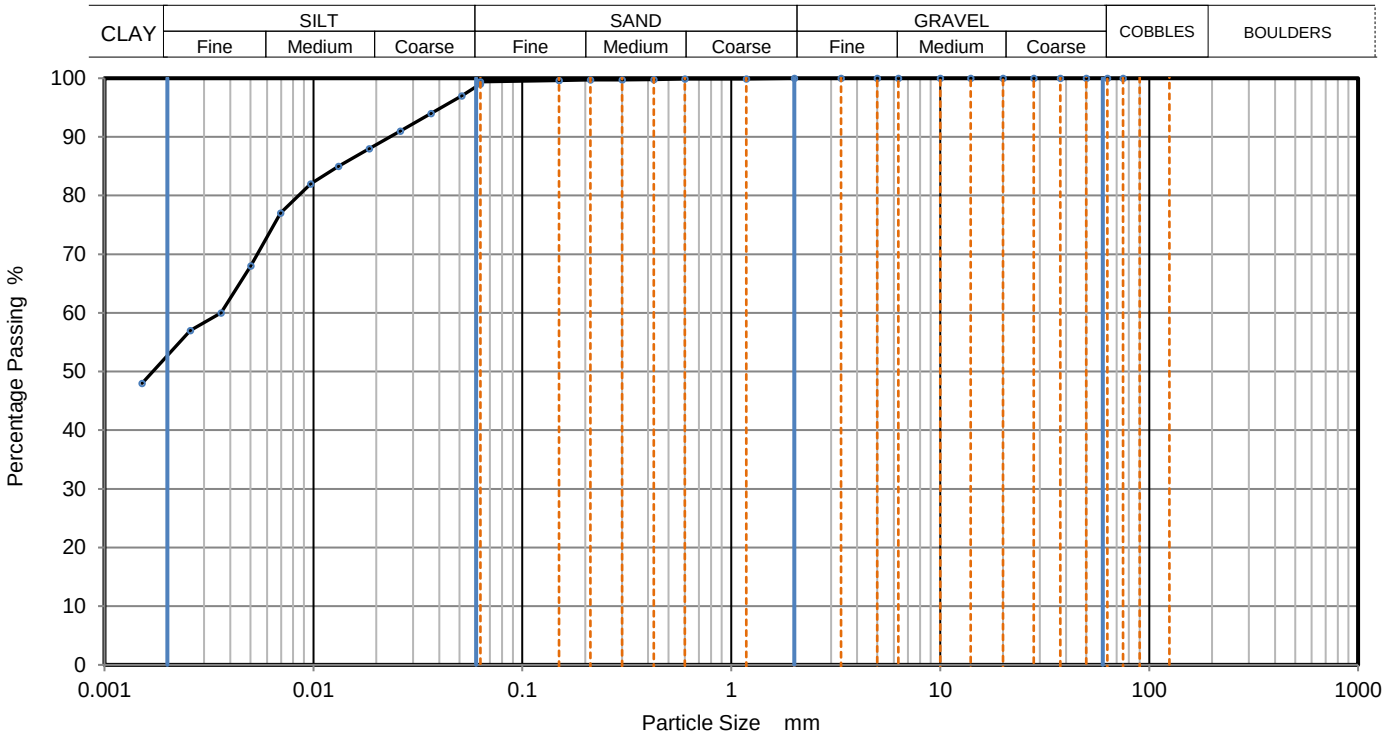
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | | | |
|---|---|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | | | Job Ref | **2021LD101** |
| | | | | Borehole/Pit No. | TP277 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 4 |
| Soil Description | Grey silty CLAY. | | | Depth, m | 2.30 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | | | KeyLAB ID | IDL12021031813 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 99 |
| | | 0.0512 | 97 |
| 75 | 100 | 0.0365 | 94 |
| 63 | 100 | 0.0260 | 91 |
| 50 | 100 | 0.0185 | 88 |
| 37.5 | 100 | 0.0132 | 85 |
| 28 | 100 | 0.0097 | 82 |
| 20 | 100 | 0.0070 | 77 |
| 14 | 100 | 0.0050 | 68 |
| 10 | 100 | 0.0036 | 60 |
| 6.3 | 100 | 0.0026 | 57 |
| 5 | 100 | 0.0015 | 48 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density | (assumed) |
| 0.425 | 100 | 2.65 | Mg/m3 |
| 0.3 | 100 | | |
| 0.212 | 100 | | |
| 0.15 | 100 | | |
| 0.063 | 99 | | |

| | |
|---|---|
| Dry Mass of sample, g | 194 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 1 |
| Silt | 47 |
| Clay | 53 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00367 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

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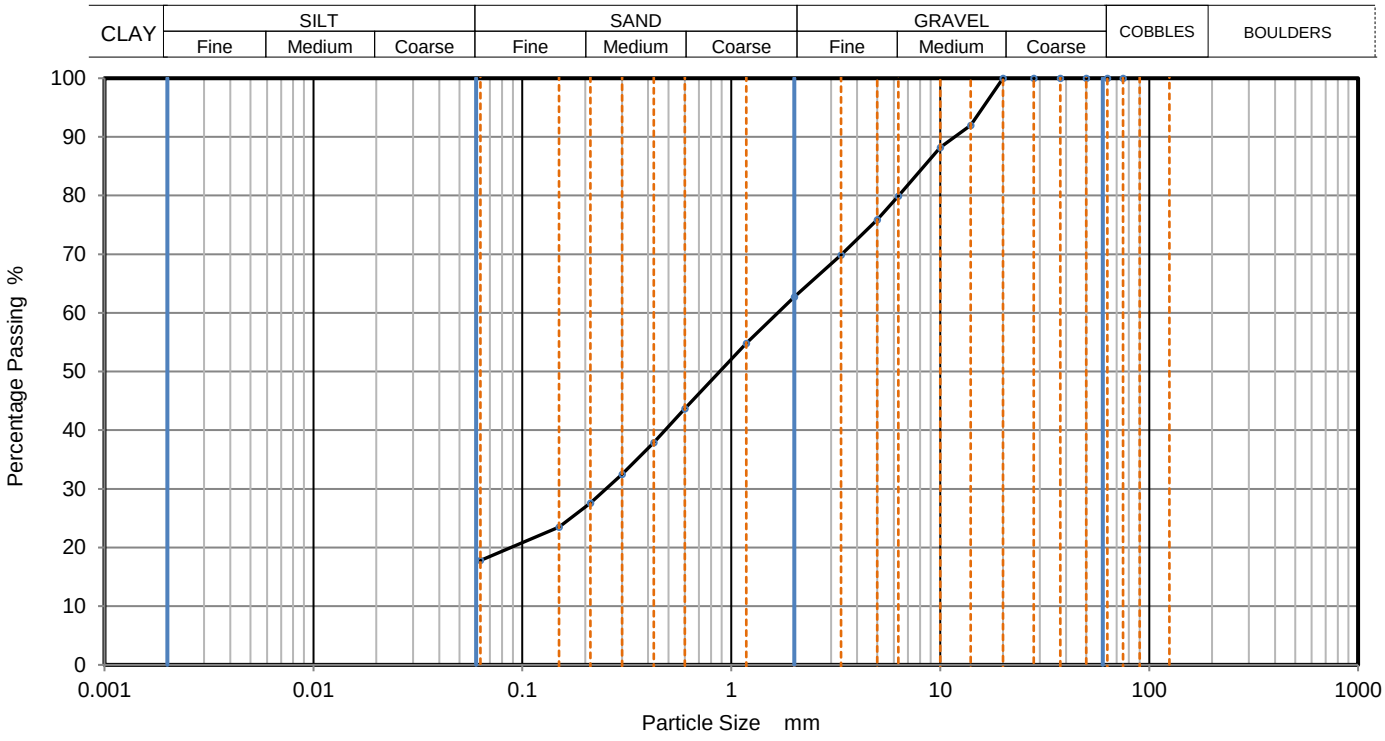
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP283 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey silty very gravelly SAND. Gravel is fine and medium. | Depth, m | 1.60 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021030416 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 92 | | |
| 10 | 88 | | |
| 6.3 | 80 | | |
| 5 | 76 | | |
| 3.35 | 70 | | |
| 2 | 63 | | |
| 1.18 | 55 | | |
| 0.6 | 44 | | |
| 0.425 | 38 | | |
| 0.3 | 33 | | |
| 0.212 | 28 | | |
| 0.15 | 24 | | |
| 0.063 | 18 | | |

| | |
|---|---|
| Dry Mass of sample, g | 451 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 37 |
| Sand | 45 |
| | |
| Fines <0.063mm | 18 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.67 |
| D30 | mm | 0.252 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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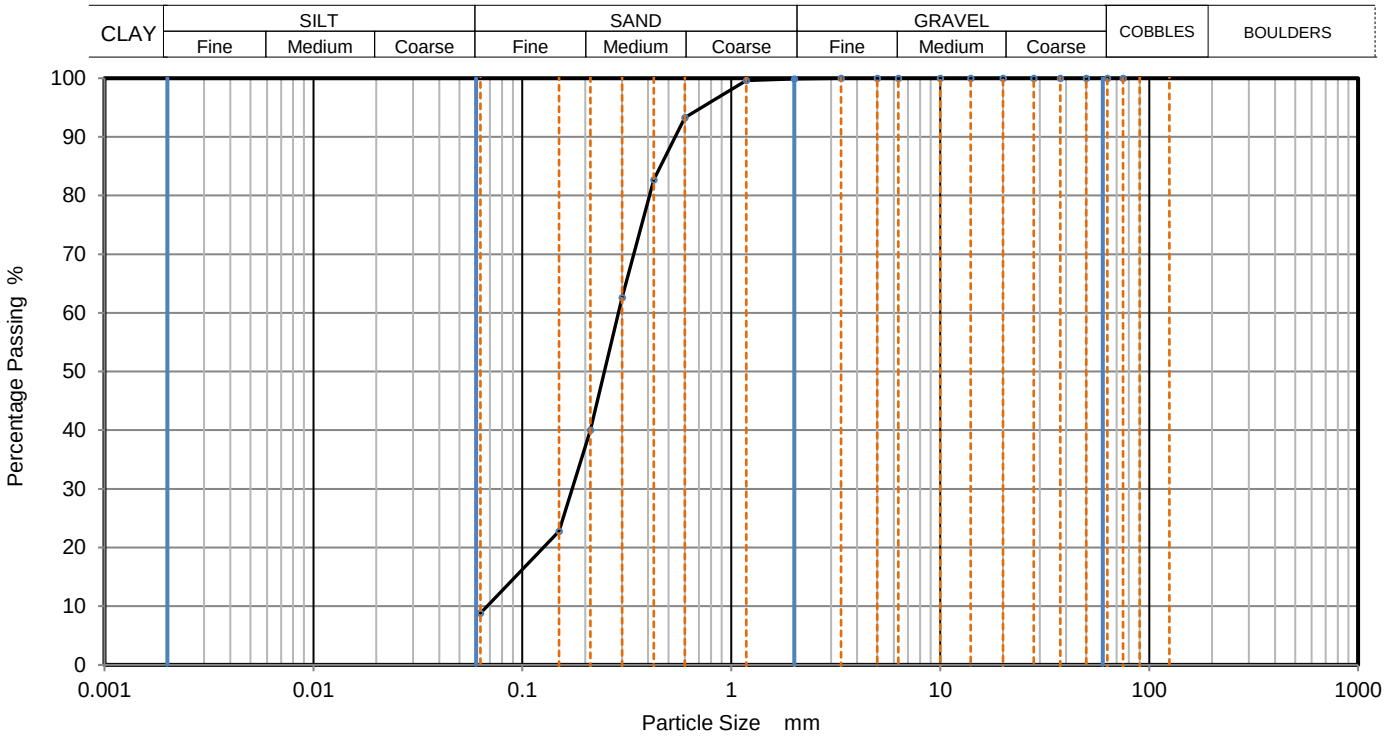
| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP285 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey silty fine and medium SAND. | Depth, m | 1.90 |
| Specimen Reference | Specimen Depth: m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021030425 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 93 | | |
| 0.425 | 83 | | |
| 0.3 | 63 | | |
| 0.212 | 40 | | |
| 0.15 | 23 | | |
| 0.063 | 9 | | |

| | |
|---|---|
| Dry Mass of sample, g | 412 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 91 |
| | |
| Fines <0.063mm | 9 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.288 |
| D30 | mm | 0.173 |
| D10 | mm | 0.0677 |
| Uniformity Coefficient | | 4.3 |
| Curvature Coefficient | | 1.5 |

Remarks

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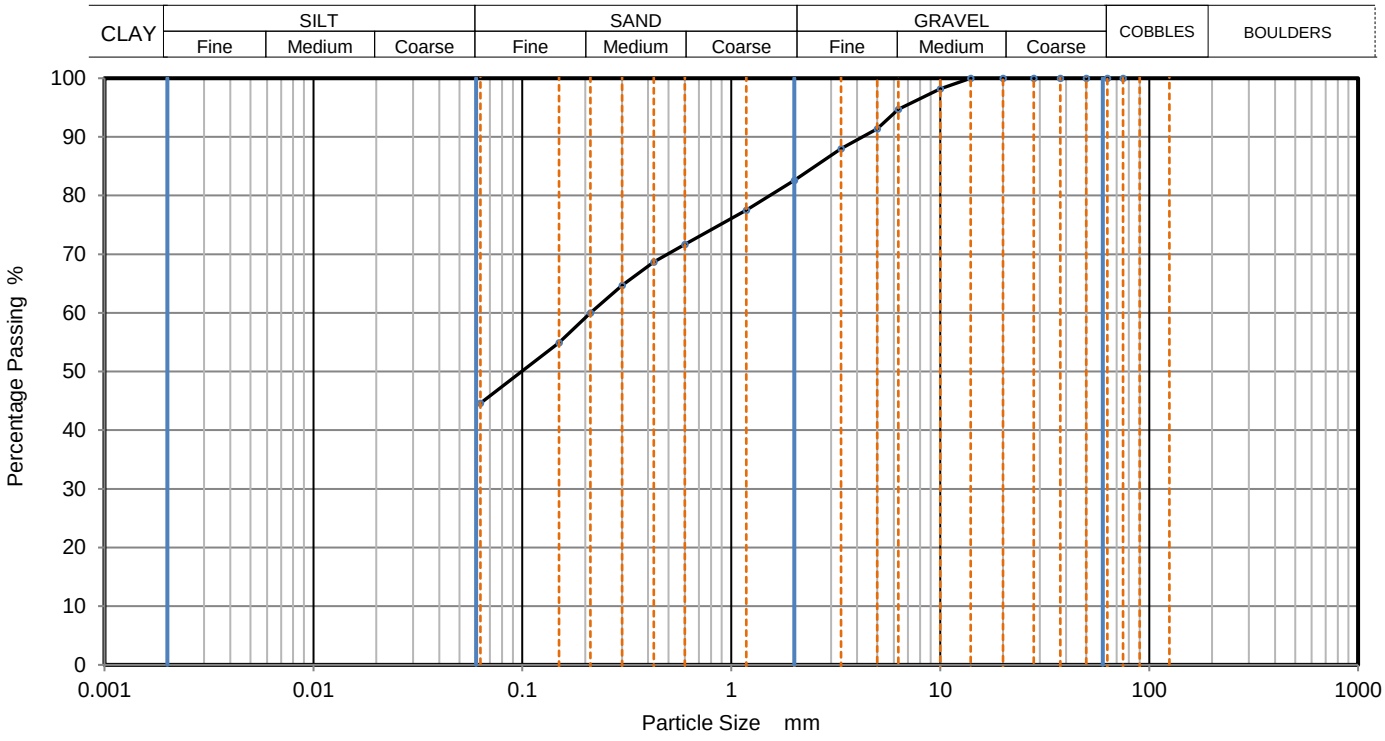
| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP286 |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Dark grey slightly gravelly slightly sandy SILT. | Depth, m | 4.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021030431 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 98 | | |
| 6.3 | 95 | | |
| 5 | 91 | | |
| 3.35 | 88 | | |
| 2 | 83 | | |
| 1.18 | 78 | | |
| 0.6 | 72 | | |
| 0.425 | 69 | | |
| 0.3 | 65 | | |
| 0.212 | 60 | | |
| 0.15 | 55 | | |
| 0.063 | 45 | | |

| | |
|---|---|
| Dry Mass of sample, g | 559 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 17 |
| Sand | 38 |
| | |
| Fines <0.063mm | 45 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.212 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

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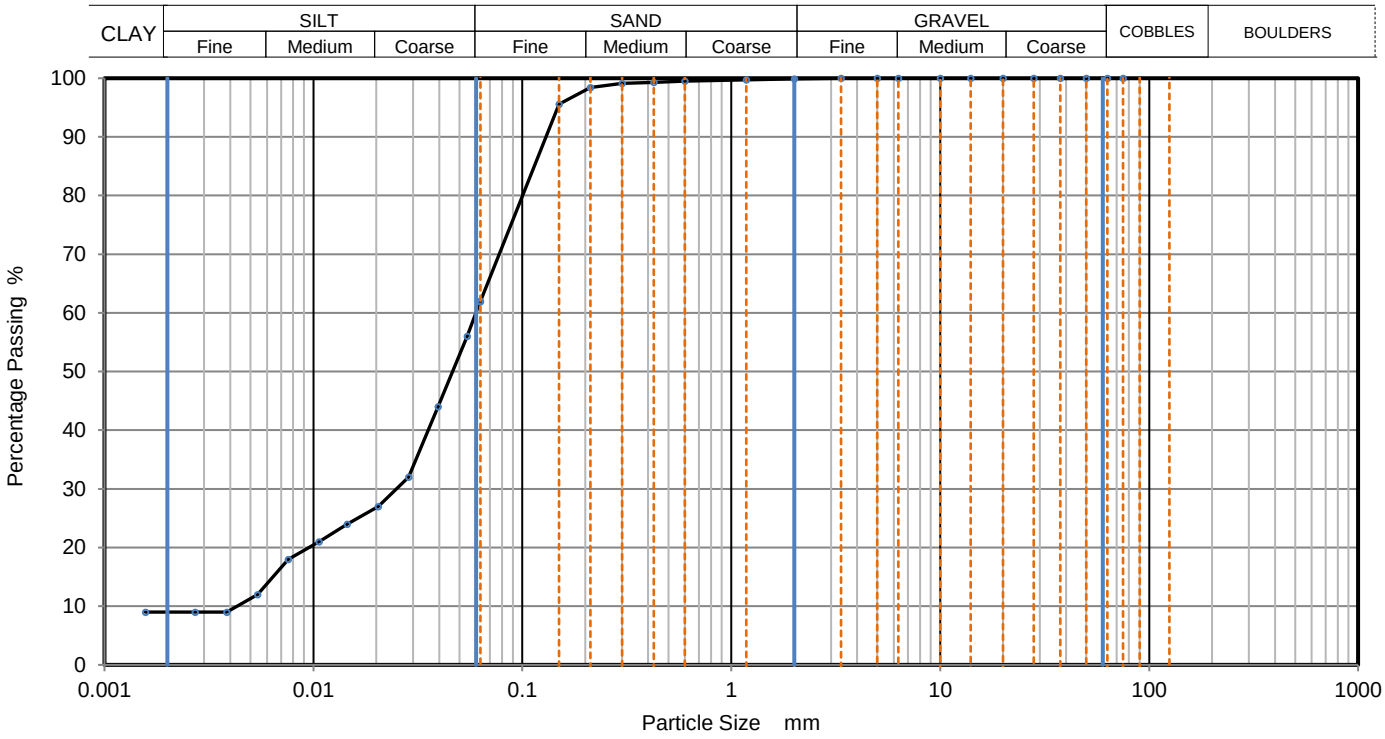
| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP287 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey sandy SILT. Sand is fine. | Depth, m | 1.80 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021030435 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 62 |
| | | 0.0544 | 56 |
| 75 | 100 | 0.0394 | 44 |
| 63 | 100 | 0.0285 | 32 |
| 50 | 100 | 0.0204 | 27 |
| 37.5 | 100 | 0.0145 | 24 |
| 28 | 100 | 0.0106 | 21 |
| 20 | 100 | 0.0076 | 18 |
| 14 | 100 | 0.0054 | 12 |
| 10 | 100 | 0.0038 | 9 |
| 6.3 | 100 | 0.0027 | 9 |
| 5 | 100 | 0.0016 | 9 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density (assumed) | |
| 0.425 | 99 | 2.65 Mg/m3 | |
| 0.3 | 99 | | |
| 0.212 | 98 | | |
| 0.15 | 96 | | |
| 0.063 | 62 | | |

Dry Mass of sample, g: 539

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 38 |
| Silt | 53 |
| Clay | 9 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0601 |
| D30 | mm | 0.0249 |
| D10 | mm | 0.0044 |
| Uniformity Coefficient | | 14 |
| Curvature Coefficient | | 2.3 |

Remarks

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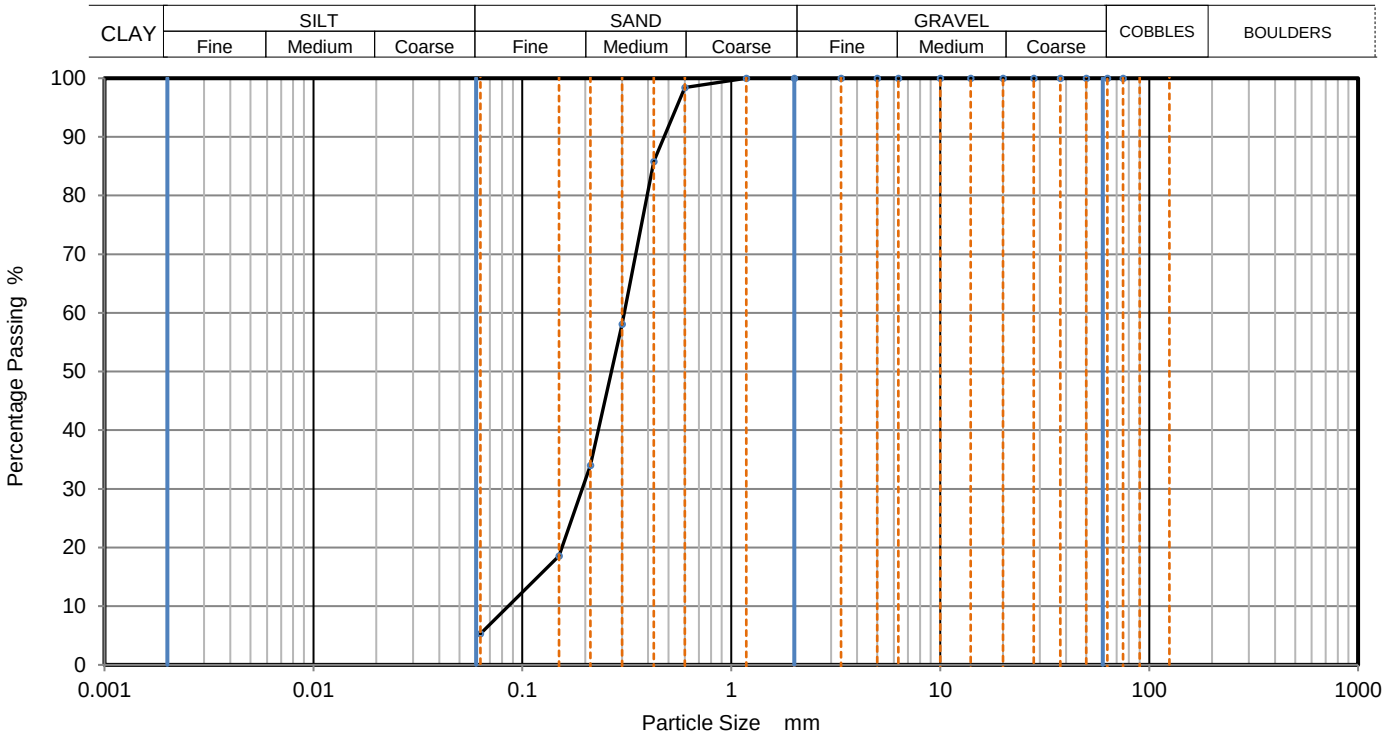
| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP288 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey silty medium and fine SAND. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021030440 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 98 | | |
| 0.425 | 86 | | |
| 0.3 | 58 | | |
| 0.212 | 34 | | |
| 0.15 | 19 | | |
| 0.063 | 5 | | |

| | |
|---|---|
| Dry Mass of sample, g | 395 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 95 |
| | |
| Fines <0.063mm | 5 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.307 |
| D30 | mm | 0.194 |
| D10 | mm | 0.0857 |
| Uniformity Coefficient | | 3.6 |
| Curvature Coefficient | | 1.4 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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|---|---|---|---|---|
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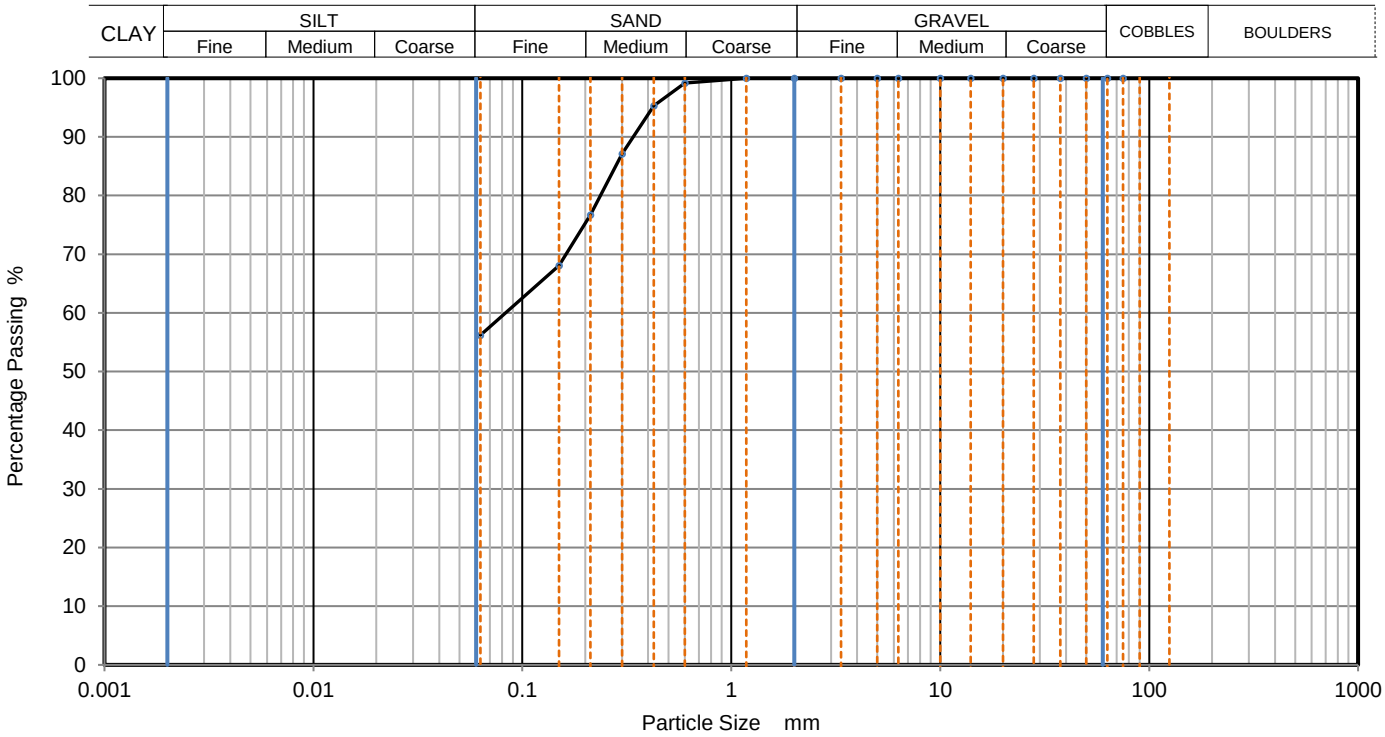
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP289 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey sandy SILT. Sand is fine and medium. | Depth, m | 0.90 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021030444 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 99 | | |
| 0.425 | 95 | | |
| 0.3 | 87 | | |
| 0.212 | 77 | | |
| 0.15 | 68 | | |
| 0.063 | 56 | | |

| | |
|---|---|
| Dry Mass of sample, g | 467 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 44 |
| | |
| Fines <0.063mm | 56 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0831 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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|---|---|---|---|---|
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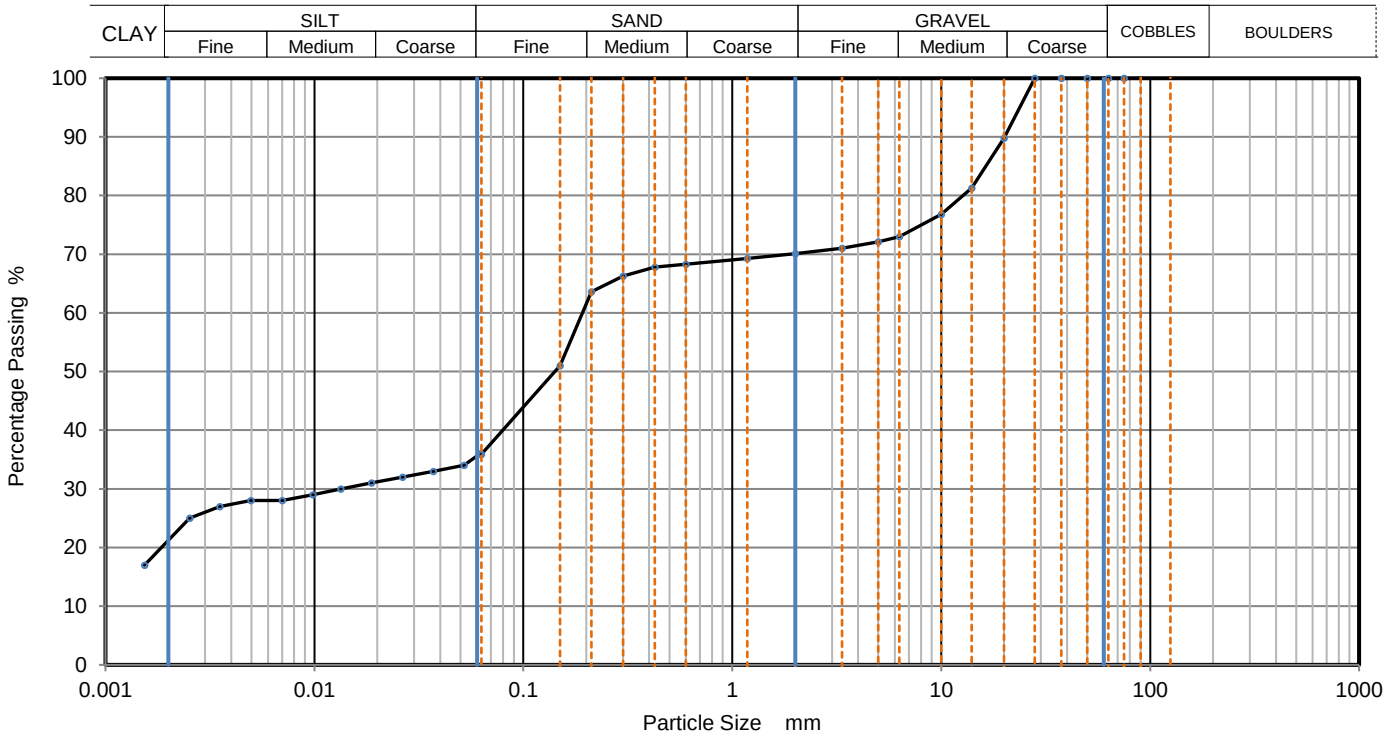
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP294 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey slightly gravelly sandy clayey SILT. Sand is fine. | Depth, m | 1.20 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021030472 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0621 | 36 |
| | | 0.0520 | 34 |
| 75 | 100 | 0.0370 | 33 |
| 63 | 100 | 0.0264 | 32 |
| 50 | 100 | 0.0188 | 31 |
| 37.5 | 100 | 0.0134 | 30 |
| 28 | 100 | 0.0098 | 29 |
| 20 | 90 | 0.0070 | 28 |
| 14 | 81 | 0.0050 | 28 |
| 10 | 77 | 0.0035 | 27 |
| 6.3 | 73 | 0.0025 | 25 |
| 5 | 72 | 0.0015 | 17 |
| 3.35 | 71 | | |
| 2 | 70 | | |
| 1.18 | 69 | | |
| 0.6 | 68 | Particle density (assumed) | |
| 0.425 | 68 | 2.65 Mg/m3 | |
| 0.3 | 66 | | |
| 0.212 | 64 | | |
| 0.15 | 51 | | |
| 0.063 | 36 | | |

| | |
|---|---|
| Dry Mass of sample, g | 703 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 30 |
| Sand | 34 |
| Silt | 14 |
| Clay | 22 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.192 |
| D30 | mm | 0.0131 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
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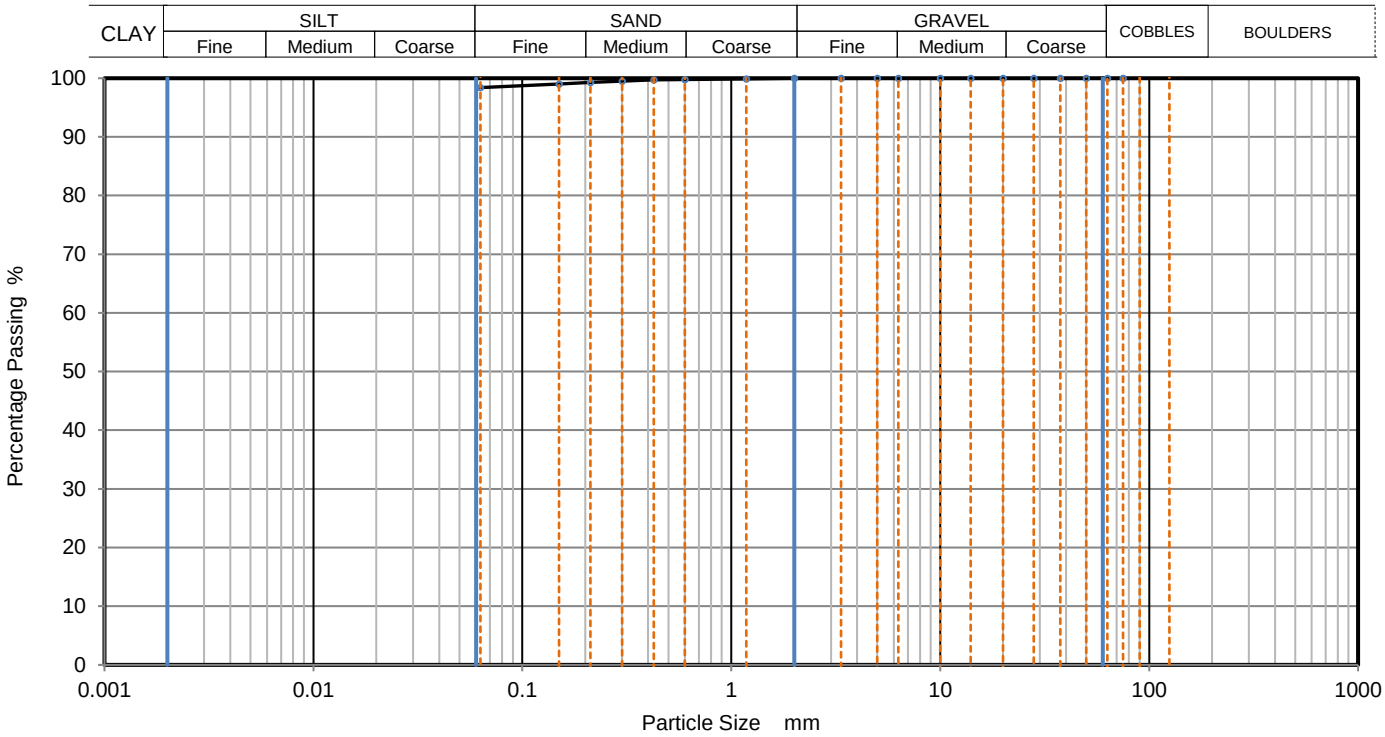
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | | | |
|---|---|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | | | Job Ref | **2021LD101** |
| | | | | Borehole/Pit No. | TP294 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 4 |
| Soil Description | Dark grey SILT. | | | Depth, m | 3.30 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | | | KeyLAB ID | IDL12021030476 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | | |
| 0.425 | 100 | | |
| 0.3 | 100 | | |
| 0.212 | 99 | | |
| 0.15 | 99 | | |
| 0.063 | 98 | | |

| | |
|---|---|
| Dry Mass of sample, g | 229 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 2 |
| | |
| Fines <0.063mm | 98 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
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| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

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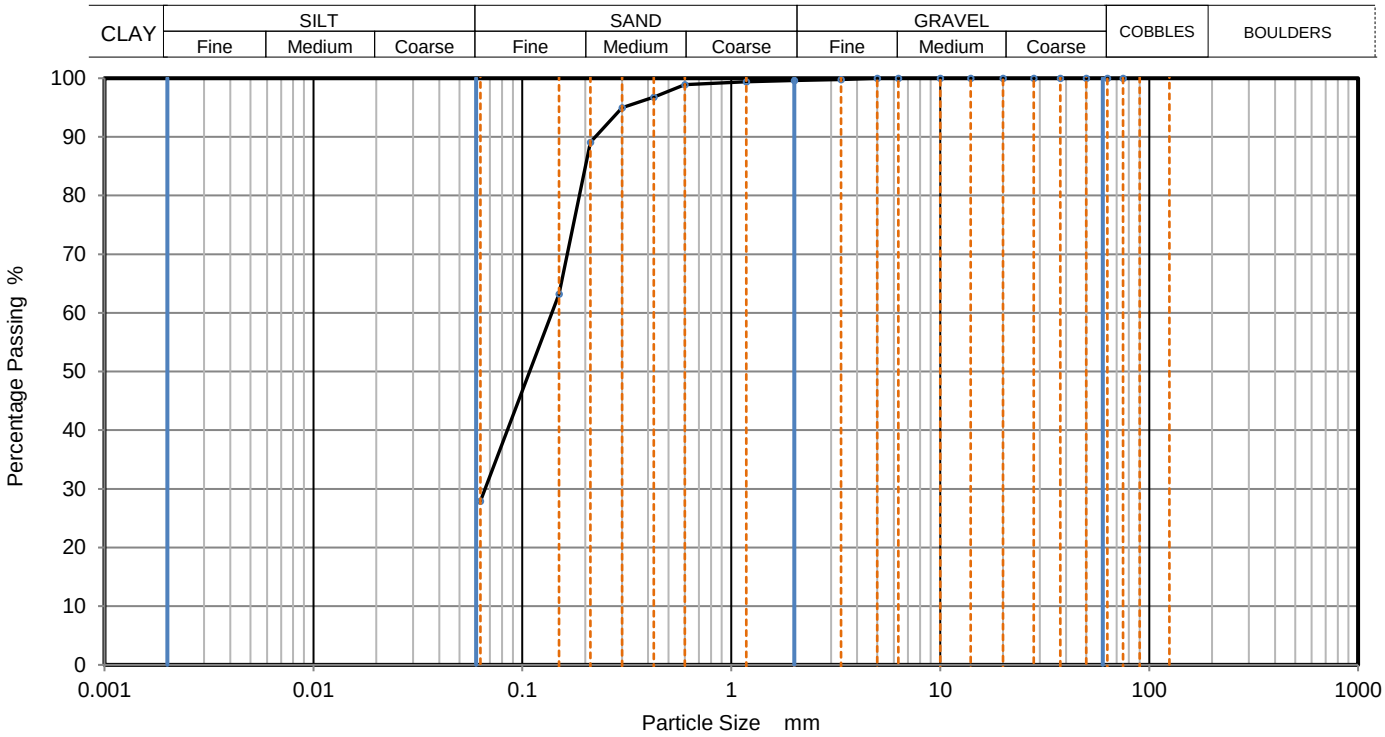
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP305 |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Dark grey very silty fine SAND. | Depth, m | 2.80 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210304116 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 99 | | |
| 0.6 | 99 | | |
| 0.425 | 97 | | |
| 0.3 | 95 | | |
| 0.212 | 89 | | |
| 0.15 | 63 | | |
| 0.063 | 28 | | |

| | |
|---|---|
| Dry Mass of sample, g | 389 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 72 |
| | |
| Fines <0.063mm | 28 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.139 |
| D30 | mm | 0.0664 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

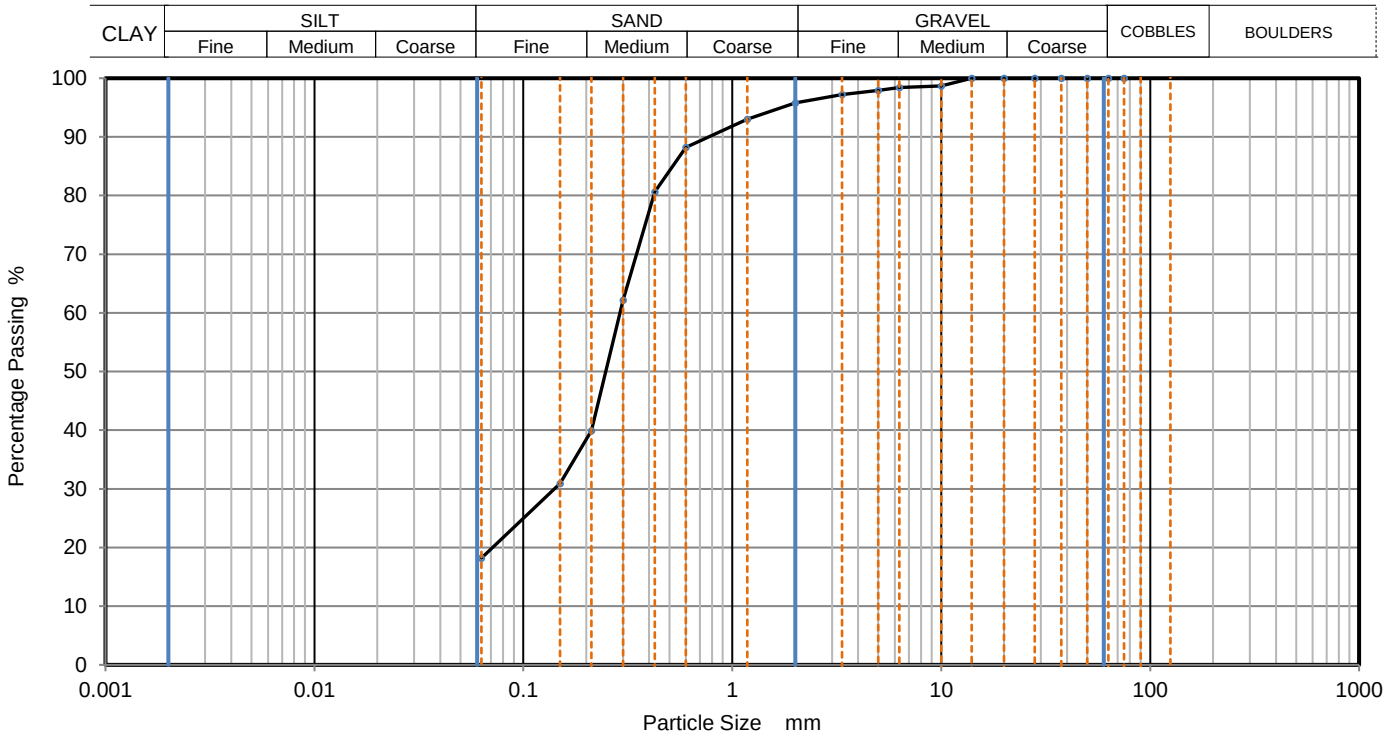
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP311 |
| Site Name | Derryadd Wind Farm | Sample No. | 1 |
| Soil Description | Dark grey slightly gravelly silty medium SAND. | Depth, m | 0.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL1202103020 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 99 | | |
| 6.3 | 98 | | |
| 5 | 98 | | |
| 3.35 | 97 | | |
| 2 | 96 | | |
| 1.18 | 93 | | |
| 0.6 | 88 | | |
| 0.425 | 81 | | |
| 0.3 | 62 | | |
| 0.212 | 40 | | |
| 0.15 | 31 | | |
| 0.063 | 18 | | |

| | |
|---|---|
| Dry Mass of sample, g | 366 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 4 |
| Sand | 78 |
| | |
| Fines <0.063mm | 18 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.29 |
| D30 | mm | 0.141 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

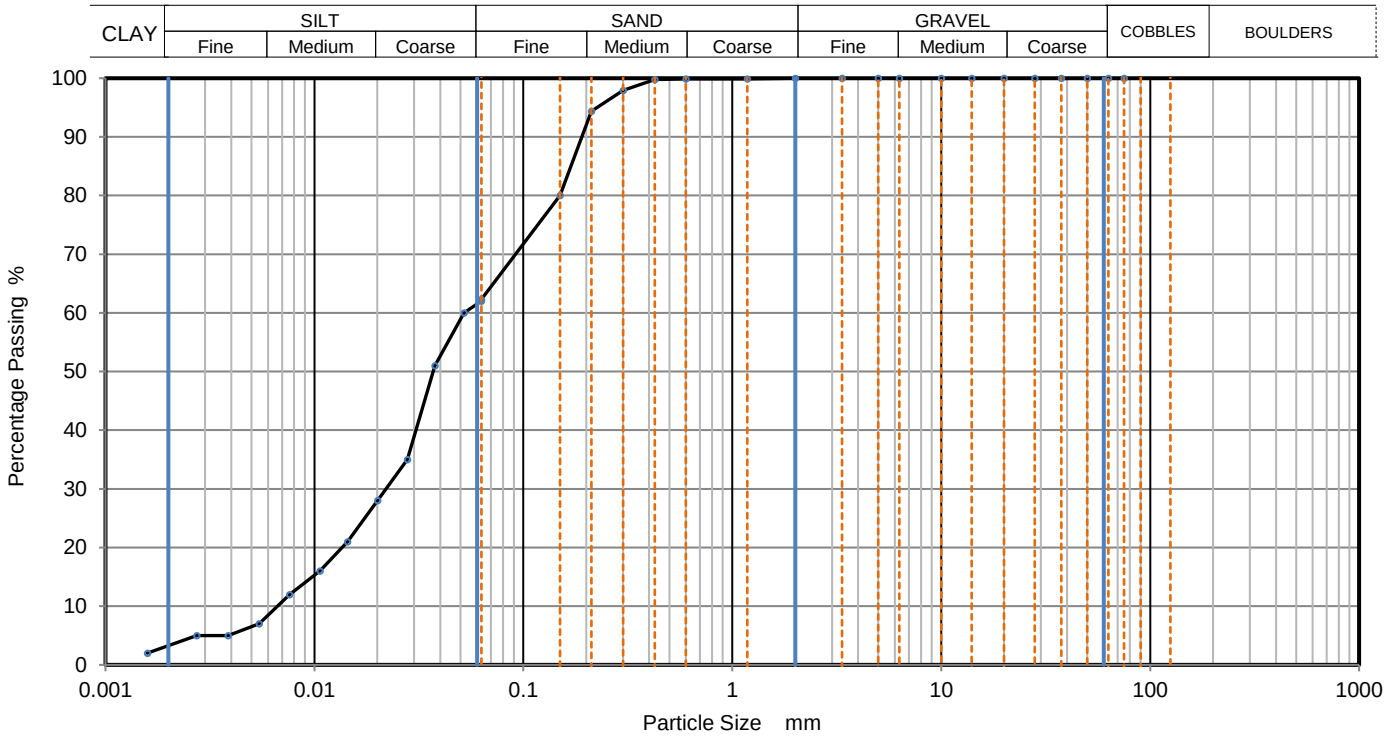
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP311 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey sandy SILT. Sand is fine. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL1202103021 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 62 |
| | | 0.0520 | 60 |
| 75 | 100 | 0.0378 | 51 |
| 63 | 100 | 0.0279 | 35 |
| 50 | 100 | 0.0201 | 28 |
| 37.5 | 100 | 0.0144 | 21 |
| 28 | 100 | 0.0106 | 16 |
| 20 | 100 | 0.0076 | 12 |
| 14 | 100 | 0.0054 | 7 |
| 10 | 100 | 0.0039 | 5 |
| 6.3 | 100 | 0.0027 | 5 |
| 5 | 100 | 0.0016 | 2 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density | (assumed) |
| 0.425 | 100 | 2.65 | Mg/m3 |
| 0.3 | 98 | | |
| 0.212 | 94 | | |
| 0.15 | 80 | | |
| 0.063 | 62 | | |

Dry Mass of sample, g: 334

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 38 |
| Silt | 59 |
| Clay | 3 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0521 |
| D30 | mm | 0.0224 |
| D10 | mm | 0.0068 |
| Uniformity Coefficient | | 7.7 |
| Curvature Coefficient | | 1.4 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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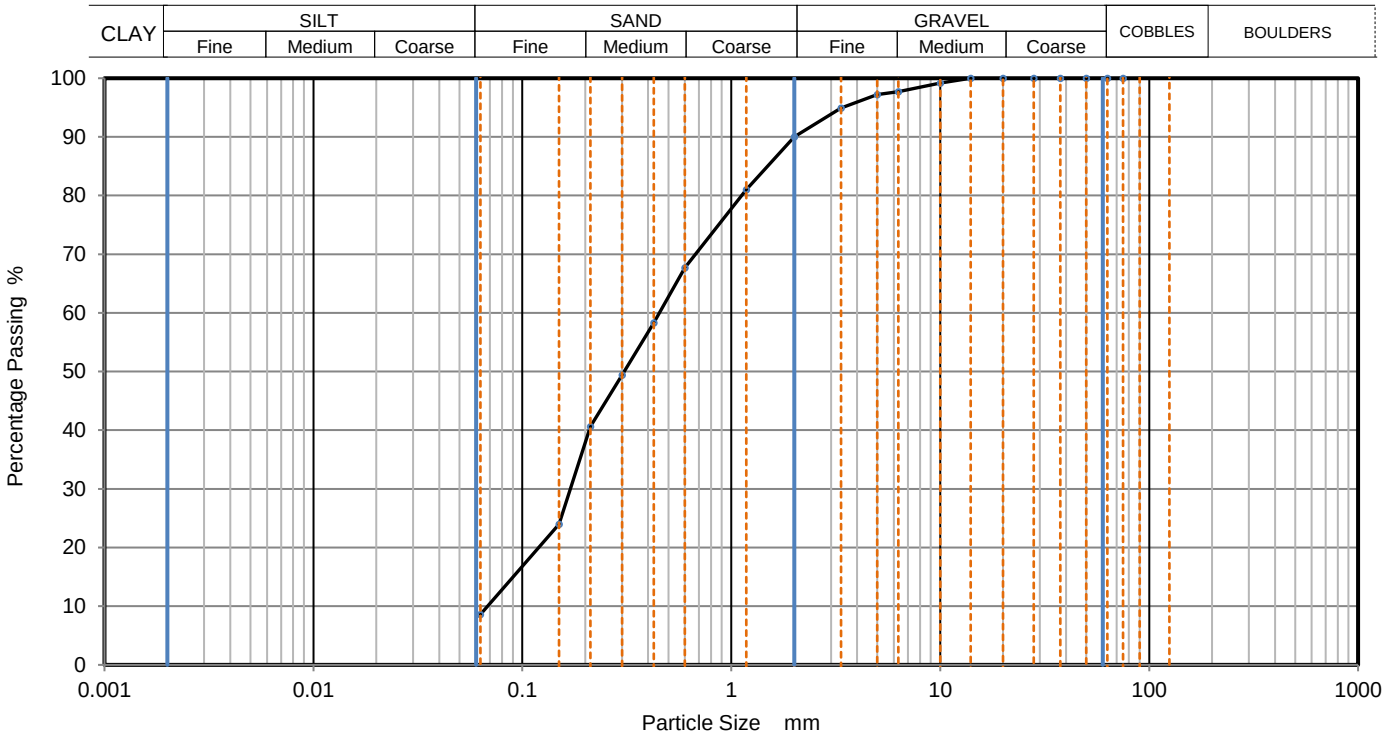
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP313 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey silty gravelly f,m,c SAND. | Depth, m | 1.80 |
| Specimen Reference | Specimen Depth: m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL1202103028 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 99 | | |
| 6.3 | 98 | | |
| 5 | 97 | | |
| 3.35 | 95 | | |
| 2 | 90 | | |
| 1.18 | 81 | | |
| 0.6 | 68 | | |
| 0.425 | 58 | | |
| 0.3 | 49 | | |
| 0.212 | 41 | | |
| 0.15 | 24 | | |
| 0.063 | 9 | | |

Dry Mass of sample, g: 420

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 10 |
| Sand | 81 |
| | |
| Fines <0.063mm | 9 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.452 |
| D30 | mm | 0.17 |
| D10 | mm | 0.0682 |
| Uniformity Coefficient | | 6.6 |
| Curvature Coefficient | | 0.94 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

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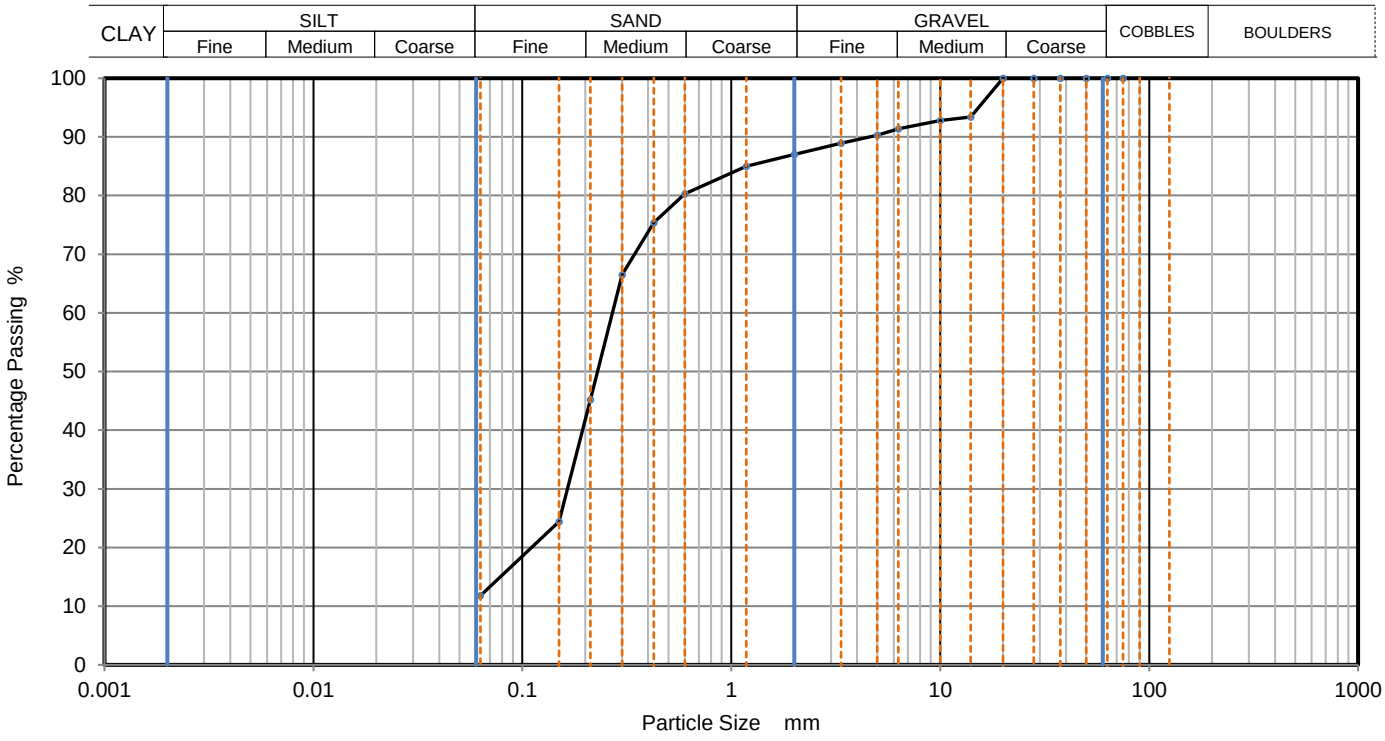
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP314 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey silty gravelly fine and medium SAND. | Depth, m | 1.60 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021030211 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 93 | | |
| 10 | 93 | | |
| 6.3 | 91 | | |
| 5 | 90 | | |
| 3.35 | 89 | | |
| 2 | 87 | | |
| 1.18 | 85 | | |
| 0.6 | 80 | | |
| 0.425 | 75 | | |
| 0.3 | 67 | | |
| 0.212 | 45 | | |
| 0.15 | 24 | | |
| 0.063 | 12 | | |

Dry Mass of sample, g: 386

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 13 |
| Sand | 75 |
| | |
| Fines <0.063mm | 12 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.27 |
| D30 | mm | 0.165 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:34 | 1<br>QC From No:R2 |

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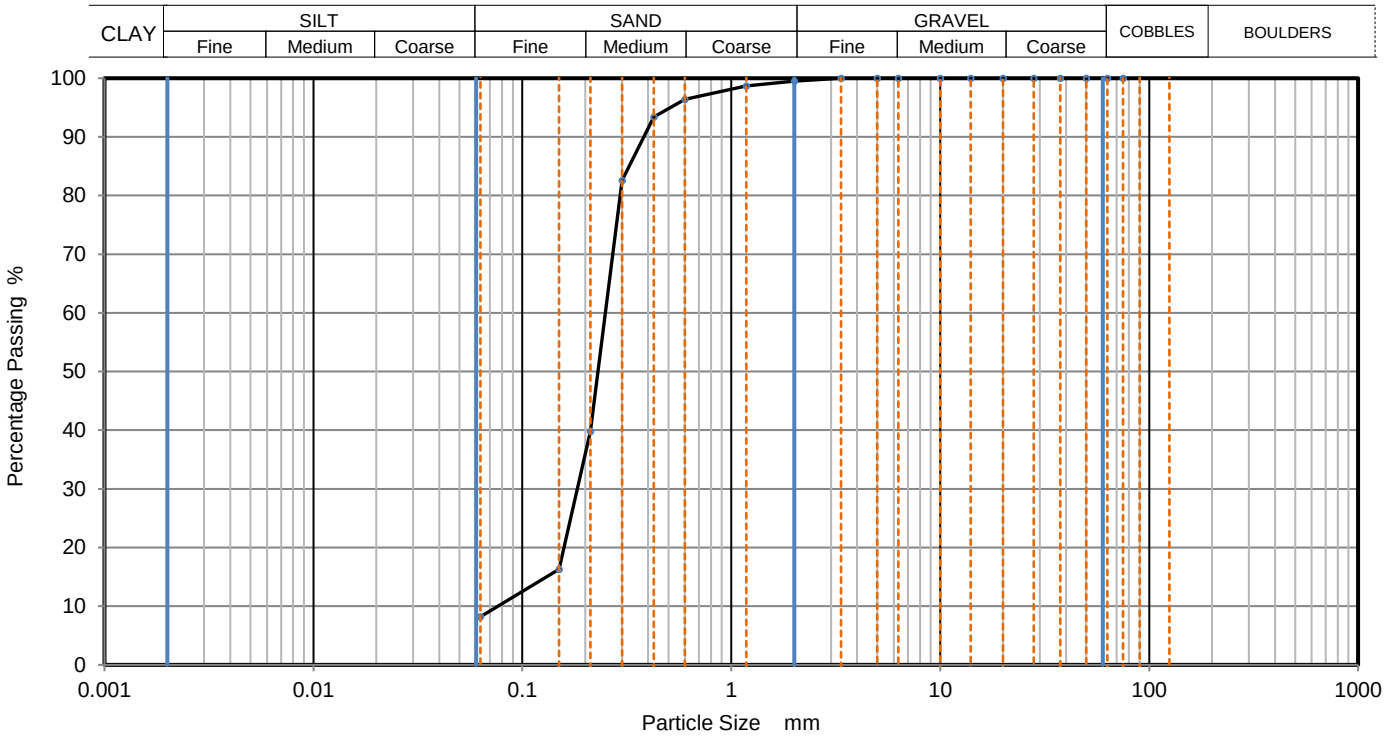
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP322 |
| Site Name | Derryadd Wind Farm | Sample No. | 1 |
| Soil Description | Grey silty medium and fine SAND. | Depth, m | 0.30 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021030214 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 99 | | |
| 0.6 | 96 | | |
| 0.425 | 93 | | |
| 0.3 | 83 | | |
| 0.212 | 40 | | |
| 0.15 | 16 | | |
| 0.063 | 8 | | |

| | |
|---|---|
| Dry Mass of sample, g | 454 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 1 |
| Sand | 91 |
| | |
| Fines <0.063mm | 8 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.25 |
| D30 | mm | 0.184 |
| D10 | mm | 0.0763 |
| Uniformity Coefficient | | 3.3 |
| Curvature Coefficient | | 1.8 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | 1<br>QC From No:R2 |

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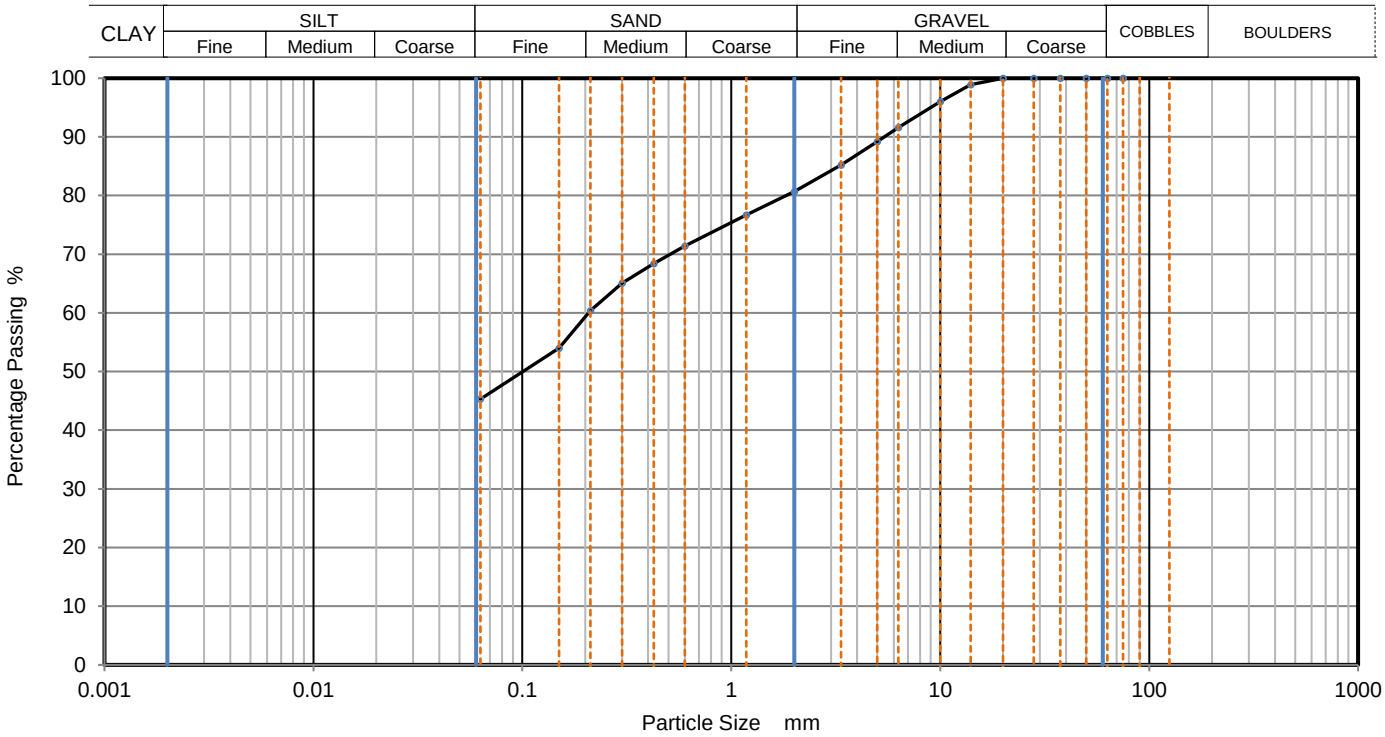
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP326 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark brown slightly gravelly sandy silty CLAY. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210305112 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 99 | | |
| 10 | 96 | | |
| 6.3 | 92 | | |
| 5 | 89 | | |
| 3.35 | 85 | | |
| 2 | 81 | | |
| 1.18 | 77 | | |
| 0.6 | 71 | | |
| 0.425 | 68 | | |
| 0.3 | 65 | | |
| 0.212 | 60 | | |
| 0.15 | 54 | | |
| 0.063 | 45 | | |

| | |
|---|---|
| Dry Mass of sample, g | 330 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 19 |
| Sand | 35 |
| | |
| Fines <0.063mm | 45 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.207 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
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| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | 1<br>QC From No:R2 |

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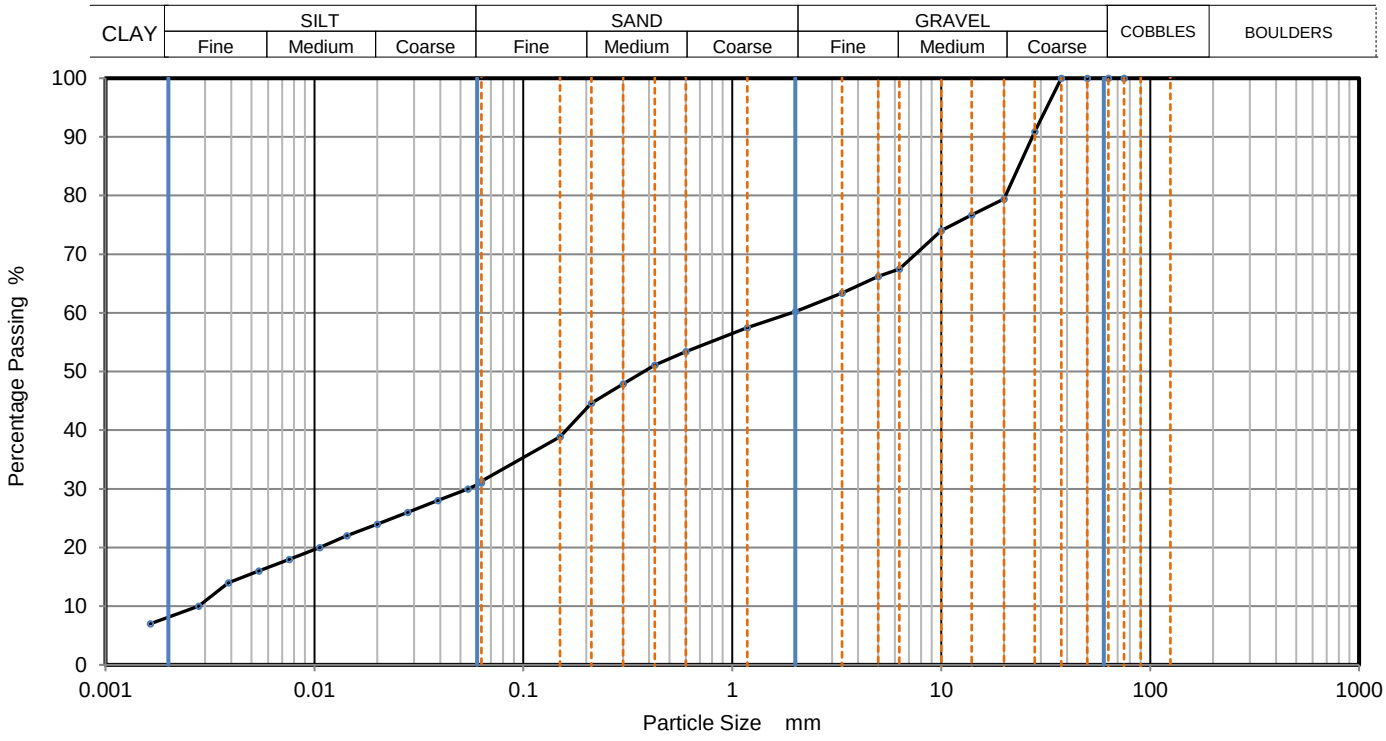
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP331 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey very sandy very silty coarse GRAVEL. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210222106 |




| Sieving | |
|---|---|
| Particle Size mm | % Passing |
| | |
| | |
| 75 | 100 |
| 63 | 100 |
| 50 | 100 |
| 37.5 | 100 |
| 28 | 91 |
| 20 | 79 |
| 14 | 77 |
| 10 | 74 |
| 6.3 | 68 |
| 5 | 66 |
| 3.35 | 63 |
| 2 | 60 |
| 1.18 | 58 |
| 0.6 | 53 |
| 0.425 | 51 |
| 0.3 | 48 |
| 0.212 | 45 |
| 0.15 | 39 |
| 0.063 | 31 |

| Sedimentation | |
|---|---|
| Particle Size mm | % Passing |
| 0.0630 | 31 |
| 0.0543 | 30 |
| 0.0389 | 28 |
| 0.0279 | 26 |
| 0.0200 | 24 |
| 0.0143 | 22 |
| 0.0106 | 20 |
| 0.0076 | 18 |
| 0.0054 | 16 |
| 0.0039 | 14 |
| 0.0028 | 10 |
| 0.0016 | 7 |
| | |
| | |
| | |
| Particle density | (assumed) |
| 2.65 | Mg/m3 |

Dry Mass of sample, g: 606

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 40 |
| Sand | 29 |
| Silt | 23 |
| Clay | 9 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.92 |
| D30 | mm | 0.0521 |
| D10 | mm | 0.00259 |
| Uniformity Coefficient | | 740 |
| Curvature Coefficient | | 0.55 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | 1<br>QC From No:R2 |

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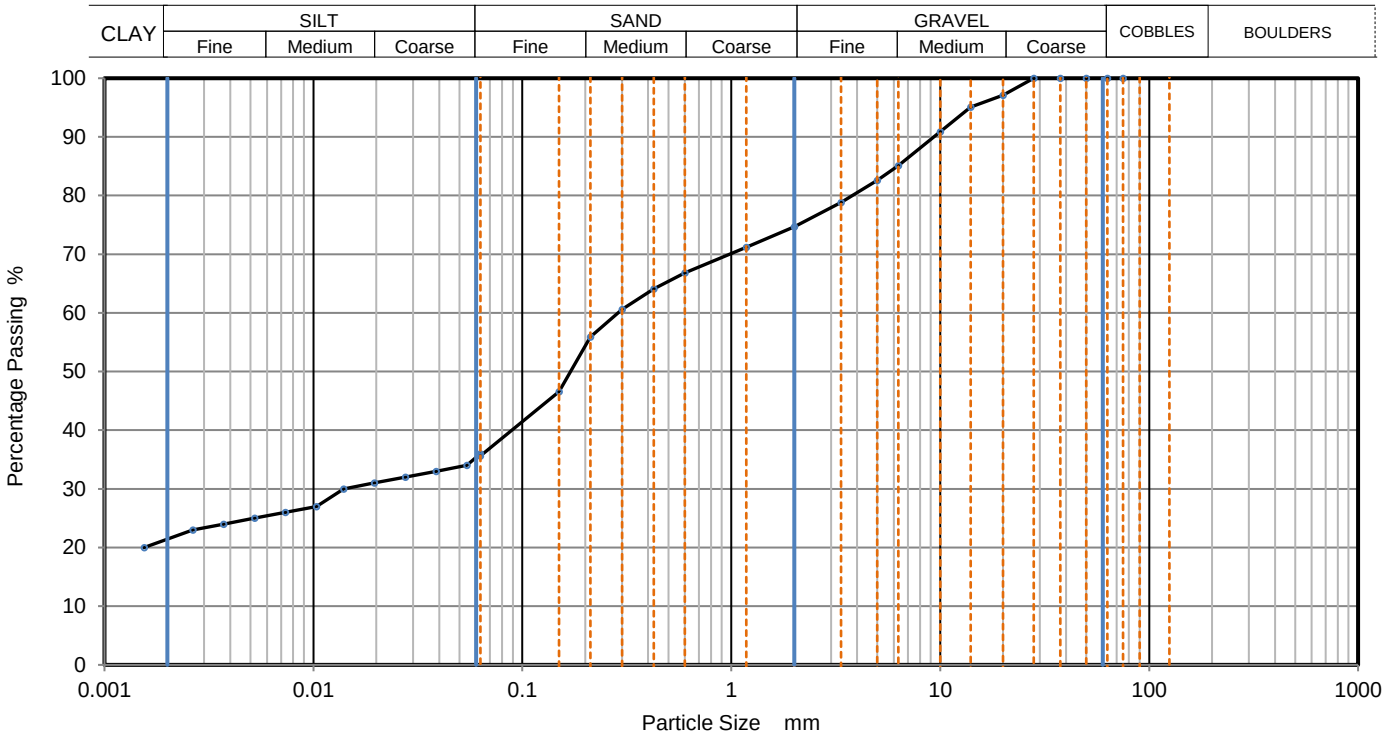
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP334 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey slightly gravelly sandy silty CLAY. | Depth, m | 0.90 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210222113 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 36 |
| | | 0.0543 | 34 |
| 75 | 100 | 0.0387 | 33 |
| 63 | 100 | 0.0275 | 32 |
| 50 | 100 | 0.0196 | 31 |
| 37.5 | 100 | 0.0139 | 30 |
| 28 | 100 | 0.0103 | 27 |
| 20 | 97 | 0.0073 | 26 |
| 14 | 95 | 0.0052 | 25 |
| 10 | 91 | 0.0037 | 24 |
| 6.3 | 85 | 0.0026 | 23 |
| 5 | 83 | 0.0015 | 20 |
| 3.35 | 79 | | |
| 2 | 75 | | |
| 1.18 | 71 | | |
| 0.6 | 67 | Particle density | (assumed) |
| 0.425 | 64 | 2.65 | Mg/m3 |
| 0.3 | 61 | | |
| 0.212 | 56 | | |
| 0.15 | 47 | | |
| 0.063 | 36 | | |

Dry Mass of sample, g: 782

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 25 |
| Sand | 39 |
| Silt | 14 |
| Clay | 21 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.286 |
| D30 | mm | 0.0153 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | 1<br>QC From No:R2 |

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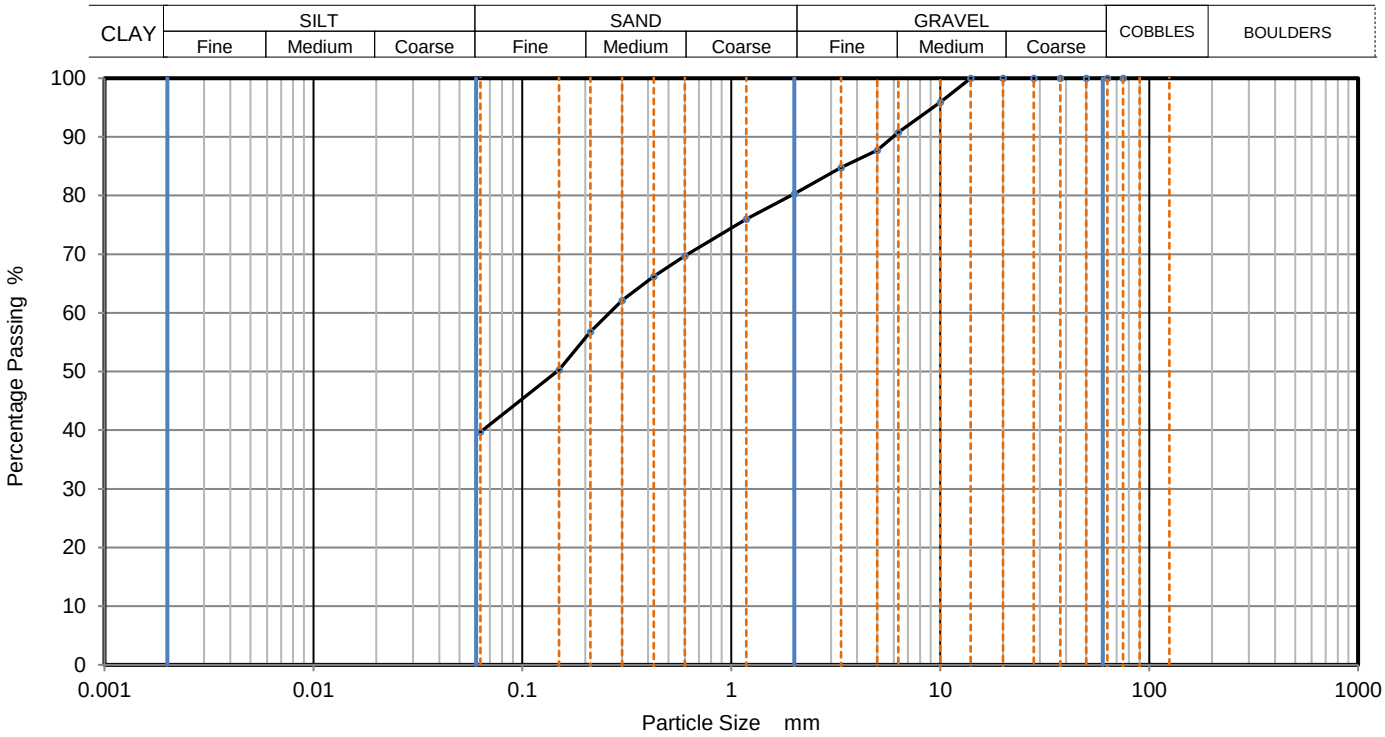
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP334 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey slighlty gravelly sandy SILT. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210222114 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 96 | | |
| 6.3 | 91 | | |
| 5 | 88 | | |
| 3.35 | 85 | | |
| 2 | 80 | | |
| 1.18 | 76 | | |
| 0.6 | 70 | | |
| 0.425 | 66 | | |
| 0.3 | 62 | | |
| 0.212 | 57 | | |
| 0.15 | 50 | | |
| 0.063 | 40 | | |

| | |
|---|---|
| Dry Mass of sample, g | 554 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 20 |
| Sand | 41 |
| | |
| Fines <0.063mm | 40 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.261 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

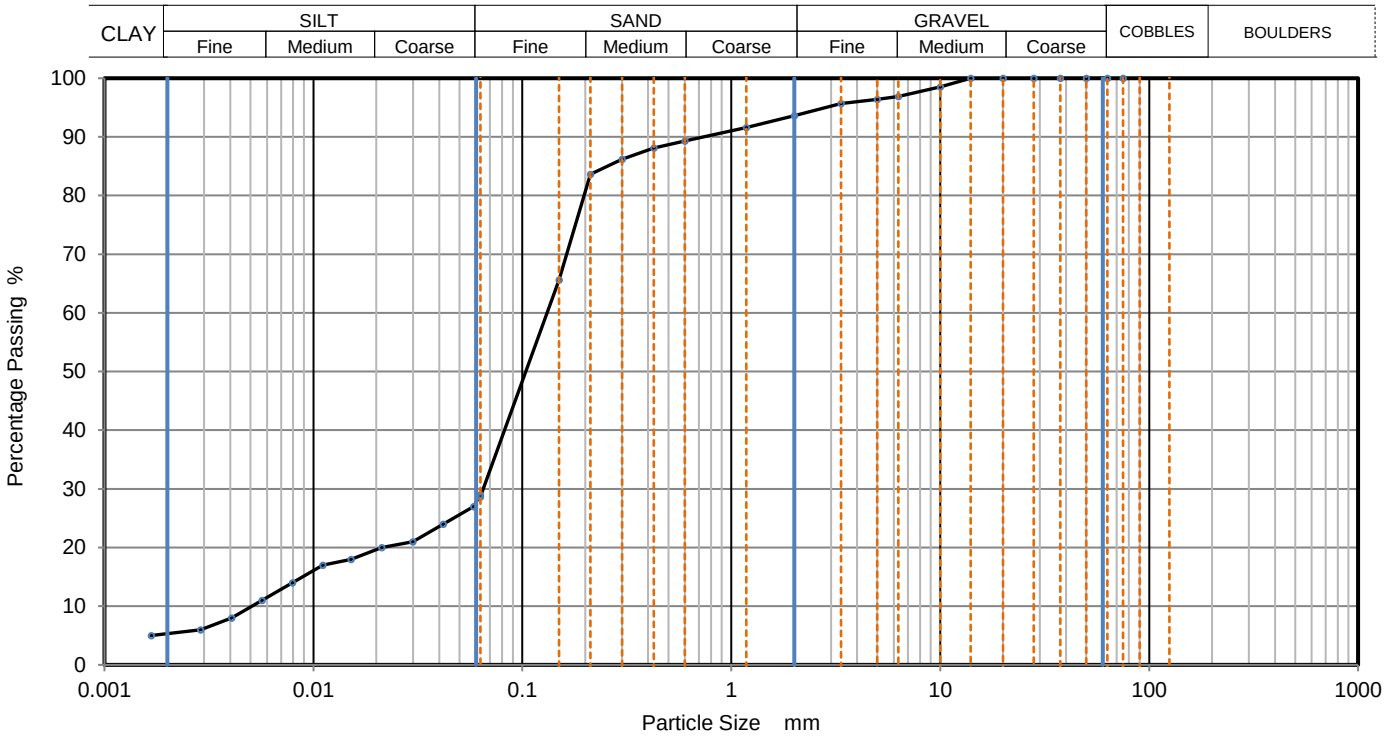
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | **1** QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP336 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey gravelly very silty fine SAND. | Depth, m | 1.10 |
| Specimen Reference | Specimen Depth: m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210222122 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 29 |
| | | 0.0583 | 27 |
| 75 | 100 | 0.0417 | 24 |
| 63 | 100 | 0.0299 | 21 |
| 50 | 100 | 0.0212 | 20 |
| 37.5 | 100 | 0.0151 | 18 |
| 28 | 100 | 0.0111 | 17 |
| 20 | 100 | 0.0079 | 14 |
| 14 | 100 | 0.0057 | 11 |
| 10 | 99 | 0.0041 | 8 |
| 6.3 | 97 | 0.0029 | 6 |
| 5 | 96 | 0.0017 | 5 |
| 3.35 | 96 | | |
| 2 | 94 | | |
| 1.18 | 92 | | |
| 0.6 | 89 | Particle density (assumed) | |
| 0.425 | 88 | 2.65 Mg/m3 | |
| 0.3 | 86 | | |
| 0.212 | 84 | | |
| 0.15 | 66 | | |
| 0.063 | 29 | | |

| | |
|---|---|
| Dry Mass of sample, g | 296 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 6 |
| Sand | 65 |
| Silt | 24 |
| Clay | 5 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.132 |
| D30 | mm | 0.0652 |
| D10 | mm | 0.00534 |
| Uniformity Coefficient | | 25 |
| Curvature Coefficient | | 6 |

Remarks

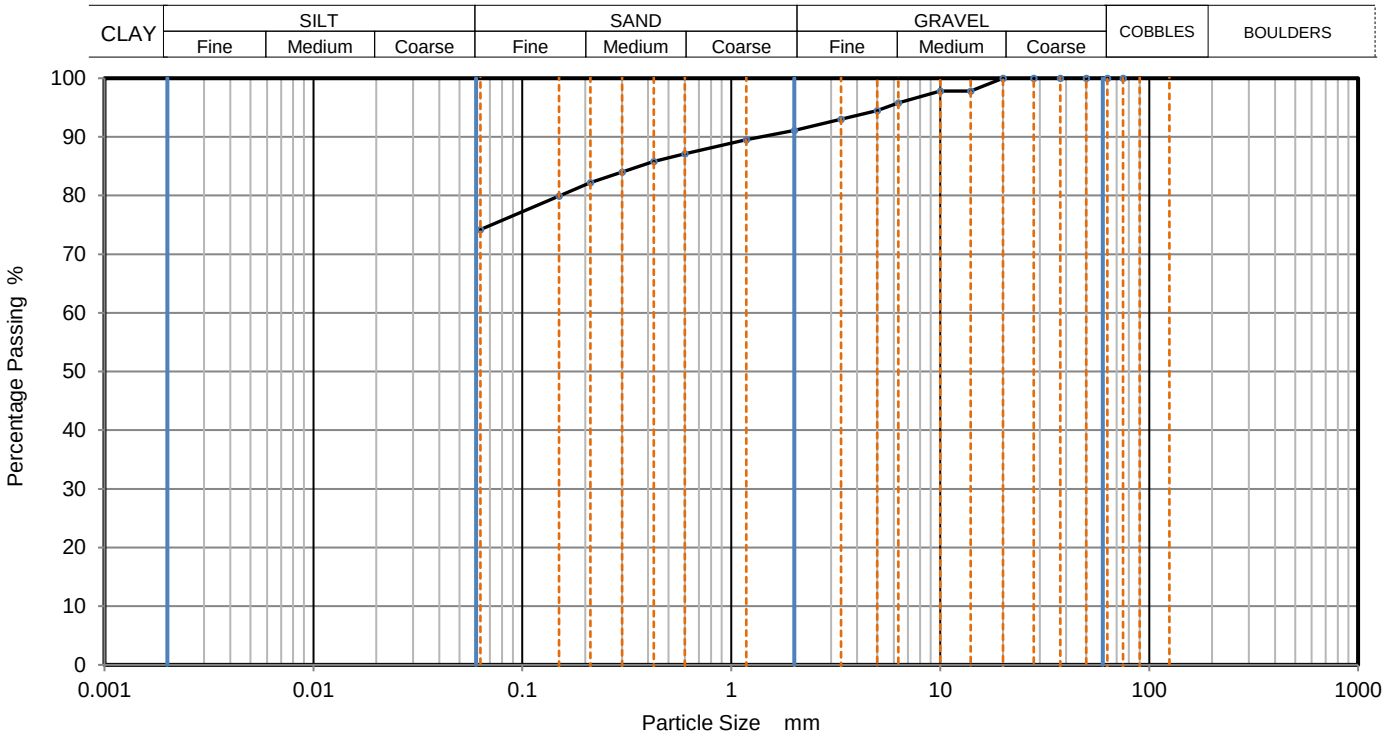
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | **1** QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP337 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey slighlty gravelly slightly sandy silty CLAY. | Depth, m | 0.80 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210222126 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 98 | | |
| 10 | 98 | | |
| 6.3 | 96 | | |
| 5 | 95 | | |
| 3.35 | 93 | | |
| 2 | 91 | | |
| 1.18 | 90 | | |
| 0.6 | 87 | | |
| 0.425 | 86 | | |
| 0.3 | 84 | | |
| 0.212 | 82 | | |
| 0.15 | 80 | | |
| 0.063 | 74 | | |

| | |
|---|---|
| Dry Mass of sample, g | 439 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 9 |
| Sand | 17 |
| | |
| Fines <0.063mm | 74 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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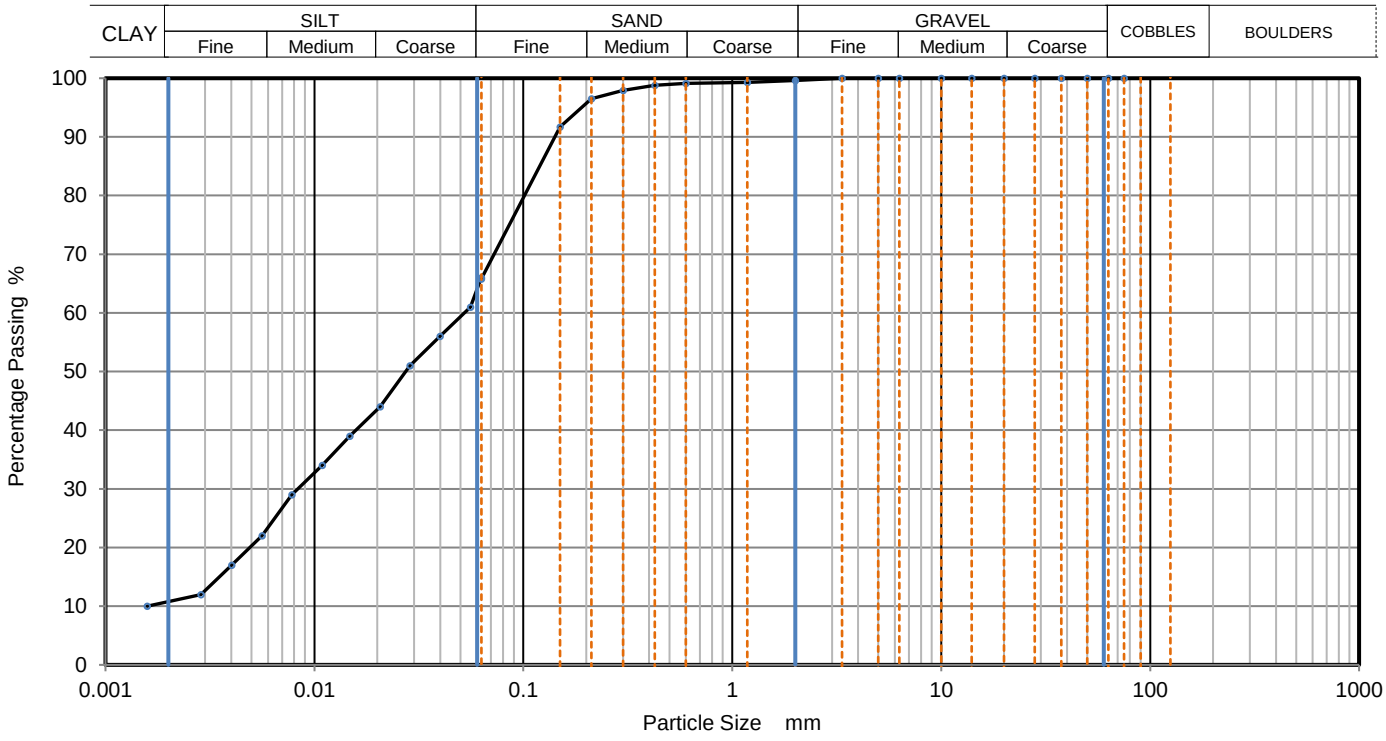
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP345 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey sandy clayey SILT. Sand is fine. | Depth, m | 0.90 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210222134 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 66 |
| | | 0.0558 | 61 |
| 75 | 100 | 0.0400 | 56 |
| 63 | 100 | 0.0286 | 51 |
| 50 | 100 | 0.0206 | 44 |
| 37.5 | 100 | 0.0148 | 39 |
| 28 | 100 | 0.0109 | 34 |
| 20 | 100 | 0.0078 | 29 |
| 14 | 100 | 0.0056 | 22 |
| 10 | 100 | 0.0040 | 17 |
| 6.3 | 100 | 0.0029 | 12 |
| 5 | 100 | 0.0016 | 10 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 99 | | |
| 0.6 | 99 | Particle density (assumed) | |
| 0.425 | 99 | 2.65 Mg/m3 | |
| 0.3 | 98 | | |
| 0.212 | 97 | | |
| 0.15 | 92 | | |
| 0.063 | 66 | | |

| | |
|---|---|
| Dry Mass of sample, g | 198 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 34 |
| Silt | 55 |
| Clay | 11 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0524 |
| D30 | mm | 0.00822 |
| D10 | mm | 0.00168 |
| Uniformity Coefficient | | 31 |
| Curvature Coefficient | | 0.77 |

Remarks

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| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | 1<br>QC From No:R2 |

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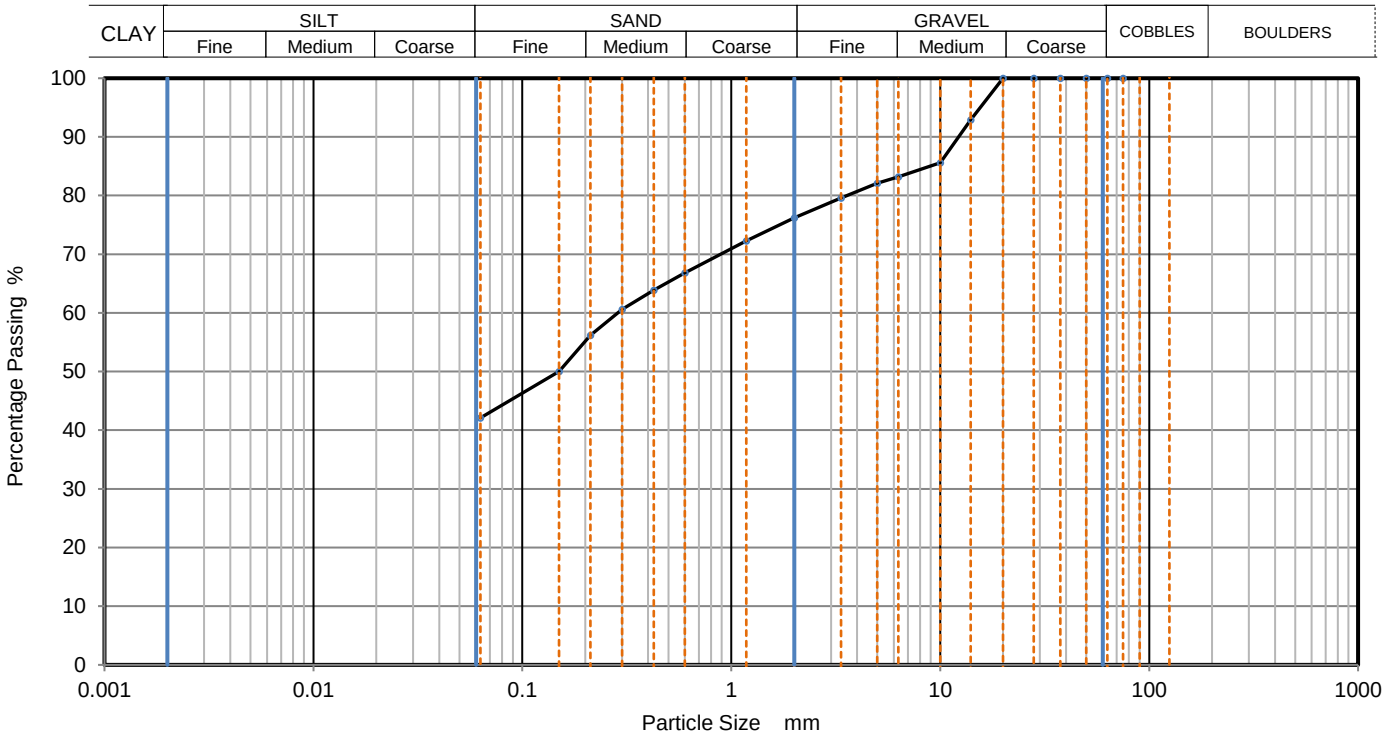
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP345 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey slightly gravelly sandy CLAY. | Depth, m | 2.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210222135 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 93 | | |
| 10 | 86 | | |
| 6.3 | 83 | | |
| 5 | 82 | | |
| 3.35 | 80 | | |
| 2 | 76 | | |
| 1.18 | 72 | | |
| 0.6 | 67 | | |
| 0.425 | 64 | | |
| 0.3 | 61 | | |
| 0.212 | 56 | | |
| 0.15 | 50 | | |
| 0.063 | 42 | | |

Dry Mass of sample, g: 712

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 24 |
| Sand | 34 |
| | |
| Fines <0.063mm | 42 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.286 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | 1<br>QC From No:R2 |

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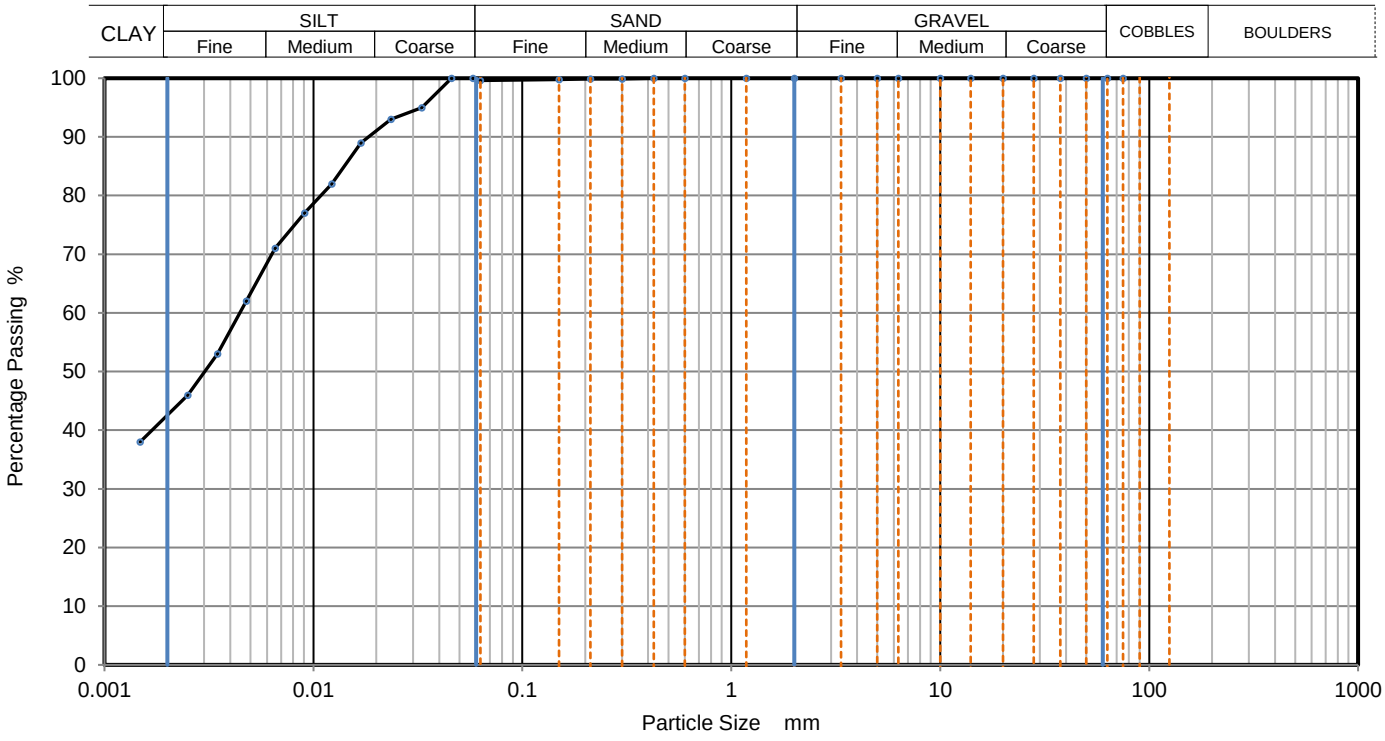
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP348 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey organic clayey SILT. | Depth, m | 0.70 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210222146 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0580 | 100 |
| | | 0.0458 | 100 |
| 75 | 100 | 0.0329 | 95 |
| 63 | 100 | 0.0235 | 93 |
| 50 | 100 | 0.0169 | 89 |
| 37.5 | 100 | 0.0122 | 82 |
| 28 | 100 | 0.0091 | 77 |
| 20 | 100 | 0.0066 | 71 |
| 14 | 100 | 0.0048 | 62 |
| 10 | 100 | 0.0035 | 53 |
| 6.3 | 100 | 0.0025 | 46 |
| 5 | 100 | 0.0015 | 38 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density | (assumed) |
| 0.425 | 100 | 2.65 | Mg/m3 |
| 0.3 | 100 | | |
| 0.212 | 100 | | |
| 0.15 | 100 | | |
| 0.063 | 100 | | |

Dry Mass of sample, g: 238

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 0 |
| Silt | 57 |
| Clay | 43 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00445 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | 1<br>QC From No:R2 |

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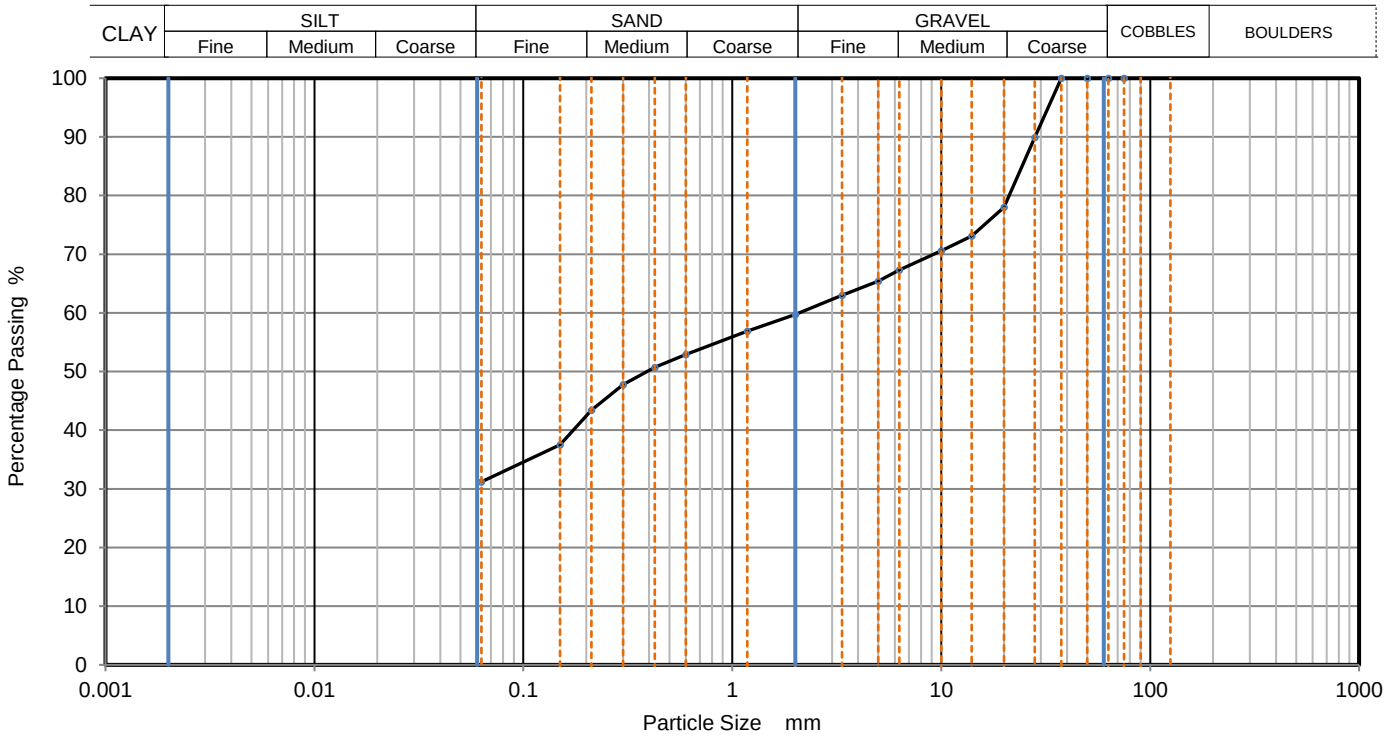
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP352 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey very sandy very silty coarse GRAVEL. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL1202102189 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 90 | | |
| 20 | 78 | | |
| 14 | 73 | | |
| 10 | 71 | | |
| 6.3 | 67 | | |
| 5 | 65 | | |
| 3.35 | 63 | | |
| 2 | 60 | | |
| 1.18 | 57 | | |
| 0.6 | 53 | | |
| 0.425 | 51 | | |
| 0.3 | 48 | | |
| 0.212 | 43 | | |
| 0.15 | 38 | | |
| 0.063 | 31 | | |

| | |
|---|---|
| Dry Mass of sample, g | 831 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 40 |
| Sand | 29 |
| | |
| Fines <0.063mm | 31 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 2.11 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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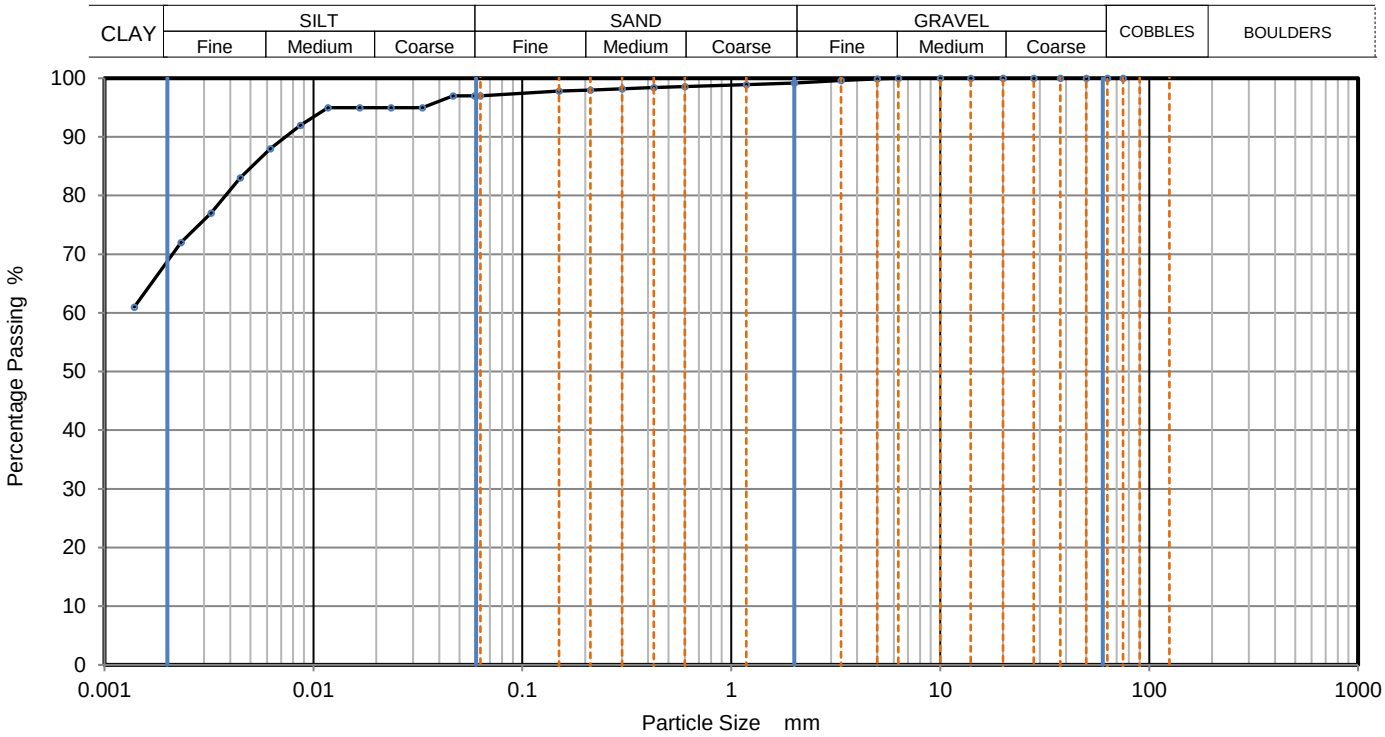
| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP362 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey slightly sandy silty CLAY. | Depth, m | 1.20 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021021828 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0591 | 97 |
| | | 0.0466 | 97 |
| 75 | 100 | 0.0332 | 95 |
| 63 | 100 | 0.0235 | 95 |
| 50 | 100 | 0.0166 | 95 |
| 37.5 | 100 | 0.0118 | 95 |
| 28 | 100 | 0.0087 | 92 |
| 20 | 100 | 0.0062 | 88 |
| 14 | 100 | 0.0045 | 83 |
| 10 | 100 | 0.0032 | 77 |
| 6.3 | 100 | 0.0023 | 72 |
| 5 | 100 | 0.0014 | 61 |
| 3.35 | 100 | | |
| 2 | 99 | | |
| 1.18 | 99 | | |
| 0.6 | 99 | Particle density (assumed) | |
| 0.425 | 98 | 2.65 Mg/m3 | |
| 0.3 | 98 | | |
| 0.212 | 98 | | |
| 0.15 | 98 | | |
| 0.063 | 97 | | |

| | |
|---|---|
| Dry Mass of sample, g | 359 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 1 |
| Sand | 2 |
| Silt | 28 |
| Clay | 69 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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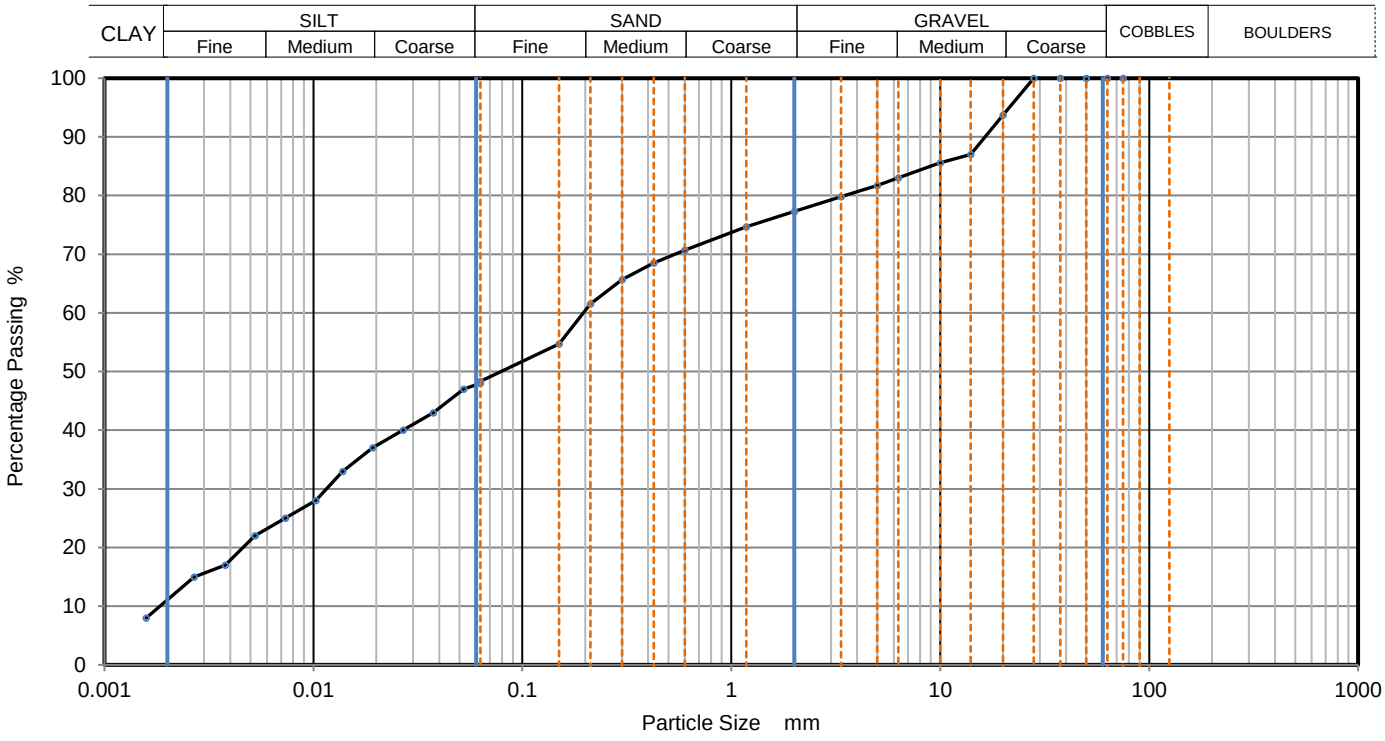
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TP365 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey slightly gravelly slightly sandy clayey SILT. | Depth, m | 2.30 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021021843 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 48 |
| | | 0.0523 | 47 |
| 75 | 100 | 0.0375 | 43 |
| 63 | 100 | 0.0269 | 40 |
| 50 | 100 | 0.0193 | 37 |
| 37.5 | 100 | 0.0138 | 33 |
| 28 | 100 | 0.0103 | 28 |
| 20 | 94 | 0.0073 | 25 |
| 14 | 87 | 0.0053 | 22 |
| 10 | 86 | 0.0038 | 17 |
| 6.3 | 83 | 0.0027 | 15 |
| 5 | 82 | 0.0016 | 8 |
| 3.35 | 80 | | |
| 2 | 77 | | |
| 1.18 | 75 | | |
| 0.6 | 71 | Particle density (assumed) | |
| 0.425 | 69 | 2.65 Mg/m3 | |
| 0.3 | 66 | | |
| 0.212 | 62 | | |
| 0.15 | 55 | | |
| 0.063 | 48 | | |

| | |
|---|---|
| Dry Mass of sample, g | 688 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 23 |
| Sand | 29 |
| Silt | 37 |
| Clay | 11 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.196 |
| D30 | mm | 0.0113 |
| D10 | mm | 0.00181 |
| Uniformity Coefficient | | 110 |
| Curvature Coefficient | | 0.36 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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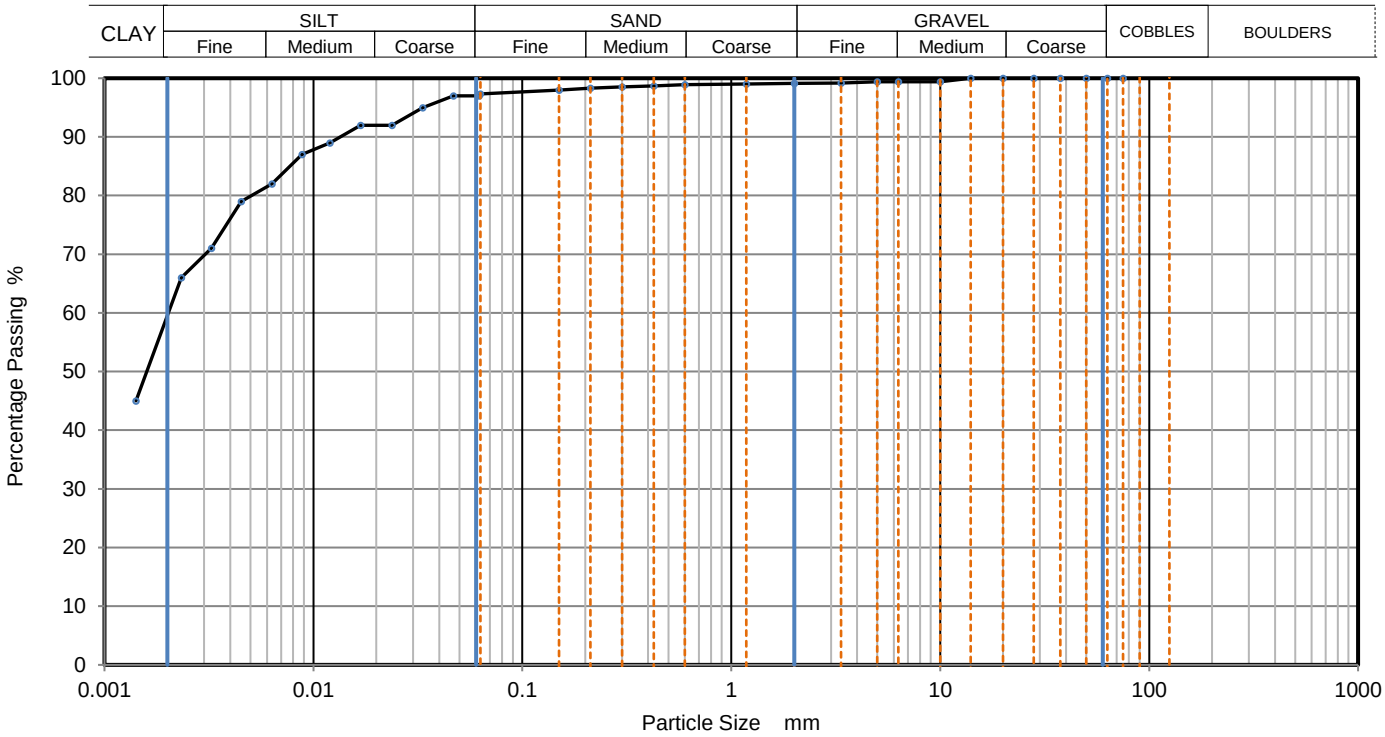
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPAR04 |
| Site Name | Derryadd Wind Farm | Sample No. | 6 |
| Soil Description | Dark grey slightly sandy silty CLAY. | Depth, m | 2.60 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021031869 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0621 | 97 |
| | | 0.0468 | 97 |
| 75 | 100 | 0.0334 | 95 |
| 63 | 100 | 0.0238 | 92 |
| 50 | 100 | 0.0168 | 92 |
| 37.5 | 100 | 0.0120 | 89 |
| 28 | 100 | 0.0088 | 87 |
| 20 | 100 | 0.0063 | 82 |
| 14 | 100 | 0.0045 | 79 |
| 10 | 99 | 0.0033 | 71 |
| 6.3 | 99 | 0.0023 | 66 |
| 5 | 99 | 0.0014 | 45 |
| 3.35 | 99 | | |
| 2 | 99 | | |
| 1.18 | 99 | | |
| 0.6 | 99 | Particle density (assumed) | |
| 0.425 | 99 | 2.65 Mg/m3 | |
| 0.3 | 99 | | |
| 0.212 | 98 | | |
| 0.15 | 98 | | |
| 0.063 | 97 | | |

| | |
|---|---|
| Dry Mass of sample, g | 244 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 1 |
| Sand | 2 |
| Silt | 38 |
| Clay | 59 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00203 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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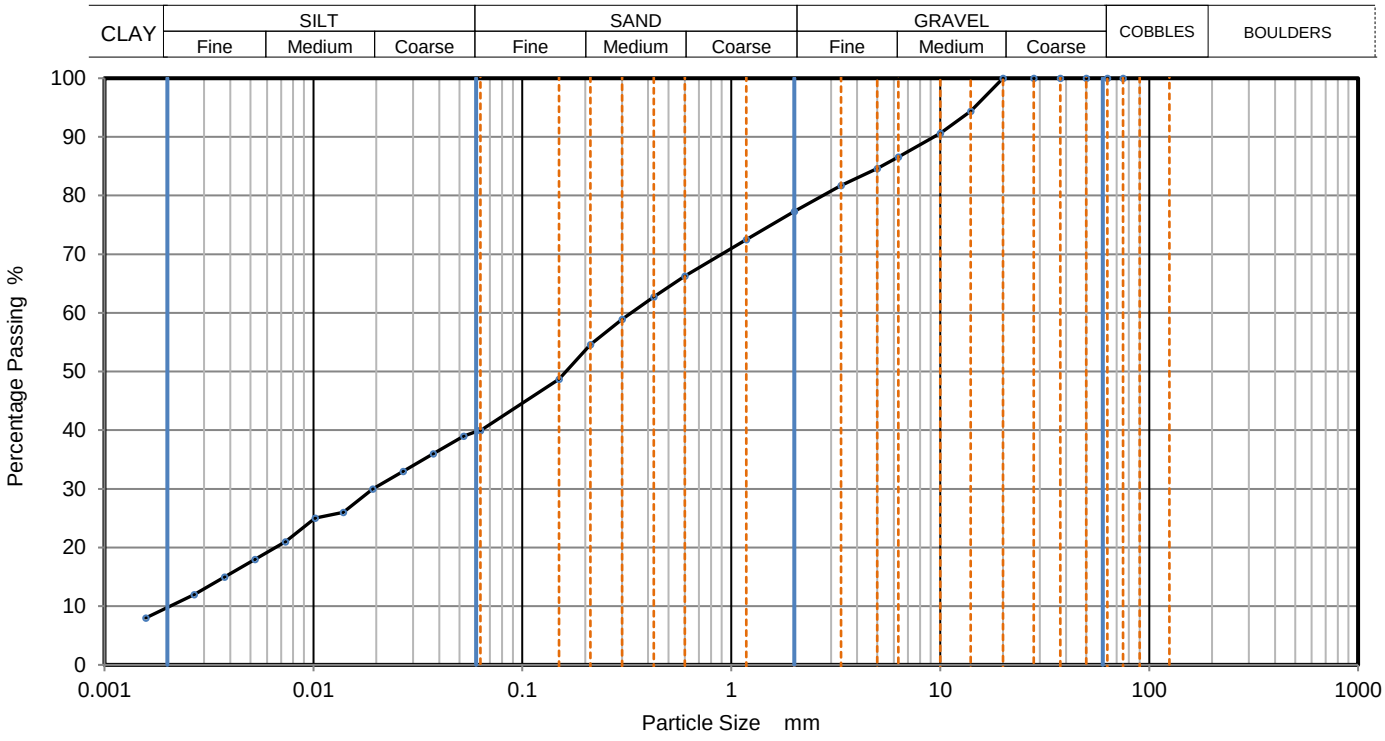
| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | | | |
|---|---|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | | | Job Ref | **2021LD101** |
| | | | | Borehole/Pit No. | TPAR10 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 3 |
| Soil Description | Grey slightly gravelly sandy SILT. | | | Depth, m | 3.00 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | | | KeyLAB ID | IDL12021021881 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 40 |
| | | 0.0523 | 39 |
| 75 | 100 | 0.0375 | 36 |
| 63 | 100 | 0.0269 | 33 |
| 50 | 100 | 0.0193 | 30 |
| 37.5 | 100 | 0.0139 | 26 |
| 28 | 100 | 0.0102 | 25 |
| 20 | 100 | 0.0073 | 21 |
| 14 | 94 | 0.0053 | 18 |
| 10 | 91 | 0.0038 | 15 |
| 6.3 | 87 | 0.0027 | 12 |
| 5 | 85 | 0.0016 | 8 |
| 3.35 | 82 | | |
| 2 | 77 | | |
| 1.18 | 73 | | |
| 0.6 | 66 | Particle density | (assumed) |
| 0.425 | 63 | 2.65 | Mg/m3 |
| 0.3 | 59 | | |
| 0.212 | 55 | | |
| 0.15 | 49 | | |
| 0.063 | 40 | | |

| | |
|---|---|
| Dry Mass of sample, g | 546 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 23 |
| Sand | 37 |
| Silt | 30 |
| Clay | 10 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.331 |
| D30 | mm | 0.0189 |
| D10 | mm | 0.00197 |
| Uniformity Coefficient | | 170 |
| Curvature Coefficient | | 0.54 |

Remarks

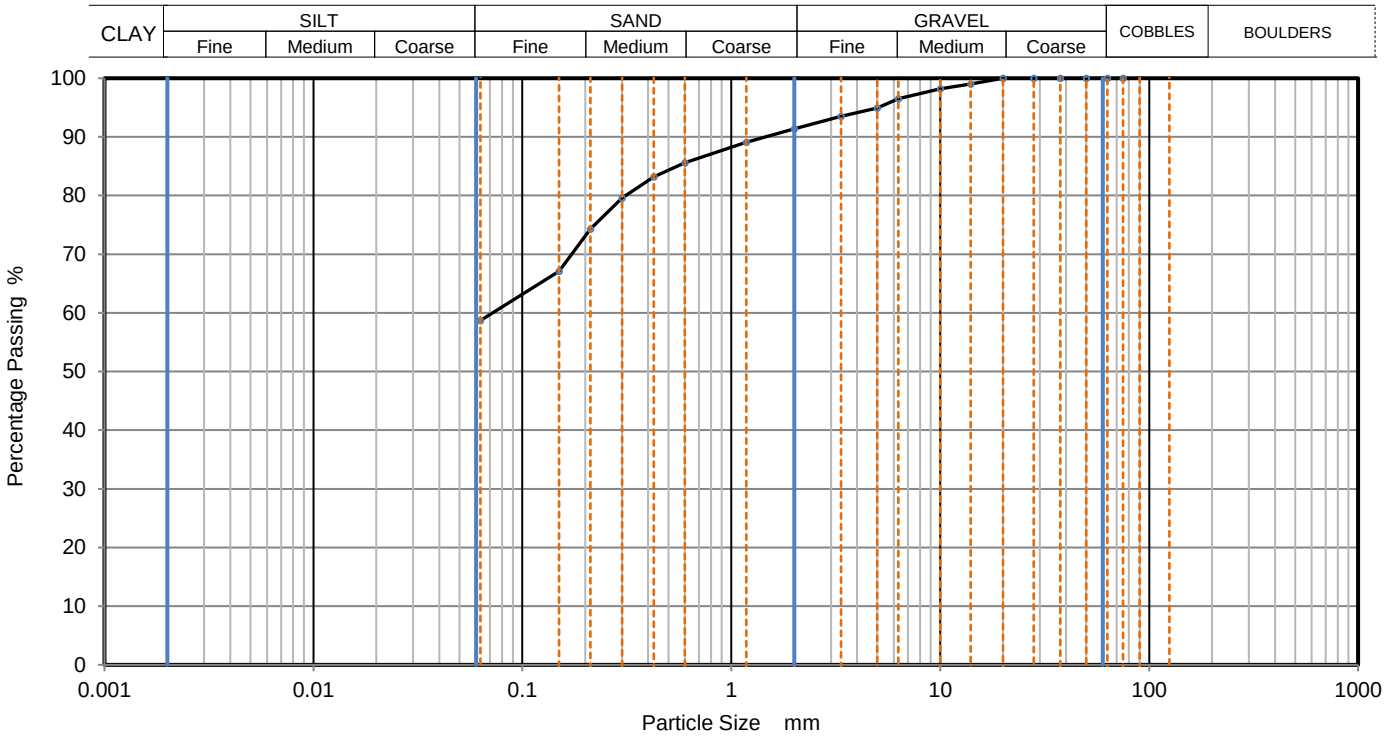
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | **1** QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPAR12 |
| Site Name | Derryadd Wind Farm | Sample No. | 1 |
| Soil Description | Grey slightly gravelly slightly sandy silty CLAY. | Depth, m | 0.60 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021021885 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 99 | | |
| 10 | 98 | | |
| 6.3 | 97 | | |
| 5 | 95 | | |
| 3.35 | 94 | | |
| 2 | 91 | | |
| 1.18 | 89 | | |
| 0.6 | 86 | | |
| 0.425 | 83 | | |
| 0.3 | 80 | | |
| 0.212 | 74 | | |
| 0.15 | 67 | | |
| 0.063 | 59 | | |

| | |
|---|---|
| Dry Mass of sample, g | 551 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 9 |
| Sand | 33 |
| | |
| Fines <0.063mm | 59 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0718 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | **1** QC From No:R2 |

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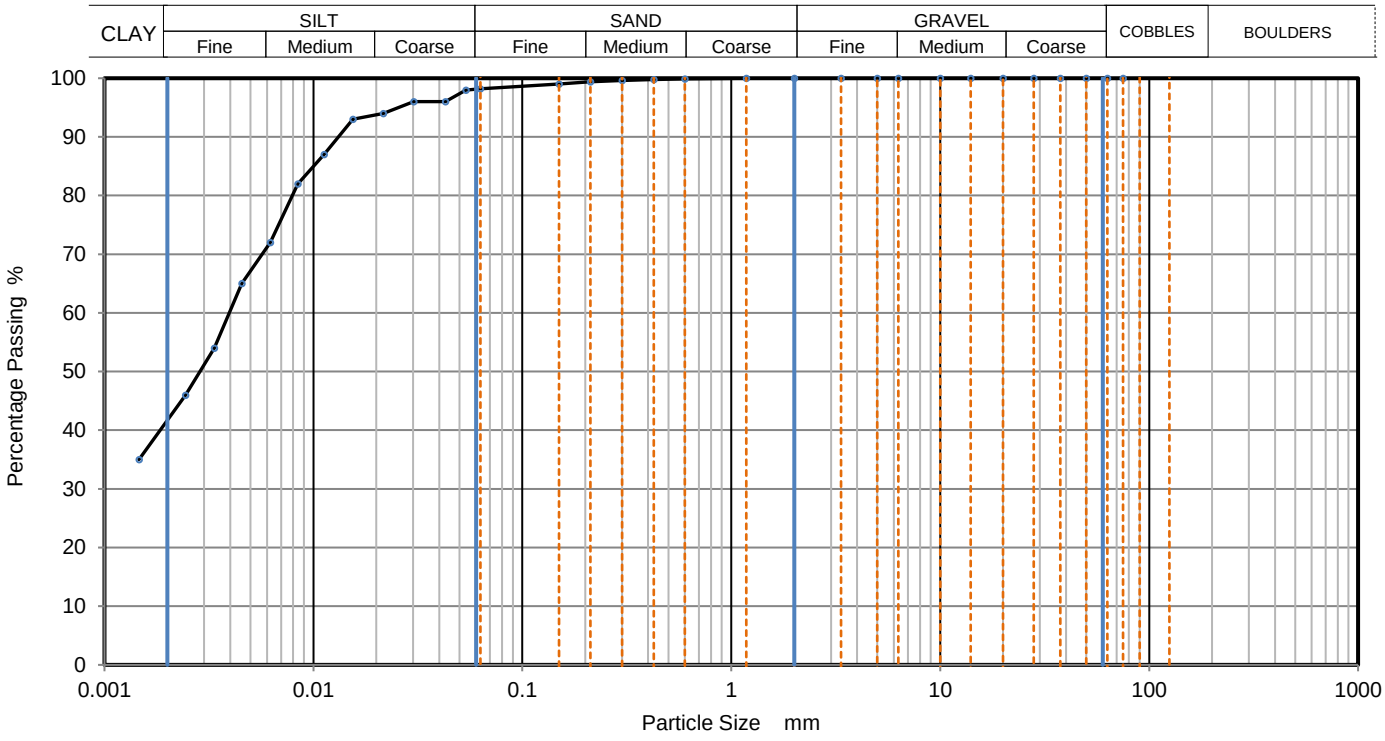
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPAR14 |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Dark grey slightly sandy clayey SILT. | Depth, m | 3.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021021894 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0537 | 98 |
| | | 0.0428 | 96 |
| 75 | 100 | 0.0303 | 96 |
| 63 | 100 | 0.0216 | 94 |
| 50 | 100 | 0.0154 | 93 |
| 37.5 | 100 | 0.0112 | 87 |
| 28 | 100 | 0.0084 | 82 |
| 20 | 100 | 0.0062 | 72 |
| 14 | 100 | 0.0045 | 65 |
| 10 | 100 | 0.0034 | 54 |
| 6.3 | 100 | 0.0024 | 46 |
| 5 | 100 | 0.0015 | 35 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density | (assumed) |
| 0.425 | 100 | 2.65 | Mg/m3 |
| 0.3 | 100 | | |
| 0.212 | 99 | | |
| 0.15 | 99 | | |
| 0.063 | 98 | | |

Dry Mass of sample, g: 310

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 2 |
| Silt | 56 |
| Clay | 42 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00398 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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|---|---|---|---|---|
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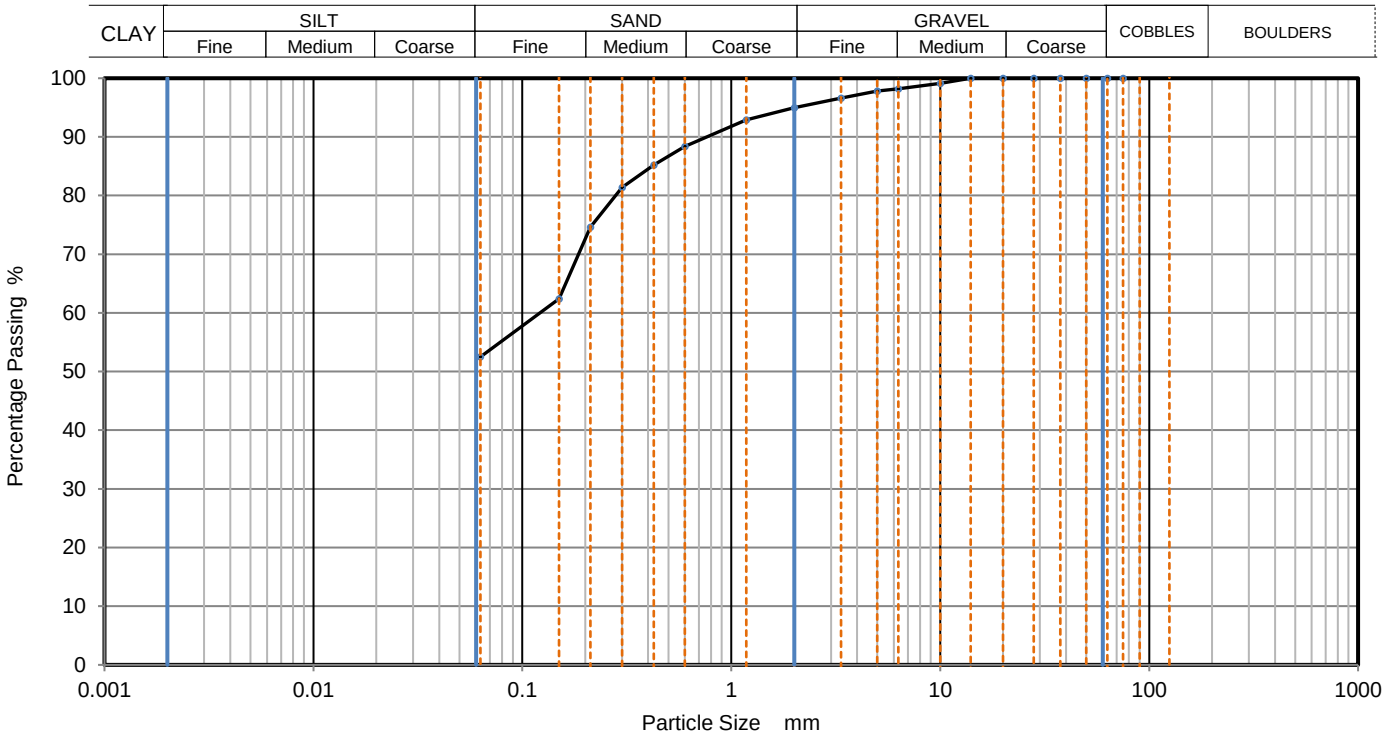
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPBPA01 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey slightly gravelly sandy SILT. Sand is fine. | Depth, m | 1.10 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021031874 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 99 | | |
| 6.3 | 98 | | |
| 5 | 98 | | |
| 3.35 | 97 | | |
| 2 | 95 | | |
| 1.18 | 93 | | |
| 0.6 | 88 | | |
| 0.425 | 85 | | |
| 0.3 | 81 | | |
| 0.212 | 75 | | |
| 0.15 | 62 | | |
| 0.063 | 53 | | |

| | |
|---|---|
| Dry Mass of sample, g | 262 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 5 |
| Sand | 43 |
| | |
| Fines <0.063mm | 52 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.122 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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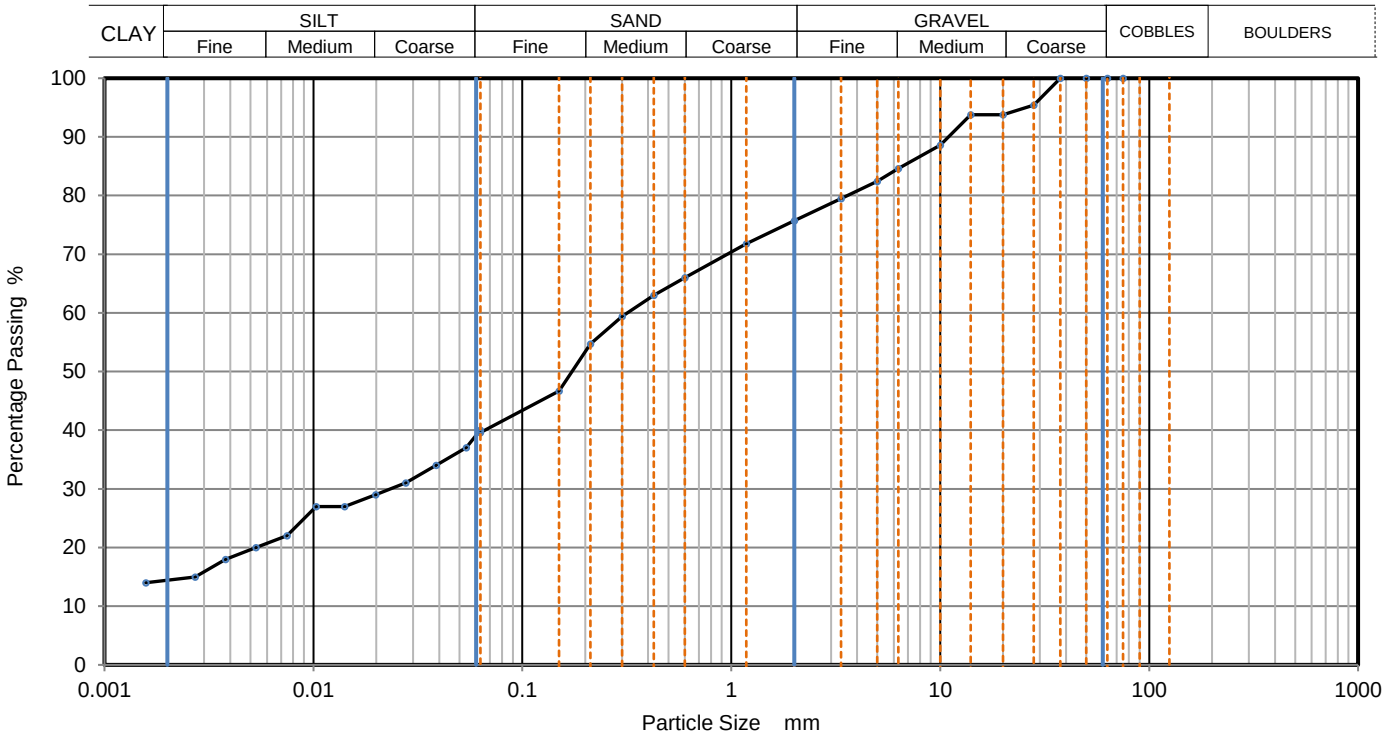
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPBPA03 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey slightly gravelly sandy SILT. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021031884 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 40 |
| | | 0.0539 | 37 |
| 75 | 100 | 0.0386 | 34 |
| 63 | 100 | 0.0277 | 31 |
| 50 | 100 | 0.0198 | 29 |
| 37.5 | 100 | 0.0141 | 27 |
| 28 | 95 | 0.0103 | 27 |
| 20 | 94 | 0.0075 | 22 |
| 14 | 94 | 0.0053 | 20 |
| 10 | 89 | 0.0038 | 18 |
| 6.3 | 85 | 0.0027 | 15 |
| 5 | 82 | 0.0016 | 14 |
| 3.35 | 80 | | |
| 2 | 76 | | |
| 1.18 | 72 | | |
| 0.6 | 66 | Particle density | (assumed) |
| 0.425 | 63 | 2.65 | Mg/m3 |
| 0.3 | 59 | | |
| 0.212 | 55 | | |
| 0.15 | 47 | | |
| 0.063 | 40 | | |

| | |
|---|---|
| Dry Mass of sample, g | 941 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 24 |
| Sand | 36 |
| Silt | 25 |
| Clay | 14 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.317 |
| D30 | mm | 0.0233 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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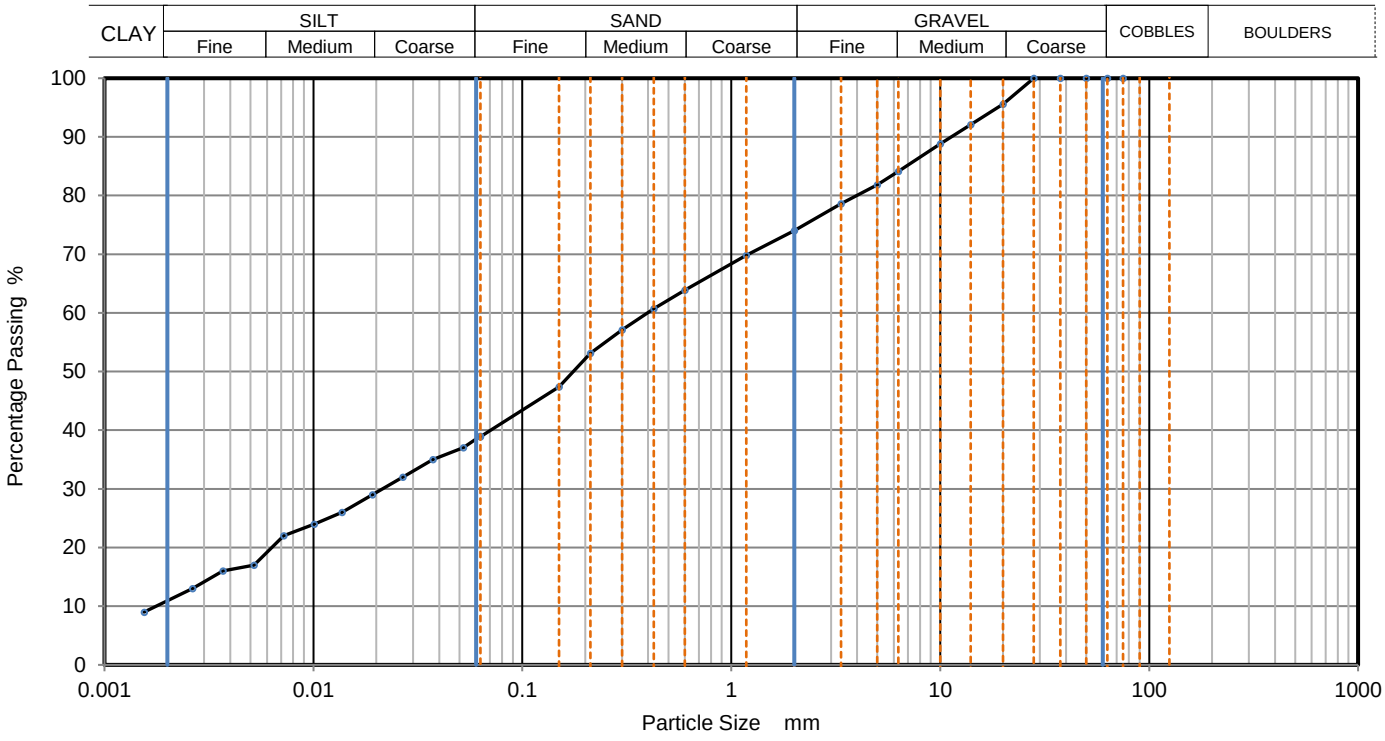
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPBPA03 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Grey slightly gravelly sandy SILT. | Depth, m | 2.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021031886 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 39 |
| | | 0.0521 | 37 |
| 75 | 100 | 0.0373 | 35 |
| 63 | 100 | 0.0267 | 32 |
| 50 | 100 | 0.0192 | 29 |
| 37.5 | 100 | 0.0137 | 26 |
| 28 | 100 | 0.0101 | 24 |
| 20 | 96 | 0.0072 | 22 |
| 14 | 92 | 0.0052 | 17 |
| 10 | 89 | 0.0037 | 16 |
| 6.3 | 84 | 0.0026 | 13 |
| 5 | 82 | 0.0015 | 9 |
| 3.35 | 79 | | |
| 2 | 74 | | |
| 1.18 | 70 | | |
| 0.6 | 64 | Particle density | (assumed) |
| 0.425 | 61 | 2.65 | Mg/m3 |
| 0.3 | 57 | | |
| 0.212 | 53 | | |
| 0.15 | 47 | | |
| 0.063 | 39 | | |

| | |
|---|---|
| Dry Mass of sample, g | 487 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 26 |
| Sand | 35 |
| Silt | 28 |
| Clay | 11 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.396 |
| D30 | mm | 0.022 |
| D10 | mm | 0.00183 |
| Uniformity Coefficient | | 220 |
| Curvature Coefficient | | 0.67 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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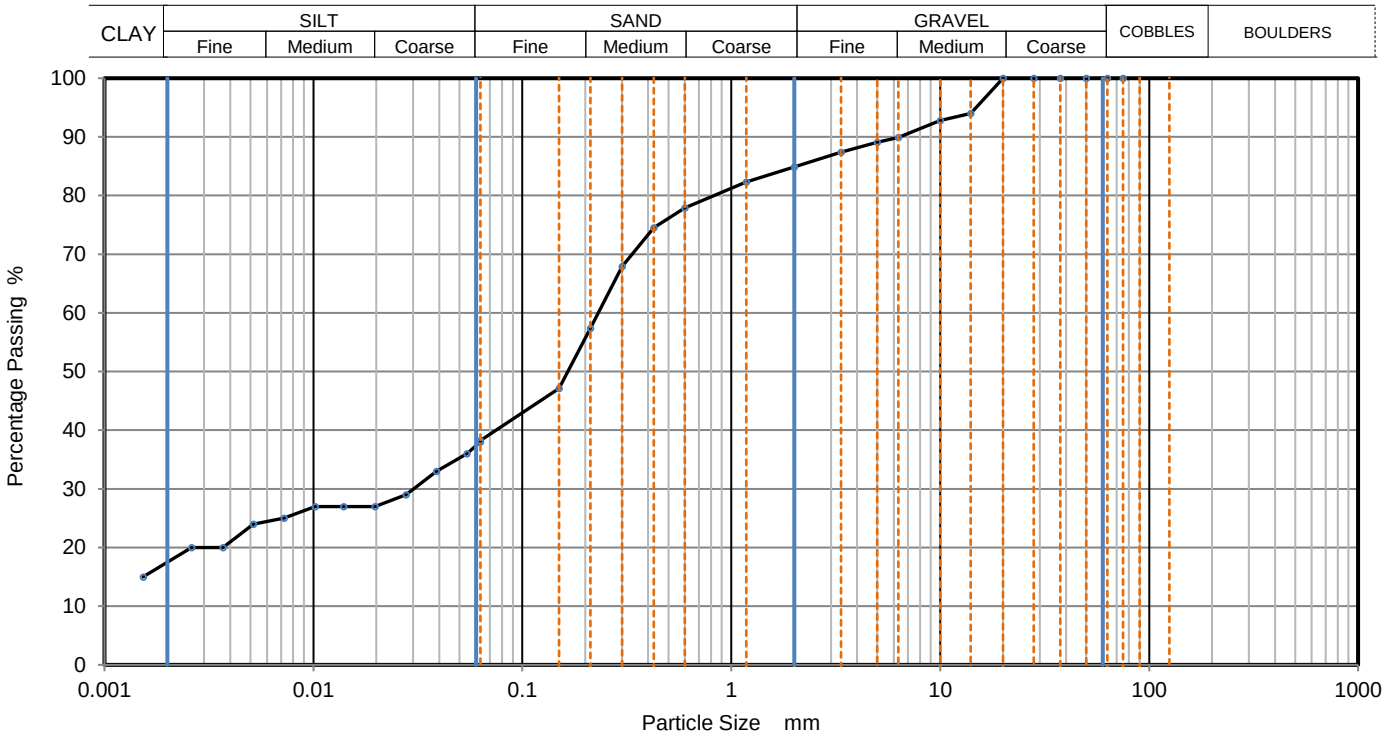
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPBPA04 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey slightly gravelly sandy clayey SILT. Sand is fine and medium. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | D |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021031891 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 38 |
| | | 0.0542 | 36 |
| 75 | 100 | 0.0388 | 33 |
| 63 | 100 | 0.0278 | 29 |
| 50 | 100 | 0.0197 | 27 |
| 37.5 | 100 | 0.0140 | 27 |
| 28 | 100 | 0.0102 | 27 |
| 20 | 100 | 0.0072 | 25 |
| 14 | 94 | 0.0052 | 24 |
| 10 | 93 | 0.0037 | 20 |
| 6.3 | 90 | 0.0026 | 20 |
| 5 | 89 | 0.0015 | 15 |
| 3.35 | 87 | | |
| 2 | 85 | | |
| 1.18 | 82 | | |
| 0.6 | 78 | Particle density | (assumed) |
| 0.425 | 75 | 2.65 | Mg/m3 |
| 0.3 | 68 | | |
| 0.212 | 57 | | |
| 0.15 | 47 | | |
| 0.063 | 38 | | |

Dry Mass of sample, g: 428

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 15 |
| Sand | 47 |
| Silt | 21 |
| Clay | 17 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.231 |
| D30 | mm | 0.0301 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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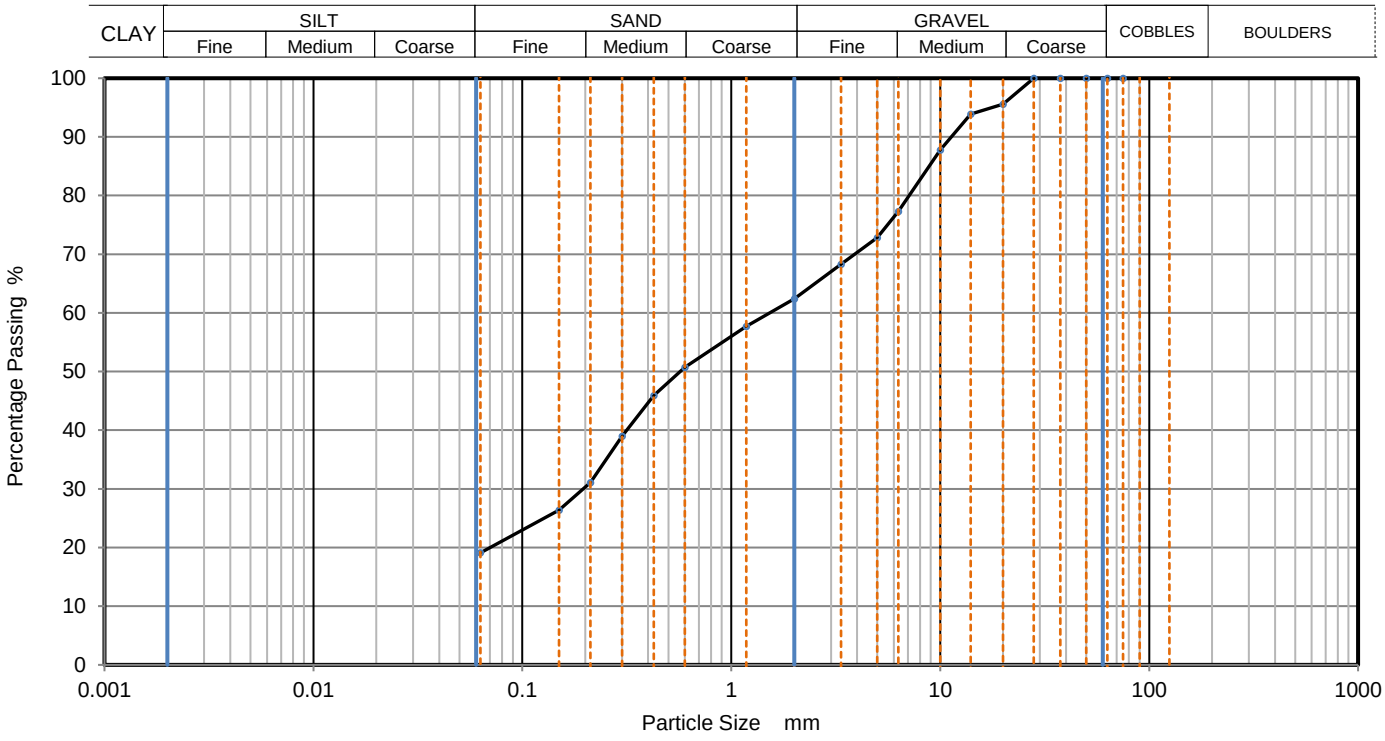
| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPBPB03 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey silty medium SAND and fine and medium GRAVEL. | Depth, m | 0.70 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021040721 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 96 | | |
| 14 | 94 | | |
| 10 | 88 | | |
| 6.3 | 77 | | |
| 5 | 73 | | |
| 3.35 | 68 | | |
| 2 | 62 | | |
| 1.18 | 58 | | |
| 0.6 | 51 | | |
| 0.425 | 46 | | |
| 0.3 | 39 | | |
| 0.212 | 31 | | |
| 0.15 | 26 | | |
| 0.063 | 19 | | |

Dry Mass of sample, g: 571

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 38 |
| Sand | 43 |
| | |
| Fines <0.063mm | 19 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.53 |
| D30 | mm | 0.195 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

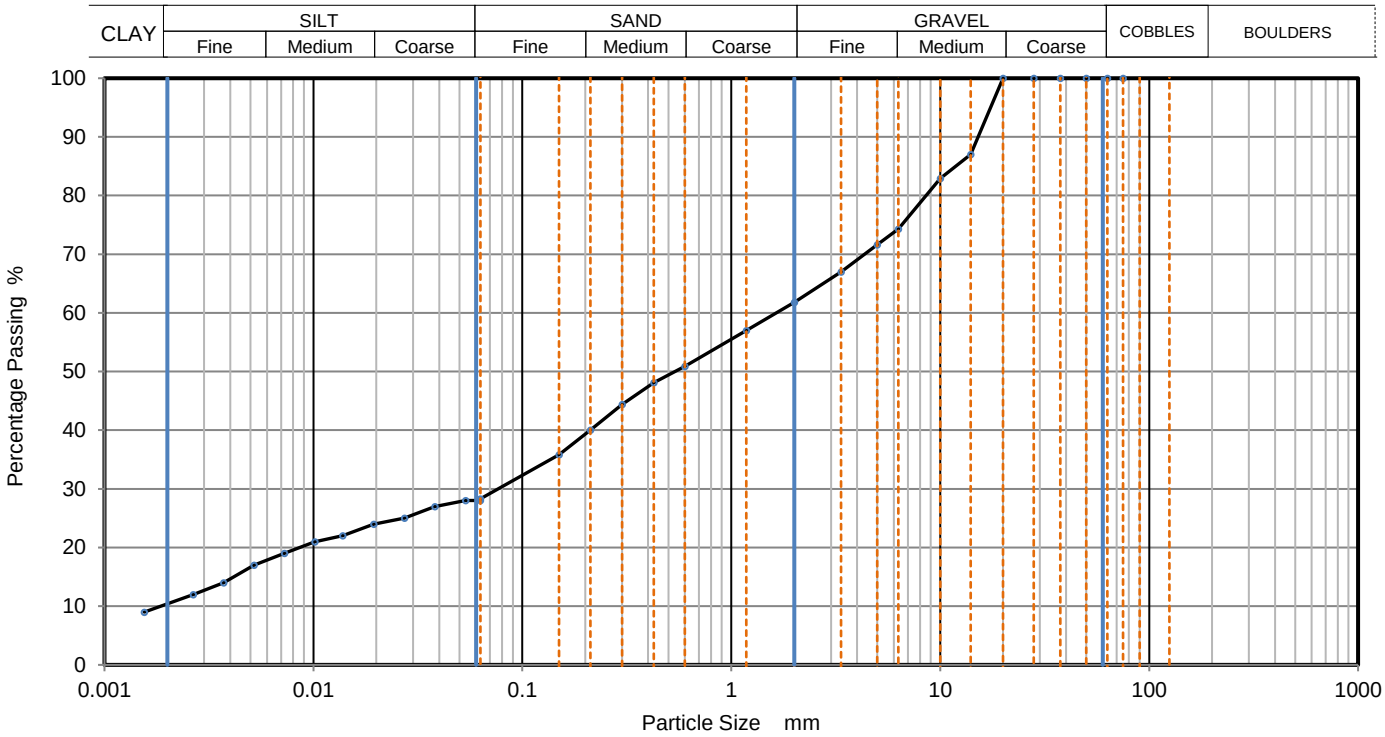
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPBPB03 |
| Site Name | Derryadd Wind Farm | Sample No. | 6 |
| Soil Description | Brown very silty SAND and GRAVEL. Gravel is medium. | Depth, m | 2.10 |
| Specimen Reference | Specimen Depth: m | Sample Type | D |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021040724 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 28 |
| | | 0.0535 | 28 |
| 75 | 100 | 0.0381 | 27 |
| 63 | 100 | 0.0273 | 25 |
| 50 | 100 | 0.0194 | 24 |
| 37.5 | 100 | 0.0138 | 22 |
| 28 | 100 | 0.0101 | 21 |
| 20 | 100 | 0.0073 | 19 |
| 14 | 87 | 0.0052 | 17 |
| 10 | 83 | 0.0037 | 14 |
| 6.3 | 74 | 0.0027 | 12 |
| 5 | 72 | 0.0016 | 9 |
| 3.35 | 67 | | |
| 2 | 62 | | |
| 1.18 | 57 | | |
| 0.6 | 51 | Particle density (assumed) | |
| 0.425 | 48 | 2.65 Mg/m3 | |
| 0.3 | 44 | | |
| 0.212 | 40 | | |
| 0.15 | 36 | | |
| 0.063 | 28 | | |

| | |
|---|---|
| Dry Mass of sample, g | 564 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 38 |
| Sand | 34 |
| Silt | 18 |
| Clay | 11 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.65 |
| D30 | mm | 0.0766 |
| D10 | mm | 0.00177 |
| Uniformity Coefficient | | 930 |
| Curvature Coefficient | | 2 |

Remarks

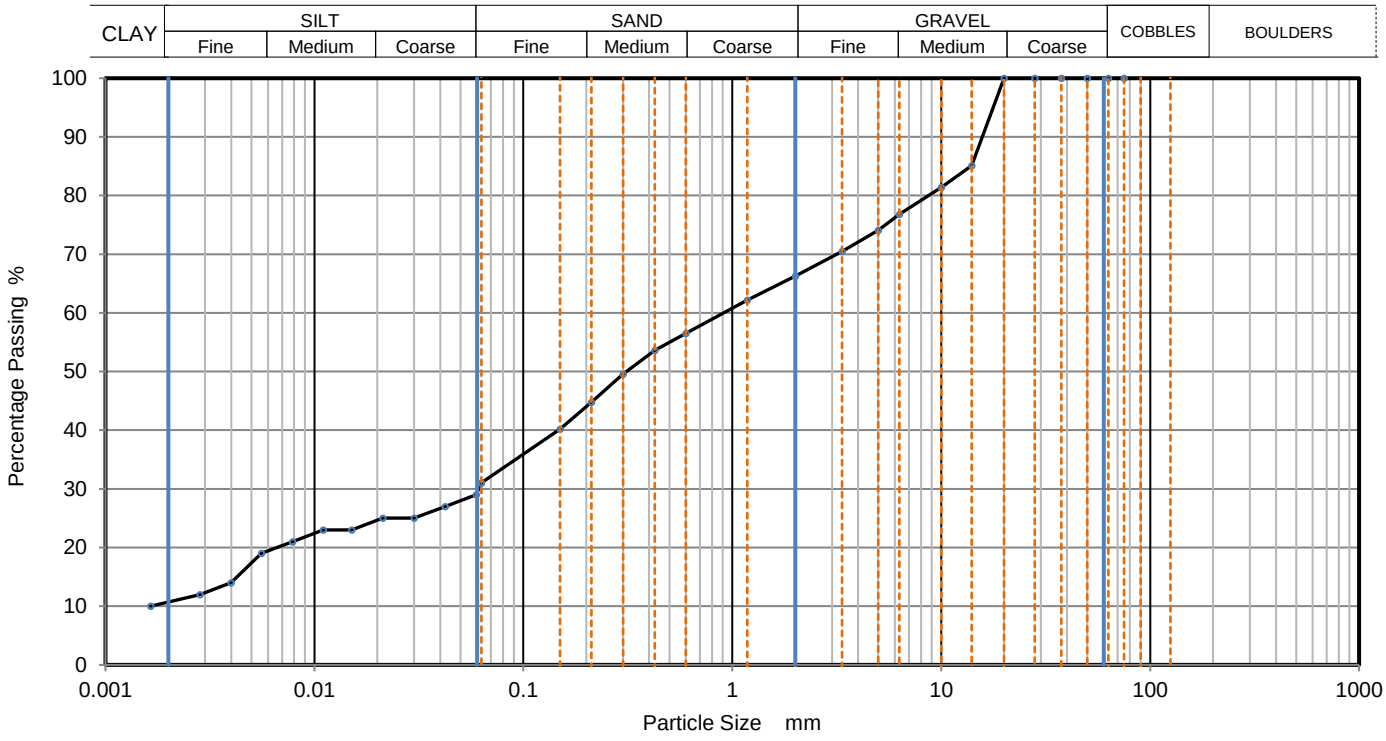
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPBPB04 |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Grey very silty SAND and medium GRAVEL. | Depth, m | 1.40 |
| Specimen Reference | Specimen Depth m | Sample Type | D |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021040729 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 31 |
| | | 0.0594 | 29 |
| 75 | 100 | 0.0422 | 27 |
| 63 | 100 | 0.0300 | 25 |
| 50 | 100 | 0.0212 | 25 |
| 37.5 | 100 | 0.0151 | 23 |
| 28 | 100 | 0.0110 | 23 |
| 20 | 100 | 0.0078 | 21 |
| 14 | 85 | 0.0056 | 19 |
| 10 | 81 | 0.0040 | 14 |
| 6.3 | 77 | 0.0028 | 12 |
| 5 | 74 | 0.0016 | 10 |
| 3.35 | 71 | | |
| 2 | 66 | | |
| 1.18 | 62 | | |
| 0.6 | 57 | Particle density (assumed) | |
| 0.425 | 54 | 2.65 Mg/m3 | |
| 0.3 | 50 | | |
| 0.212 | 45 | | |
| 0.15 | 40 | | |
| 0.063 | 31 | | |

| | |
|---|---|
| Dry Mass of sample, g | 508 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 34 |
| Sand | 35 |
| Silt | 20 |
| Clay | 11 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.906 |
| D30 | mm | 0.0612 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

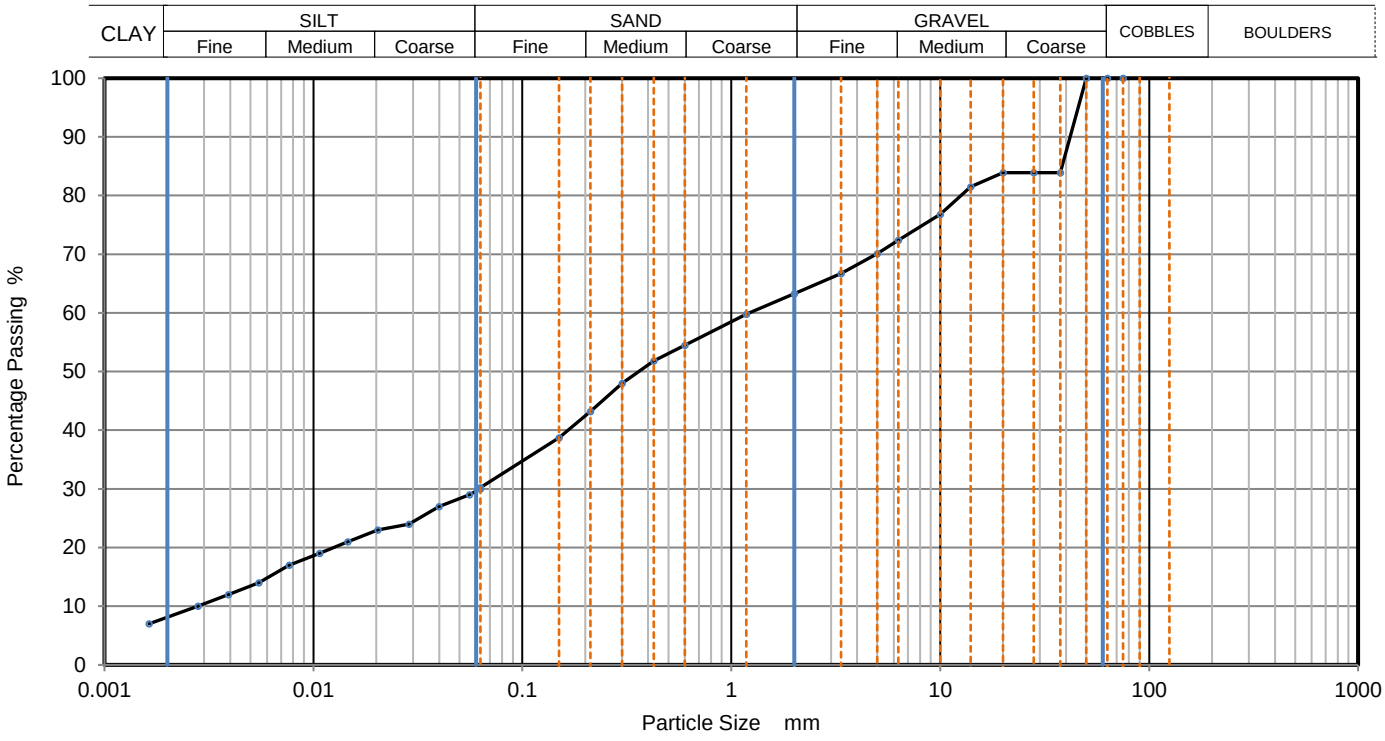
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | **1** QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPBPC01 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey very silty SAND and GRAVEL. | Depth, m | 1.40 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021040737 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 30 |
| | | 0.0558 | 29 |
| 75 | 100 | 0.0400 | 27 |
| 63 | 100 | 0.0286 | 24 |
| 50 | 100 | 0.0204 | 23 |
| 37.5 | 84 | 0.0146 | 21 |
| 28 | 84 | 0.0107 | 19 |
| 20 | 84 | 0.0077 | 17 |
| 14 | 82 | 0.0055 | 14 |
| 10 | 77 | 0.0039 | 12 |
| 6.3 | 72 | 0.0028 | 10 |
| 5 | 70 | 0.0016 | 7 |
| 3.35 | 67 | | |
| 2 | 63 | | |
| 1.18 | 60 | | |
| 0.6 | 55 | Particle density | (assumed) |
| 0.425 | 52 | 2.65 | Mg/m3 |
| 0.3 | 48 | | |
| 0.212 | 43 | | |
| 0.15 | 39 | | |
| 0.063 | 30 | | |

| | |
|---|---|
| Dry Mass of sample, g | 728 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 37 |
| Sand | 33 |
| Silt | 22 |
| Clay | 8 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.22 |
| D30 | mm | 0.0618 |
| D10 | mm | 0.00294 |
| Uniformity Coefficient | | 420 |
| Curvature Coefficient | | 1.1 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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| | | Dympna Darcy B.Sc. | 25/08/2021 11:35 | 1<br>QC From No:R2 |

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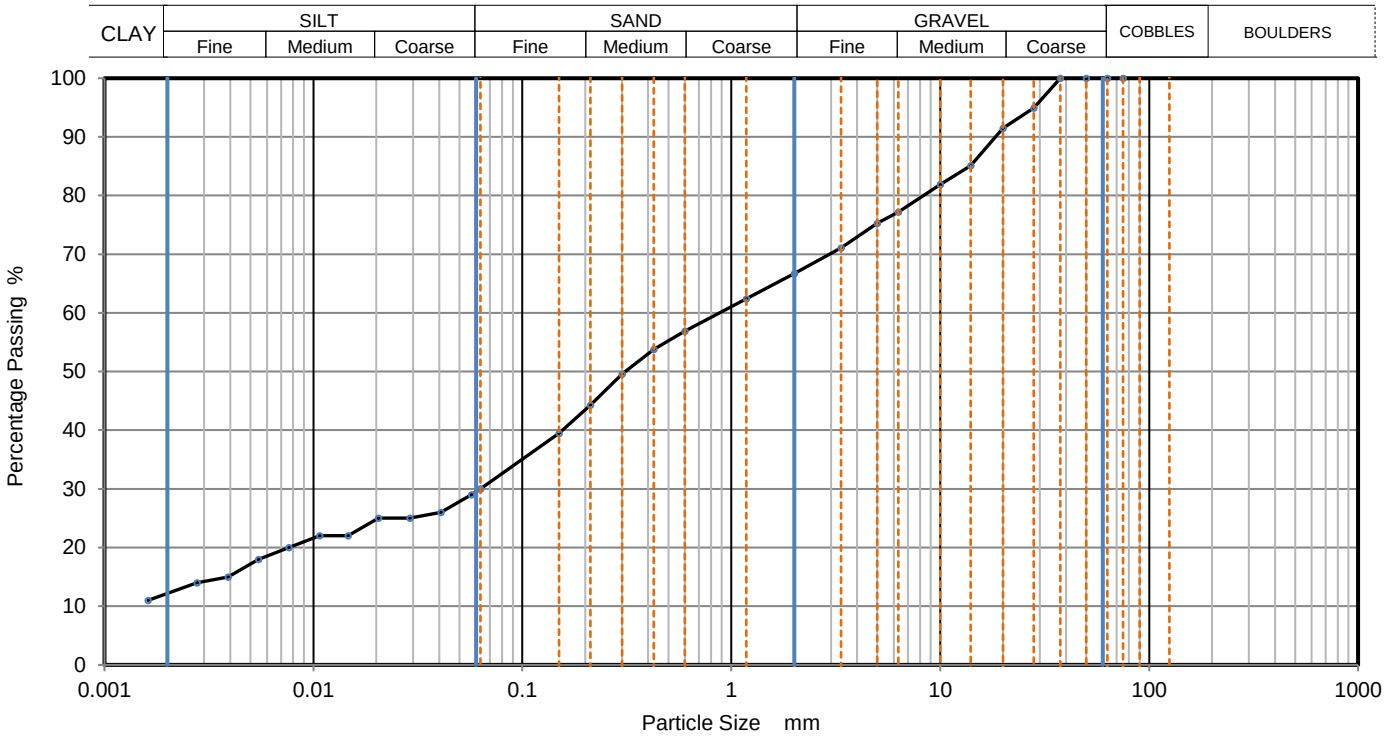
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPBPC02 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Grey very silty SAND and GRAVEL. | Depth, m | 2.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021040746 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 30 |
| | | 0.0569 | 29 |
| 75 | 100 | 0.0407 | 26 |
| 63 | 100 | 0.0290 | 25 |
| 50 | 100 | 0.0205 | 25 |
| 37.5 | 100 | 0.0147 | 22 |
| 28 | 95 | 0.0107 | 22 |
| 20 | 92 | 0.0076 | 20 |
| 14 | 85 | 0.0054 | 18 |
| 10 | 82 | 0.0039 | 15 |
| 6.3 | 77 | 0.0028 | 14 |
| 5 | 75 | 0.0016 | 11 |
| 3.35 | 71 | | |
| 2 | 67 | | |
| 1.18 | 62 | | |
| 0.6 | 57 | Particle density | (assumed) |
| 0.425 | 54 | 2.65 | Mg/m3 |
| 0.3 | 50 | | |
| 0.212 | 44 | | |
| 0.15 | 40 | | |
| 0.063 | 30 | | |

| | |
|---|---|
| Dry Mass of sample, g | 871 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 33 |
| Sand | 37 |
| Silt | 18 |
| Clay | 12 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.882 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

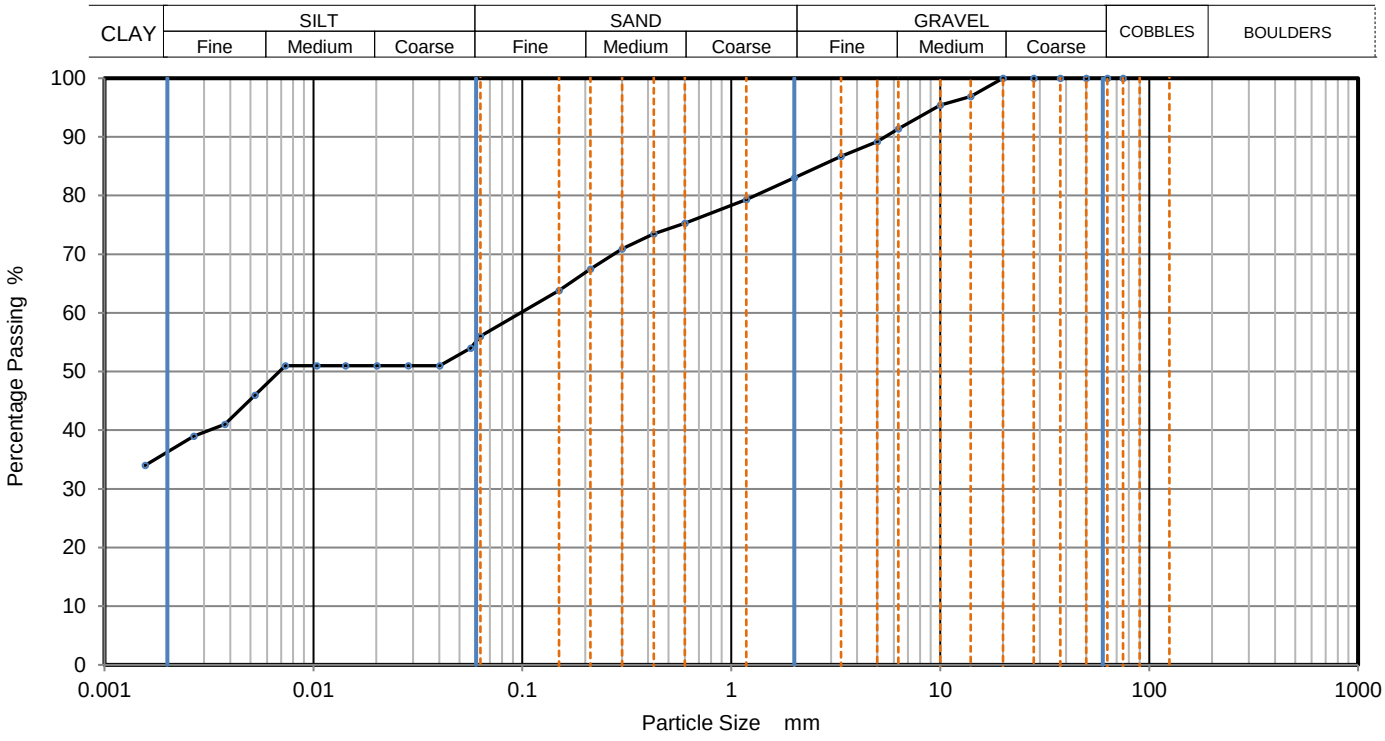
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPBPD01 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey slightly gravelly slightly sandy SILT. | Depth, m | 0.30 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021040749 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 56 |
| | | 0.0565 | 54 |
| 75 | 100 | 0.0402 | 51 |
| 63 | 100 | 0.0284 | 51 |
| 50 | 100 | 0.0201 | 51 |
| 37.5 | 100 | 0.0142 | 51 |
| 28 | 100 | 0.0104 | 51 |
| 20 | 100 | 0.0073 | 51 |
| 14 | 97 | 0.0053 | 46 |
| 10 | 95 | 0.0038 | 41 |
| 6.3 | 91 | 0.0027 | 39 |
| 5 | 89 | 0.0016 | 34 |
| 3.35 | 87 | | |
| 2 | 83 | | |
| 1.18 | 79 | | |
| 0.6 | 75 | Particle density | (assumed) |
| 0.425 | 74 | 2.65 | Mg/m3 |
| 0.3 | 71 | | |
| 0.212 | 68 | | |
| 0.15 | 64 | | |
| 0.063 | 56 | | |

| | |
|---|---|
| Dry Mass of sample, g | 373 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 17 |
| Sand | 27 |
| Silt | 20 |
| Clay | 36 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0986 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

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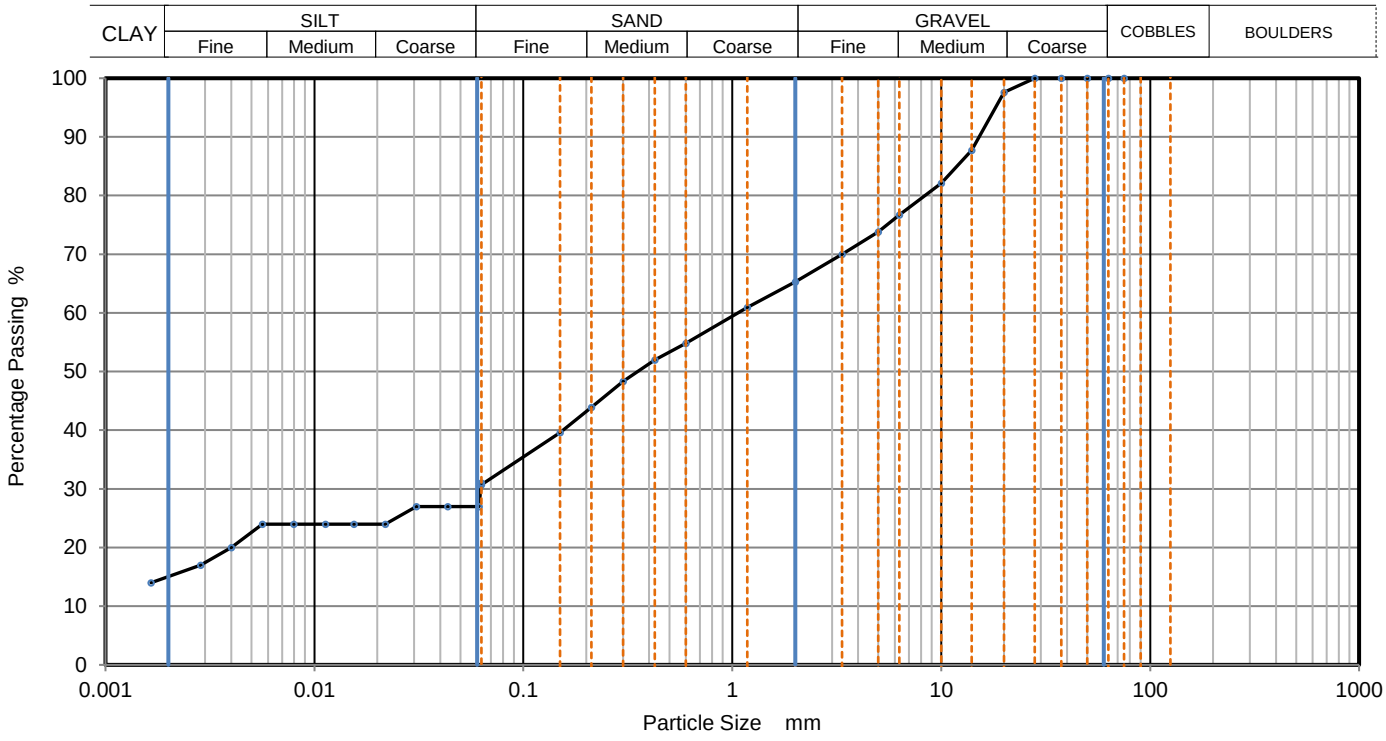
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPBPD02 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Brown very silty SAND and GRAVEL. Gravel is medium. | Depth, m | 1.50 |
| Specimen Reference | Specimen Depth: m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021040754 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 31 |
| | | 0.0614 | 27 |
| 75 | 100 | 0.0434 | 27 |
| 63 | 100 | 0.0307 | 27 |
| 50 | 100 | 0.0218 | 24 |
| 37.5 | 100 | 0.0154 | 24 |
| 28 | 100 | 0.0113 | 24 |
| 20 | 98 | 0.0080 | 24 |
| 14 | 88 | 0.0056 | 24 |
| 10 | 82 | 0.0040 | 20 |
| 6.3 | 77 | 0.0028 | 17 |
| 5 | 74 | 0.0017 | 14 |
| 3.35 | 70 | | |
| 2 | 65 | | |
| 1.18 | 61 | | |
| 0.6 | 55 | Particle density (assumed) | |
| 0.425 | 52 | 2.65 Mg/m3 | |
| 0.3 | 48 | | |
| 0.212 | 44 | | |
| 0.15 | 40 | | |
| 0.063 | 31 | | |

| | |
|---|---|
| Dry Mass of sample, g | 676 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 35 |
| Sand | 35 |
| Silt | 16 |
| Clay | 15 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.07 |
| D30 | mm | 0.0627 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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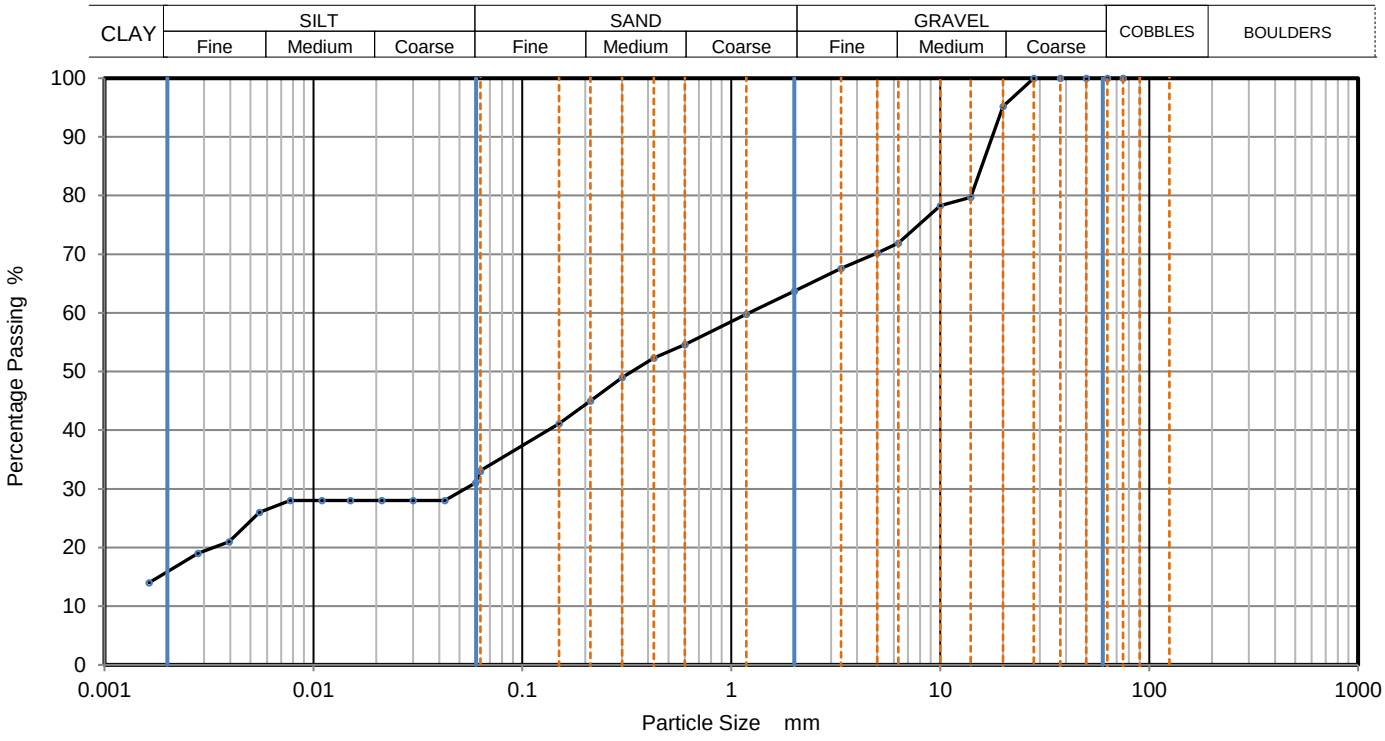
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPBPE01 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Greyish-brown vvery silty SAND and GRAVEL. Gravel is medium, Sand is fmc. | Depth, m | 1.10 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021040761 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 33 |
| | | 0.0597 | 31 |
| 75 | 100 | 0.0425 | 28 |
| 63 | 100 | 0.0300 | 28 |
| 50 | 100 | 0.0212 | 28 |
| 37.5 | 100 | 0.0150 | 28 |
| 28 | 100 | 0.0110 | 28 |
| 20 | 95 | 0.0078 | 28 |
| 14 | 80 | 0.0055 | 26 |
| 10 | 78 | 0.0039 | 21 |
| 6.3 | 72 | 0.0028 | 19 |
| 5 | 70 | 0.0016 | 14 |
| 3.35 | 68 | | |
| 2 | 64 | | |
| 1.18 | 60 | | |
| 0.6 | 55 | Particle density (assumed) | |
| 0.425 | 52 | 2.65 Mg/m3 | |
| 0.3 | 49 | | |
| 0.212 | 45 | | |
| 0.15 | 41 | | |
| 0.063 | 33 | | |

| | |
|---|---|
| Dry Mass of sample, g | 547 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 36 |
| Sand | 31 |
| Silt | 17 |
| Clay | 16 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.21 |
| D30 | mm | 0.0537 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | **1** QC From No:R2 |

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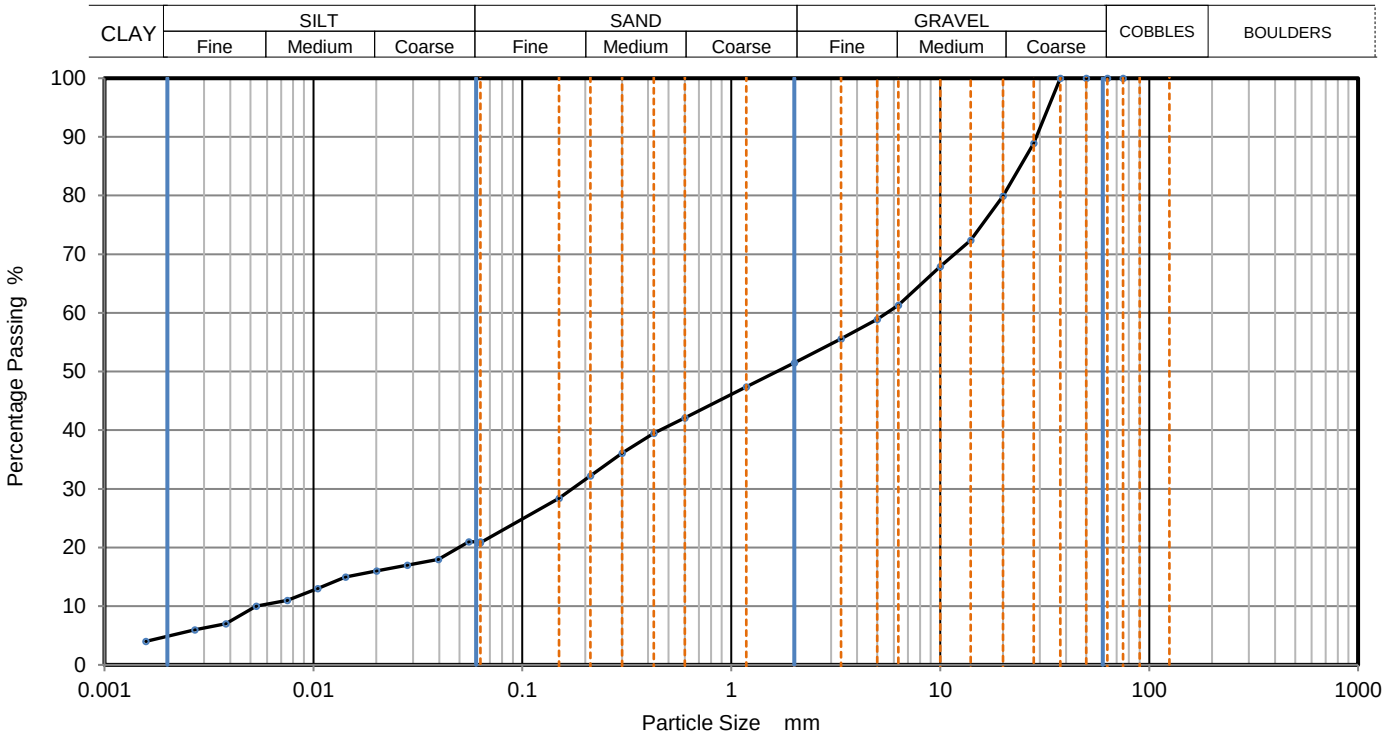
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPBPE02 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Light brown very silty very sandy coarse GRAVEL. | Depth, m | 0.70 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021040767 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 21 |
| | | 0.0554 | 21 |
| 75 | 100 | 0.0396 | 18 |
| 63 | 100 | 0.0282 | 17 |
| 50 | 100 | 0.0200 | 16 |
| 37.5 | 100 | 0.0143 | 15 |
| 28 | 89 | 0.0105 | 13 |
| 20 | 80 | 0.0075 | 11 |
| 14 | 72 | 0.0053 | 10 |
| 10 | 68 | 0.0038 | 7 |
| 6.3 | 61 | 0.0027 | 6 |
| 5 | 59 | 0.0016 | 4 |
| 3.35 | 56 | | |
| 2 | 52 | | |
| 1.18 | 47 | | |
| 0.6 | 42 | Particle density | (assumed) |
| 0.425 | 40 | 2.65 | Mg/m3 |
| 0.3 | 36 | | |
| 0.212 | 32 | | |
| 0.15 | 28 | | |
| 0.063 | 21 | | |

| | |
|---|---|
| Dry Mass of sample, g | 630 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 49 |
| Sand | 31 |
| Silt | 16 |
| Clay | 5 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 5.56 |
| D30 | mm | 0.174 |
| D10 | mm | 0.00564 |
| Uniformity Coefficient | | 990 |
| Curvature Coefficient | | 0.96 |

Remarks

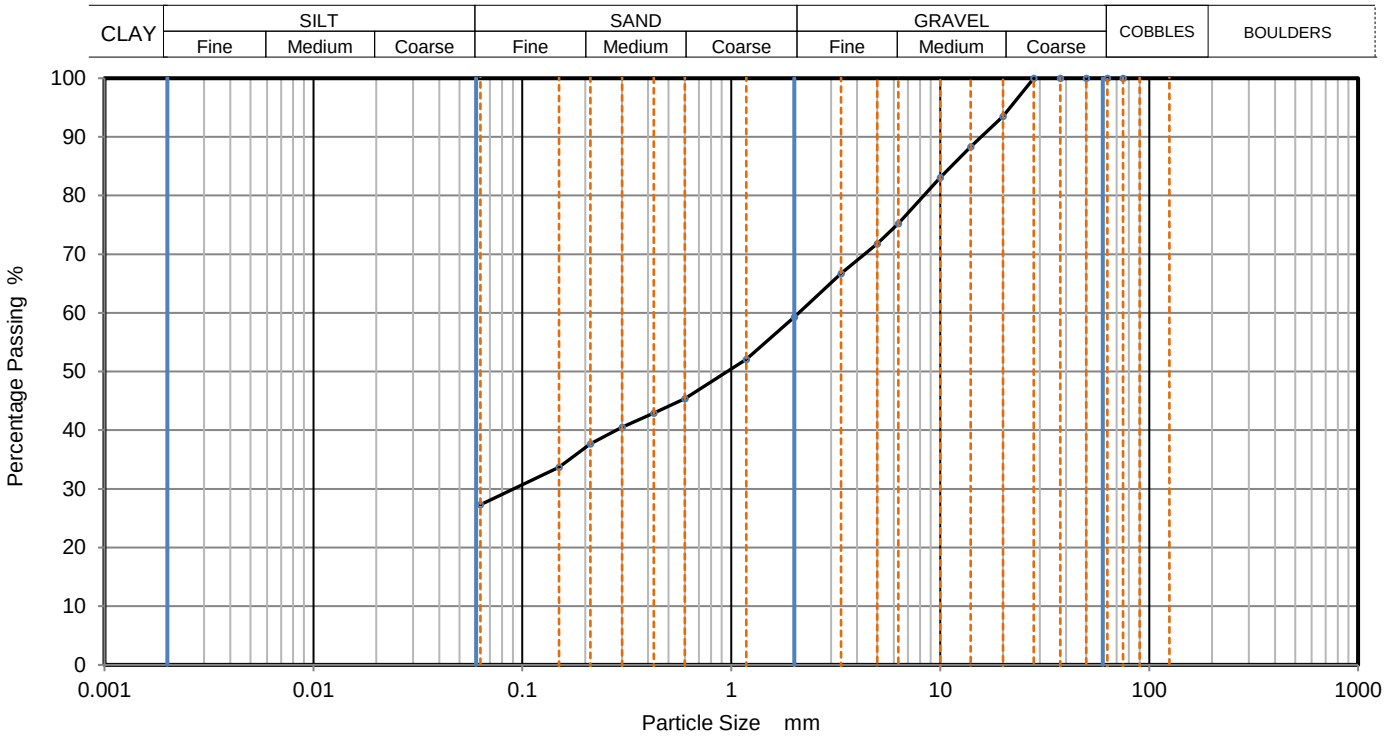
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPMMA02 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey very clayey very sandy fine and medium GRAVEL. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210218113 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 94 | | |
| 14 | 88 | | |
| 10 | 83 | | |
| 6.3 | 75 | | |
| 5 | 72 | | |
| 3.35 | 67 | | |
| 2 | 59 | | |
| 1.18 | 52 | | |
| 0.6 | 45 | | |
| 0.425 | 43 | | |
| 0.3 | 41 | | |
| 0.212 | 38 | | |
| 0.15 | 34 | | |
| 0.063 | 27 | | |

| | |
|---|---|
| Dry Mass of sample, g | 678 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 41 |
| Sand | 32 |
| | |
| Fines <0.063mm | 27 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 2.1 |
| D30 | mm | 0.0913 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

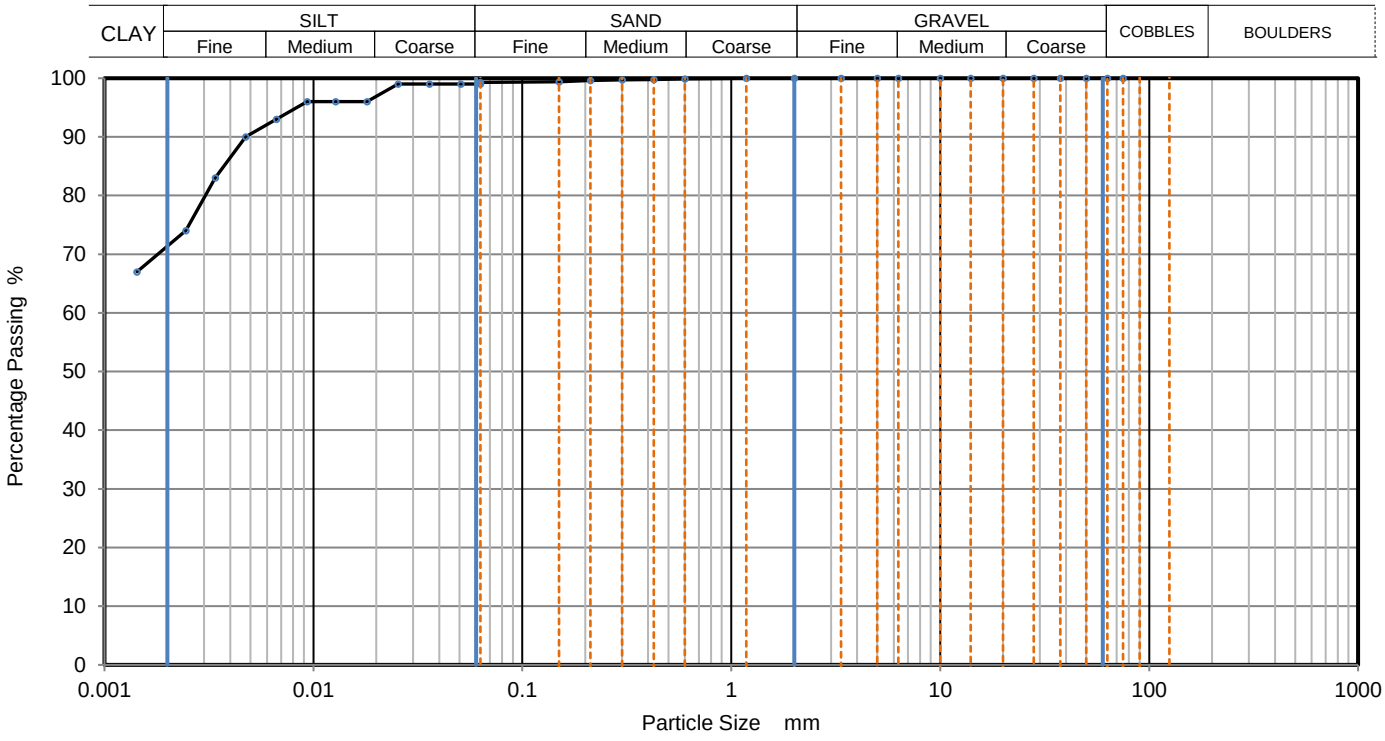
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPPSA04 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey organic silty CLAY. | Depth, m | 2.20 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210222164 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 99 |
| | | 0.0507 | 99 |
| 75 | 100 | 0.0359 | 99 |
| 63 | 100 | 0.0254 | 99 |
| 50 | 100 | 0.0181 | 96 |
| 37.5 | 100 | 0.0128 | 96 |
| 28 | 100 | 0.0093 | 96 |
| 20 | 100 | 0.0066 | 93 |
| 14 | 100 | 0.0047 | 90 |
| 10 | 100 | 0.0034 | 83 |
| 6.3 | 100 | 0.0024 | 74 |
| 5 | 100 | 0.0014 | 67 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density | (assumed) |
| 0.425 | 100 | 2.65 | Mg/m3 |
| 0.3 | 100 | | |
| 0.212 | 100 | | |
| 0.15 | 99 | | |
| 0.063 | 99 | | |

Dry Mass of sample, g: 219

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 1 |
| Silt | 28 |
| Clay | 71 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

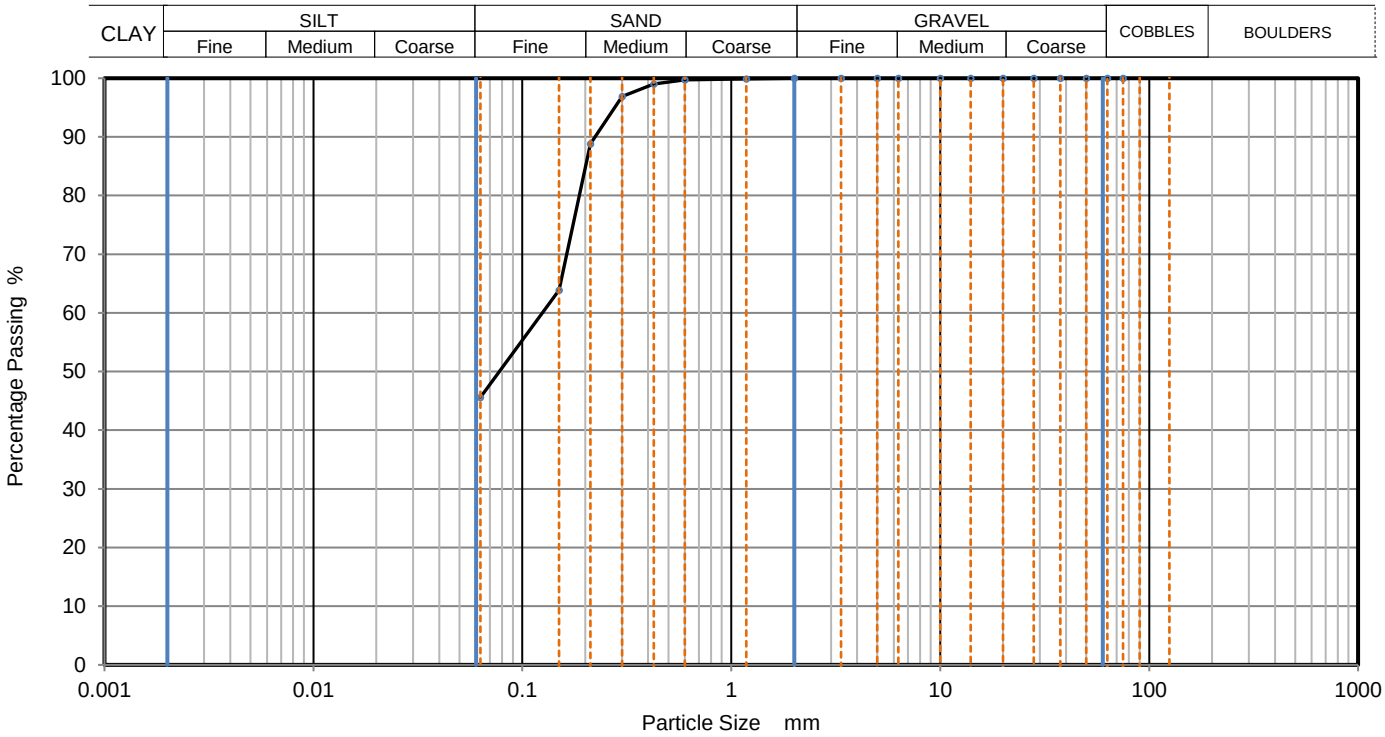
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPPSD01 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey sandy SILT. Sand is fine. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021030248 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | | |
| 0.425 | 99 | | |
| 0.3 | 97 | | |
| 0.212 | 89 | | |
| 0.15 | 64 | | |
| 0.063 | 46 | | |

| | |
|---|---|
| Dry Mass of sample, g | 472 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 54 |
| | |
| Fines <0.063mm | 46 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.125 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

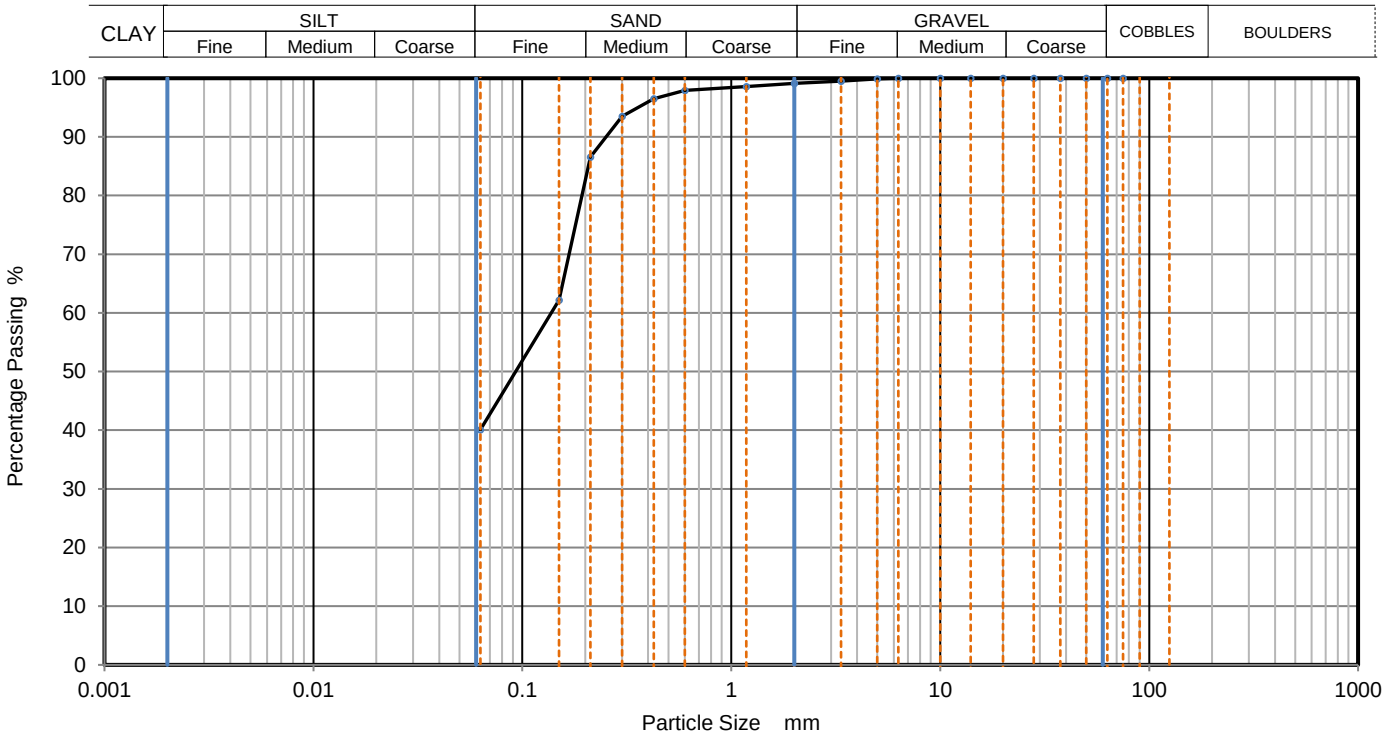
Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | **1** QC From No:R2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPPSD01 |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Dark grey sandy SILT. Sand is fine. | Depth, m | 3.40 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021030249 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 99 | | |
| 1.18 | 99 | | |
| 0.6 | 98 | | |
| 0.425 | 97 | | |
| 0.3 | 94 | | |
| 0.212 | 87 | | |
| 0.15 | 62 | | |
| 0.063 | 40 | | |

| | |
|---|---|
| Dry Mass of sample, g | 415 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 1 |
| Sand | 59 |
| | |
| Fines <0.063mm | 40 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.138 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | **1** QC From No:R2 |

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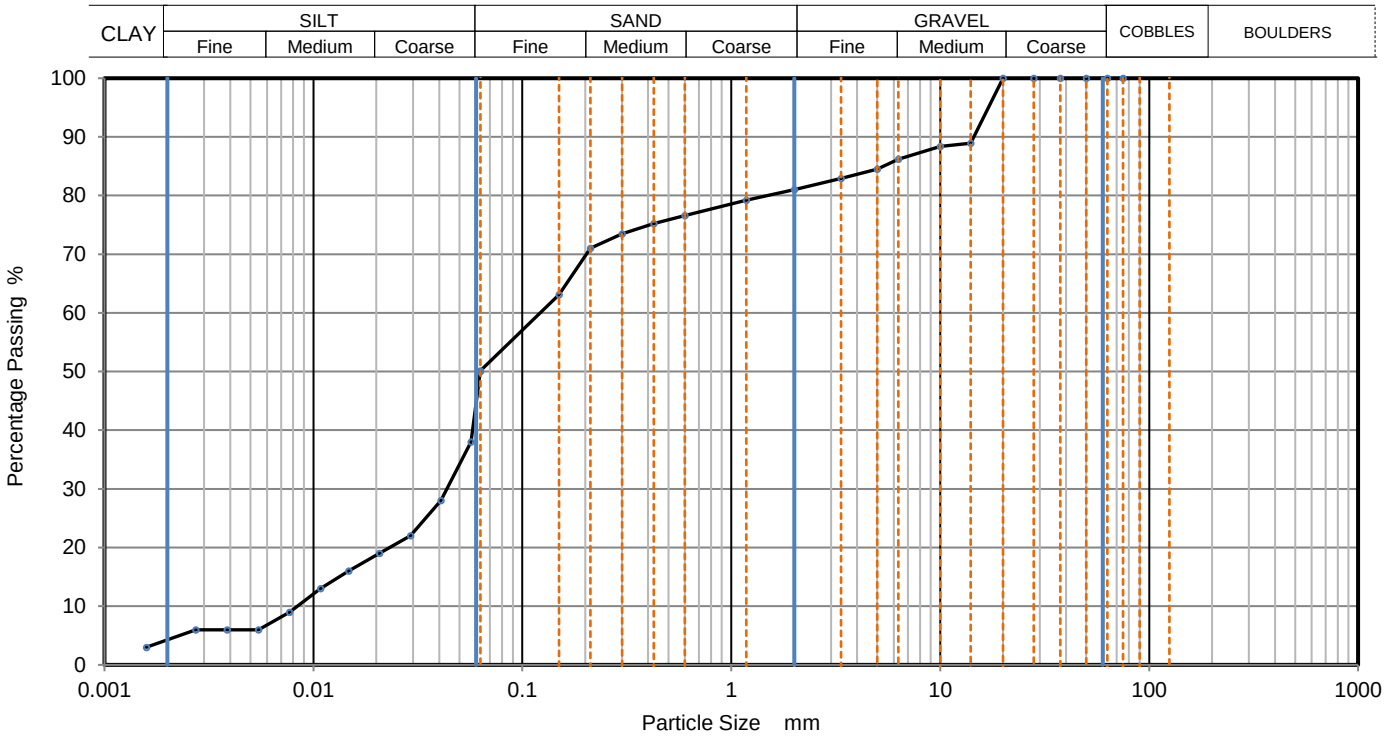
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPPSD02 |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Dark grey slightly gravelly slightly sandy SILT. Sand is fine. | Depth, m | 3.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021030254 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 50 |
| | | 0.0567 | 38 |
| 75 | 100 | 0.0408 | 28 |
| 63 | 100 | 0.0292 | 22 |
| 50 | 100 | 0.0207 | 19 |
| 37.5 | 100 | 0.0147 | 16 |
| 28 | 100 | 0.0108 | 13 |
| 20 | 100 | 0.0077 | 9 |
| 14 | 89 | 0.0055 | 6 |
| 10 | 88 | 0.0039 | 6 |
| 6.3 | 86 | 0.0027 | 6 |
| 5 | 85 | 0.0016 | 3 |
| 3.35 | 83 | | |
| 2 | 81 | | |
| 1.18 | 79 | | |
| 0.6 | 77 | Particle density | (assumed) |
| 0.425 | 75 | 2.65 | Mg/m3 |
| 0.3 | 74 | | |
| 0.212 | 71 | | |
| 0.15 | 63 | | |
| 0.063 | 50 | | |

| | |
|---|---|
| Dry Mass of sample, g | 532 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 19 |
| Sand | 31 |
| Silt | 46 |
| Clay | 5 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.122 |
| D30 | mm | 0.0435 |
| D10 | mm | 0.00821 |
| Uniformity Coefficient | | 15 |
| Curvature Coefficient | | 1.9 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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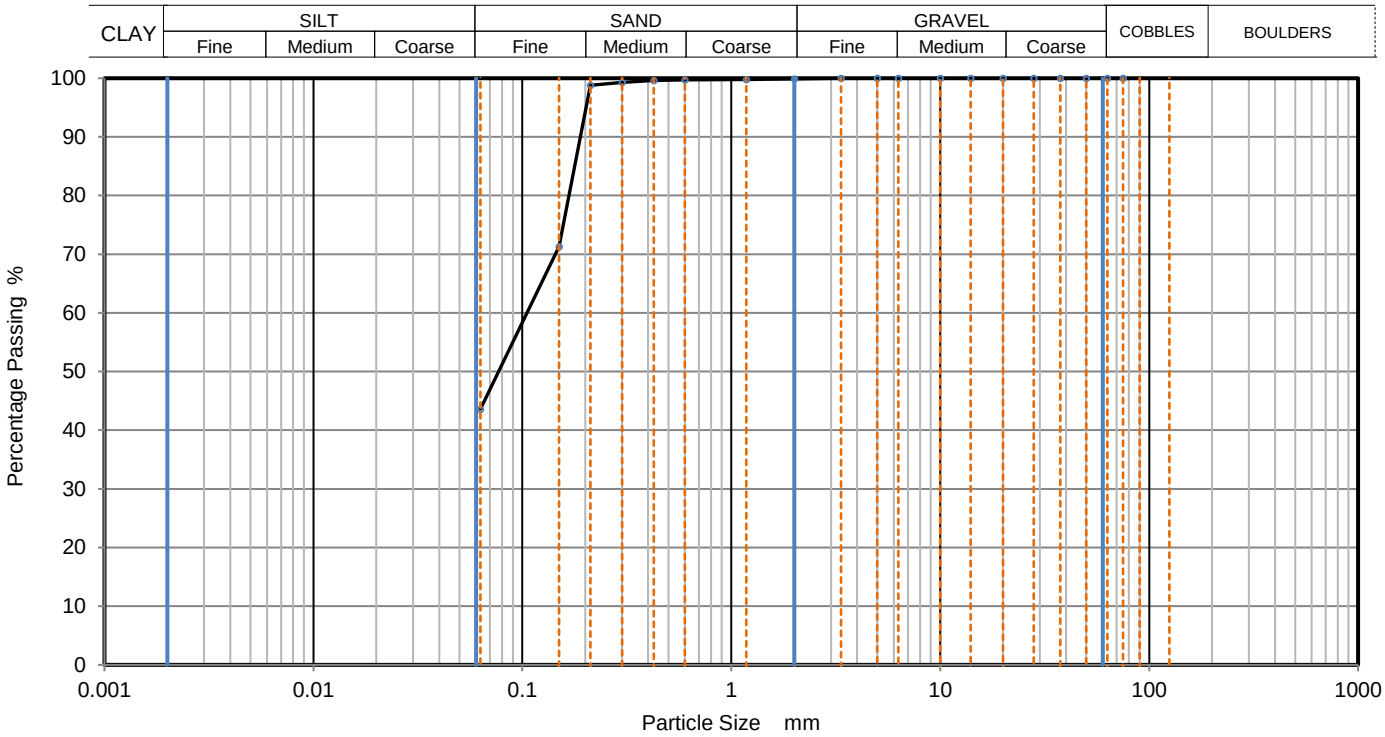
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPPSE01 |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Dark grey sandy SILT. Sand is fine. | Depth, m | 2.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021030259 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | | |
| 0.425 | 100 | | |
| 0.3 | 99 | | |
| 0.212 | 99 | | |
| 0.15 | 71 | | |
| 0.063 | 44 | | |

| | |
|---|---|
| Dry Mass of sample, g | 360 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 56 |
| | |
| Fines <0.063mm | 44 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.105 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

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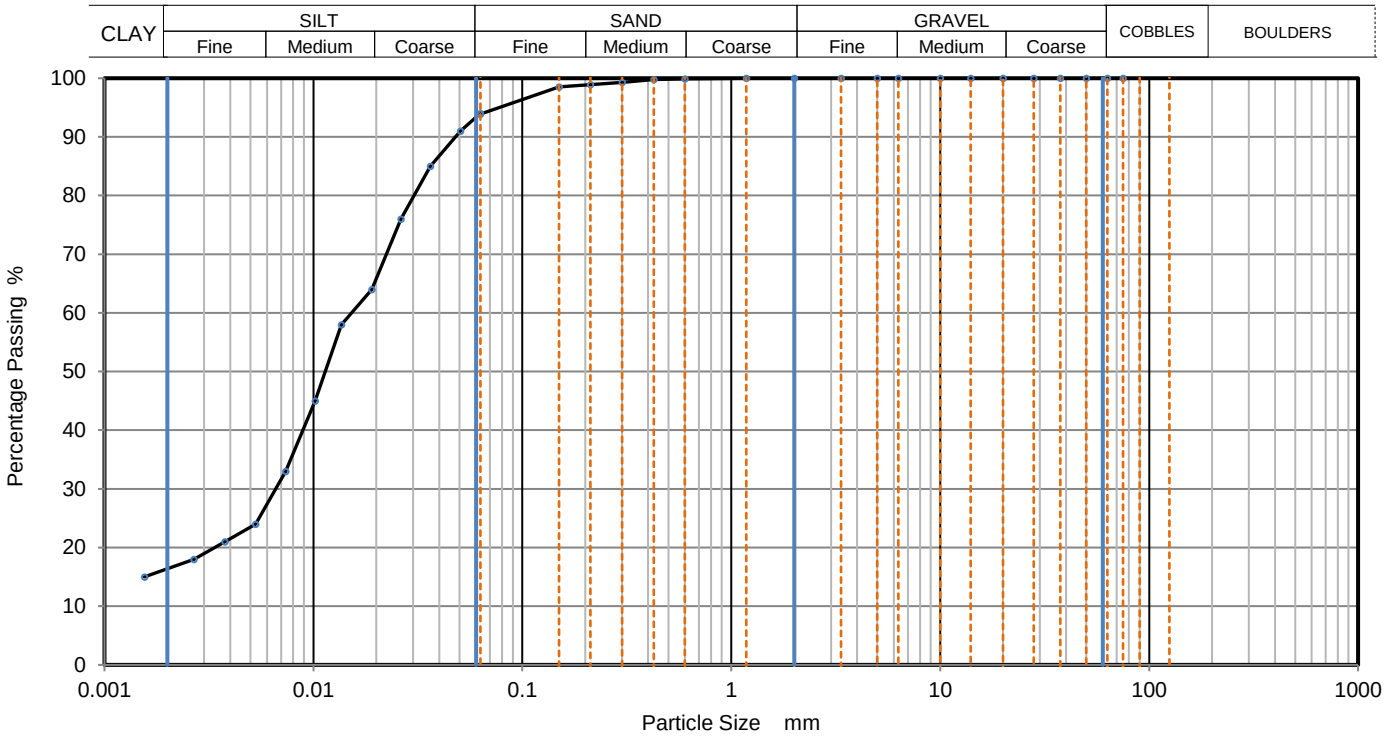
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPPSE04 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey slightly sandy SILT. | Depth, m | 1.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021030271 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 94 |
| | | 0.0506 | 91 |
| 75 | 100 | 0.0363 | 85 |
| 63 | 100 | 0.0262 | 76 |
| 50 | 100 | 0.0190 | 64 |
| 37.5 | 100 | 0.0136 | 58 |
| 28 | 100 | 0.0102 | 45 |
| 20 | 100 | 0.0074 | 33 |
| 14 | 100 | 0.0053 | 24 |
| 10 | 100 | 0.0038 | 21 |
| 6.3 | 100 | 0.0027 | 18 |
| 5 | 100 | 0.0016 | 15 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density | (assumed) |
| 0.425 | 100 | 2.65 | Mg/m3 |
| 0.3 | 99 | | |
| 0.212 | 99 | | |
| 0.15 | 99 | | |
| 0.063 | 94 | | |

| | |
|---|---|
| Dry Mass of sample, g | 171 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 6 |
| Silt | 77 |
| Clay | 17 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0156 |
| D30 | mm | 0.00653 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

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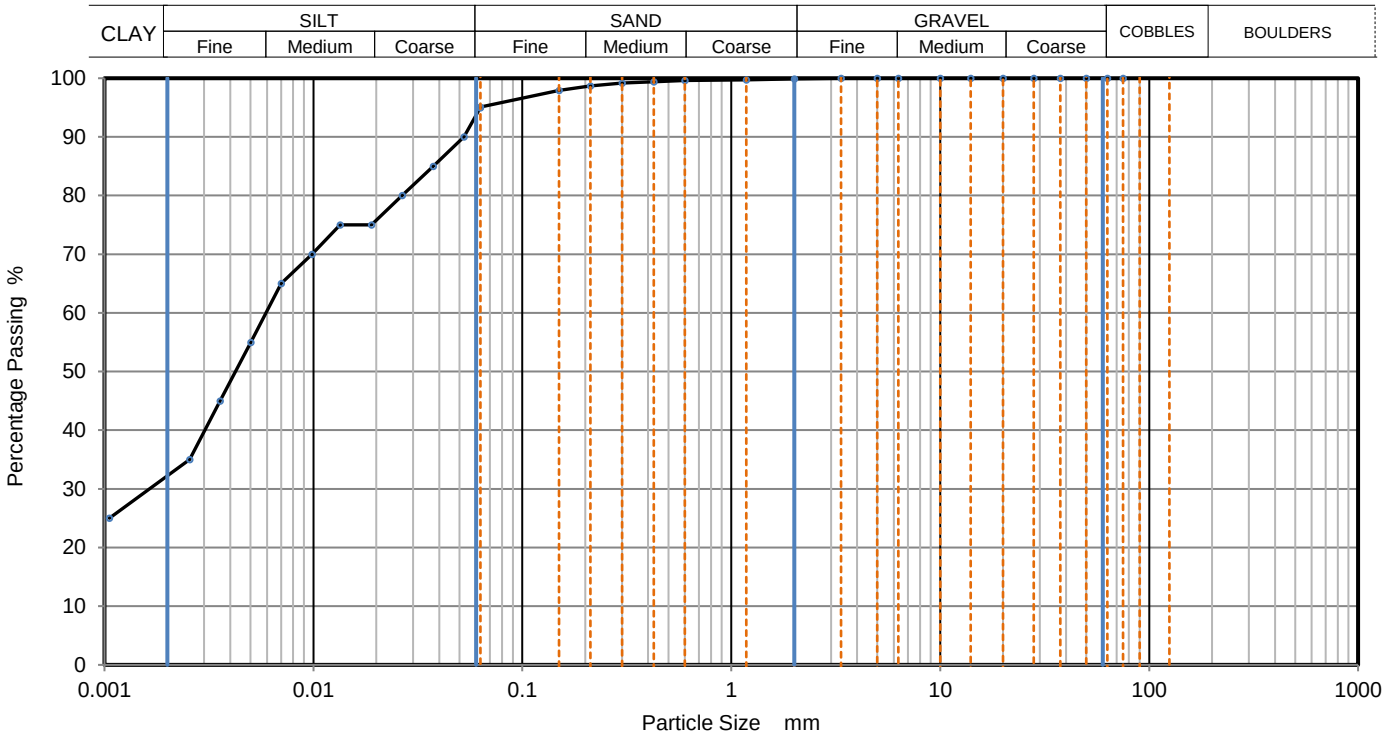
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPPSF01 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Dark grey slightly sandy clayey SILT. | Depth, m | 2.40 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021031899 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 95 |
| | | 0.0526 | 90 |
| 75 | 100 | 0.0374 | 85 |
| 63 | 100 | 0.0266 | 80 |
| 50 | 100 | 0.0189 | 75 |
| 37.5 | 100 | 0.0134 | 75 |
| 28 | 100 | 0.0098 | 70 |
| 20 | 100 | 0.0070 | 65 |
| 14 | 100 | 0.0050 | 55 |
| 10 | 100 | 0.0036 | 45 |
| 6.3 | 100 | 0.0026 | 35 |
| 5 | 100 | 0.0011 | 25 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density (assumed) | |
| 0.425 | 99 | 2.65 Mg/m3 | |
| 0.3 | 99 | | |
| 0.212 | 99 | | |
| 0.15 | 98 | | |
| 0.063 | 95 | | |

| | |
|---|---|
| Dry Mass of sample, g | 112 |

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 5 |
| Silt | 63 |
| Clay | 32 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00591 |
| D30 | mm | 0.00164 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
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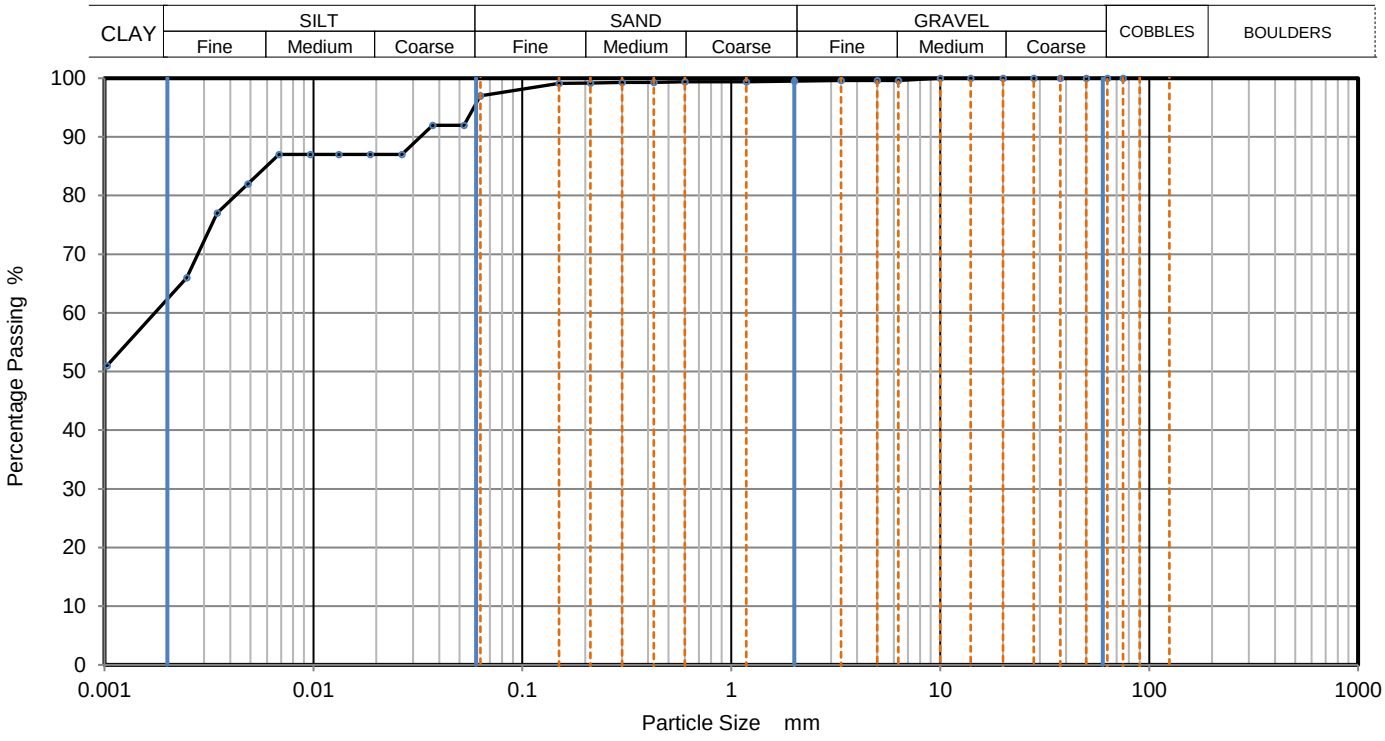
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPPSG01 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey slightly sandy silty CLAY. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210318104 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 97 |
| | | 0.0526 | 92 |
| 75 | 100 | 0.0372 | 92 |
| 63 | 100 | 0.0265 | 87 |
| 50 | 100 | 0.0187 | 87 |
| 37.5 | 100 | 0.0132 | 87 |
| 28 | 100 | 0.0097 | 87 |
| 20 | 100 | 0.0068 | 87 |
| 14 | 100 | 0.0049 | 82 |
| 10 | 100 | 0.0035 | 77 |
| 6.3 | 100 | 0.0025 | 66 |
| 5 | 100 | 0.0010 | 51 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 99 | | |
| 0.6 | 99 | Particle density | (assumed) |
| 0.425 | 99 | 2.65 | Mg/m3 |
| 0.3 | 99 | | |
| 0.212 | 99 | | |
| 0.15 | 99 | | |
| 0.063 | 97 | | |

Dry Mass of sample, g: 405

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 1 |
| Sand | 3 |
| Silt | 34 |
| Clay | 63 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00172 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

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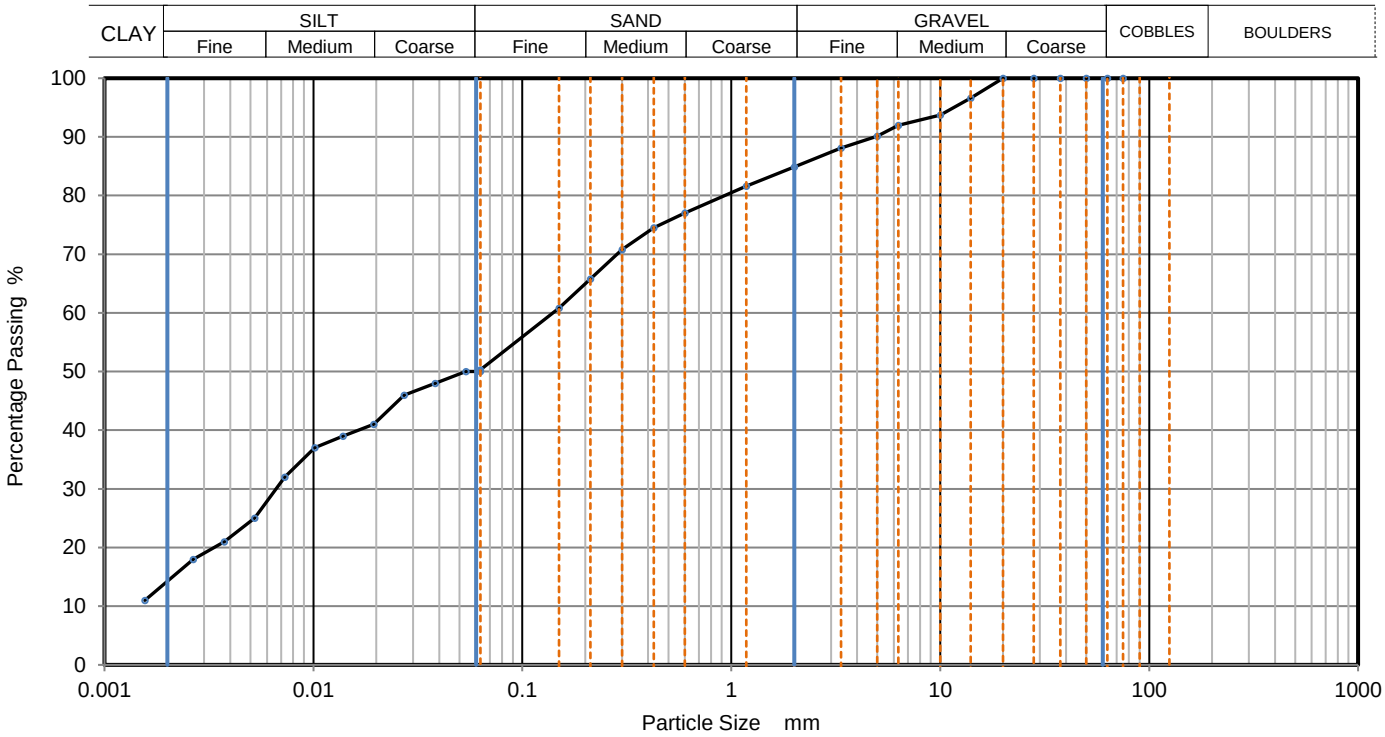
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPPSI03 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey slightly gravelly sandy SILT. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021040789 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 50 |
| | | 0.0537 | 50 |
| 75 | 100 | 0.0382 | 48 |
| 63 | 100 | 0.0272 | 46 |
| 50 | 100 | 0.0195 | 41 |
| 37.5 | 100 | 0.0138 | 39 |
| 28 | 100 | 0.0102 | 37 |
| 20 | 100 | 0.0073 | 32 |
| 14 | 97 | 0.0052 | 25 |
| 10 | 94 | 0.0037 | 21 |
| 6.3 | 92 | 0.0027 | 18 |
| 5 | 90 | 0.0016 | 11 |
| 3.35 | 88 | | |
| 2 | 85 | | |
| 1.18 | 82 | | |
| 0.6 | 77 | Particle density (assumed) | |
| 0.425 | 75 | 2.65 Mg/m3 | |
| 0.3 | 71 | | |
| 0.212 | 66 | | |
| 0.15 | 61 | | |
| 0.063 | 50 | | |

| | |
|---|---|
| Dry Mass of sample, g | 504 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 15 |
| Sand | 35 |
| Silt | 36 |
| Clay | 15 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.14 |
| D30 | mm | 0.00661 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

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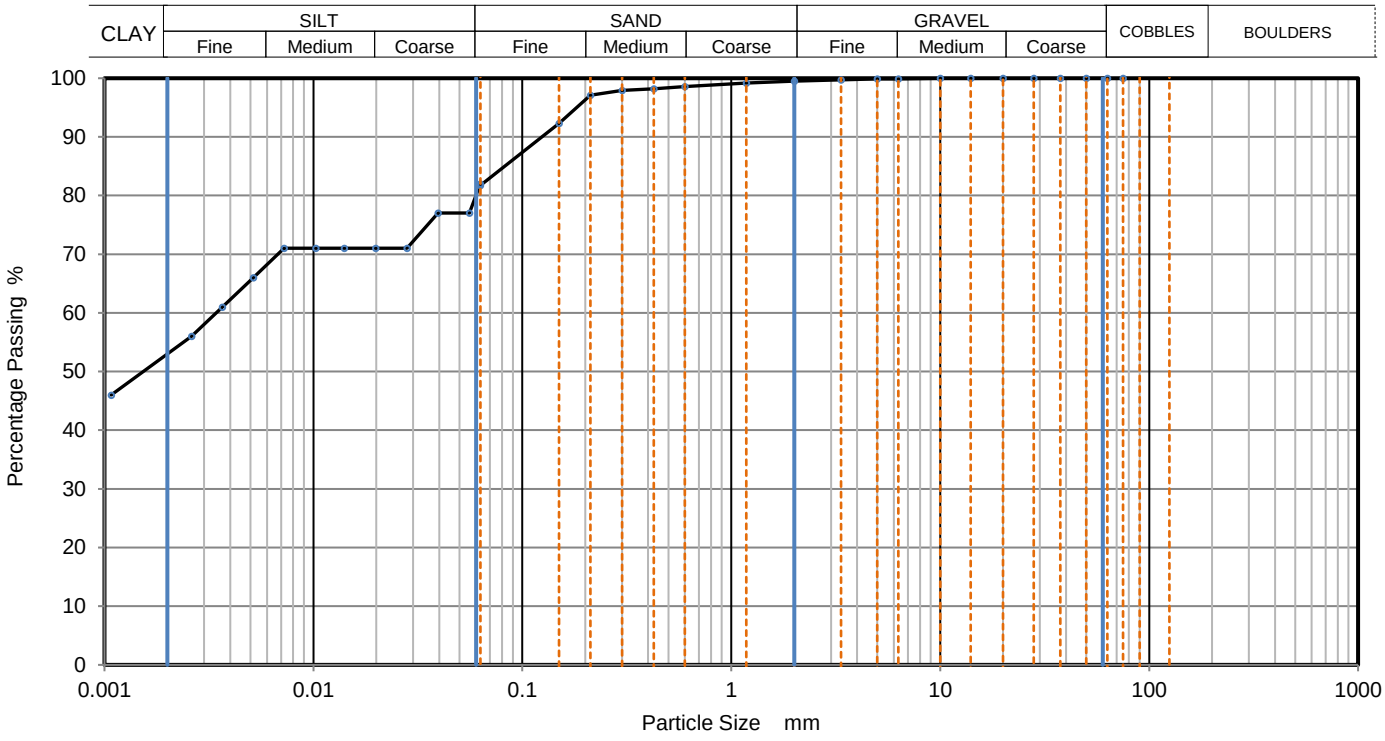
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPS277 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Grey slightly sandy silty CLAY. | Depth, m | 0.70 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210318120 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 82 |
| | | 0.0558 | 77 |
| 75 | 100 | 0.0395 | 77 |
| 63 | 100 | 0.0281 | 71 |
| 50 | 100 | 0.0199 | 71 |
| 37.5 | 100 | 0.0140 | 71 |
| 28 | 100 | 0.0103 | 71 |
| 20 | 100 | 0.0072 | 71 |
| 14 | 100 | 0.0052 | 66 |
| 10 | 100 | 0.0037 | 61 |
| 6.3 | 100 | 0.0026 | 56 |
| 5 | 100 | 0.0011 | 46 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 99 | | |
| 0.6 | 99 | Particle density | (assumed) |
| 0.425 | 98 | 2.65 | Mg/m3 |
| 0.3 | 98 | | |
| 0.212 | 97 | | |
| 0.15 | 92 | | |
| 0.063 | 82 | | |

Dry Mass of sample, g: 234

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 1 |
| Sand | 18 |
| Silt | 29 |
| Clay | 53 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00337 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

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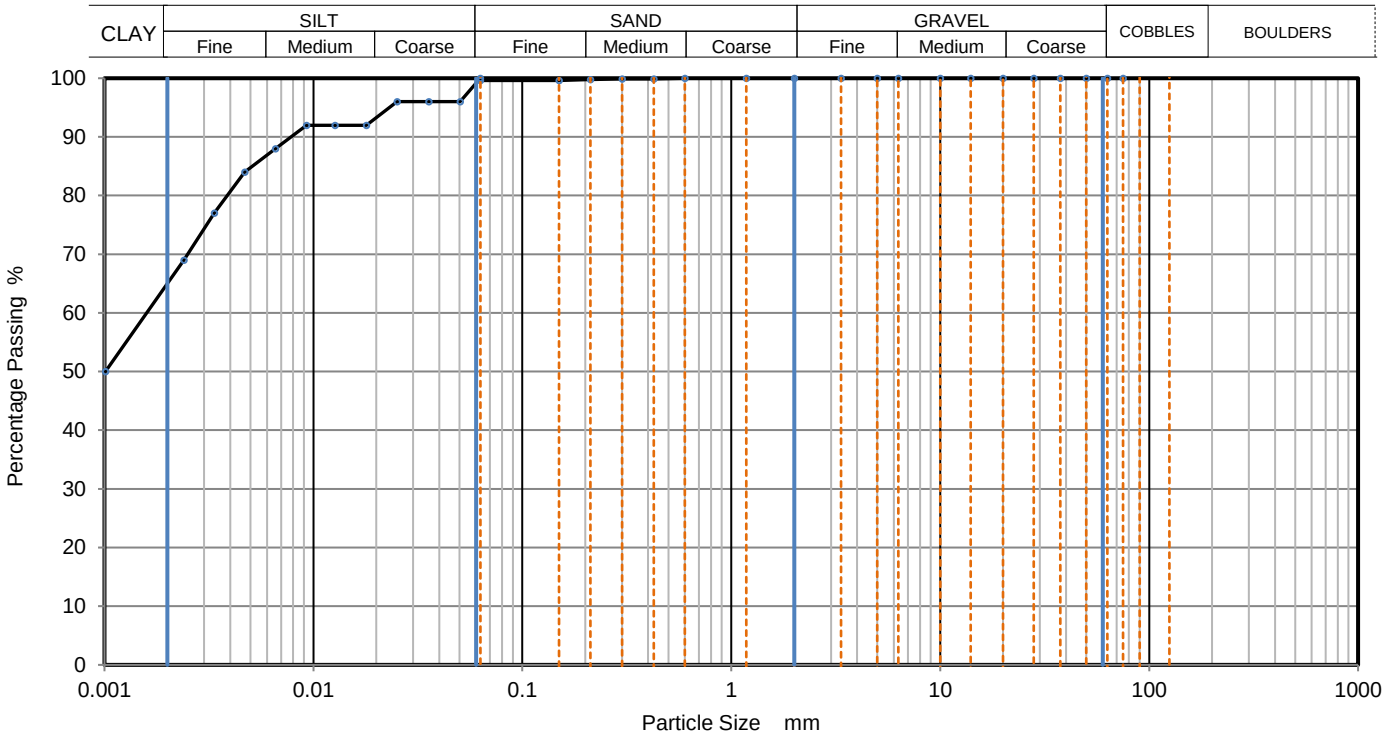
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPS277 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey silty CLAY. | Depth, m | 1.80 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210318123 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 100 |
| | | 0.0504 | 96 |
| 75 | 100 | 0.0356 | 96 |
| 63 | 100 | 0.0252 | 96 |
| 50 | 100 | 0.0179 | 92 |
| 37.5 | 100 | 0.0127 | 92 |
| 28 | 100 | 0.0093 | 92 |
| 20 | 100 | 0.0066 | 88 |
| 14 | 100 | 0.0047 | 84 |
| 10 | 100 | 0.0034 | 77 |
| 6.3 | 100 | 0.0024 | 69 |
| 5 | 100 | 0.0010 | 50 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density | (assumed) |
| 0.425 | 100 | 2.65 | Mg/m3 |
| 0.3 | 100 | | |
| 0.212 | 100 | | |
| 0.15 | 100 | | |
| 0.063 | 100 | | |

Dry Mass of sample, g: 223

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 0 |
| Silt | 35 |
| Clay | 65 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0016 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

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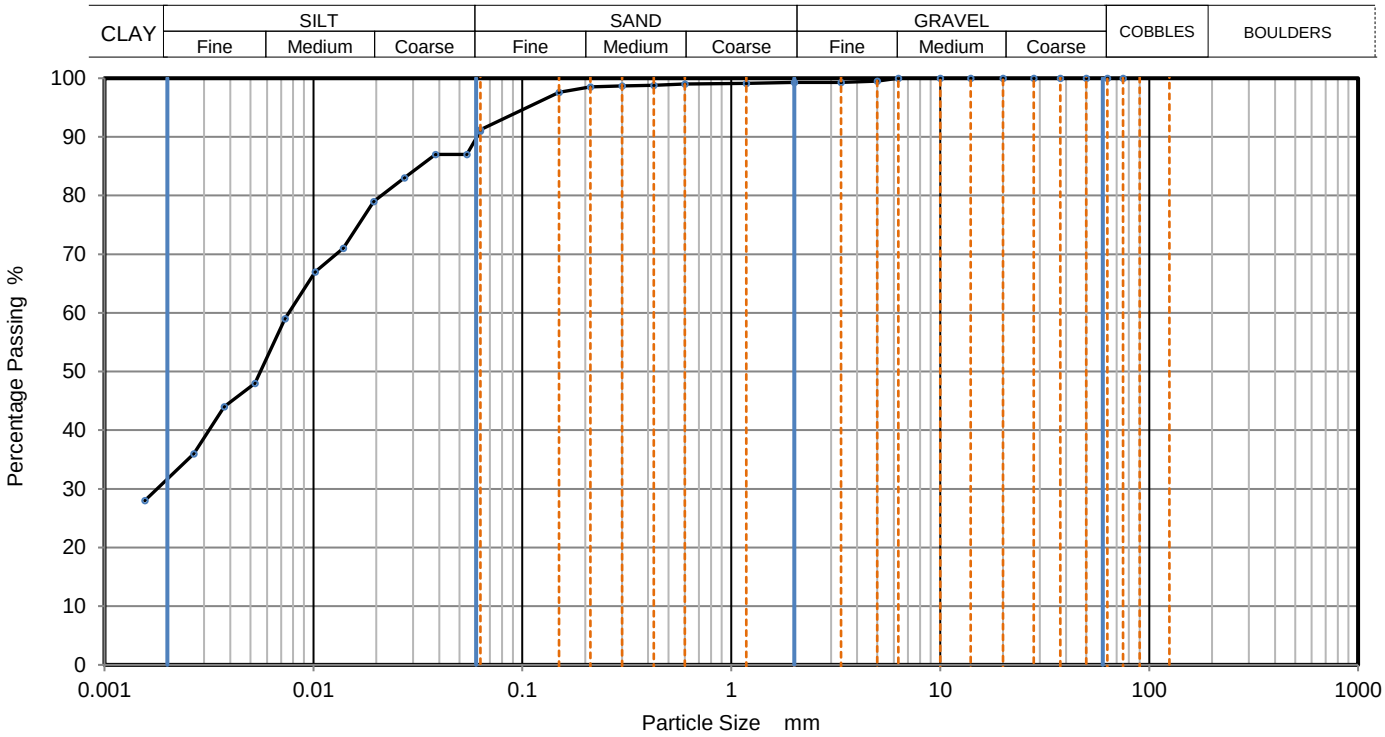
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPSSA01 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey slightly sandy SILT. | Depth, m | 0.30 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL1202104012 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 91 |
| | | 0.0542 | 87 |
| 75 | 100 | 0.0383 | 87 |
| 63 | 100 | 0.0273 | 83 |
| 50 | 100 | 0.0194 | 79 |
| 37.5 | 100 | 0.0139 | 71 |
| 28 | 100 | 0.0102 | 67 |
| 20 | 100 | 0.0073 | 59 |
| 14 | 100 | 0.0053 | 48 |
| 10 | 100 | 0.0037 | 44 |
| 6.3 | 100 | 0.0027 | 36 |
| 5 | 100 | 0.0016 | 28 |
| 3.35 | 99 | | |
| 2 | 99 | | |
| 1.18 | 99 | | |
| 0.6 | 99 | Particle density | (assumed) |
| 0.425 | 99 | 2.65 | Mg/m3 |
| 0.3 | 99 | | |
| 0.212 | 99 | | |
| 0.15 | 98 | | |
| 0.063 | 91 | | |

| | |
|---|---|
| Dry Mass of sample, g | 198 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 1 |
| Sand | 8 |
| Silt | 60 |
| Clay | 31 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00747 |
| D30 | mm | 0.00182 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

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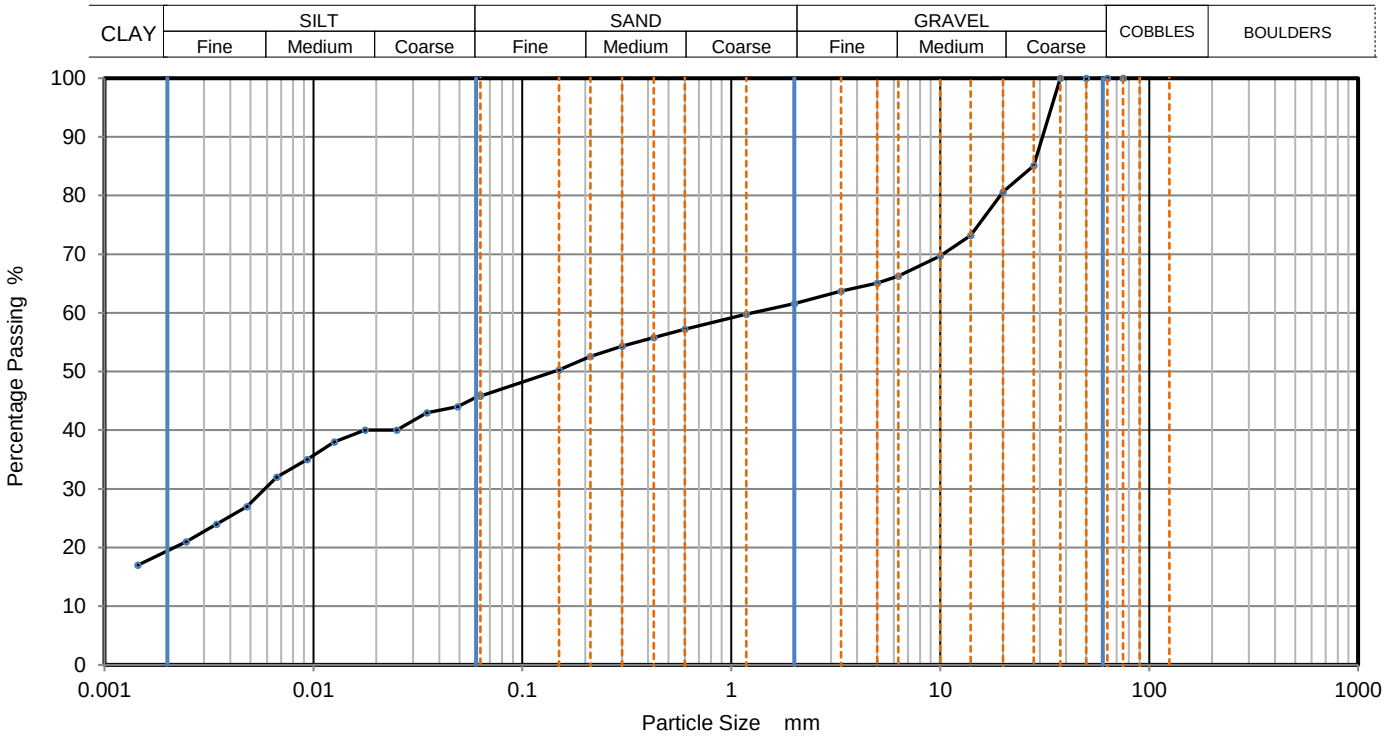
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | | | |
|---|---|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | | | Job Ref | **2021LD101** |
| | | | | Borehole/Pit No. | TPSSA01 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 3 |
| Soil Description | Dark grey slightly sandy gravelly clayey SILT. Gravel is medium and coarse. | | | Depth, m | 1.90 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | | | KeyLAB ID | IDL1202104013 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 46 |
| | | 0.0490 | 44 |
| 75 | 100 | 0.0349 | 43 |
| 63 | 100 | 0.0250 | 40 |
| 50 | 100 | 0.0177 | 40 |
| 37.5 | 100 | 0.0126 | 38 |
| 28 | 85 | 0.0093 | 35 |
| 20 | 81 | 0.0067 | 32 |
| 14 | 73 | 0.0048 | 27 |
| 10 | 70 | 0.0034 | 24 |
| 6.3 | 66 | 0.0025 | 21 |
| 5 | 65 | 0.0014 | 17 |
| 3.35 | 64 | | |
| 2 | 62 | | |
| 1.18 | 60 | | |
| 0.6 | 57 | Particle density | (assumed) |
| 0.425 | 56 | 2.65 | Mg/m3 |
| 0.3 | 54 | | |
| 0.212 | 53 | | |
| 0.15 | 50 | | |
| 0.063 | 46 | | |

| | |
|---|---|
| Dry Mass of sample, g | 545 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 38 |
| Sand | 16 |
| Silt | 26 |
| Clay | 20 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 1.26 |
| D30 | mm | 0.00576 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | **1** QC From No:R2 |

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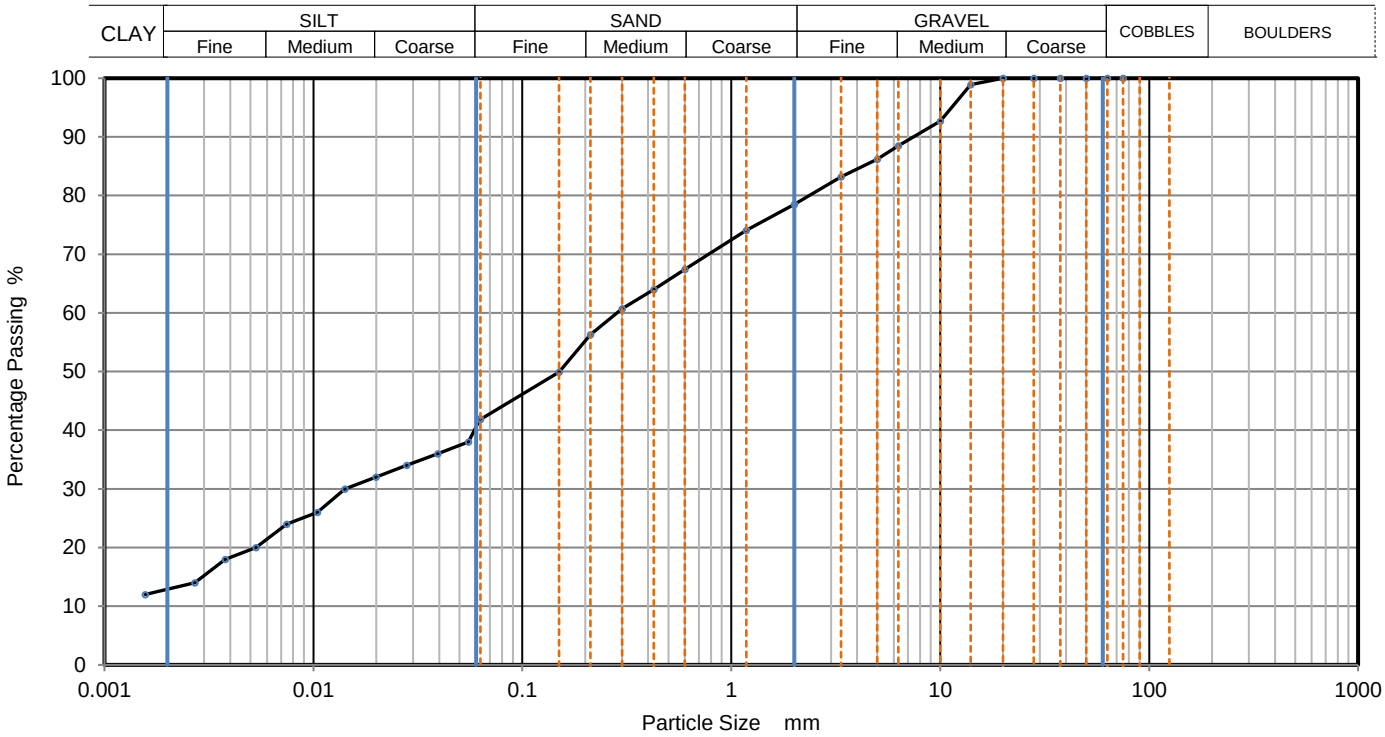
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPSSA02 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Brown slightly gravelly sandy SILT. | Depth, m | 2.20 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021040113 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 42 |
| | | 0.0552 | 38 |
| 75 | 100 | 0.0393 | 36 |
| 63 | 100 | 0.0280 | 34 |
| 50 | 100 | 0.0199 | 32 |
| 37.5 | 100 | 0.0141 | 30 |
| 28 | 100 | 0.0104 | 26 |
| 20 | 100 | 0.0074 | 24 |
| 14 | 99 | 0.0053 | 20 |
| 10 | 93 | 0.0038 | 18 |
| 6.3 | 89 | 0.0027 | 14 |
| 5 | 86 | 0.0016 | 12 |
| 3.35 | 83 | | |
| 2 | 79 | | |
| 1.18 | 74 | | |
| 0.6 | 67 | Particle density | (assumed) |
| 0.425 | 64 | 2.65 | Mg/m3 |
| 0.3 | 61 | | |
| 0.212 | 56 | | |
| 0.15 | 50 | | |
| 0.063 | 42 | | |

| | |
|---|---|
| Dry Mass of sample, g | 388 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 22 |
| Sand | 37 |
| Silt | 29 |
| Clay | 13 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.283 |
| D30 | mm | 0.0145 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

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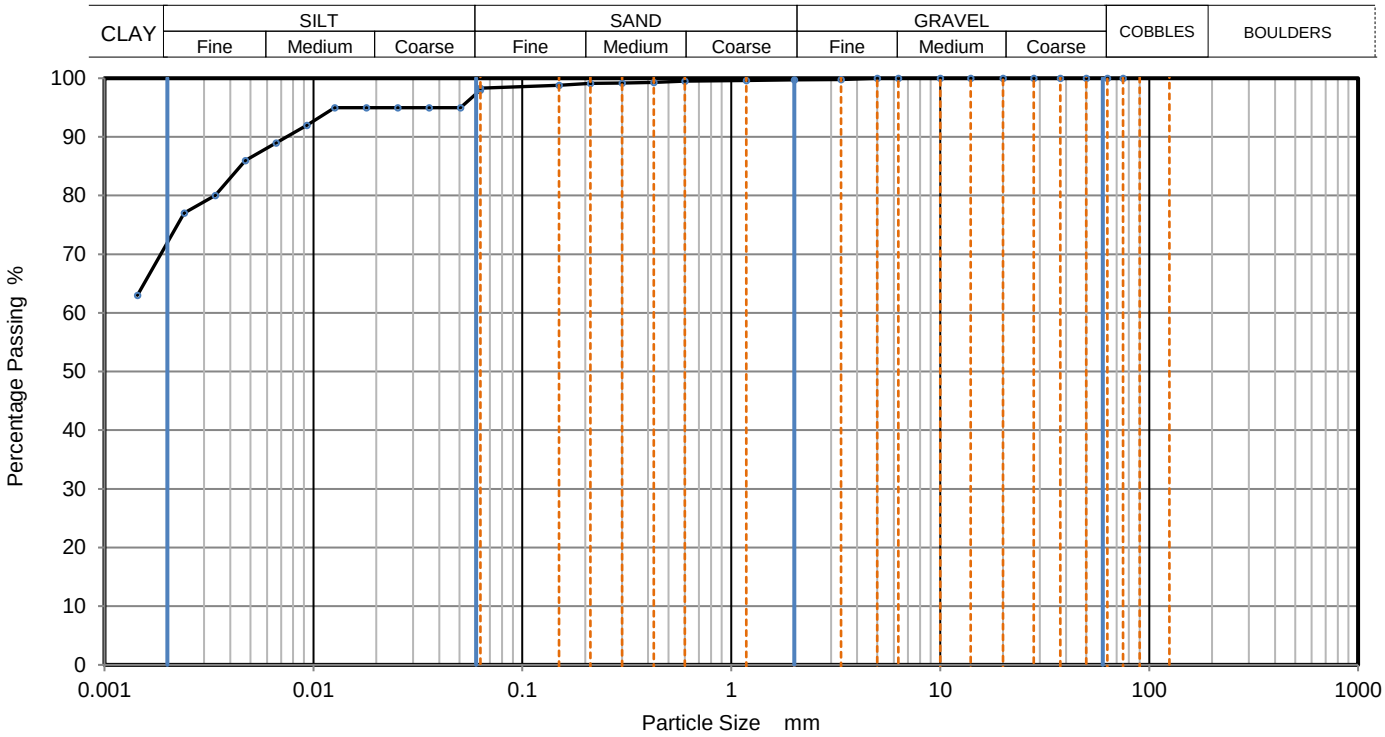
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | | | |
|---|---|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | | | Job Ref | **2021LD101** |
| | | | | Borehole/Pit No. | TPSSA05 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 3 |
| Soil Description | Dark grey CLAY. | | | Depth, m | 1.20 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | | | KeyLAB ID | IDL12021040135 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 98 |
| | | 0.0506 | 95 |
| 75 | 100 | 0.0358 | 95 |
| 63 | 100 | 0.0253 | 95 |
| 50 | 100 | 0.0179 | 95 |
| 37.5 | 100 | 0.0127 | 95 |
| 28 | 100 | 0.0093 | 92 |
| 20 | 100 | 0.0066 | 89 |
| 14 | 100 | 0.0047 | 86 |
| 10 | 100 | 0.0034 | 80 |
| 6.3 | 100 | 0.0024 | 77 |
| 5 | 100 | 0.0014 | 63 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density | (assumed) |
| 0.425 | 99 | 2.65 | Mg/m3 |
| 0.3 | 99 | | |
| 0.212 | 99 | | |
| 0.15 | 99 | | |
| 0.063 | 98 | | |

| | |
|---|---|
| Dry Mass of sample, g | 246 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 1 |
| Silt | 26 |
| Clay | 72 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

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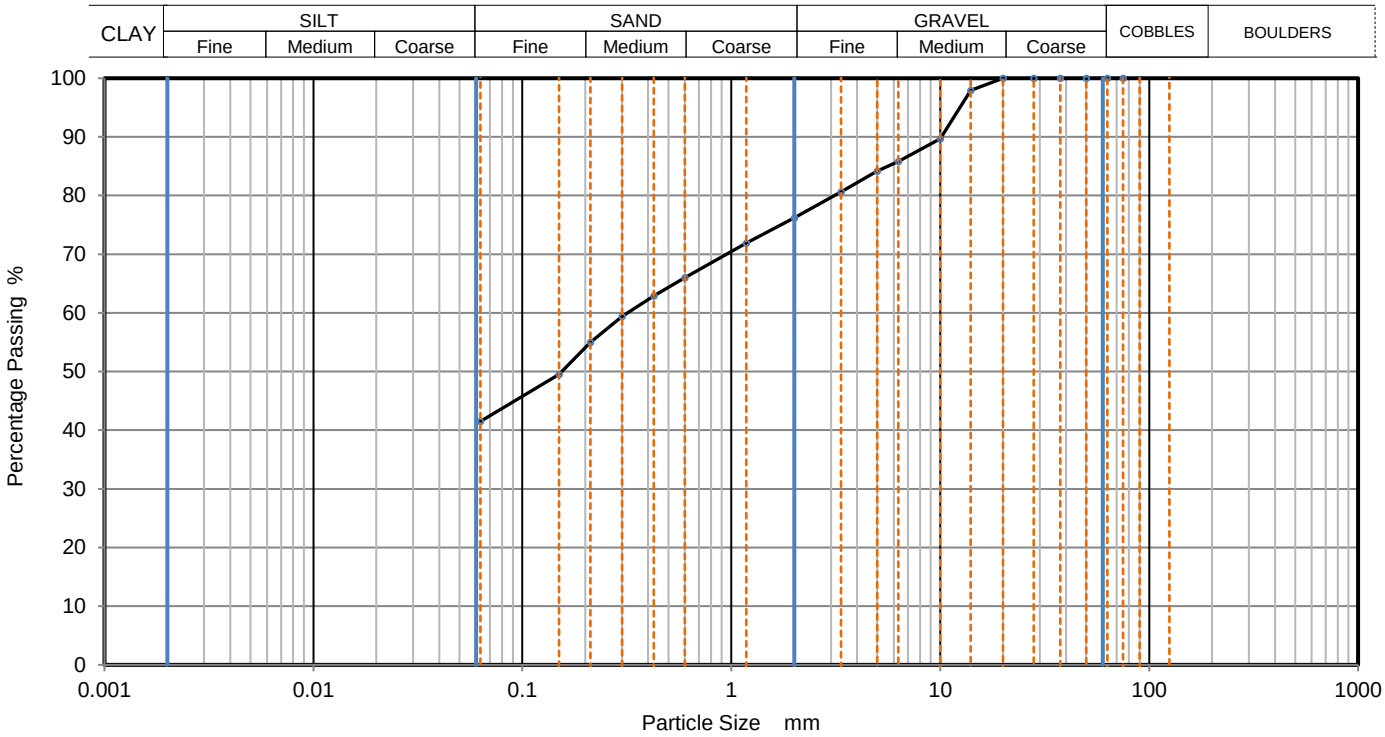
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPSSA05 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Brown slightly gravelly sandy silty CLAY. | Depth, m | 2.10 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021040137 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 98 | | |
| 10 | 90 | | |
| 6.3 | 86 | | |
| 5 | 84 | | |
| 3.35 | 81 | | |
| 2 | 76 | | |
| 1.18 | 72 | | |
| 0.6 | 66 | | |
| 0.425 | 63 | | |
| 0.3 | 59 | | |
| 0.212 | 55 | | |
| 0.15 | 50 | | |
| 0.063 | 42 | | |

| | |
|---|---|
| Dry Mass of sample, g | 552 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 24 |
| Sand | 35 |
| | |
| Fines <0.063mm | 41 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.318 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

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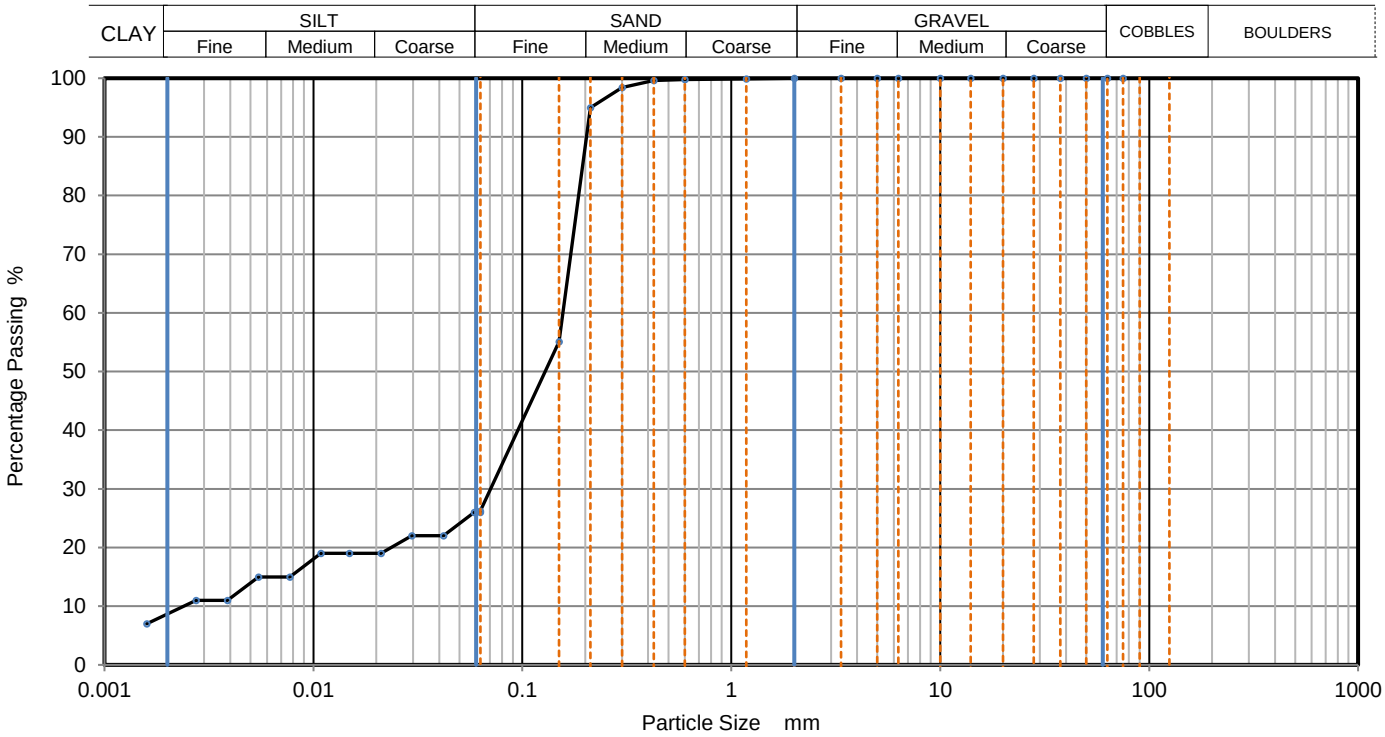
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPT01 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey very silty fine SAND. | Depth, m | 1.00 |
| Specimen Reference | Specimen Depth m | Sample Type | D |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210218118 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 26 |
| | | 0.0589 | 26 |
| 75 | 100 | 0.0419 | 22 |
| 63 | 100 | 0.0296 | 22 |
| 50 | 100 | 0.0210 | 19 |
| 37.5 | 100 | 0.0149 | 19 |
| 28 | 100 | 0.0109 | 19 |
| 20 | 100 | 0.0077 | 15 |
| 14 | 100 | 0.0055 | 15 |
| 10 | 100 | 0.0039 | 11 |
| 6.3 | 100 | 0.0027 | 11 |
| 5 | 100 | 0.0016 | 7 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density | (assumed) |
| 0.425 | 100 | 2.65 | Mg/m3 |
| 0.3 | 98 | | |
| 0.212 | 95 | | |
| 0.15 | 55 | | |
| 0.063 | 26 | | |

Dry Mass of sample, g: 395

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 74 |
| Silt | 17 |
| Clay | 9 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.157 |
| D30 | mm | 0.0706 |
| D10 | mm | 0.0023 |
| Uniformity Coefficient | | 68 |
| Curvature Coefficient | | 14 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
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| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

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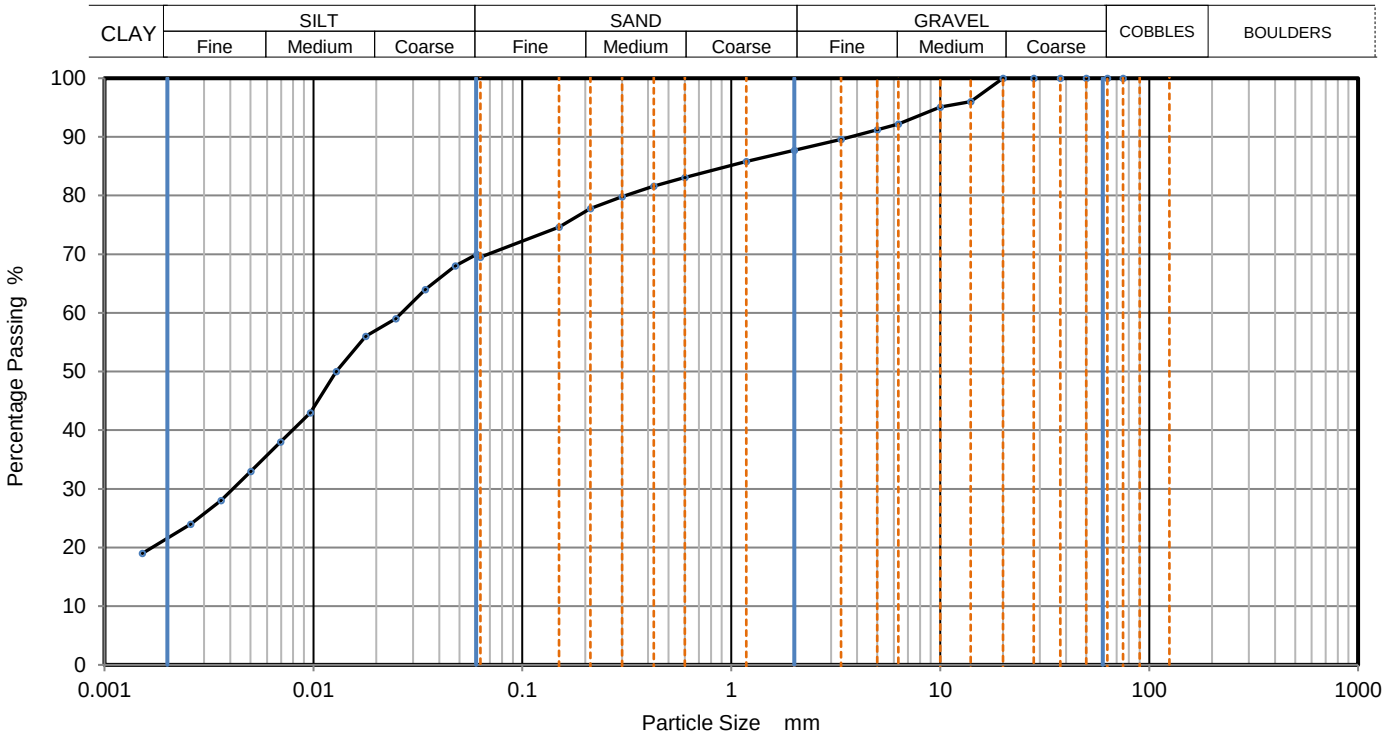
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPT01 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey slightly gravelly slightly sandy SILT. | Depth, m | 1.50 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210218119 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0606 | 70 |
| | | 0.0477 | 68 |
| 75 | 100 | 0.0343 | 64 |
| 63 | 100 | 0.0248 | 59 |
| 50 | 100 | 0.0178 | 56 |
| 37.5 | 100 | 0.0129 | 50 |
| 28 | 100 | 0.0097 | 43 |
| 20 | 100 | 0.0070 | 38 |
| 14 | 96 | 0.0050 | 33 |
| 10 | 95 | 0.0036 | 28 |
| 6.3 | 92 | 0.0026 | 24 |
| 5 | 91 | 0.0015 | 19 |
| 3.35 | 90 | | |
| 2 | 88 | | |
| 1.18 | 86 | | |
| 0.6 | 83 | Particle density (assumed) | |
| 0.425 | 82 | 2.65 Mg/m3 | |
| 0.3 | 80 | | |
| 0.212 | 78 | | |
| 0.15 | 75 | | |
| 0.063 | 70 | | |

| | |
|---|---|
| Dry Mass of sample, g | 658 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 12 |
| Sand | 18 |
| Silt | 48 |
| Clay | 22 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0263 |
| D30 | mm | 0.00415 |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

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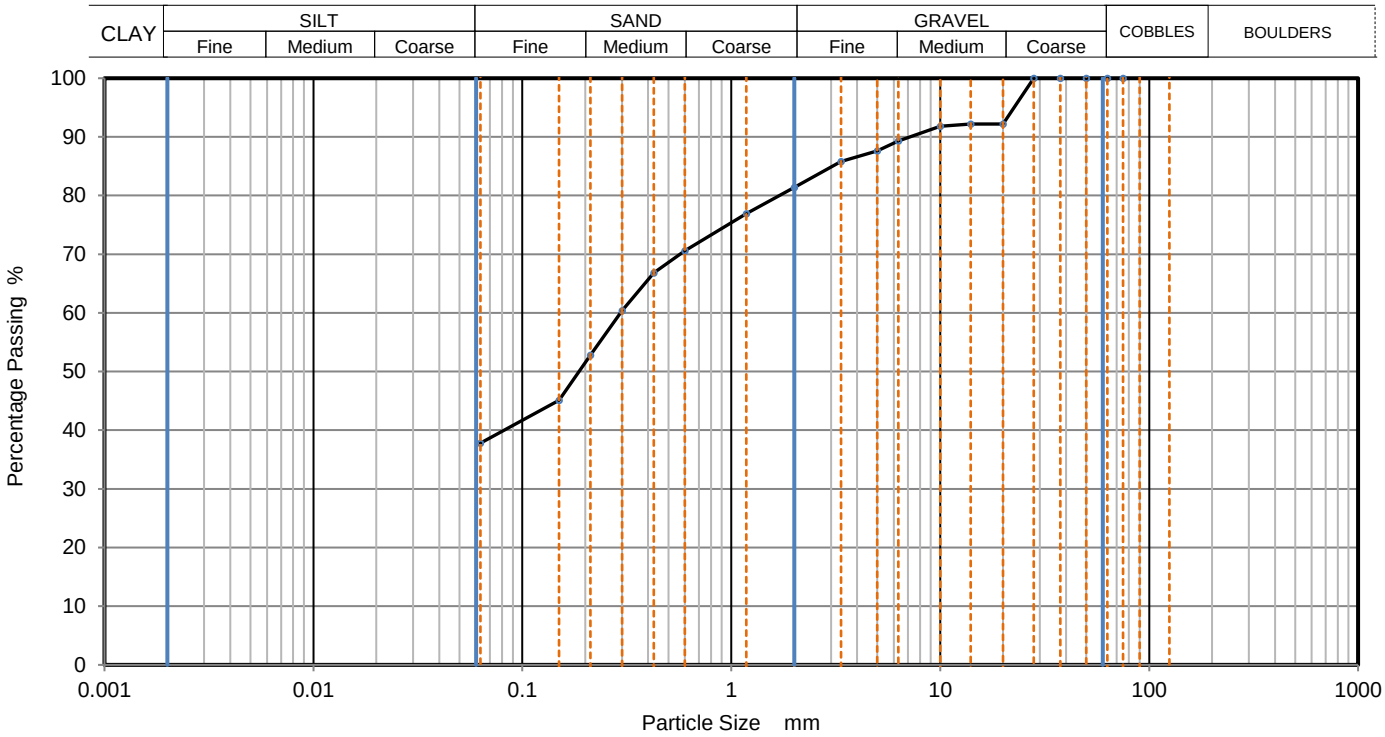
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | | | |
|---|---|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | | | Job Ref | **2021LD101** |
| | | | | Borehole/Pit No. | TPT02 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 2 |
| Soil Description | Dark grey slightly gravelly sandy SILT. | | | Depth, m | 1.00 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | | | KeyLAB ID | IDL120210222168 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 92 | | |
| 14 | 92 | | |
| 10 | 92 | | |
| 6.3 | 89 | | |
| 5 | 88 | | |
| 3.35 | 86 | | |
| 2 | 81 | | |
| 1.18 | 77 | | |
| 0.6 | 71 | | |
| 0.425 | 67 | | |
| 0.3 | 60 | | |
| 0.212 | 53 | | |
| 0.15 | 45 | | |
| 0.063 | 38 | | |

| | |
|---|---|
| Dry Mass of sample, g | 442 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 19 |
| Sand | 44 |
| | |
| Fines <0.063mm | 38 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.295 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:36 | 1<br>QC From No:R2 |

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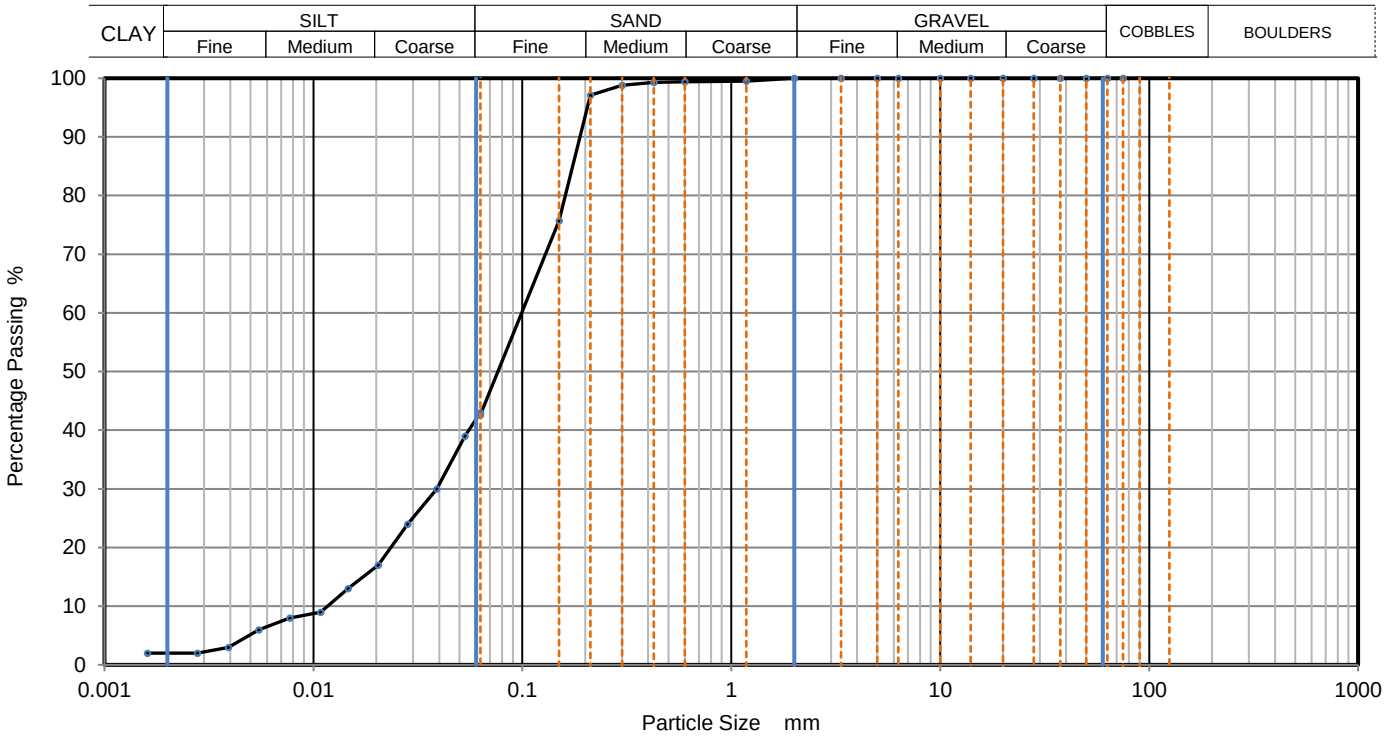
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPT06 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey sandy SILT. Sand is fine. | Depth, m | 3.00 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021030276 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 43 |
| | | 0.0530 | 39 |
| 75 | 100 | 0.0390 | 30 |
| 63 | 100 | 0.0282 | 24 |
| 50 | 100 | 0.0204 | 17 |
| 37.5 | 100 | 0.0147 | 13 |
| 28 | 100 | 0.0108 | 9 |
| 20 | 100 | 0.0077 | 8 |
| 14 | 100 | 0.0055 | 6 |
| 10 | 100 | 0.0039 | 3 |
| 6.3 | 100 | 0.0028 | 2 |
| 5 | 100 | 0.0016 | 2 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 99 | Particle density | (assumed) |
| 0.425 | 99 | 2.65 | Mg/m3 |
| 0.3 | 99 | | |
| 0.212 | 97 | | |
| 0.15 | 76 | | |
| 0.063 | 43 | | |

| | |
|---|---|
| Dry Mass of sample, g | 420 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 57 |
| Silt | 41 |
| Clay | 2 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.0994 |
| D30 | mm | 0.039 |
| D10 | mm | 0.0114 |
| Uniformity Coefficient | | 8.7 |
| Curvature Coefficient | | 1.3 |

Remarks

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|---|---|---|---|---|
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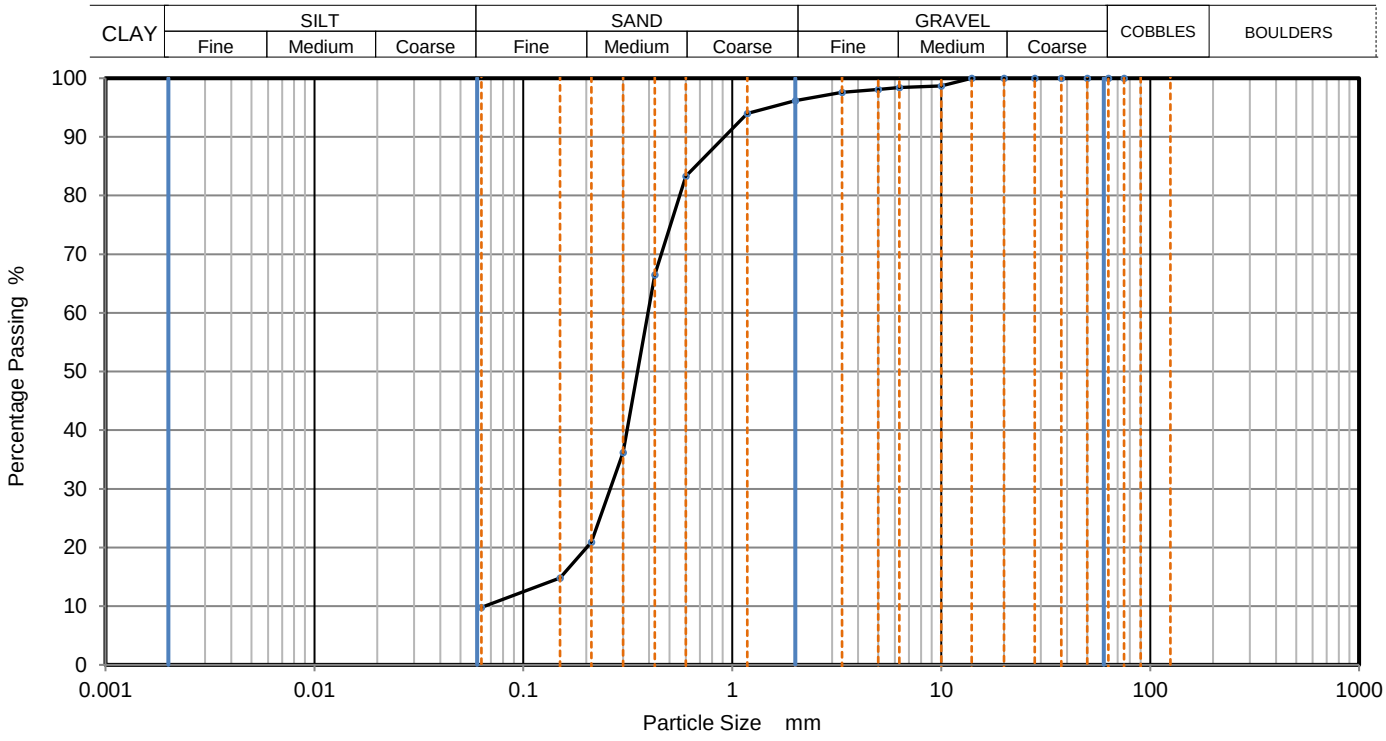
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPT07 |
| Site Name | Derryadd Wind Farm | Sample No. | 2 |
| Soil Description | Dark grey slightly gravelly silty medium SAND. | Depth, m | 1.20 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021030278 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 99 | | |
| 6.3 | 98 | | |
| 5 | 98 | | |
| 3.35 | 98 | | |
| 2 | 96 | | |
| 1.18 | 94 | | |
| 0.6 | 83 | | |
| 0.425 | 67 | | |
| 0.3 | 36 | | |
| 0.212 | 21 | | |
| 0.15 | 15 | | |
| 0.063 | 10 | | |

Dry Mass of sample, g: 403

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 4 |
| Sand | 86 |
| | |
| Fines <0.063mm | 10 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.394 |
| D30 | mm | 0.261 |
| D10 | mm | 0.0657 |
| Uniformity Coefficient | | 6 |
| Curvature Coefficient | | 2.6 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
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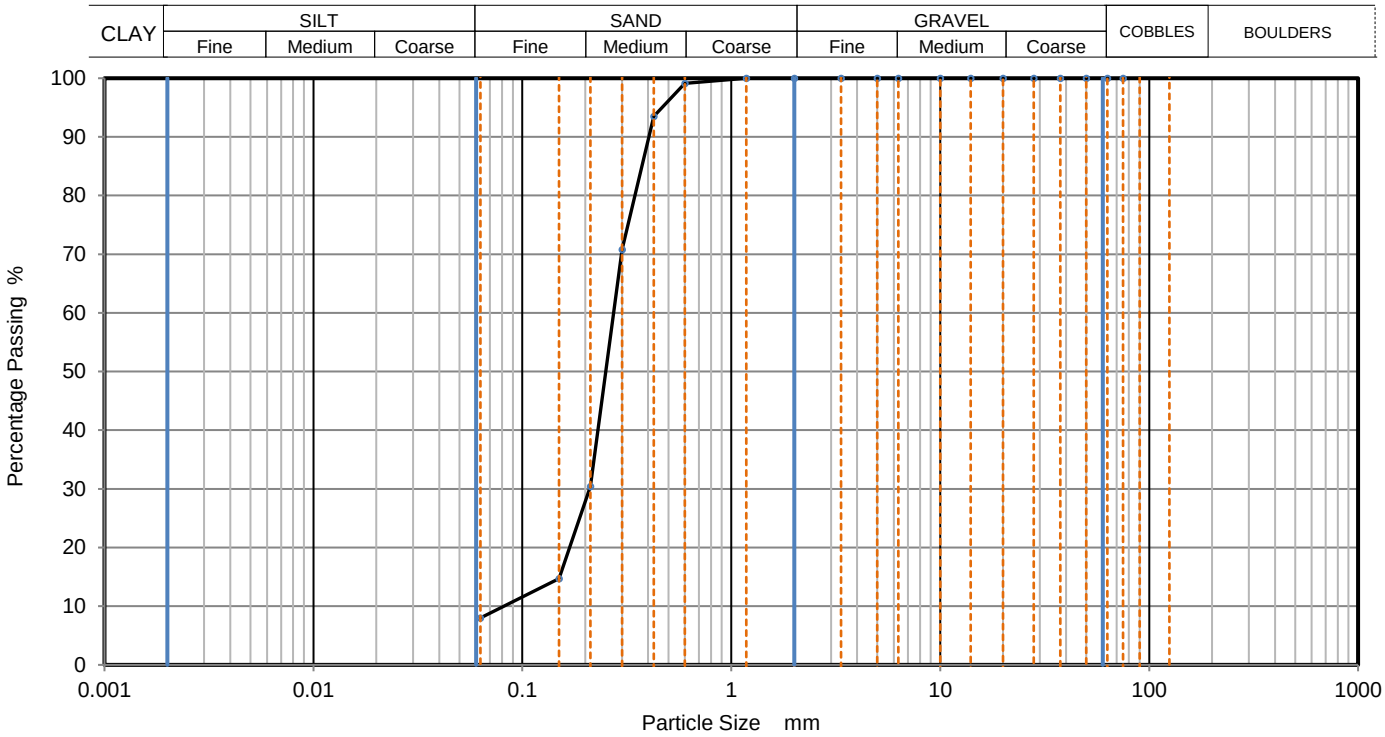
| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPT08 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Dark grey slightly silty medium SAND. | Depth, m | 1.30 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL12021030283 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 100 | | |
| 14 | 100 | | |
| 10 | 100 | | |
| 6.3 | 100 | | |
| 5 | 100 | | |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 99 | | |
| 0.425 | 94 | | |
| 0.3 | 71 | | |
| 0.212 | 30 | | |
| 0.15 | 15 | | |
| 0.063 | 8 | | |

| | |
|---|---|
| Dry Mass of sample, g | 431 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 92 |
| | |
| Fines <0.063mm | 8 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.273 |
| D30 | mm | 0.21 |
| D10 | mm | 0.082 |
| Uniformity Coefficient | | 3.3 |
| Curvature Coefficient | | 2 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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|---|---|---|---|---|
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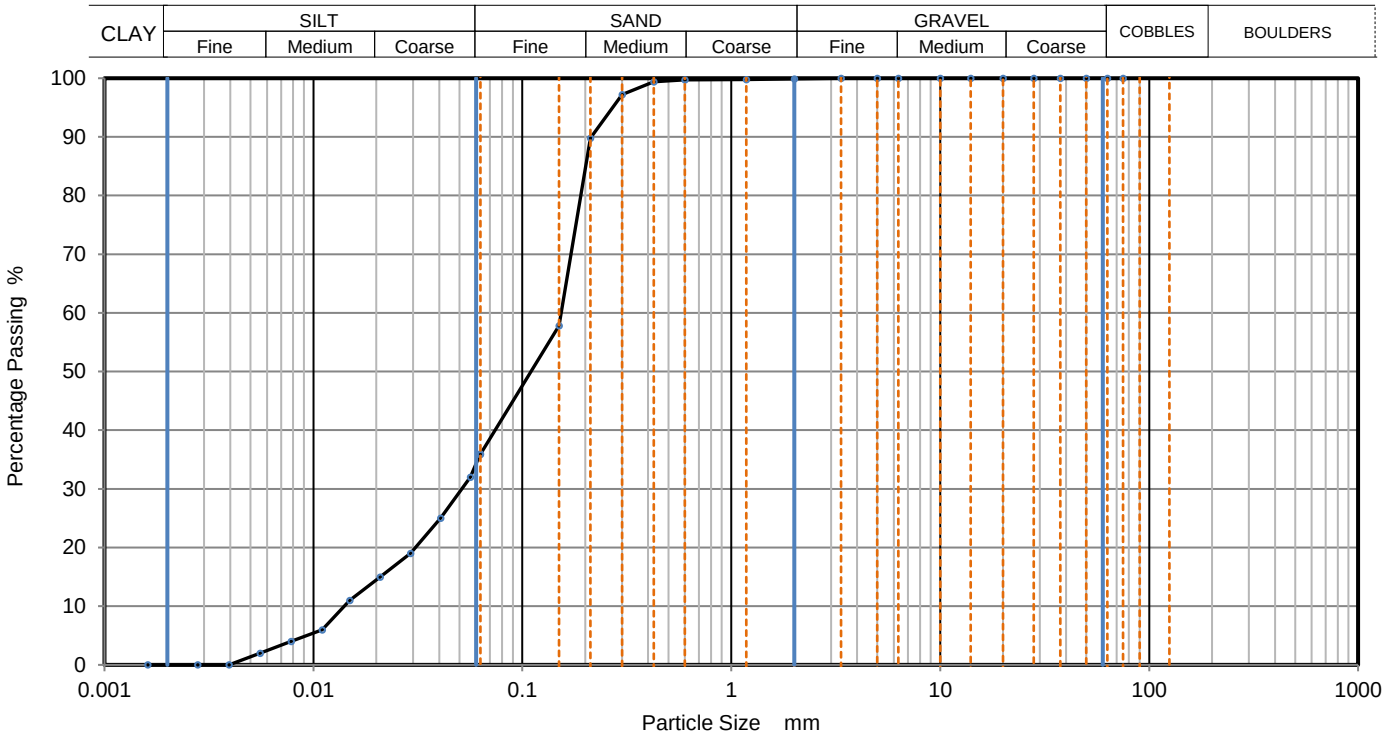
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPT08 |
| Site Name | Derryadd Wind Farm | Sample No. | 4 |
| Soil Description | Dark grey sandy SILT. Sand is fine. | Depth, m | 2.70 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021030284 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 36 |
| | | 0.0564 | 32 |
| 75 | 100 | 0.0406 | 25 |
| 63 | 100 | 0.0292 | 19 |
| 50 | 100 | 0.0209 | 15 |
| 37.5 | 100 | 0.0149 | 11 |
| 28 | 100 | 0.0110 | 6 |
| 20 | 100 | 0.0078 | 4 |
| 14 | 100 | 0.0056 | 2 |
| 10 | 100 | 0.0040 | 0 |
| 6.3 | 100 | 0.0028 | 0 |
| 5 | 100 | 0.0016 | 0 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 100 | Particle density (assumed) | |
| 0.425 | 99 | 2.65 Mg/m3 | |
| 0.3 | 97 | | |
| 0.212 | 90 | | |
| 0.15 | 58 | | |
| 0.063 | 36 | | |

| | |
|---|---|
| Dry Mass of sample, g | 603 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 64 |
| Silt | 36 |
| Clay | 0 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.154 |
| D30 | mm | 0.0517 |
| D10 | mm | 0.0143 |
| Uniformity Coefficient | | 11 |
| Curvature Coefficient | | 1.2 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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|---|---|---|---|---|
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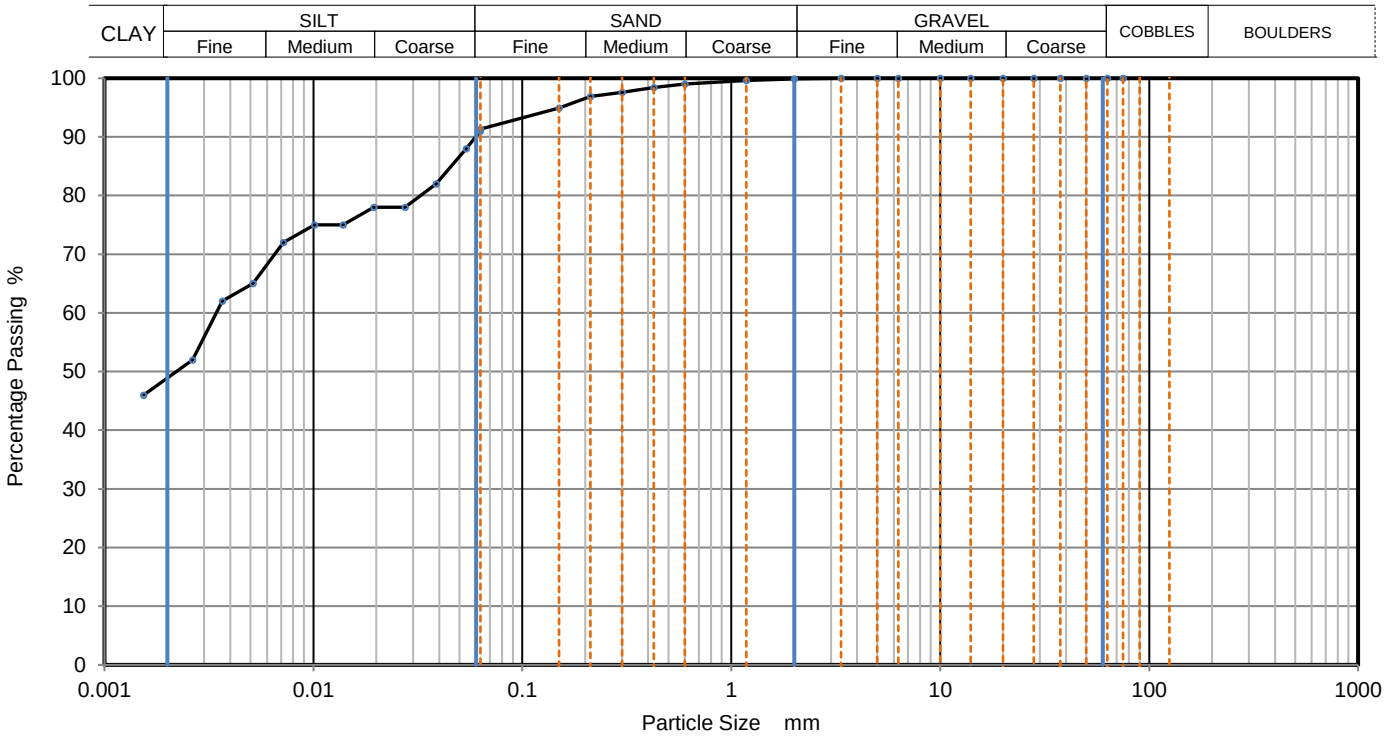
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPT12 |
| Site Name | Derryadd Wind Farm | Sample No. | 3 |
| Soil Description | Grey slightly sandy silty CLAY. | Depth, m | 1.20 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL120210315109 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 91 |
| | | 0.0539 | 88 |
| 75 | 100 | 0.0386 | 82 |
| 63 | 100 | 0.0275 | 78 |
| 50 | 100 | 0.0194 | 78 |
| 37.5 | 100 | 0.0138 | 75 |
| 28 | 100 | 0.0101 | 75 |
| 20 | 100 | 0.0072 | 72 |
| 14 | 100 | 0.0051 | 65 |
| 10 | 100 | 0.0037 | 62 |
| 6.3 | 100 | 0.0026 | 52 |
| 5 | 100 | 0.0015 | 46 |
| 3.35 | 100 | | |
| 2 | 100 | | |
| 1.18 | 100 | | |
| 0.6 | 99 | Particle density (assumed) | |
| 0.425 | 98 | 2.65 Mg/m3 | |
| 0.3 | 98 | | |
| 0.212 | 97 | | |
| 0.15 | 95 | | |
| 0.063 | 91 | | |

Dry Mass of sample, g: 328

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 0 |
| Sand | 9 |
| Silt | 43 |
| Clay | 49 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.00343 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:37 | 1<br>QC From No:R2 |

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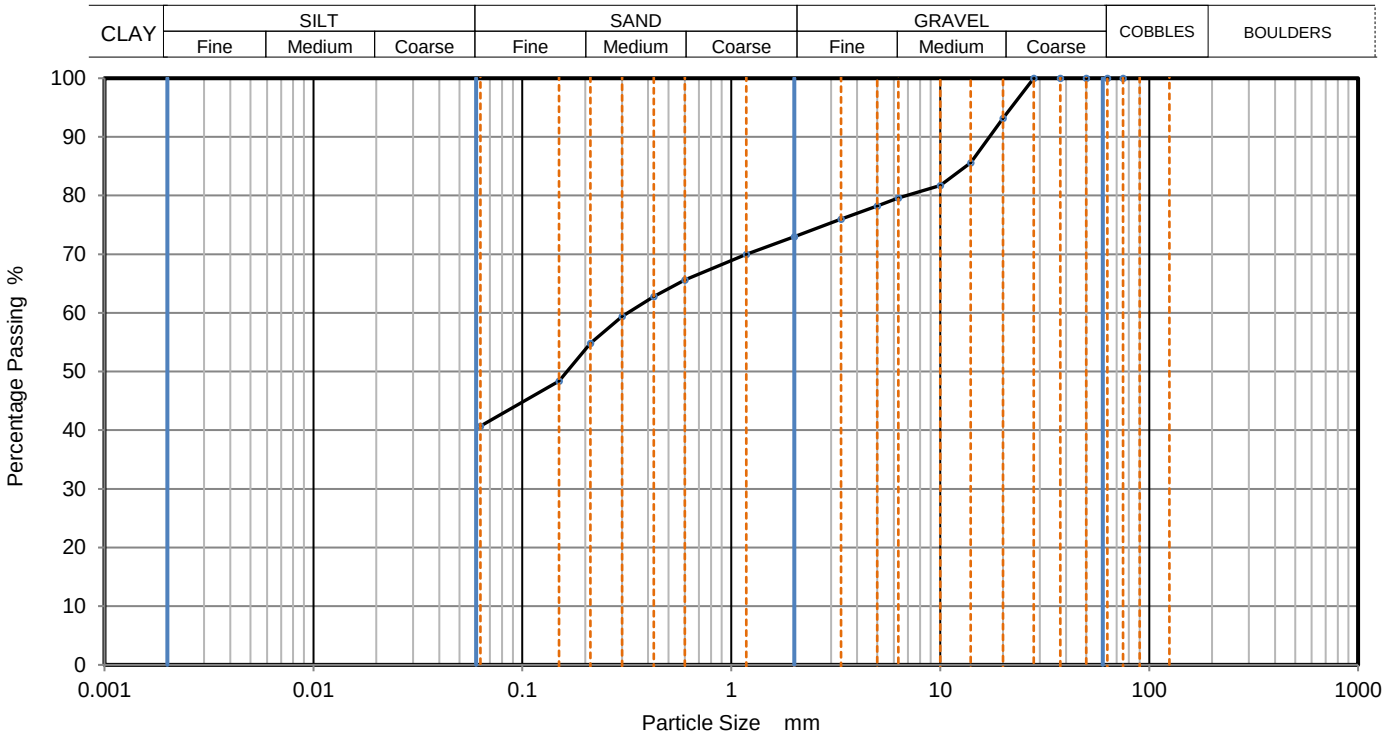
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | | | |
|---|---|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | | | Job Ref | **2021LD101** |
| | | | | Borehole/Pit No. | TPT12 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 8 |
| Soil Description | Grey slightly gravelly slightly sandy CLAY. | | | Depth, m | 3.90 |
| Specimen Reference | | Specimen Depth | m | Sample Type | D |
| Test Method | BS1377:Part 2:1990, clause 9.2 | | | KeyLAB ID | IDL120210315115 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 93 | | |
| 14 | 86 | | |
| 10 | 82 | | |
| 6.3 | 80 | | |
| 5 | 78 | | |
| 3.35 | 76 | | |
| 2 | 73 | | |
| 1.18 | 70 | | |
| 0.6 | 66 | | |
| 0.425 | 63 | | |
| 0.3 | 59 | | |
| 0.212 | 55 | | |
| 0.15 | 48 | | |
| 0.063 | 41 | | |

| | |
|---|---|
| Dry Mass of sample, g | 477 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 27 |
| Sand | 32 |
| | |
| Fines <0.063mm | 41 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.319 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:37 | 1<br>QC From No:R2 |

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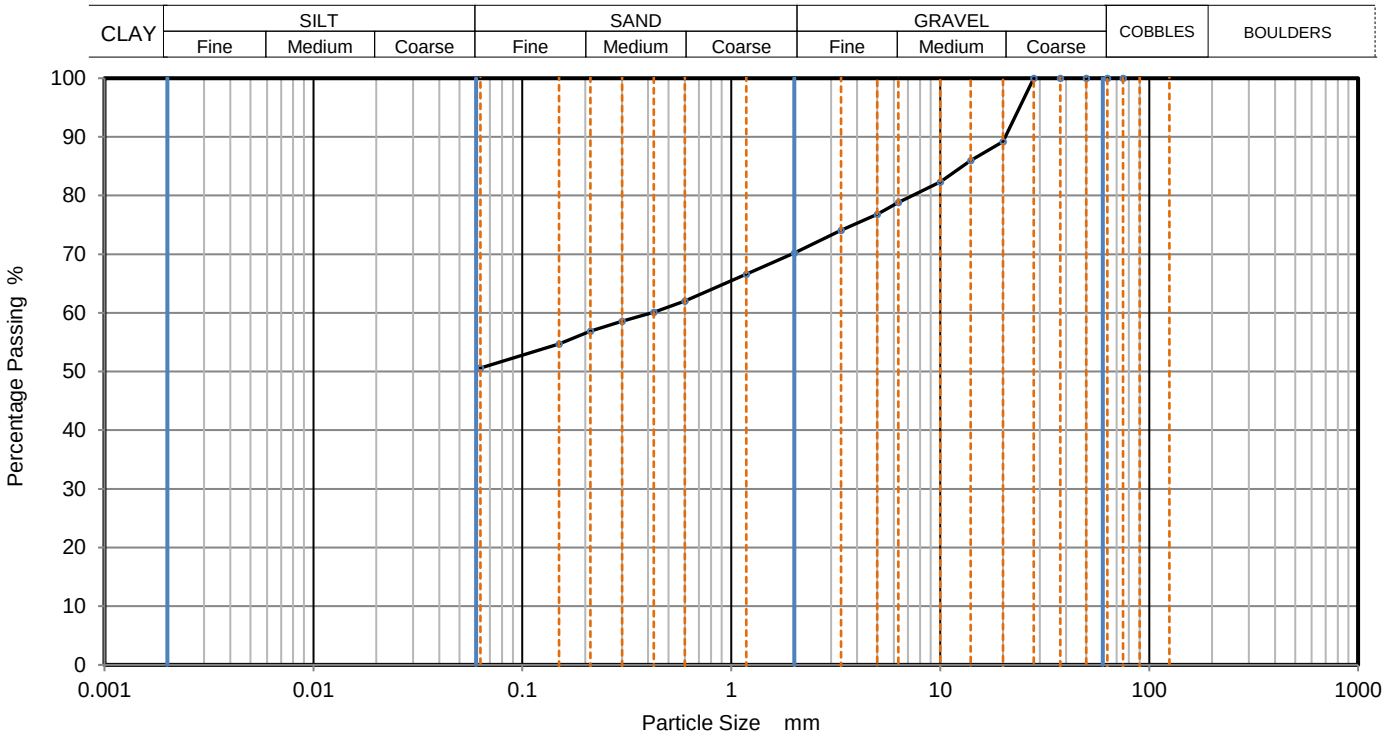
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPT17 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Grey slightly sandy slightly gravelly SILT. | Depth, m | 3.30 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clause 9.2 | KeyLAB ID | IDL120210323290 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | | |
| | | | |
| 75 | 100 | | |
| 63 | 100 | | |
| 50 | 100 | | |
| 37.5 | 100 | | |
| 28 | 100 | | |
| 20 | 89 | | |
| 14 | 86 | | |
| 10 | 82 | | |
| 6.3 | 79 | | |
| 5 | 77 | | |
| 3.35 | 74 | | |
| 2 | 70 | | |
| 1.18 | 67 | | |
| 0.6 | 62 | | |
| 0.425 | 60 | | |
| 0.3 | 59 | | |
| 0.212 | 57 | | |
| 0.15 | 55 | | |
| 0.063 | 51 | | |

| | |
|---|---|
| Dry Mass of sample, g | 721 |

| **Sample Proportions** | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 30 |
| Sand | 20 |
| | |
| Fines <0.063mm | 51 |

| **Grading Analysis** | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.416 |
| D30 | mm | |
| D10 | mm | |
| Uniformity Coefficient | | |
| Curvature Coefficient | | |

Remarks

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| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:37 | 1<br>QC From No:R2 |

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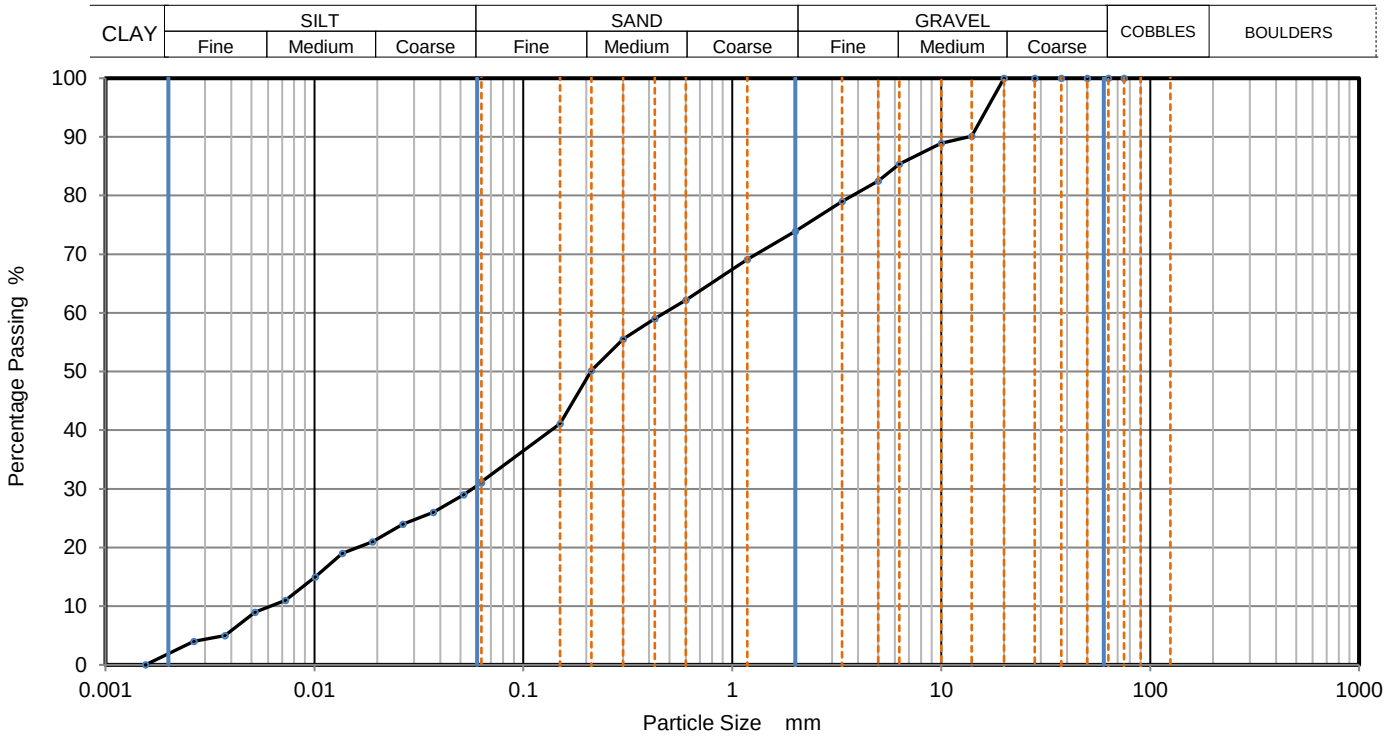
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | | | |
|---|---|---|---|
| IRISH DRILLING LIMITED | **PARTICLE SIZE DISTRIBUTION** | Job Ref | **2021LD101** |
| | | Borehole/Pit No. | TPT20 |
| Site Name | Derryadd Wind Farm | Sample No. | 5 |
| Soil Description | Grey very gravelly very silty SAND. | Depth, m | 1.60 |
| Specimen Reference | Specimen Depth m | Sample Type | B |
| Test Method | BS1377:Part 2:1990, clauses 9.2 and 9.5 | KeyLAB ID | IDL12021041454 |




| Sieving | | Sedimentation | |
|---|---|---|---|
| Particle Size mm | % Passing | Particle Size mm | % Passing |
| | | 0.0630 | 31 |
| | | 0.0517 | 29 |
| 75 | 100 | 0.0370 | 26 |
| 63 | 100 | 0.0265 | 24 |
| 50 | 100 | 0.0190 | 21 |
| 37.5 | 100 | 0.0136 | 19 |
| 28 | 100 | 0.0101 | 15 |
| 20 | 100 | 0.0073 | 11 |
| 14 | 90 | 0.0052 | 9 |
| 10 | 89 | 0.0037 | 5 |
| 6.3 | 85 | 0.0026 | 4 |
| 5 | 83 | 0.0016 | 0 |
| 3.35 | 79 | | |
| 2 | 74 | | |
| 1.18 | 69 | | |
| 0.6 | 62 | Particle density | (assumed) |
| 0.425 | 59 | 2.65 | Mg/m3 |
| 0.3 | 56 | | |
| 0.212 | 50 | | |
| 0.15 | 41 | | |
| 0.063 | 31 | | |

Dry Mass of sample, g: 505

| Sample Proportions | % dry mass |
|---|---|
| Very coarse | 0 |
| Gravel | 26 |
| Sand | 43 |
| Silt | 29 |
| Clay | 2 |

| Grading Analysis | | |
|---|---|---|
| D100 | mm | |
| D60 | mm | 0.475 |
| D30 | mm | 0.0573 |
| D10 | mm | 0.00615 |
| Uniformity Coefficient | | 77 |
| Curvature Coefficient | | 1.1 |

Remarks

Preparation and testing in accordance with BS1377 unless noted below

| Operator | Checked | Approved | Sheet printed | |
|---|---|---|---|---|
| | | Dympna Darcy B.Sc. | 25/08/2021 11:37 | 1<br>QC From No:R2 |

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Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Particle Density by Gas Jar Tests - Summary of Results

Project No.
2021LD101

Project Name
Derryadd Wind Farm

| Hole No. | Sample | | | | Soil Description at test horizon | Particle Density Mg/m3 | Remarks |
|---|---|---|---|---|---|---|---|
| | Ref | Top | Base | Type | | | |
| BHRCBPE2 | 2 | 1.00 | | D | Grey slightly gravelly sandy SILT. | 2.48 | |
| BHRCSSA01 | 4 | 1.00 | 1.50 | B | Grey slightly sandy SILT. | 2.85 | |
| BHRCSSA11 | 3 | 0.50 | 1.00 | B | Grey slightly sandy SILT. | 2.62 | |
| TP354 | 3 | 2.50 | 3.00 | B | Brownish-grey slightly sandy gravelly silty CLAY. | 2.76 | |
| TPSSA06 | 3 | 1.20 | 1.50 | B | Dark grey slightly gravelly SILT. | 3.62 | |

Notes
Tests performed in accordance with BS 1377 unless annotated otherwise
Gas Jar tests to BS1377: Part 2 : 1990, clause 8.2

Date Printed
25/08/2021

Table
Approved : DCD
sheet
1 OF 1

**NMTL Ltd**

# Determination of Particle Size Distribution

**BS 1377 : 1990 : Part 2 : Clauses 9.2 & 9.5**

| Sieve Size mm | % Passing |
|---|---|
| 125.000 | 100.0 |
| 75.000 | 100.0 |
| 63.000 | 100.0 |
| 50.000 | 100.0 |
| 37.500 | 95.4 |
| 28.000 | 91.7 |
| 20.000 | 86.8 |
| 14.000 | 79.1 |
| 10.000 | 75.5 |
| 6.300 | 69.6 |
| 5.000 | 67.4 |
| 3.350 | 64.1 |
| 2.000 | 59.3 |
| 1.180 | 55.3 |
| 0.600 | 50.1 |
| 0.425 | 47.3 |
| 0.300 | 43.8 |
| 0.212 | 40.0 |
| 0.150 | 36.6 |
| 0.063 | 30.9 |

Percentage Particle Size

| Clay | Fine | Medium | Coarse | Fine | Medium | Coarse | Fine | Medium | Coarse | Cobbles | Boulder |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Silt | | | Sand | | | Gravel | | | |
| | | 30.9 | | | 28.4 | | | 40.7 | | 0.0 | 0.0 |

| | | | |
|---|---|---|---|
| Sample Description | Grey/brown slightly sandy gravelly SILT/CLAY | Project No. | NMTL 3360 |
| | | BH/TP No. | TPSSA04 |
| Project | Derryadd Wind Farm / IDL PROJECT ID:2021LD101 | Sample No. | B6 |
| Operator Tzr | Checked Nc / Approved Bc / Date sample tested 24/05/2021 | Depth | 3.0-3.30m |

**NM TL Ltd**

**NMTL Ltd**

# Determination of Particle Size Distribution

**BS 1377 : 1990 : Part 2 : Clauses 9.2 & 9.5**

| Sieve Size mm | % Passing |
|---|---|
| 125.000 | 100.0 |
| 75.000 | 100.0 |
| 63.000 | 93.6 |
| 50.000 | 93.6 |
| 37.500 | 90.6 |
| 28.000 | 88.2 |
| 20.000 | 85.5 |
| 14.000 | 82.7 |
| 10.000 | 79.2 |
| 6.300 | 75.3 |
| 5.000 | 72.4 |
| 3.350 | 69.5 |
| 2.000 | 64.8 |
| 1.180 | 60.6 |
| 0.600 | 55.6 |
| 0.425 | 52.7 |
| 0.300 | 49.3 |
| 0.212 | 45.4 |
| 0.150 | 41.4 |
| 0.063 | 35.3 |

Percentage Particle Size

| Clay | Fine | Medium | Coarse | Fine | Medium | Coarse | Fine | Medium | Coarse | Cobbles | Boulder |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Silt | | | Sand | | | Gravel | | | |
| | | 35.3 | | | 29.5 | | | 28.8 | | 6.4 | 0.0 |

| | | | |
|---|---|---|---|
| Sample Description | Brown/grey slightly gravelly slightly sandy SILT/CLAY | Project No. | NMTL 3360 |
| | | BH/TP No. | TPT18 |
| Project | Derryadd Wind Farm — IDL PROJECT ID:2021LD101 | Sample No. | B5 |
| Operator Tzr | Checked Nc — Approved Bc — Date sample tested 27/05/2021 | Depth | 2.0-2.30m |

**NM TL Ltd**

**NMTL Ltd**

# Determination of Particle Size Distribution

**BS 1377 : 1990 : Part 2 : Clauses 9.2 & 9.5**

| Sieve Size mm | % Passing |
|---|---|
| 125.000 | 100.0 |
| 75.000 | 100.0 |
| 63.000 | 100.0 |
| 50.000 | 95.2 |
| 37.500 | 91.1 |
| 28.000 | 86.2 |
| 20.000 | 84.2 |
| 14.000 | 78.1 |
| 10.000 | 76.5 |
| 6.300 | 74.6 |
| 5.000 | 71.8 |
| 3.350 | 69.5 |
| 2.000 | 65.7 |
| 1.180 | 61.8 |
| 0.600 | 57.4 |
| 0.425 | 55.0 |
| 0.300 | 51.9 |
| 0.212 | 48.2 |
| 0.150 | 44.4 |
| 0.063 | 36.7 |

Percentage Particle Size

| Clay | Fine | Medium | Coarse | Fine | Medium | Coarse | Fine | Medium | Coarse | Cobbles | Boulder |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Silt | | | Sand | | | Gravel | | | |
| | | 36.7 | | | 29.0 | | | 34.3 | | 0.0 | 0.0 |

| | | | |
|---|---|---|---|
| Sample Description | Grey/brown slightly sandy gravelly SILT/CLAY. | Project No. | 3360 |
| | | BH/TP No. | TP341 |
| Project | Derryadd Wind Farm IDL PROJECT ID:2021LD101 | Sample No. | B3 |
| Operator Tzr | Checked Nc / Approved Bc / Date sample tested 11/05/2021 | Depth | 2.0-2.30m |

**NM TL Ltd**

**NMTL Ltd**

# Determination of Particle Size Distribution

**BS 1377 : 1990 : Part 2 : Clauses 9.2 & 9.5**

| Sieve Size mm | % Passing |
|---|---|
| 125.000 | 100.0 |
| 75.000 | 100.0 |
| 63.000 | 100.0 |
| 50.000 | 100.0 |
| 37.500 | 92.8 |
| 28.000 | 88.6 |
| 20.000 | 80.9 |
| 14.000 | 79.5 |
| 10.000 | 77.0 |
| 6.300 | 72.1 |
| 5.000 | 70.3 |
| 3.350 | 68.3 |
| 2.000 | 64.5 |
| 1.180 | 61.0 |
| 0.600 | 56.3 |
| 0.425 | 53.5 |
| 0.300 | 50.0 |
| 0.212 | 45.5 |
| 0.150 | 40.7 |
| 0.063 | 33.1 |

Percentage Particle Size

| Clay | Fine | Medium | Coarse | Fine | Medium | Coarse | Fine | Medium | Coarse | Cobbles | Boulder |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Silt | | | Sand | | | Gravel | | | |
| | | 33.1 | | | 31.4 | | | 35.5 | | 0.0 | 0.0 |

| | | | |
|---|---|---|---|
| Sample Description | Light grey slightly sandy gravelly SILT/CLAY. | Project No. | 3360 |
| | | BH/TP No. | TPT11 |
| Project | Derryadd Wind Farm IDL PROJECT ID:2021LD101 | Sample No. | B3 |
| Operator Tzr | Checked Nc / Approved Bc / Date sample tested 11/05/2021 | Depth | 1.40-1.60m |

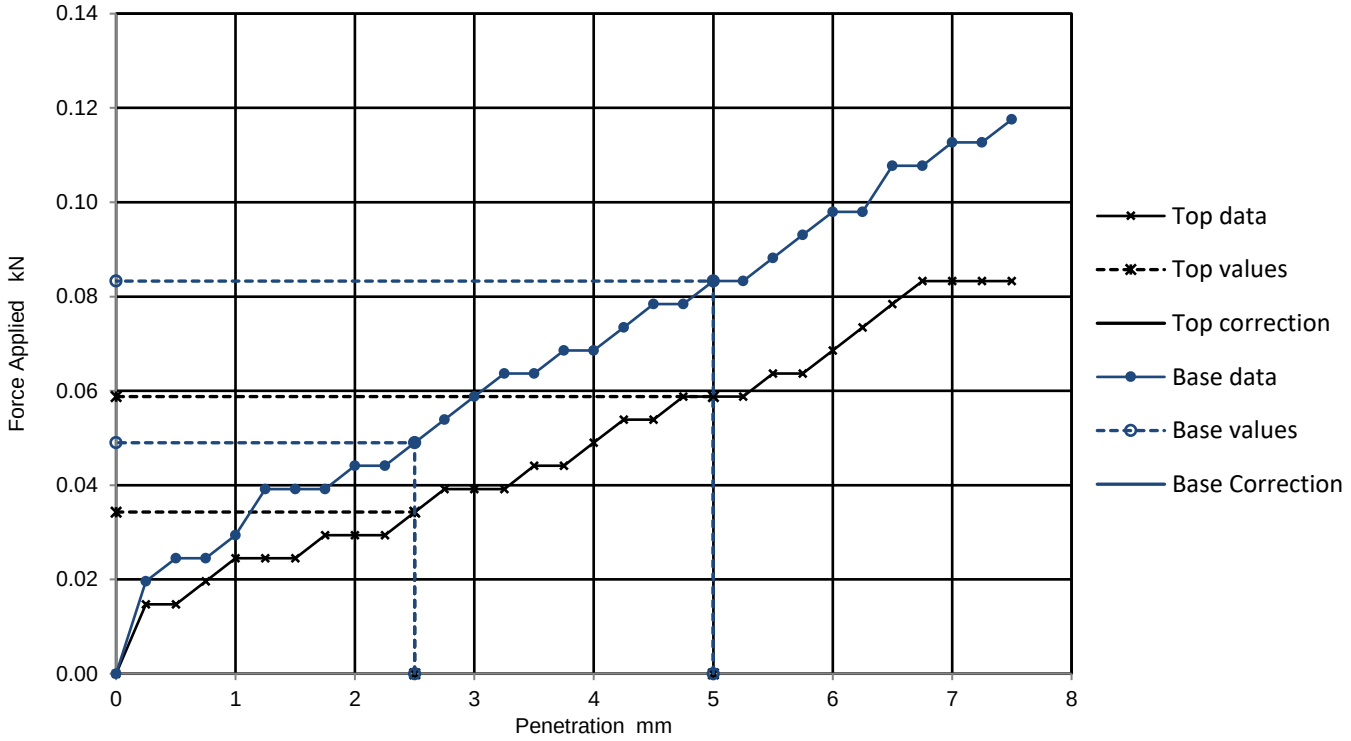
**NM TL Ltd**

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | BHRC09B |
| Site Name | Derryadd Wind Farm | | | Sample No. | 9 |
| Soil Description | Grey sandy SILT. | | | Depth m | 3.00 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL12021032647 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 0 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.13 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.50 | Mg/m3 | | 1 | kPa |
| | Moisture content | 42.4 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | | 0.3 | 0.3 | 0.3 | | 39.3 |
| BASE | | 0.4 | 0.4 | 0.4 | | 41.1 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 1 |

Lab Sheet Reference :

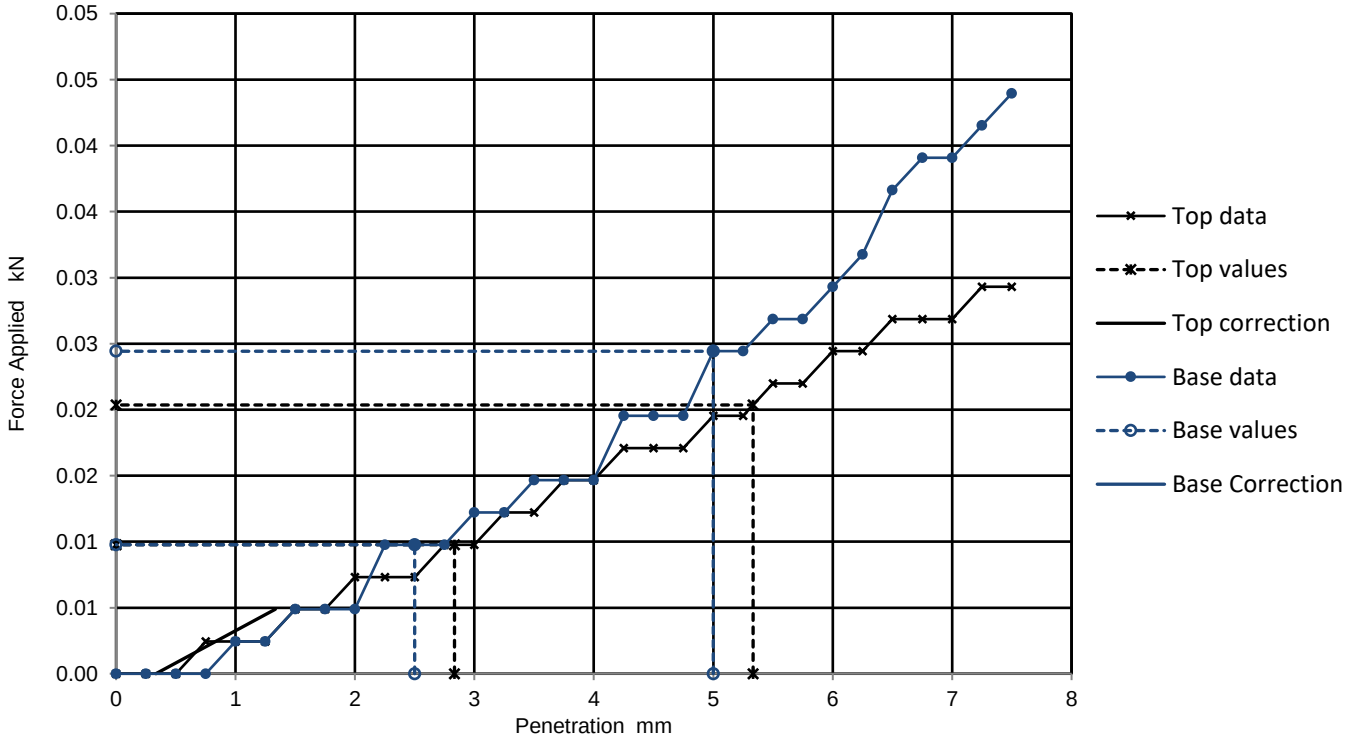
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | BHRC19B |
| Site Name | Derryadd Wind Farm | | | Sample No. | 10 |
| Soil Description | Brownish-grey slightly gravelly sandy SILT. | | | Depth m | 3.00 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL120210511161 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 4 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.11 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.62 | Mg/m3 | | 1 | kPa |
| | Moisture content | 30.5 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | Yes | 0.1 | 0.1 | 0.1 | 0.1 | 30.5 |
| BASE | No | 0.1 | 0.1 | 0.1 | | 25.0 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 2 |

Lab Sheet Reference :

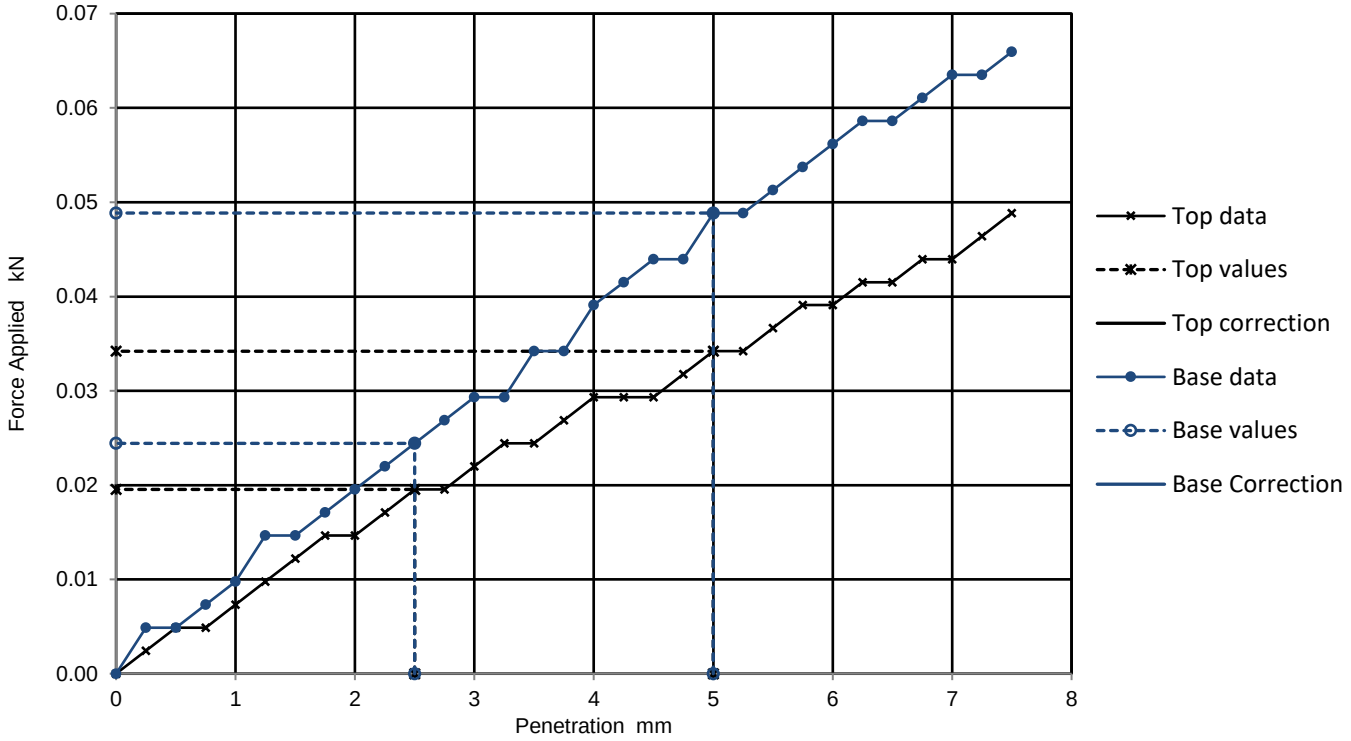
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | BHRC22B |
| Site Name | Derryadd Wind Farm | | | Sample No. | 9 |
| Soil Description | Grey slightly gravelly sandy SILT. | | | Depth m | 3.00 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL120210511228 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 0 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.25 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.95 | Mg/m3 | | 1 | kPa |
| | Moisture content | 15.1 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | No | 0.2 | 0.2 | 0.2 | | 14.6 |
| BASE | No | 0.2 | 0.2 | 0.2 | | 15.9 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 3 |

Lab Sheet Reference :

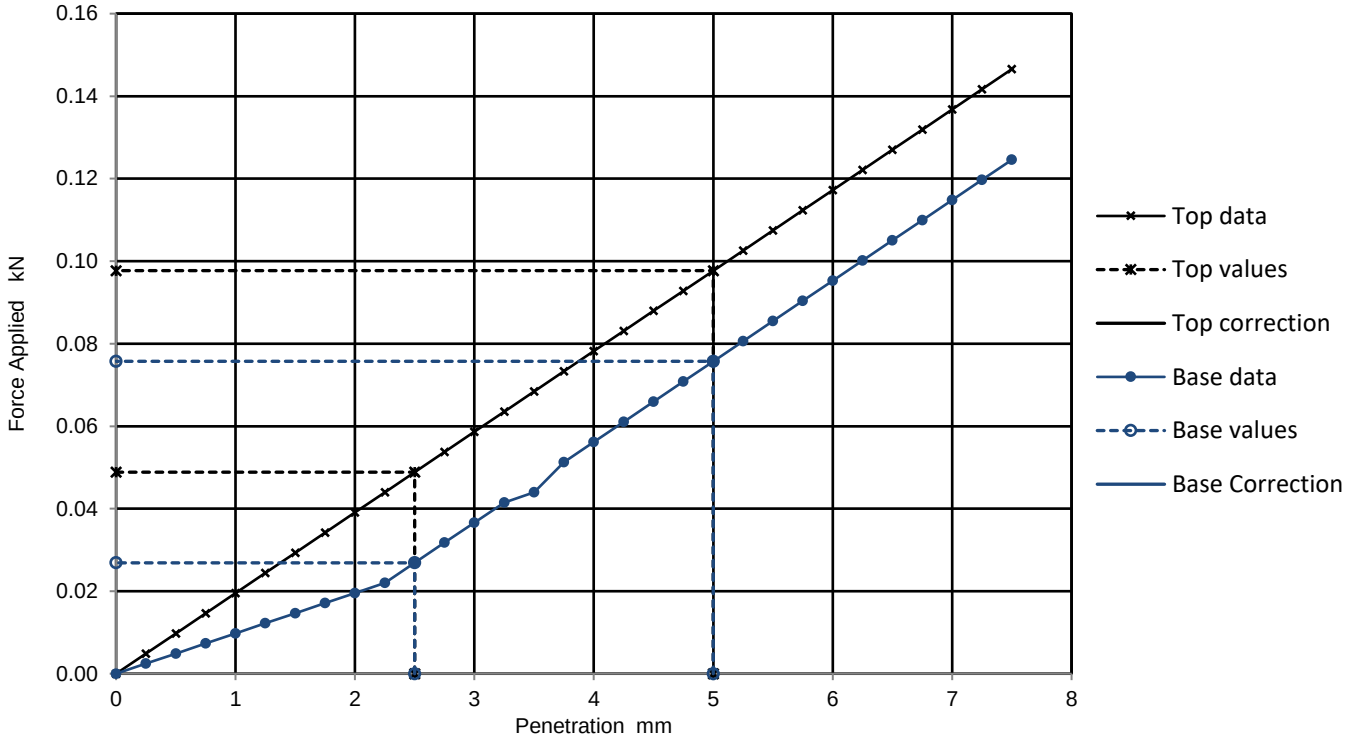
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | BHRCBPA1 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 6 |
| Soil Description | Dark grey slightly gravelly sandy SILT. Gravel is medium. | | | Depth m | 2.00 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL12021041390 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 0 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.20 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.69 | Mg/m3 | | 1 | kPa |
| | Moisture content | 30.4 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | | 0.4 | 0.5 | 0.5 | 0.5 | 28.8 |
| BASE | | 0.2 | 0.4 | 0.4 | | 31.0 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 4 |

Lab Sheet Reference :

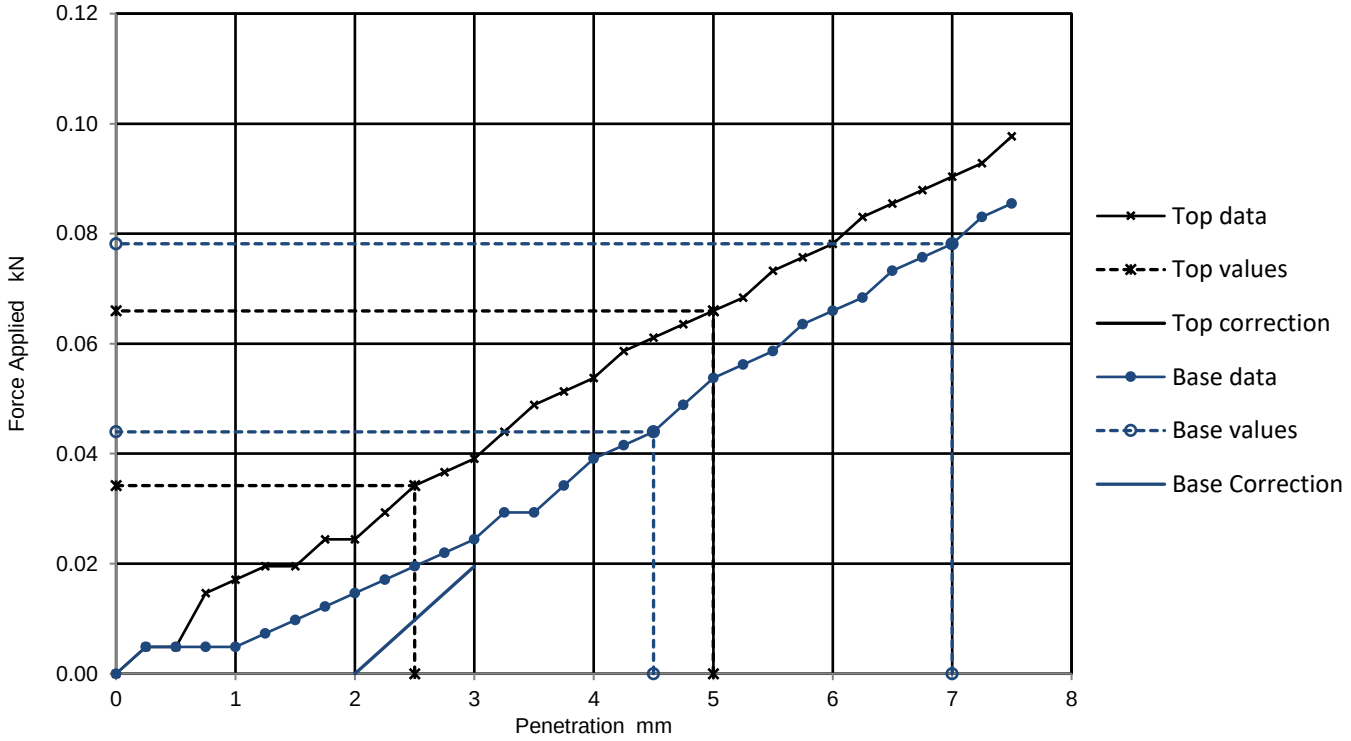
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | BHRCBPC1 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 7 |
| Soil Description | Dark grey very gravelly very silty fine and medium SAND. | | | Depth m | 2.00 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL120210423288 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 7 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.34 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 2.10 | Mg/m3 | | 1 | kPa |
| | Moisture content | 11.5 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | No | 0.3 | 0.3 | 0.3 | 0.4 | 11.0 |
| BASE | Yes | 0.3 | 0.4 | 0.4 | | 11.5 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 5 |

Lab Sheet Reference :

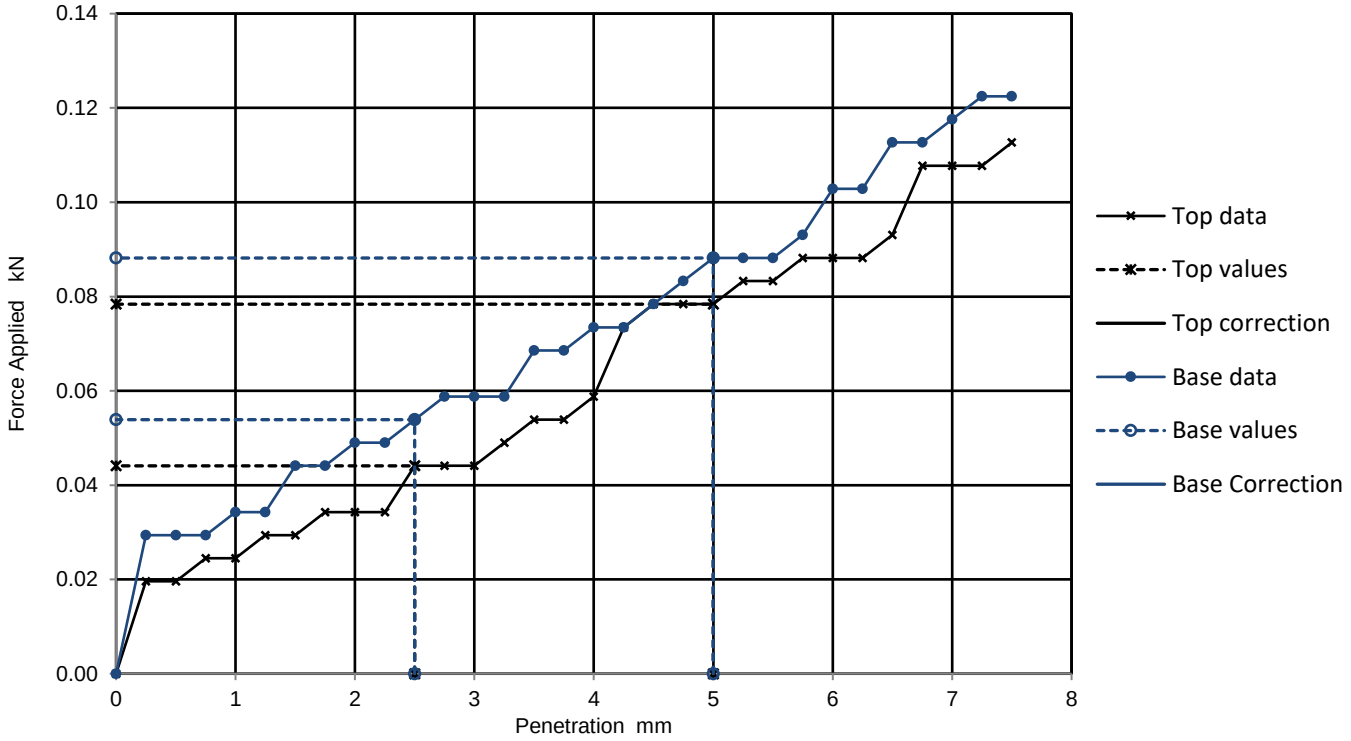
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TP002 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 2 |
| Soil Description | Dark grey slightly gravelly sandy SILT. Sand is fine. | | | Depth m | 0.60 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL120210222102 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 17 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.03 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.72 | Mg/m3 | | 1 | kPa |
| | Moisture content | 18.1 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | | 0.3 | 0.4 | 0.4 | 0.4 | 18.0 |
| BASE | | 0.4 | 0.4 | 0.4 | | 20.1 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 6 |

Lab Sheet Reference :

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

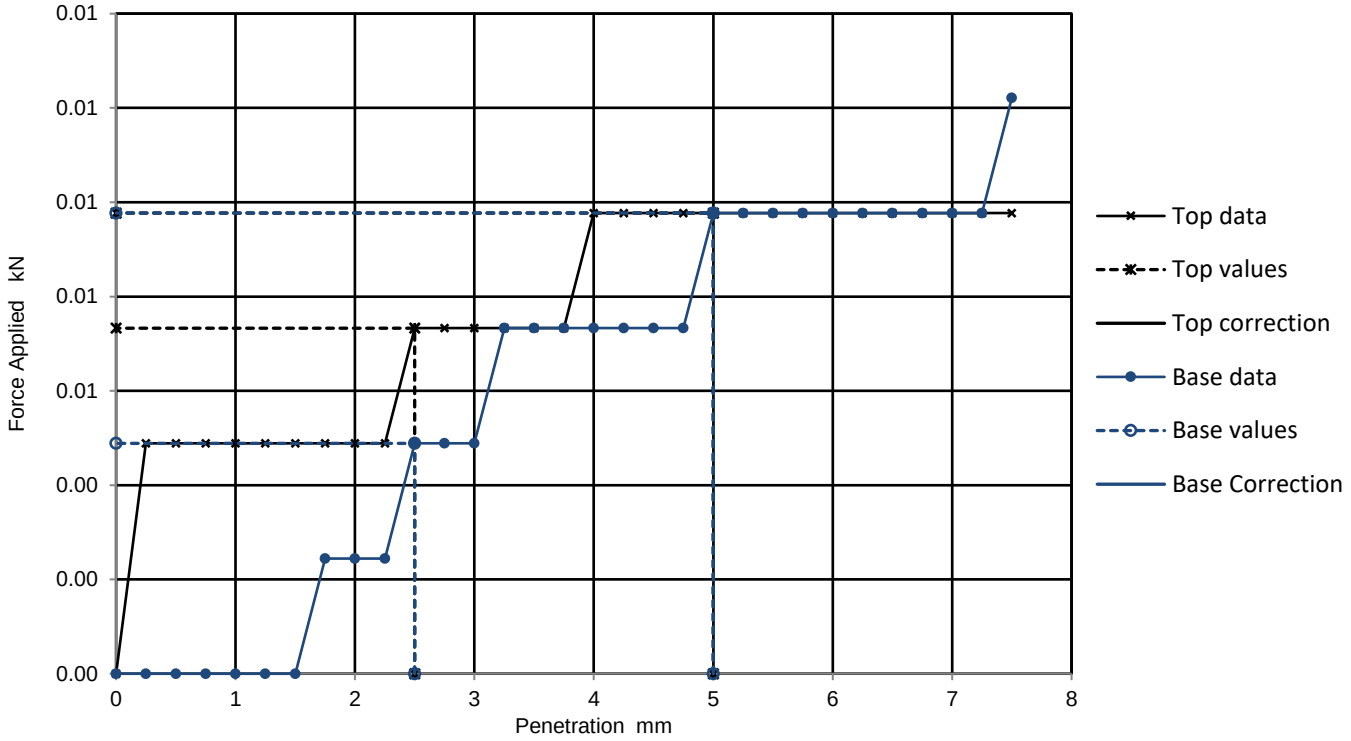
| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TP120R |
| Site Name | Derryadd Wind Farm | | | Sample No. | 3 |
| Soil Description | Orange-grey sandy CLAY. | | | Depth m | 1.20 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL120210420121 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | |
|---|---|---|---|
| Condition | REMOULDED | Soaking details | Not soaked |
| Details | Recompacted with specified standard effort using 2.5kg rammer | Period of soaking | days |
| | | Time to surface | days |
| | | Amount of swell recorded | mm |
| Material retained on 20mm sieve removed | % | Dry density after soaking | Mg/m3 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Initial Specimen details | Bulk density | 1.91 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.47 | Mg/m3 | | 1 | kPa |
| | Moisture content | 30.1 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | No | 0.1 | 0.0 | 0.1 | 0.1 | 32.7 |
| BASE | No | 0.0 | 0.0 | 0.0 | | 34.6 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 7 |

Lab Sheet Reference :

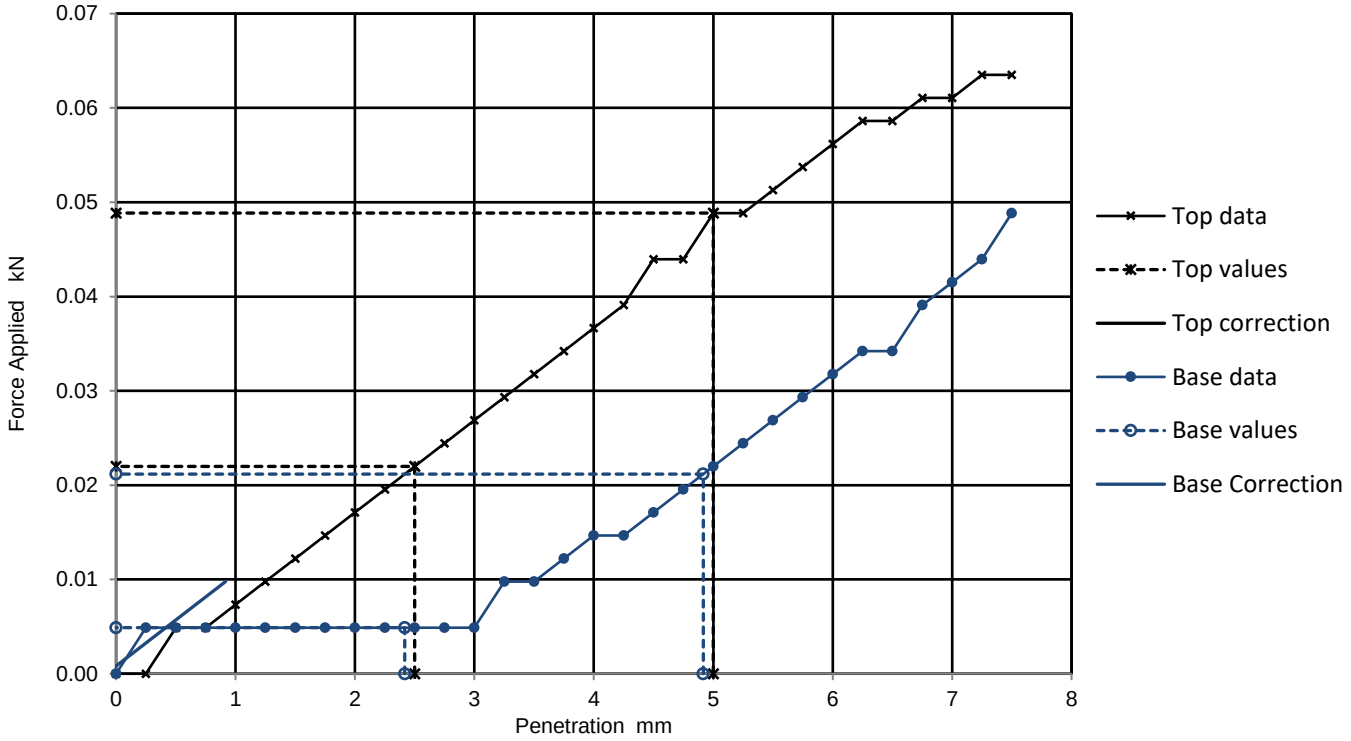
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TP162 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 5 |
| Soil Description | Grey silty very sandy medium GRAVEL. | | | Depth m | 1.50 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL120210430121 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | |
|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | days |
| | | | | Time to surface | days |
| | | | | Amount of swell recorded | mm |
| Material retained on 20mm sieve removed | | 10 | % | Dry density after soaking | Mg/m3 |
| Initial Specimen details | Bulk density | 2.41 | Mg/m3 | Surcharge applied | kg |
| | Dry density | 2.20 | Mg/m3 | | kPa |
| | Moisture content | 9.5 | % | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | No | 0.2 | 0.2 | 0.2 | 0.2 | 9.2 |
| BASE | Yes | 0.0 | 0.1 | 0.1 | | 10.3 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 8 |

Lab Sheet Reference :

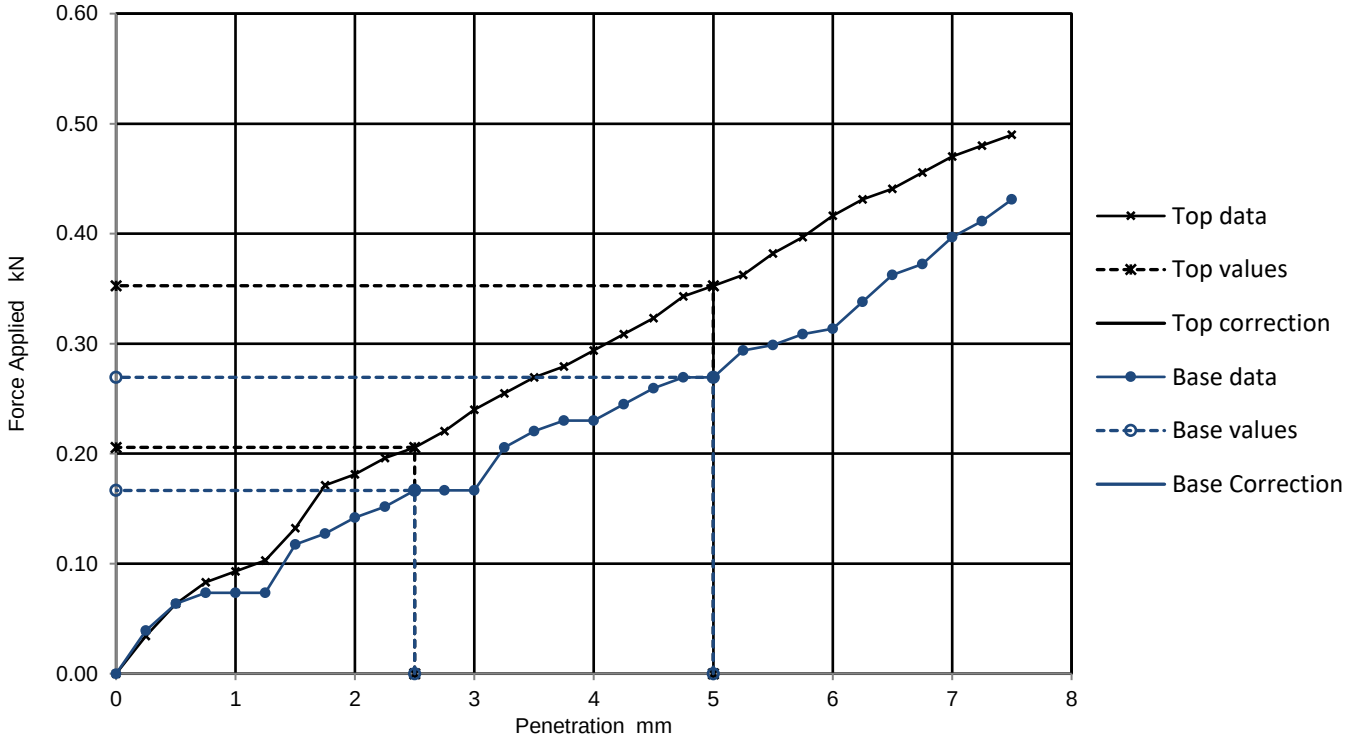
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TP276 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 3 |
| Soil Description | Light grey gravelly CLAY. | | | Depth m | 1.30 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL1202103187 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 3 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.11 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.93 | Mg/m3 | | 1 | kPa |
| | Moisture content | 9.2 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | | 1.6 | 1.8 | 1.8 | 1.5 | 11.3 |
| BASE | | 1.3 | 1.3 | 1.3 | | 8.0 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 9 |

Lab Sheet Reference :

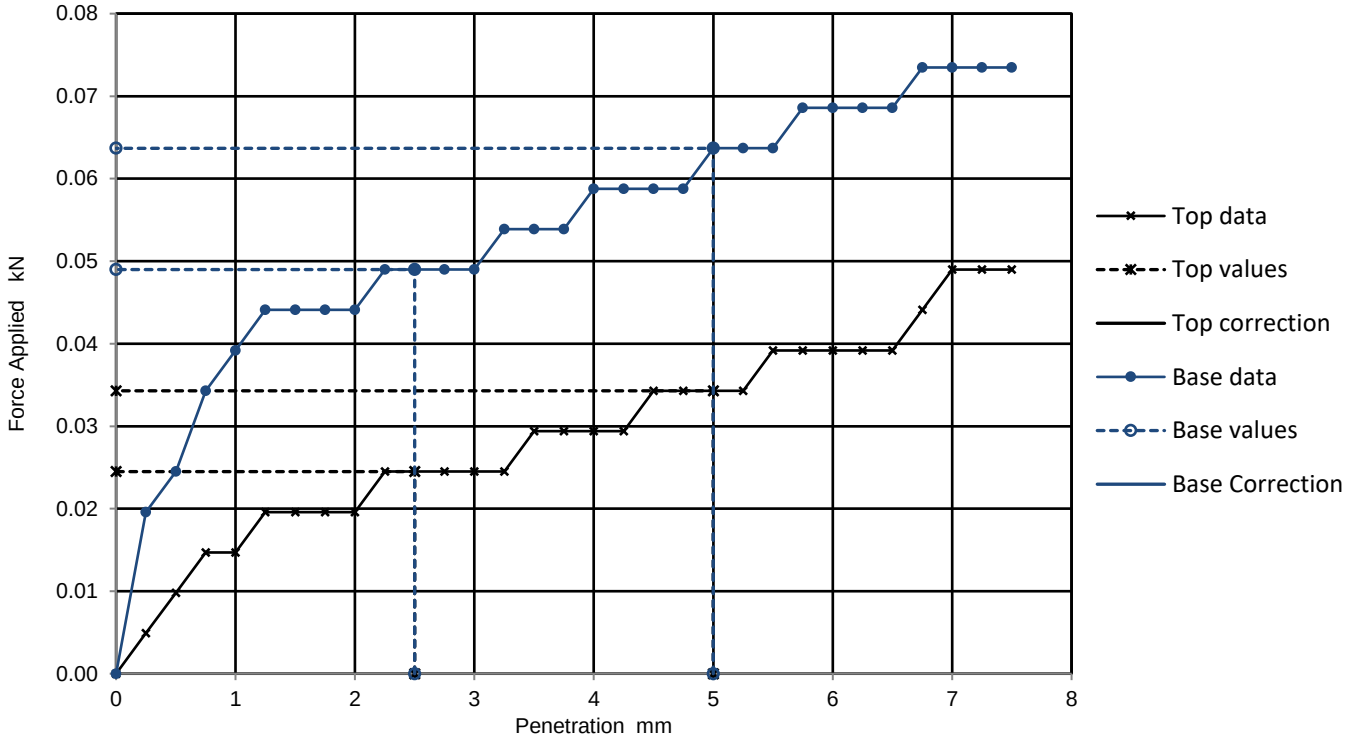
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TP354 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 2 |
| Soil Description | Brownish-grey slightly sandy gravelly silty CLAY. | | | Depth m | 1.00 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL12021021817 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 0 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.11 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.85 | Mg/m3 | | 1 | kPa |
| | Moisture content | 14.3 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | | 0.2 | 0.2 | 0.2 | 0.3 | 13.9 |
| BASE | | 0.4 | 0.3 | 0.4 | | 16.1 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 10 |

Lab Sheet Reference :

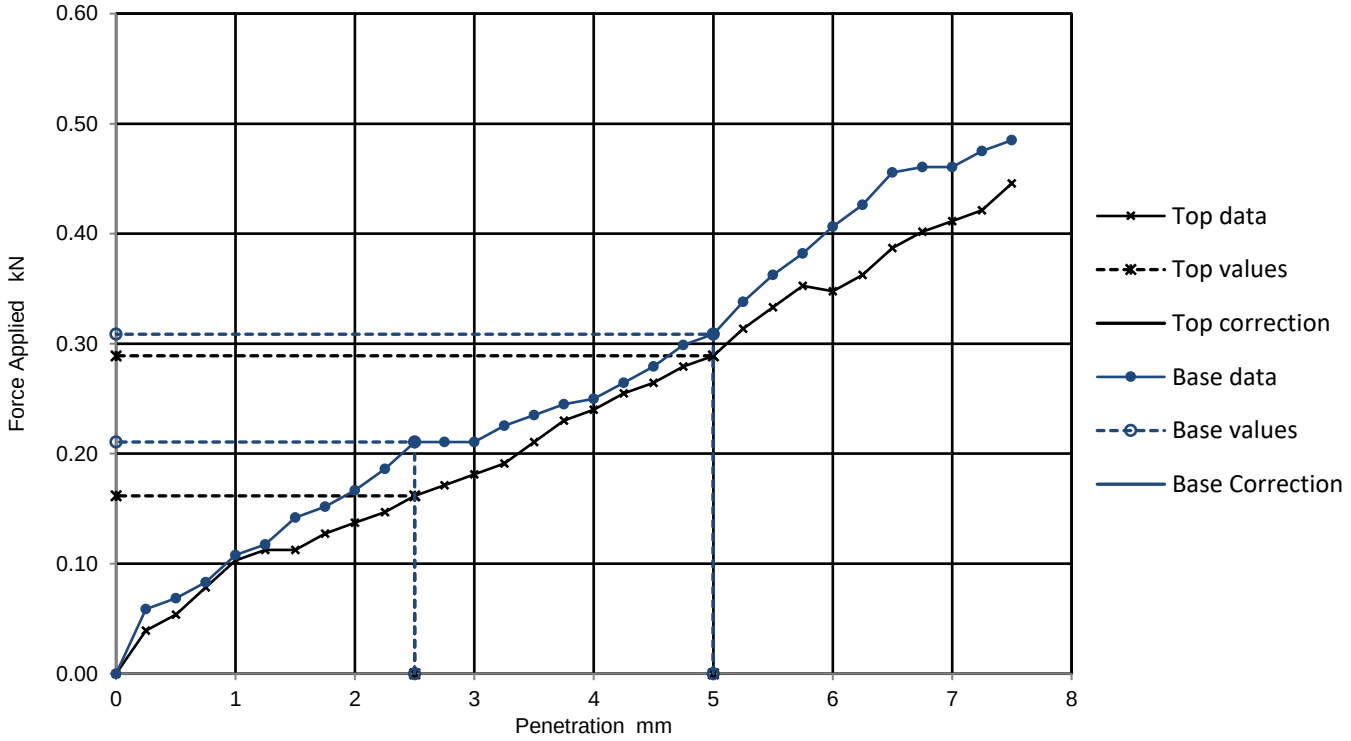
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TPBPA02 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 3 |
| Soil Description | Dark grey slightly gravelly SILT. | | | Depth m | 0.90 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL12021031879 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 5 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.17 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.57 | Mg/m3 | | 1 | kPa |
| | Moisture content | 37.9 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | | 1.2 | 1.4 | 1.4 | 1.5 | 33.9 |
| BASE | | 1.6 | 1.5 | 1.6 | | 34.4 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 11 |

Lab Sheet Reference :

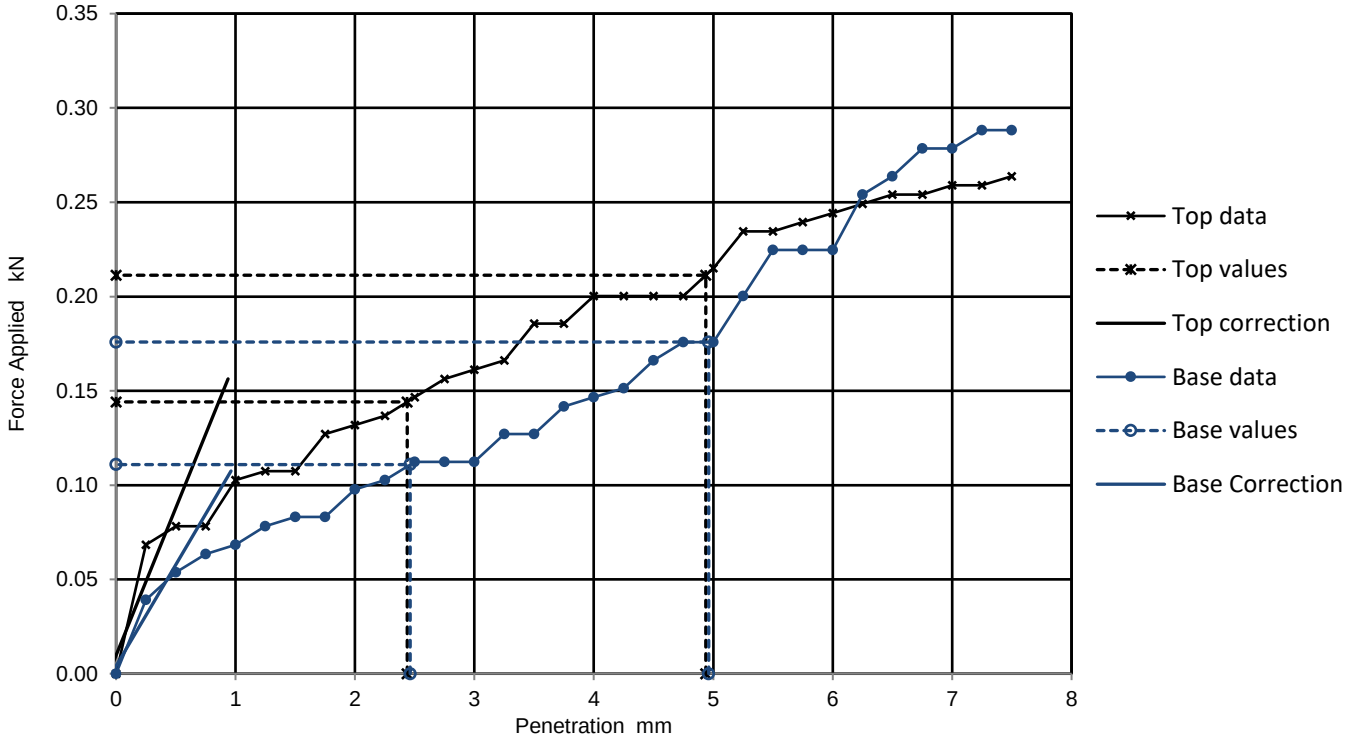
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TPBPB03 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 3 |
| Soil Description | Grey silty medium SAND and fine and medium GRAVEL. | | | Depth m | 0.70 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL12021040721 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 4 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.10 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.85 | Mg/m3 | | 1 | kPa |
| | Moisture content | 13.7 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | Yes | 1.1 | 1.1 | 1.1 | | 13.2 |
| BASE | Yes | 0.8 | 0.9 | 0.9 | | 14.2 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 12 |

Lab Sheet Reference :

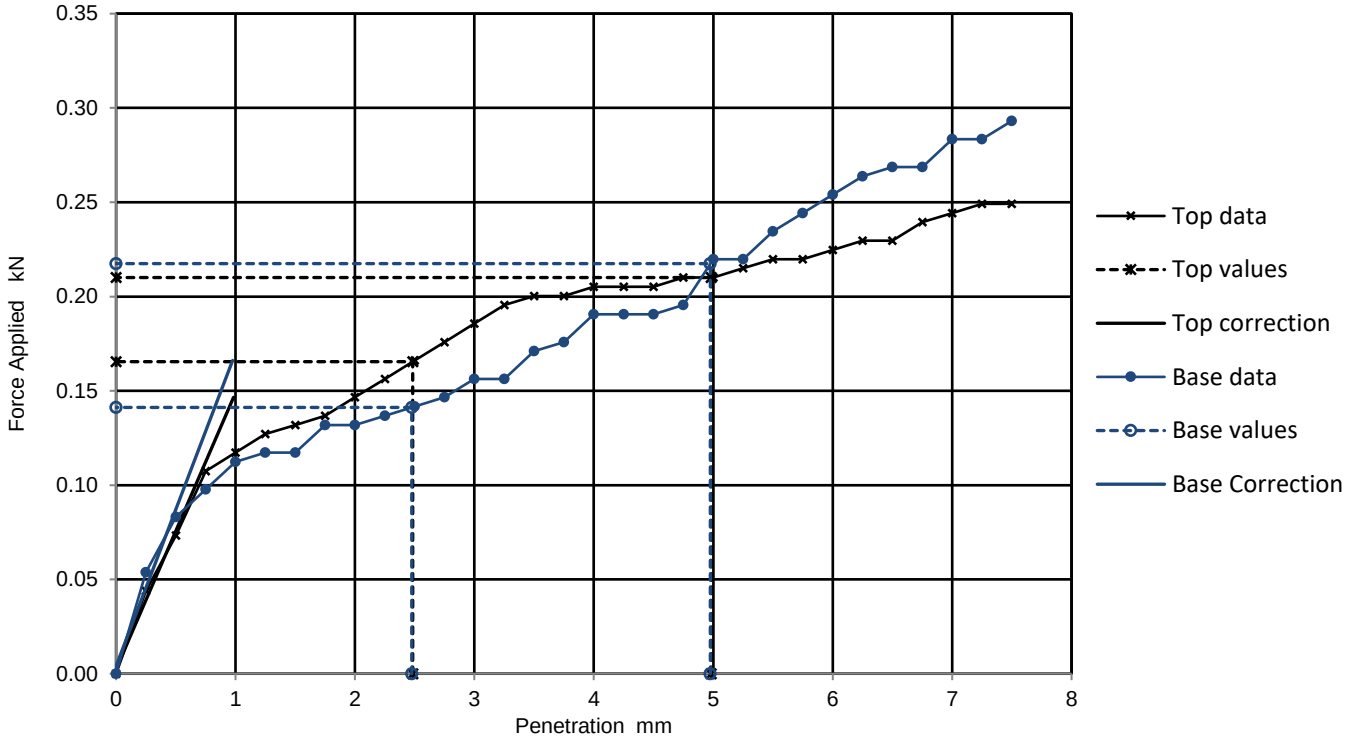
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TPBPC02 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 2 |
| Soil Description | Grey slightly gravelly sandy SILT. | | | Depth m | 0.30 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL12021040743 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 0 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.11 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.78 | Mg/m3 | | 1 | kPa |
| | Moisture content | 18.4 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | Yes | 1.3 | 1.1 | 1.3 | 1.2 | 17.1 |
| BASE | Yes | 1.1 | 1.1 | 1.1 | | 16.2 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 13 |

Lab Sheet Reference :

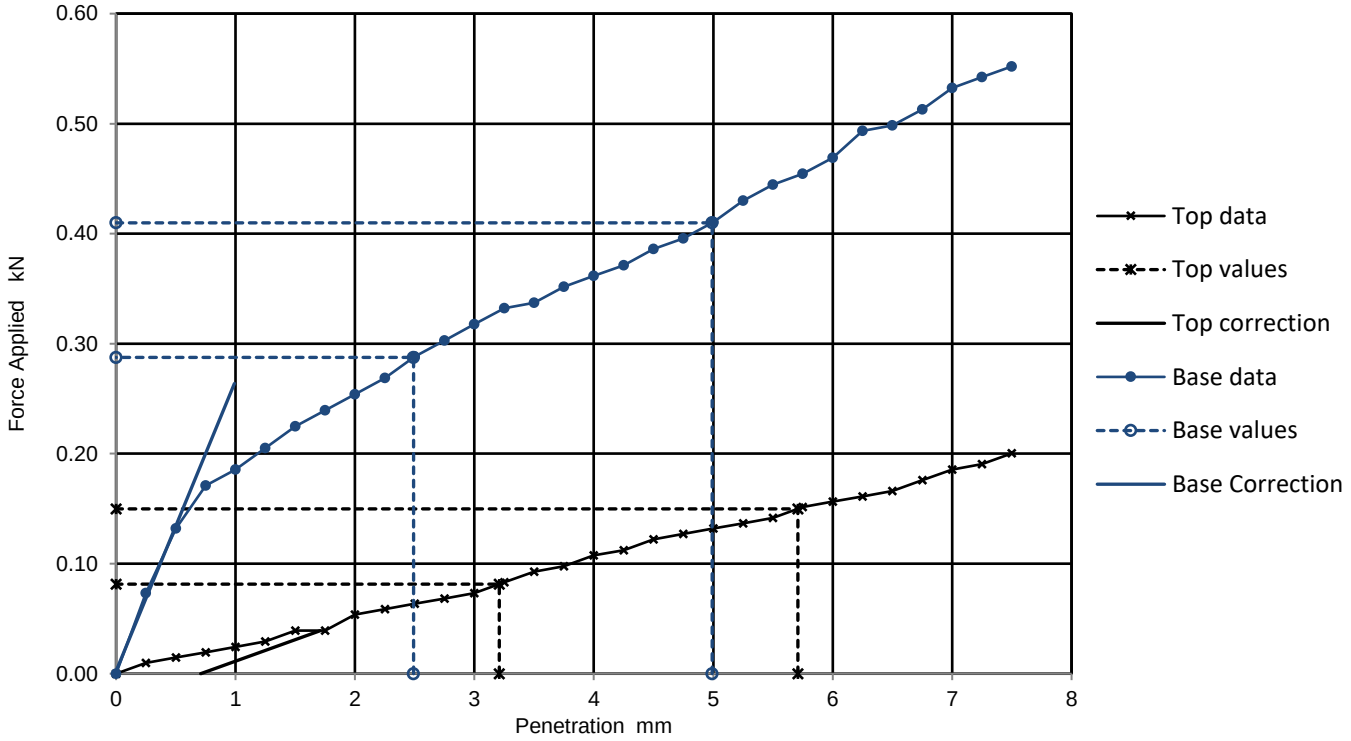
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TPBPE02 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 3 |
| Soil Description | Light brown very silty very sandy coarse GRAVEL. | | | Depth m | 0.70 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL12021040767 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 20 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.15 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.92 | Mg/m3 | | 1 | kPa |
| | Moisture content | 11.7 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | Yes | 0.6 | 0.8 | 0.8 | 1.5 | 10.3 |
| BASE | Yes | 2.2 | 2.0 | 2.2 | | 10.9 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 14 |

Lab Sheet Reference :

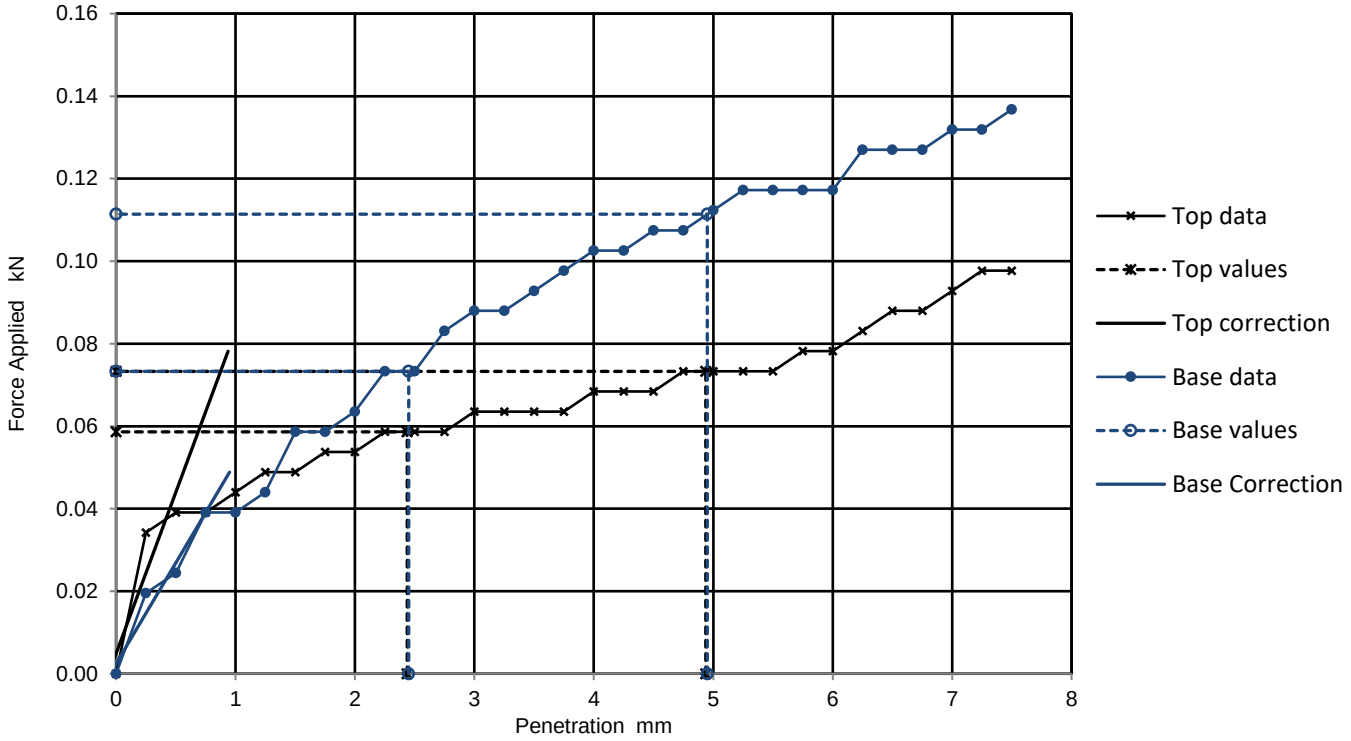
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TPSSA06 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 3 |
| Soil Description | Dark grey slightly gravelly SILT. | | | Depth m | 1.20 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL12021040142 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 0 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.17 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.93 | Mg/m3 | | 1 | kPa |
| | Moisture content | 12.7 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | Yes | 0.4 | 0.4 | 0.4 | 0.5 | 12.0 |
| BASE | Yes | 0.6 | 0.6 | 0.6 | | 14.0 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 15 |

Lab Sheet Reference :

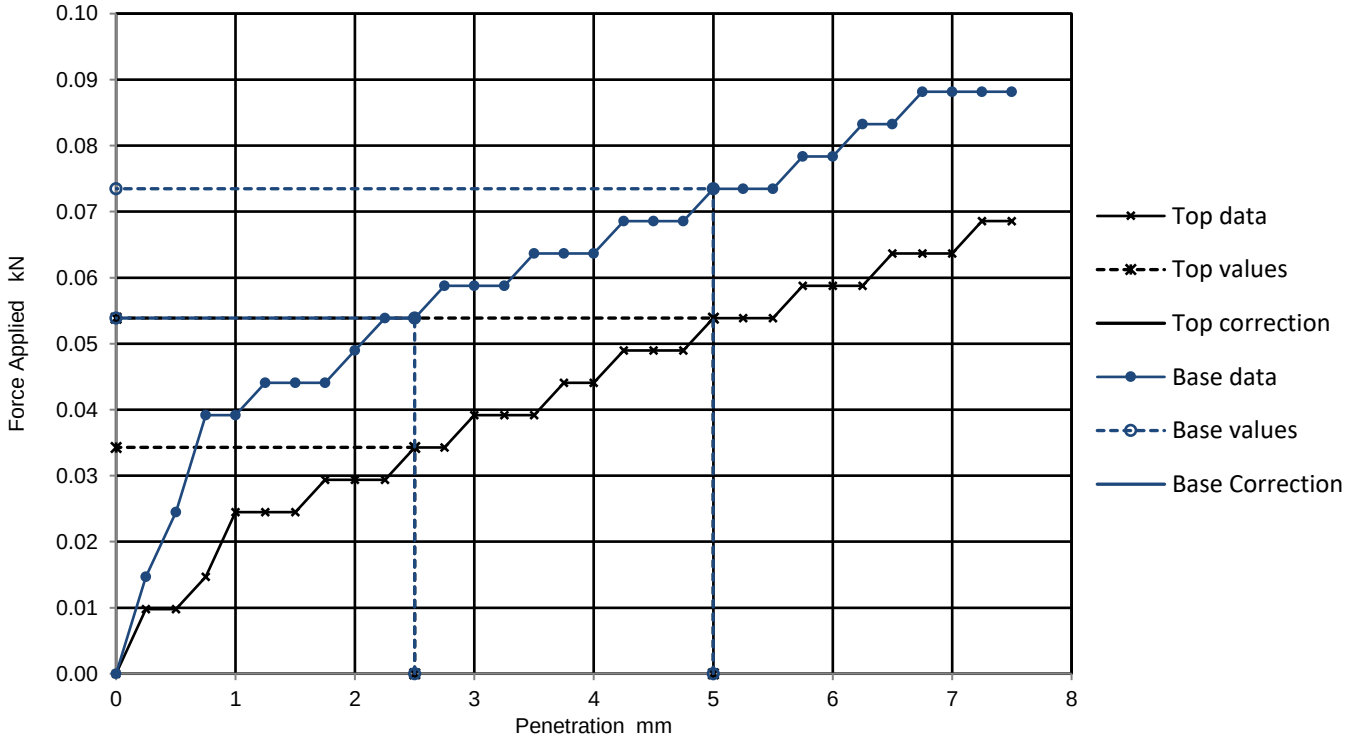
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TPT13 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 3 |
| Soil Description | Dark grey sandy laminated SILT . | | | Depth m | 1.20 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL120210323280 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 0 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.04 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.19 | Mg/m3 | | 1 | kPa |
| | Moisture content | 71.2 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | | 0.3 | 0.3 | 0.3 | 0.4 | 82.0 |
| BASE | | 0.4 | 0.4 | 0.4 | | 85.0 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 16 |

Lab Sheet Reference :

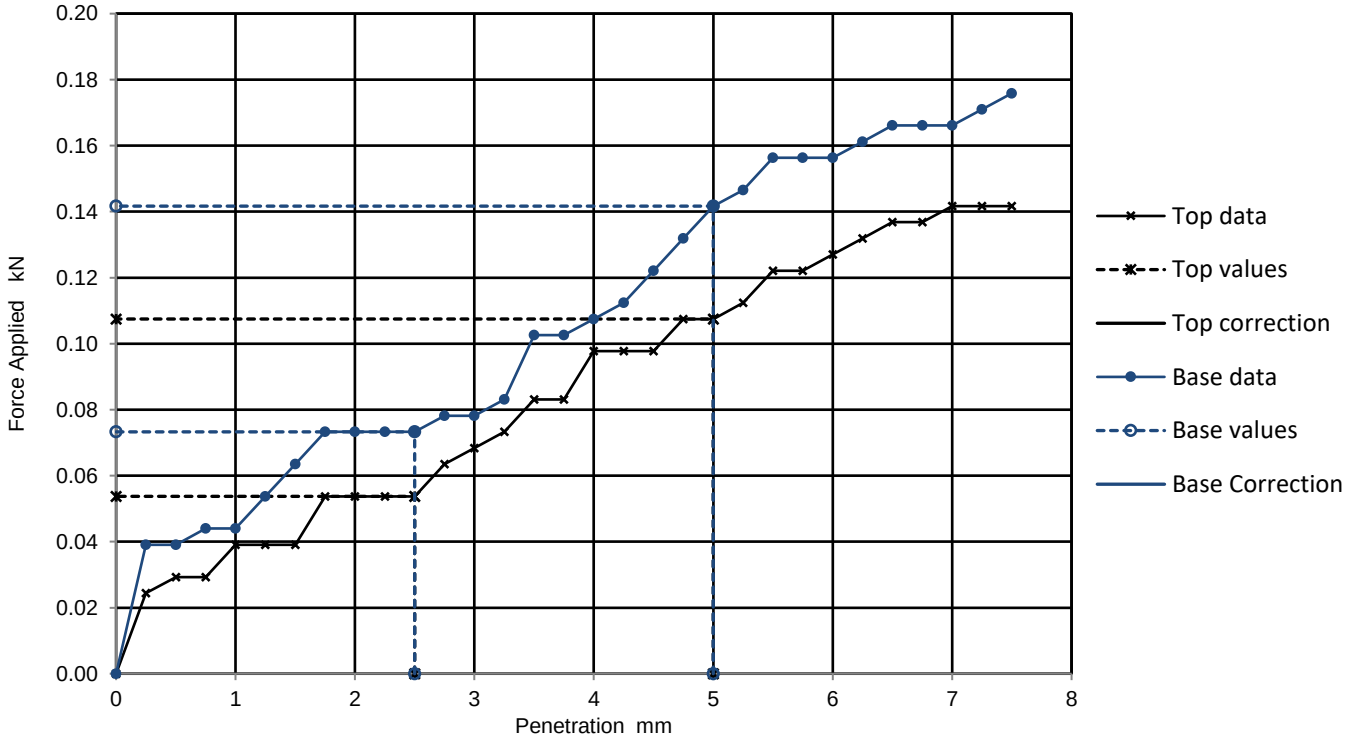
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TPT16 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 5 |
| Soil Description | Dark grey slightly gravelly SILT. | | | Depth m | 2.00 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL120210407246 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | |
|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | days |
| | | | | Time to surface | days |
| | | | | Amount of swell recorded | mm |
| Material retained on 20mm sieve removed | | 0 | % | Dry density after soaking | Mg/m3 |
| Initial Specimen details | Bulk density | 2.14 | Mg/m3 | Surcharge applied | kg |
| | Dry density | 1.13 | Mg/m3 | | kPa |
| | Moisture content | 90.0 | % | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | No | 0.4 | 0.5 | 0.5 | 0.6 | 90.1 |
| BASE | No | 0.6 | 0.7 | 0.7 | | 95.3 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 17 |

Lab Sheet Reference :

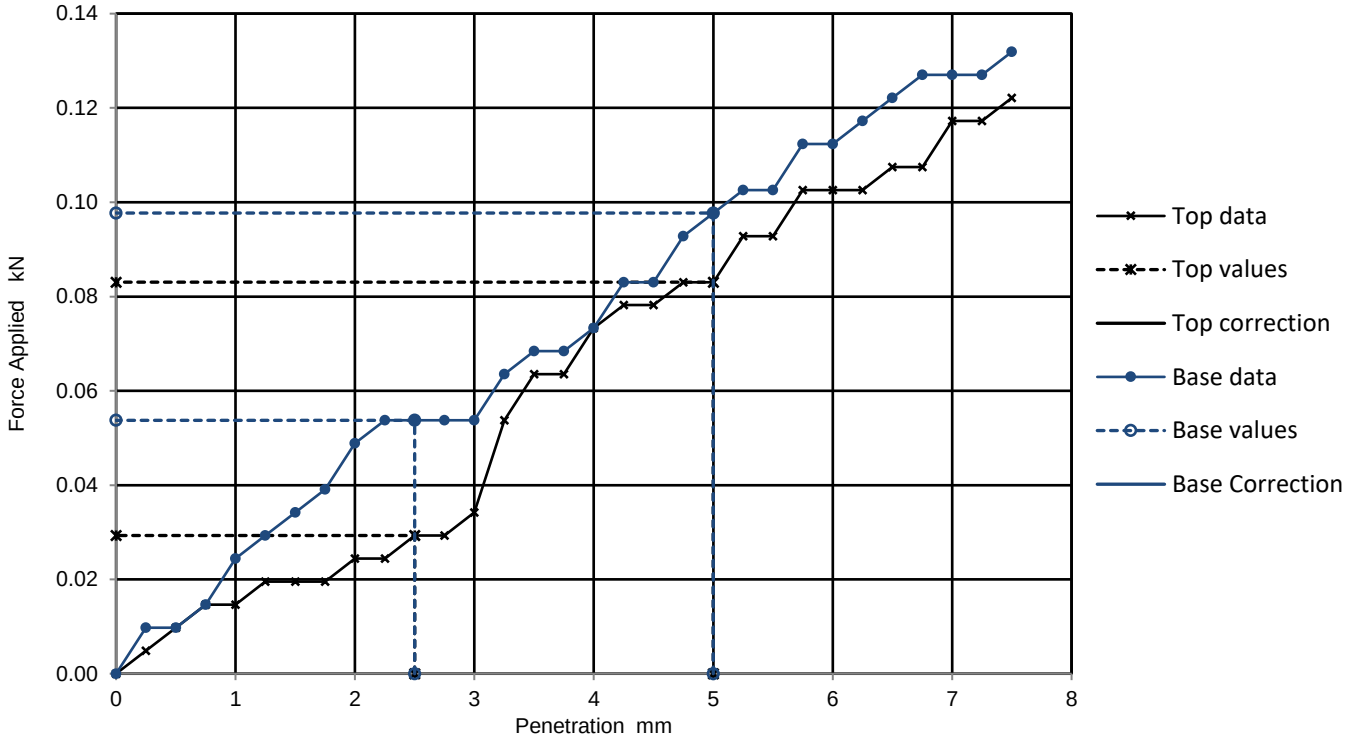
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TPT17 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 3 |
| Soil Description | Dark grey slightly gravely slightly sandy SILT. | | | Depth m | 0.70 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL120210323288 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 0 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.12 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.68 | Mg/m3 | | 1 | kPa |
| | Moisture content | 26.2 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | No | 0.2 | 0.4 | 0.4 | 0.5 | 27.9 |
| BASE | No | 0.4 | 0.5 | 0.5 | | 30.0 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 18 |

Lab Sheet Reference :

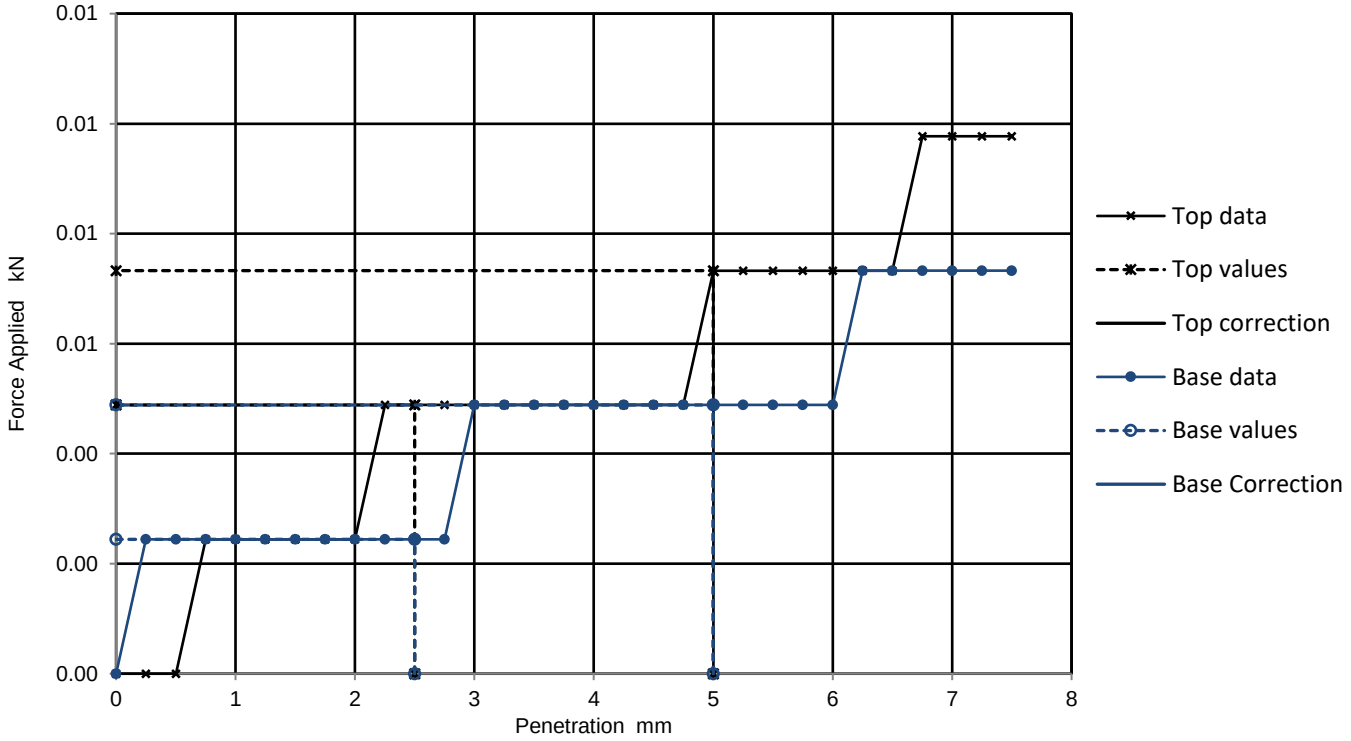
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TPT22 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 5 |
| Soil Description | Greenish-grey gravelly CLAY. | | | Depth m | 2.20 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL12021041471 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 5 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 1.90 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.40 | Mg/m3 | | 1 | kPa |
| | Moisture content | 35.9 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | No | 0.0 | 0.0 | 0.0 | Too Wet | 34.2 |
| BASE | No | 0.0 | 0.0 | 0.0 | | 34.3 |

| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 19 |

Lab Sheet Reference :

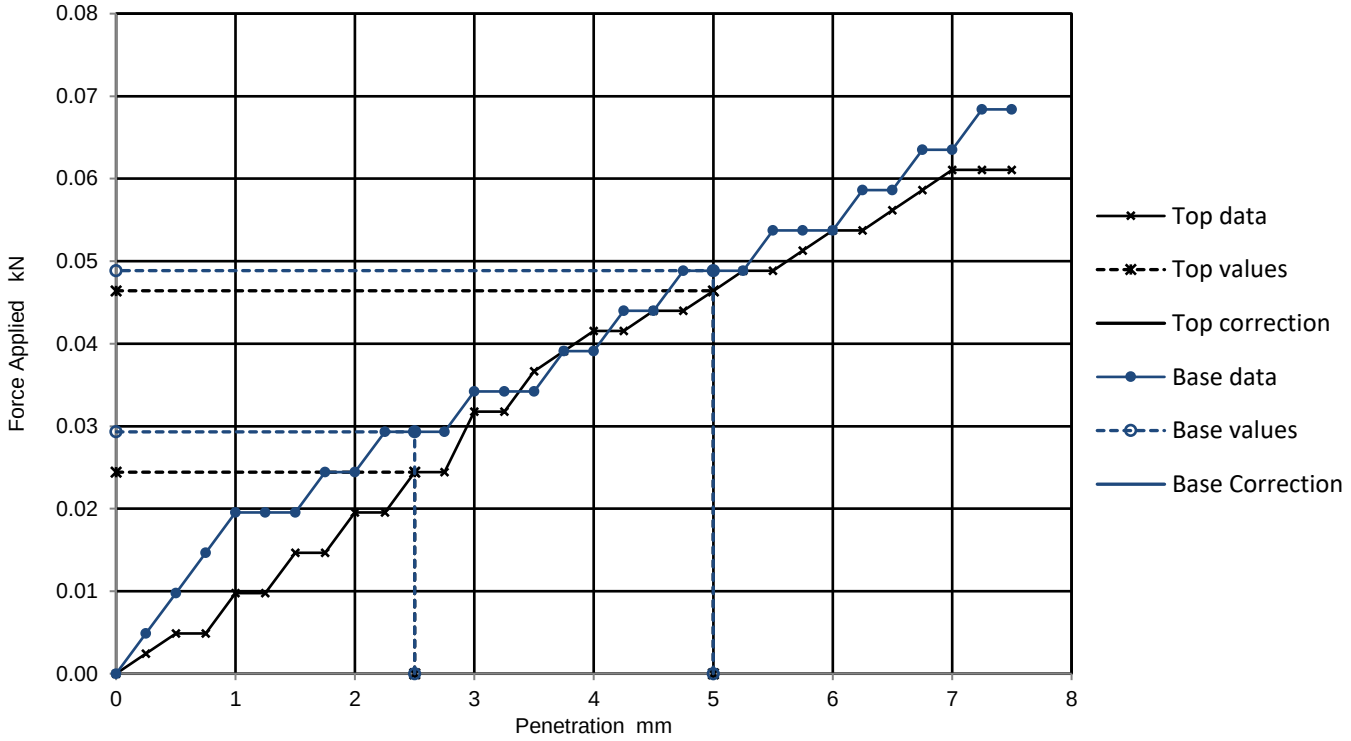
Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | California Bearing Ratio ( CBR ) | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TPT23 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 3 |
| Soil Description | Grey slightly sandy gravelly SILT. | | | Depth m | 0.90 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL120210430186 |
| Test Method | BS1377 : Part 4 : 1990, clause 7 | | | CBR Test Number | 1 |

**Specimen Preparation**

| | | | | | | |
|---|---|---|---|---|---|---|
| Condition | REMOULDED | | | Soaking details | Not soaked | |
| Details | Recompacted with specified standard effort using 2.5kg rammer | | | Period of soaking | | days |
| | | | | Time to surface | | days |
| | | | | Amount of swell recorded | | mm |
| Material retained on 20mm sieve removed | | 0 | % | Dry density after soaking | | Mg/m3 |
| Initial Specimen details | Bulk density | 2.23 | Mg/m3 | Surcharge applied | 2 | kg |
| | Dry density | 1.80 | Mg/m3 | | 1 | kPa |
| | Moisture content | 24.1 | % | | | |

**Force v Penetration Plots**




Results

| | Curve correction applied | CBR Values, % | | | | Moisture Content % |
|---|---|---|---|---|---|---|
| | | 2.5mm | 5mm | Highest | Average | |
| TOP | | 0.2 | 0.2 | 0.2 | 0.2 | 26.5 |
| BASE | | 0.2 | 0.2 | 0.2 | | 18.6 |

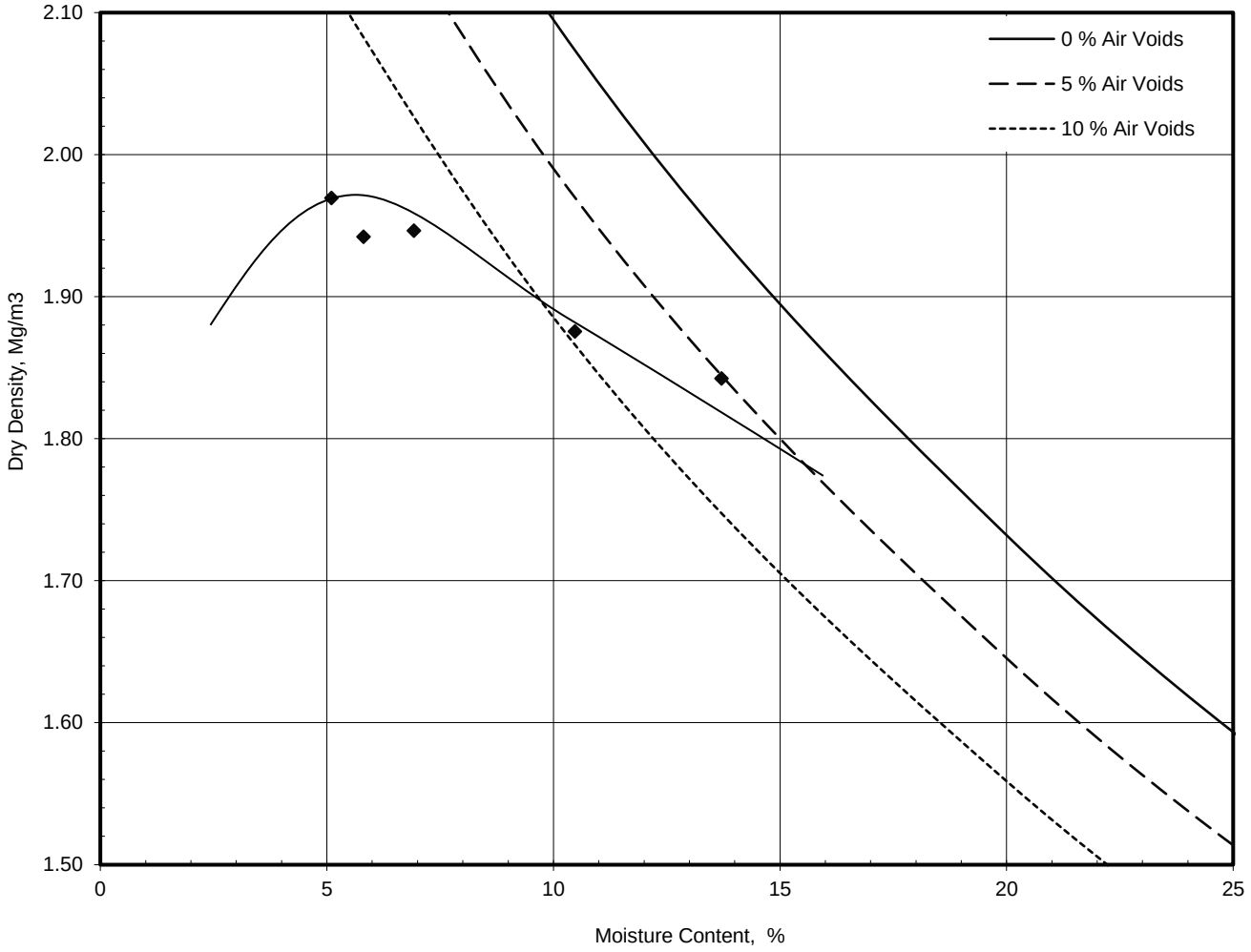
| General remarks | Test specific remarks | Approved |
|---|---|---|
| | | DCD |

| | |
|---|---|
| Fig No. | 1 |
| QC From R9 | |
| Sheet No | 20 |

Lab Sheet Reference :

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | Dry Density / Moisture Content Relationship<br>Light Compaction | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole / Pit No | TPBPB03 |
| Site Name | **Derryadd Wind Farm** | | | Sample No | 3 |
| Soil Description | Grey silty medium SAND and fine and medium GRAVEL. | | | Depth | 0.70 m |
| Specimen Ref. | | Specimen Depth | m | Sample Type | B |
| Test Method | BS1377:Part 4:1990, clause 3.4, 2.5kg rammer | | | Keylab ID | IDL12021040721 |
| | | | | Compaction Test Reference/No. | |



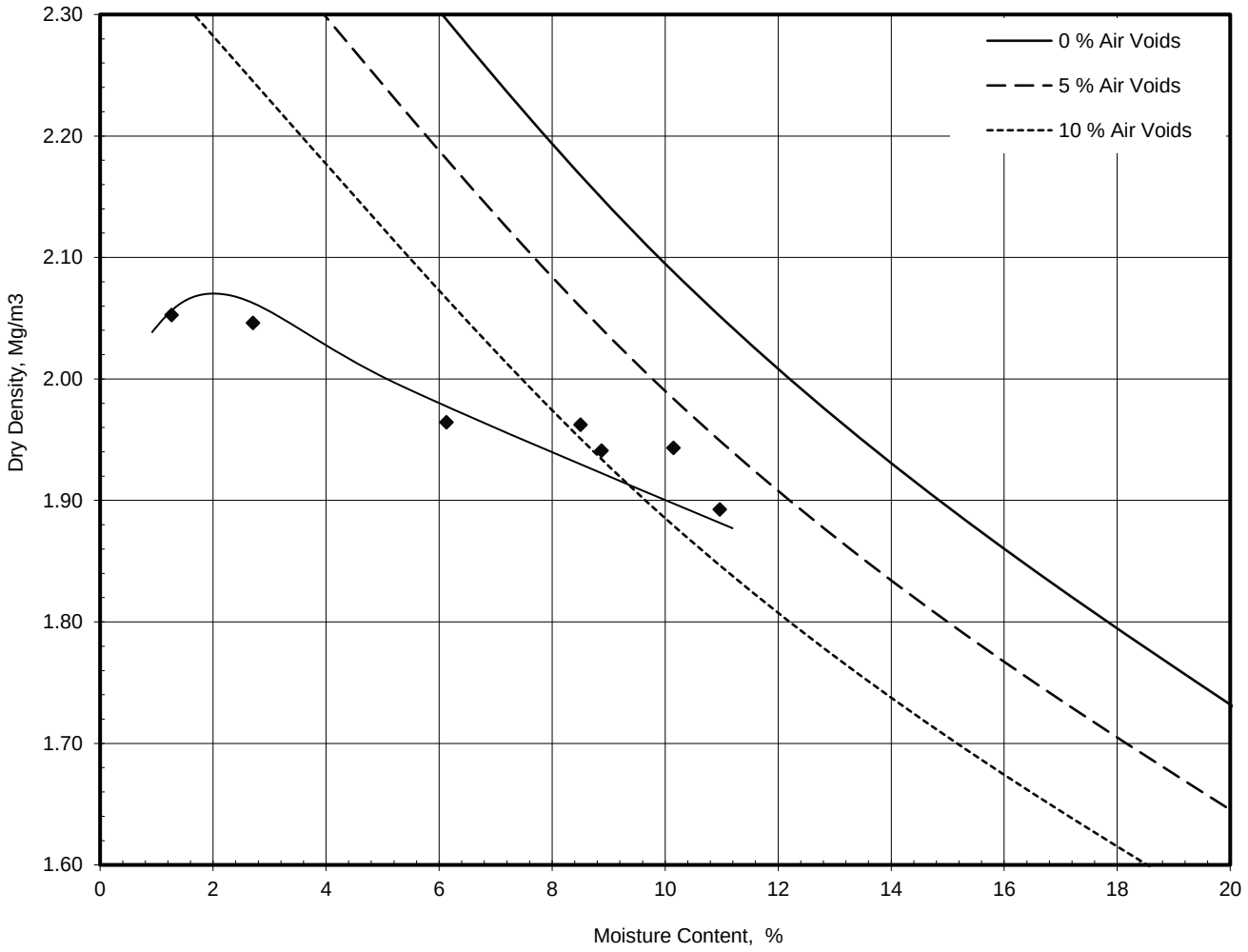

| | | |
|---|---|---|
| Preparation | | Material used was natural |
| Mould Type | | CBR |
| Samples Used | | Composite specimens tested |
| Material Retained on 37.5 mm Sieve | % | 0 |
| Material Retained on 20.0 mm Sieve | % | 4 |
| Particle Density - Assumed | Mg/m³ | 2.65 |

| | | |
|---|---|---|
| **Maximum Dry Density** | Mg/m³ | **1.97** |
| **Optimum Moisture Content** | % | **4.9** |

| Operator | Checked | Approved | Remarks | |
|---|---|---|---|---|
| RG | | DCD | | **QC Form R4**<br>Sheet 1 of 1 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | Dry Density / Moisture Content Relationship<br>Light Compaction | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole / Pit No | TPBPC01 |
| Site Name | **Derryadd Wind Farm** | | | Sample No | 3 |
| Soil Description | Grey very silty SAND and GRAVEL. | | | Depth | 1.40 m |
| Specimen Ref. | | Specimen Depth | m | Sample Type | B |
| Test Method | BS1377:Part 4:1990, clause 3.4, 2.5kg rammer | | | Keylab ID | IDL12021040737 |
| | | | | Compaction Test Reference/No. | |




| | | |
|---|---|---|
| Preparation | | Material used was natural |
| Mould Type | | CBR |
| Samples Used | | Composite specimens tested |
| Material Retained on 37.5 mm Sieve | % | 16 |
| Material Retained on 20.0 mm Sieve | % | 0 |
| Particle Density - Assumed | Mg/m³ | 2.65 |

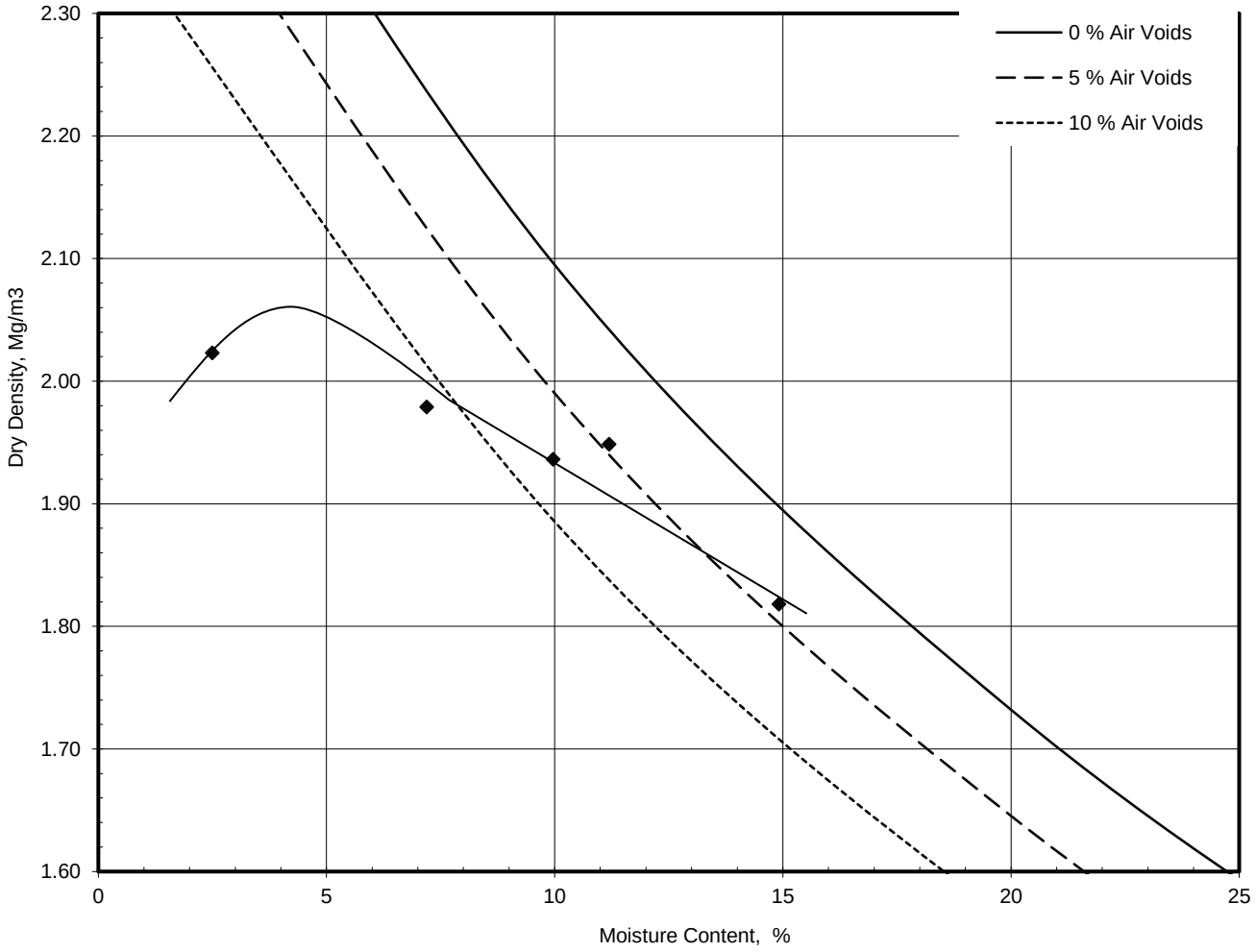
| | | |
|---|---|---|
| **Maximum Dry Density** | Mg/m³ | **2.05** |

| | | |
|---|---|---|
| **Optimum Moisture Content** | % | **2.5** |

| Operator | Checked | Approved | Remarks | |
|---|---|---|---|---|
| RG | | DCD | | **QC Form R4**<br>Sheet 1 of 1 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | Dry Density / Moisture Content Relationship<br>Light Compaction | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole / Pit No | TPBPE01 |
| Site Name | **Derryadd Wind Farm** | | | Sample No | 5 |
| Soil Description | Greyish-brown very silty SAND and GRAVEL. Gravel is medium, Sand is fmc. | | | Depth | 1.10 m |
| Specimen Ref. | | Specimen Depth | m | Sample Type | B |
| Test Method | BS1377:Part 4:1990, clause 3.3, 2.5kg rammer | | | Keylab ID | IDL12021040761 |
| | | | | Compaction Test Reference/No. | |




| | | |
|---|---|---|
| Preparation | | Material used was natural |
| Mould Type | | CBR |
| Samples Used | | Composite specimens tested |
| Material Retained on 37.5 mm Sieve | % | 0 |
| Material Retained on 20.0 mm Sieve | % | 5 |
| Particle Density - Assumed | Mg/m³ | 2.65 |

| | | |
|---|---|---|
| **Maximum Dry Density** | Mg/m³ | **2.04** |
| **Optimum Moisture Content** | % | **5** |

| Operator | Checked | Approved | Remarks | |
|---|---|---|---|---|
| RG | | DCD | | **QC Form R4**<br>Sheet 1 of 1 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# Moisture Condition Value at Natural Moisture Content
## Summary of Results

| Project No. | Project Name |
|---|---|
| 2021LD101 | Derryadd Wind Farm |

| Hole No. | Sample Ref | Sample Top | Sample Base | Sample Type | Soil Description | Retained on 20mm sieve % | Moisture Content <20mm % | Moisture Condition Value | Method of Interpretation | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| BHRC06B | 10 | 3.00 | 3.50 | B | Greenish-grey organic SILT. | 0 | 92.7 | 9.6 | Best fit line | |
| BHRC09B | 9 | 3.00 | 3.50 | B | Grey sandy SILT. | 0 | 82.0 | 9.0 | Best fit line | |
| TPBPA01 | 3 | 1.10 | 1.40 | B | Dark grey slightly gravelly sandy SILT. Sand is fine. | 0 | 99.6 | 10.2 | Best fit line | |
| TPBPA03 | 5 | 2.50 | 2.80 | B | Grey slightly gravelly sandy SILT. | 5 | 10.0 | 11.1 | Best fit line | |

| Key | Date Printed | Approved By | Table |
|---|---|---|---|
| Test performed in accordance with BS1377:Part4:1990, clause 5.4 unless annotated otherwise | 25/08/2021 | DCD | sheet QC Form R6 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

| | Moisture Condition Value / Moisture Content Relationship | | | Job Ref | 2021LD101 |
|---|---|---|---|---|---|
| | | | | Borehole/Pit No. | TPBPB04 |
| Site Name | Derryadd Wind Farm | | | Sample No. | 5 |
| Soil Description | Grey slightly sandy gravelly SILT. | | | Depth | 2.3 |
| Specimen Reference | | Specimen Depth | m | Sample Type | B |
| Specimen Description | | | | KeyLAB ID | IDL12021040730 |
| Test Method | BS1377:Part4:1990:clause 5.5 | | | Date started | 24/05/2021 |

**Sample preparation**

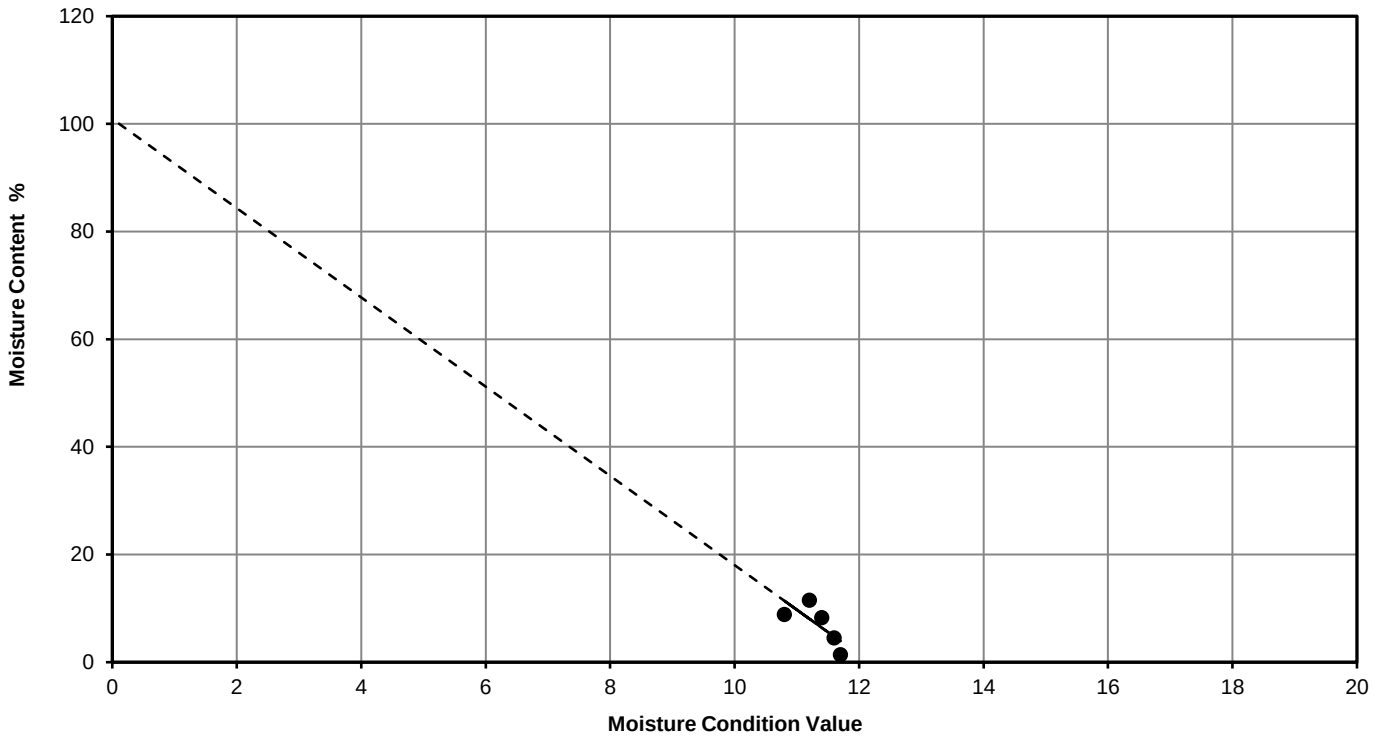
| | |
|---|---|
| Amount of material larger than 20mm sieve removed | % |
| Natural Moisture Content of sample | % |
| Initial Moisture Content of test sample below 20mm | % |

**General remarks**

**Table of results**

| MCV Test Number | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Moisture Content, % | 11.5 | 8.9 | 8.3 | 4.5 | 1.4 |
| Moisture Condition Value | 11.2 | 10.8 | 11.4 | 11.6 | 11.7 |
| MCV report | 11.2 | 10.8 | 11.4 | 11.6 | 11.7 |
| Effective / Valid data point | YES | YES | YES | YES | YES |
| Method of Interpretation | Best fit | Best fit | Best fit | Best fit | Best fit |
| Specimen remarks | | | | | |

● valid points × invalid points - - - - extended regression ——— linear regression




| Tested | Checked | Approved |
|---|---|---|
| RK | DCD | DCD: 25.08.21 |

Lab Sheet Reference : QC Form R7

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

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Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway

**Attention:** Dympna Darcy

# CERTIFICATE OF ANALYSIS

| | |
|---|---|
| **Date of report Generation:** | 25 March 2021 |
| **Customer:** | Irish Drilling Limited |
| **Sample Delivery Group (SDG):** | 210316-80 |
| **Your Reference:** | 2021LD101 |
| **Location:** | Derryadd |
| **Report No:** | 592080 |

**This report has been revised and directly supersedes 591792 in its entirety.**

We received 13 samples on Tuesday March 16, 2021 and 13 of these samples were scheduled for analysis which was completed on Tuesday March 23, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

**Sonia McWhan**

Operations Manager

# Received Sample Overview

| Lab Sample No(s) | Customer Sample Ref. | AGS Ref. | Depth (m) | Sampled Date |
|---|---|---|---|---|
| 23908055 | TP331 | D1 | 0.70 - 0.80 | 16/02/2021 |
| 23908059 | TP336 | D1 | 0.50 - 0.60 | 16/02/2021 |
| 23908016 | TP347 | B2 | 1.00 - 1.30 | 15/02/2021 |
| 23908039 | TP352 | D1 | 0.40 - 0.50 | 11/02/2021 |
| 23908053 | TP360 | D1 | 0.50 - 0.60 | 15/02/2021 |
| 23908048 | TP362 | B3 | 1.20 - 1.50 | 11/02/2021 |
| 23908027 | TP369 | B3 | 2.10 - 2.50 | 12/02/2021 |
| 23908044 | TPAR10 | B3 | 3.00 - 3.20 | 09/02/2021 |
| 23908023 | TPMM01 | D1 | 0.20 - 0.30 | 11/02/2021 |
| 23908037 | TPMMA02 | B2 | 1.00 - 1.50 | 11/02/2021 |
| 23908051 | TPPSA03 | B2 | 2.10 - 2.40 | 16/02/2021 |
| 23908035 | TPT01 | D2 | 1.00 - 1.50 | 10/02/2021 |
| 23908020 | TPT02 | B2 | 1.00 - 1.30 | 15/02/2021 |

**Only received samples which have had analysis scheduled will be shown on the following pages.**

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210316-80 | **Client Reference:** | 2021LD101 | **Report Number:** | 592080 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | 591792 |

**Results Legend**

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample No(s)** | | | 23908055 | 23908059 | 23908016 | 23908039 | 23908053 | 23908048 | 23908027 | 23908044 | 23908023 | 23908037 | 23908051 | 23908035 | 23908020 |
| **Customer Sample Reference** | | | TP331 | TP336 | TP347 | TP352 | TP360 | TP362 | TP369 | TPAR10 | TPMM01 | TPMMA02 | TPPSA03 | TPT01 | TPT02 |
| **AGS Reference** | | | D1 | D1 | B2 | D1 | D1 | B3 | B3 | B3 | D1 | B2 | B2 | D2 | B2 |
| **Depth (m)** | | | 0.70 - 0.80 | 0.50 - 0.60 | 1.00 - 1.30 | 0.40 - 0.50 | 0.50 - 0.60 | 1.20 - 1.50 | 2.10 - 2.50 | 3.00 - 3.20 | 0.20 - 0.30 | 1.00 - 1.50 | 2.10 - 2.40 | 1.00 - 1.50 | 1.00 - 1.30 |
| **Container** | | | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) |
| **Sample Type** | | | S | S | S | S | S | S | S | S | S | S | S | S | S |
| pH | All | NDPs: 0 Tests: 7 | X | | | X | | | | | X | X | X | X | X |
| Sample description | All | NDPs: 0 Tests: 13 | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Total Organic Carbon | All | NDPs: 0 Tests: 6 | | X | X | X | | X | X | X | | | | | |
| Total Sulphate | All | NDPs: 0 Tests: 7 | X | | | | X | | | | X | X | X | X | X |

# Sample Descriptions

## Grain Sizes

| very fine | <0.063mm | fine | 0.063mm - 0.1mm | medium | 0.1mm - 2mm | coarse | 2mm - 10mm | very coarse | >10mm |
|---|---|---|---|---|---|---|---|---|---|

| Lab Sample No(s) | Customer Sample Ref. | Depth (m) | Colour | Description | Inclusions | Inclusions 2 |
|---|---|---|---|---|---|---|
| 23908055 | TP331 | 0.70 - 0.80 | Dark Brown | Sandy Silt Loam | Stones | Vegetation |
| 23908059 | TP336 | 0.50 - 0.60 | Dark Brown | Sandy Silt Loam | Stones | Vegetation |
| 23908016 | TP347 | 1.00 - 1.30 | Dark Brown | Silty Clay | None | None |
| 23908039 | TP352 | 0.40 - 0.50 | Dark Brown | Sandy Silt Loam | Stones | Vegetation |
| 23908053 | TP360 | 0.50 - 0.60 | Dark Brown | Sandy Loam | Stones | Vegetation |
| 23908048 | TP362 | 1.20 - 1.50 | Dark Brown | Silty Clay | Stones | None |
| 23908027 | TP369 | 2.10 - 2.50 | Dark Brown | Sandy Loam | Vegetation | Stones |
| 23908044 | TPAR10 | 3.00 - 3.20 | Light Brown | Sandy Clay Loam | Stones | None |
| 23908023 | TPMM01 | 0.20 - 0.30 | Light Brown | Sandy Silt Loam | Stones | Vegetation |
| 23908037 | TPMMA02 | 1.00 - 1.50 | Dark Brown | Sandy Silt Loam | Stones | Vegetation |
| 23908051 | TPPSA03 | 2.10 - 2.40 | Light Brown | Silty Clay | None | None |
| 23908035 | TPT01 | 1.00 - 1.50 | Light Brown | Sand | None | None |
| 23908020 | TPT02 | 1.00 - 1.30 | Dark Brown | Loamy Sand | Stones | None |

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210316-80 | **Client Reference:** | 2021LD101 | **Report Number:** | 592080 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | 591792 |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | TP331 | TP336 | TP347 | TP352 | TP360 | TP362 |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 0.70 - 0.80 | 0.50 - 0.60 | 1.00 - 1.30 | 0.40 - 0.50 | 0.50 - 0.60 | 1.20 - 1.50 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 16/02/2021 | 16/02/2021 | 15/02/2021 | 11/02/2021 | 15/02/2021 | 11/02/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 16/03/2021 | 16/03/2021 | 16/03/2021 | 16/03/2021 | 16/03/2021 | 16/03/2021 |
| SDG Ref | | | 210316-80 | 210316-80 | 210316-80 | 210316-80 | 210316-80 | 210316-80 |
| Lab Sample No.(s) | | | 23908055 | 23908059 | 23908016 | 23908039 | 23908053 | 23908048 |
| AGS Reference | | | D1 | D1 | B2 | D1 | D1 | B3 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 68 | 89 | 33 | 85 | 73 | 37 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | | 61.5 @ # | 1.54 @ # | 63.6 @ # | | 2.34 @ # |
| pH | 1 pH Units | TM133 | 5.67 @ M | | | 6.22 @ M | | |
| Sulphate, Total | <48 mg/kg | TM221 | 1090 M | | | | 1190 M | |

13:06:45 25/03/2021

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210316-80 | **Client Reference:** | 2021LD101 | **Report Number:** | 592080 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | 591792 |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | TP369 | TPAR10 | TPMM01 | TPMMA02 | TPPSA03 | TPT01 |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 2.10 - 2.50 | 3.00 - 3.20 | 0.20 - 0.30 | 1.00 - 1.50 | 2.10 - 2.40 | 1.00 - 1.50 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 12/02/2021 | 09/02/2021 | 11/02/2021 | 11/02/2021 | 16/02/2021 | 10/02/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 16/03/2021 | 16/03/2021 | 16/03/2021 | 16/03/2021 | 16/03/2021 | 16/03/2021 |
| SDG Ref | | | 210316-80 | 210316-80 | 210316-80 | 210316-80 | 210316-80 | 210316-80 |
| Lab Sample No.(s) | | | 23908027 | 23908044 | 23908023 | 23908037 | 23908051 | 23908035 |
| AGS Reference | | | B3 | B3 | D1 | B2 | B2 | D2 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 31 | 12 | 87 | 87 | 34 | 23 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | 2.9 @ # | 0.578 @ # | | | | |
| pH | 1 pH Units | TM133 | | | 5.56 @ M | 6.29 @ M | 8.08 @ M | 6.72 @ M |
| Sulphate, Total | <48 mg/kg | TM221 | | | 281 M | 444 M | 503 M | 504 M |

13:06:45 25/03/2021

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210316-80 | **Client Reference:** | 2021LD101 | **Report Number:** | 592080 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | 591792 |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| | |
|---|---|
| **Customer Sample Ref.** | TPT02 |
| **Depth (m)** | 1.00 - 1.30 |
| **Sample Type** | Soil/Solid (S) |
| **Date Sampled** | 15/02/2021 |
| **Sample Time** | . |
| **Date Received** | 16/03/2021 |
| **SDG Ref** | 210316-80 |
| **Lab Sample No.(s)** | 23908020 |
| **AGS Reference** | B2 |

| Component | LOD/Units | Method | |
|---|---|---|---|
| Moisture Content Ratio (% of as received sample) | % | PM024 | 28 |
| pH | 1 pH Units | TM133 | 8.22 @ M |
| Sulphate, Total | <48 mg/kg | TM221 | 782 M |

# Table of Results - Appendix

| Method No | Reference | Description |
|---|---|---|
| PM024 | Modified BS 1377 | Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material |
| TM132 | In - house Method | ELTRA CS800 Operators Guide |
| TM133 | BS 1377: Part 3 1990;BS 6068-2.5 | Determination of pH in Soil and Water using the GLpH pH Meter |
| TM221 | Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd | Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer |

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210316-80 | **Client Reference:** | 2021LD101 | **Report Number:** | 592080 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | 591792 |

## Test Completion Dates

| **Lab Sample No(s)** | 23908055 | 23908059 | 23908016 | 23908039 | 23908053 | 23908048 | 23908027 | 23908044 | 23908023 | 23908037 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Customer Sample Ref.** | TP331 | TP336 | TP347 | TP352 | TP360 | TP362 | TP369 | TPAR10 | TPMM01 | TPMMA02 |
| **AGS Ref.** | D1 | D1 | B2 | D1 | D1 | B3 | B3 | B3 | D1 | B2 |
| **Depth** | 0.70 - 0.80 | 0.50 - 0.60 | 1.00 - 1.30 | 0.40 - 0.50 | 0.50 - 0.60 | 1.20 - 1.50 | 2.10 - 2.50 | 3.00 - 3.20 | 0.20 - 0.30 | 1.00 - 1.50 |
| **Type** | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| pH | 19-Mar-2021 | | | 19-Mar-2021 | | | | | 19-Mar-2021 | 19-Mar-2021 |
| Sample description | 16-Mar-2021 | 16-Mar-2021 | 16-Mar-2021 | 16-Mar-2021 | 16-Mar-2021 | 16-Mar-2021 | 17-Mar-2021 | 16-Mar-2021 | 16-Mar-2021 | 16-Mar-2021 |
| Total Organic Carbon | | 23-Mar-2021 | 23-Mar-2021 | 23-Mar-2021 | | 23-Mar-2021 | 23-Mar-2021 | 23-Mar-2021 | | |
| Total Sulphate | 23-Mar-2021 | | | | 23-Mar-2021 | | | | 23-Mar-2021 | 23-Mar-2021 |

| **Lab Sample No(s)** | 23908051 | 23908035 | 23908020 |
|---|---|---|---|
| **Customer Sample Ref.** | TPPSA03 | TPT01 | TPT02 |
| **AGS Ref.** | B2 | D2 | B2 |
| **Depth** | 2.10 - 2.40 | 1.00 - 1.50 | 1.00 - 1.30 |
| **Type** | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| pH | 19-Mar-2021 | 19-Mar-2021 | 19-Mar-2021 |
| Sample description | 16-Mar-2021 | 16-Mar-2021 | 16-Mar-2021 |
| Total Sulphate | 23-Mar-2021 | 23-Mar-2021 | 23-Mar-2021 |

# Appendix

## General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

| | |
|---|---|
| 1 | **Container with Headspace provided for volatiles analysis** |
| 2 | **Incorrect container received** |
| 3 | **Deviation from method** |
| 4 | **Matrix interference** |
| ♦ | **Sample holding time exceeded in laboratory** |
| @ | **Sample holding time exceeded due to late arrival of instructions or samples** |
| § | **Sampled on date not provided** |

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

**Identification of Asbestos in Bulk Materials & Soils**

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

| Asbestos Type | Common Name |
|---|---|
| Chrysotile | White Asbestos |
| Amosite | Brown Asbestos |
| Crocidolite | Blue Asbestos |
| Fibrous Actinolite | - |
| Fibrous Anthophyllite | - |
| Fibrous Tremolite | - |

**Visual Estimation Of Fibre Content**

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

**Respirable Fibres**

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

**Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.**

**The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.**

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway

**Attention:** Dympna Darcy

# CERTIFICATE OF ANALYSIS

| | |
|---|---|
| **Date of report Generation:** | 14 April 2021 |
| **Customer:** | Irish Drilling Limited |
| **Sample Delivery Group (SDG):** | 210407-62 |
| **Your Reference:** | 2021LD101 |
| **Location:** | Derryadd |
| **Report No:** | 594047 |

We received 4 samples on Wednesday April 07, 2021 and 4 of these samples were scheduled for analysis which was completed on Wednesday April 14, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

**Sonia McWhan**

Operations Manager

# Received Sample Overview

| Lab Sample No(s) | Customer Sample Ref. | AGS Ref. | Depth (m) | Sampled Date |
|---|---|---|---|---|
| 24032143 | TP313 | B2 | 1.10 - 1.40 | 24/02/2021 |
| 24032135 | TPT06 | D2 | 1.50 - 1.80 | 24/02/2021 |
| 24032138 | TPT09 | B4 | 3.90 - 4.20 | 18/02/2021 |
| 24032140 | TPTCCA | B3 | 1.50 - 1.80 | 19/02/2021 |

**Only received samples which have had analysis scheduled will be shown on the following pages.**

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210407-62 | **Client Reference:** | 2021LD101 | **Report Number:** | 594047 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

X **Test**

N **No Determination Possible**

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

| | | | | | | |
|---|---|---|---|---|---|---|
| **Lab Sample No(s)** | | | 24032143 | 24032135 | 24032138 | 24032140 |
| **Customer Sample Reference** | | | TP313 | TPT06 | TPT09 | TPTCCA |
| **AGS Reference** | | | B2 | D2 | B4 | B3 |
| **Depth (m)** | | | 1.10 - 1.40 | 1.50 - 1.80 | 3.90 - 4.20 | 1.50 - 1.80 |
| **Container** | | | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) |
| **Sample Type** | | | S | S | S | S |
| pH | All | NDPs: 0 Tests: 3 | | X | X | X |
| Sample description | All | NDPs: 0 Tests: 4 | X | X | X | X |
| Total Organic Carbon | All | NDPs: 0 Tests: 1 | X | | | |
| Total Sulphate | All | NDPs: 0 Tests: 3 | | X | X | X |

# Sample Descriptions

## Grain Sizes

| very fine | <0.063mm | fine | 0.063mm - 0.1mm | medium | 0.1mm - 2mm | coarse | 2mm - 10mm | very coarse | >10mm |
|---|---|---|---|---|---|---|---|---|---|

| Lab Sample No(s) | Customer Sample Ref. | Depth (m) | Colour | Description | Inclusions | Inclusions 2 |
|---|---|---|---|---|---|---|
| 24032143 | TP313 | 1.10 - 1.40 | Dark Brown | Silt Loam | Stones | None |
| 24032135 | TPT06 | 1.50 - 1.80 | Dark Brown | Silt Loam | Stones | None |
| 24032138 | TPT09 | 3.90 - 4.20 | Dark Brown | Silt Loam | Stones | None |
| 24032140 | TPTCCA | 1.50 - 1.80 | Dark Brown | Silt Loam | Stones | None |

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210407-62 | **Client Reference:** | 2021LD101 | **Report Number:** | 594047 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | TP313 | TPT06 | TPT09 | TPTCCA | | |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 1.10 - 1.40 | 1.50 - 1.80 | 3.90 - 4.20 | 1.50 - 1.80 | | |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | | |
| Date Sampled | | | 24/02/2021 | 24/02/2021 | 18/02/2021 | 19/02/2021 | | |
| Sample Time | | | . | . | . | . | | |
| Date Received | | | 07/04/2021 | 07/04/2021 | 07/04/2021 | 07/04/2021 | | |
| SDG Ref | | | 210407-62 | 210407-62 | 210407-62 | 210407-62 | | |
| Lab Sample No.(s) | | | 24032143 | 24032135 | 24032138 | 24032140 | | |
| AGS Reference | | | B2 | D2 | B4 | B3 | | |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 33 | 42 | 28 | 52 | | |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | 2.19 @ # | | | | | |
| pH | 1 pH Units | TM133 | | 7.84 @ M | 8.32 @ M | 7.67 @ M | | |
| Sulphate, Total | <48 mg/kg | TM221 | | 2120 M | 418 M | 3480 M | | |

14:32:31 14/04/2021

# Table of Results - Appendix

| Method No | Reference | Description |
|---|---|---|
| PM024 | Modified BS 1377 | Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material |
| TM132 | In - house Method | ELTRA CS800 Operators Guide |
| TM133 | BS 1377: Part 3 1990;BS 6068-2.5 | Determination of pH in Soil and Water using the GLpH pH Meter |
| TM221 | Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd | Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer |

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210407-62 | **Client Reference:** | 2021LD101 | **Report Number:** | 594047 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

## Test Completion Dates

| **Lab Sample No(s)** | 24032143 | 24032135 | 24032138 | 24032140 |
|---|---|---|---|---|
| **Customer Sample Ref.** | TP313 | TPT06 | TPT09 | TPTCCA |
| **AGS Ref.** | B2 | D2 | B4 | B3 |
| **Depth** | 1.10 - 1.40 | 1.50 - 1.80 | 3.90 - 4.20 | 1.50 - 1.80 |
| **Type** | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| pH | | 08-Apr-2021 | 08-Apr-2021 | 07-Apr-2021 |
| Sample description | 07-Apr-2021 | 07-Apr-2021 | 07-Apr-2021 | 07-Apr-2021 |
| Total Organic Carbon | 13-Apr-2021 | | | |
| Total Sulphate | | 14-Apr-2021 | 14-Apr-2021 | 14-Apr-2021 |

# Appendix

## General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

| | |
|---|---|
| 1 | **Container with Headspace provided for volatiles analysis** |
| 2 | **Incorrect container received** |
| 3 | **Deviation from method** |
| 4 | **Matrix interference** |
| ♦ | **Sample holding time exceeded in laboratory** |
| @ | **Sample holding time exceeded due to late arrival of instructions or samples** |
| § | **Sampled on date not provided** |

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

**Identification of Asbestos in Bulk Materials & Soils**

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

| Asbestos Type | Common Name |
|---|---|
| Chrysotile | White Asbestos |
| Amosite | Brown Asbestos |
| Crocidolite | Blue Asbestos |
| Fibrous Actinolite | - |
| Fibrous Anthophyllite | - |
| Fibrous Tremolite | - |

**Visual Estimation Of Fibre Content**

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

**Respirable Fibres**

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

**Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.**

**The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.**

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway

**Attention:** Dympna Darcy

# CERTIFICATE OF ANALYSIS

| | |
|---|---|
| **Date of report Generation:** | 06 May 2021 |
| **Customer:** | Irish Drilling Limited |
| **Sample Delivery Group (SDG):** | 210427-92 |
| **Your Reference:** | 2021LD101 |
| **Location:** | Derryadd |
| **Report No:** | 596774 |

We received 10 samples on Tuesday April 27, 2021 and 10 of these samples were scheduled for analysis which was completed on Thursday May 06, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

**Sonia McWhan**

Operations Manager

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210427-92 | **Client Reference:** | 2021LD101 | **Report Number:** | 596774 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

## Received Sample Overview

| Lab Sample No(s) | Customer Sample Ref. | AGS Ref. | Depth (m) | Sampled Date |
|---|---|---|---|---|
| 24162679 | BHRC04A | D5 | 1.00 - 1.50 | 09/03/2021 |
| 24162654 | BHRC05B | D5 | 1.50 - 1.50 | 26/02/2021 |
| 24162697 | BHRC06B | D8 | 2.50 - 2.50 | 08/03/2021 |
| 24162685 | BHRC08B | D8 | 2.50 - 2.50 | 15/03/2021 |
| 24162670 | BHRCMMA | D5 | 1.50 - 1.50 | 22/02/2021 |
| 24162676 | BHRCMMA | D10 | 3.50 - 3.50 | 23/04/2021 |
| 24162657 | BHRCSSA08 | D12 | 4.50 - 4.50 | 23/04/2021 |
| 24162666 | TP211 | D3 | 0.70 - 0.80 | 15/03/2021 |
| 24162641 | TP213 | D4 | 1.20 - 1.20 | 16/03/2021 |
| 24162662 | TP217 | D4 | 1.30 - 1.60 | 16/03/2021 |

**Only received samples which have had analysis scheduled will be shown on the following pages.**

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210427-92 | **Client Reference:** | 2021LD101 | **Report Number:** | 596774 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

| **Lab Sample No(s)** | 24162679 | 24162654 | 24162697 | 24162685 | 24162670 | 24162676 | 24162657 | 24162666 | 24162641 | 24162662 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Customer Sample Reference** | BHRC04A | BHRC05B | BHRC06B | BHRC08B | BHRCMMA | BHRCMMA | BHRCSSA08 | TP211 | TP213 | TP217 |
| **AGS Reference** | D5 | D5 | D8 | D8 | D5 | D10 | D12 | D3 | D4 | D4 |
| **Depth (m)** | 1.00 - 1.50 | 1.50 - 1.50 | 2.50 - 2.50 | 2.50 - 2.50 | 1.50 - 1.50 | 3.50 - 3.50 | 4.50 - 4.50 | 0.70 - 0.80 | 1.20 - 1.20 | 1.30 - 1.60 |
| **Container** | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) |
| **Sample Type** | S | S | S | S | S | S | S | S | S | S |
| pH — All — NDPs: 0 Tests: 4 | | | | | | | | | | |
| | | | X | X | X | X | | | | |
| Sample description — All — NDPs: 0 Tests: 10 | | | | | | | | | | |
| | X | X | X | X | X | X | X | X | X | X |
| Total Organic Carbon — All — NDPs: 0 Tests: 5 | | | | | | | | | | |
| | X | | | | X | | | X | X | X |
| Total Sulphate — All — NDPs: 0 Tests: 5 | | | | | | | | | | |
| | | X | X | X | | X | X | | | |

# Sample Descriptions

## Grain Sizes

| very fine | <0.063mm | fine | 0.063mm - 0.1mm | medium | 0.1mm - 2mm | coarse | 2mm - 10mm | very coarse | >10mm |
|---|---|---|---|---|---|---|---|---|---|

| Lab Sample No(s) | Customer Sample Ref. | Depth (m) | Colour | Description | Inclusions | Inclusions 2 |
|---|---|---|---|---|---|---|
| 24162679 | BHRC04A | 1.00 - 1.50 | Black | Loamy Sand | Vegetation | None |
| 24162654 | BHRC05B | 1.50 - 1.50 | Black | Loamy Sand | None | None |
| 24162697 | BHRC06B | 2.50 - 2.50 | Black | Sandy Clay | Stones | Vegetation |
| 24162685 | BHRC08B | 2.50 - 2.50 | Black | Sandy Loam | None | None |
| 24162670 | BHRCMMA | 1.50 - 1.50 | Black | Loamy Sand | Vegetation | None |
| 24162676 | BHRCMMA | 3.50 - 3.50 | Black | Loamy Sand | Vegetation | None |
| 24162657 | BHRCSSA08 | 4.50 - 4.50 | Black | Loamy Sand | None | None |
| 24162666 | TP211 | 0.70 - 0.80 | Black | Loamy Sand | Vegetation | None |
| 24162641 | TP213 | 1.20 - 1.20 | Black | Loamy Sand | None | None |
| 24162662 | TP217 | 1.30 - 1.60 | Black | Sandy Clay | None | None |

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210427-92 | **Client Reference:** | 2021LD101 | **Report Number:** | 596774 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | BHRC04A | BHRC05B | BHRC06B | BHRC08B | BHRCMMA | BHRCMMA |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 1.00 - 1.50 | 1.50 - 1.50 | 2.50 - 2.50 | 2.50 - 2.50 | 1.50 - 1.50 | 3.50 - 3.50 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 09/03/2021 | 26/02/2021 | 08/03/2021 | 15/03/2021 | 22/02/2021 | 23/04/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 27/04/2021 | 27/04/2021 | 27/04/2021 | 27/04/2021 | 27/04/2021 | 27/04/2021 |
| SDG Ref | | | 210427-92 | 210427-92 | 210427-92 | 210427-92 | 210427-92 | 210427-92 |
| Lab Sample No.(s) | | | 24162679 | 24162654 | 24162697 | 24162685 | 24162670 | 24162676 |
| AGS Reference | | | D5 | D5 | D8 | D8 | D5 | D10 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 82 | 15 | 48 | 31 | 85 | 86 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | 72.4 @ # | | | | 84 @ # | |
| pH | 1 pH Units | TM133 | | | 7.79 @ M | 8.24 @ M | 6.82 @ M | 5.94 M |
| Sulphate, Total | <48 mg/kg | TM221 | | 610 M | 3990 M | 438 M | | 467 M |

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210427-92 | **Client Reference:** | 2021LD101 | **Report Number:** | 596774 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | BHRCSSA08 | TP211 | TP213 | TP217 | | |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 4.50 - 4.50 | 0.70 - 0.80 | 1.20 - 1.20 | 1.30 - 1.60 | | |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | | |
| Date Sampled | | | 23/04/2021 | 15/03/2021 | 16/03/2021 | 16/03/2021 | | |
| Sample Time | | | . | . | . | . | | |
| Date Received | | | 27/04/2021 | 27/04/2021 | 27/04/2021 | 27/04/2021 | | |
| SDG Ref | | | 210427-92 | 210427-92 | 210427-92 | 210427-92 | | |
| Lab Sample No.(s) | | | 24162657 | 24162666 | 24162641 | 24162662 | | |
| AGS Reference | | | D12 | D3 | D4 | D4 | | |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 30 | 87 | 38 | 37 | | |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | | 77.8 @ # | 5.07 @ # | 7.79 @ # | | |
| Sulphate, Total | <48 mg/kg | TM221 | 255 M | | | | | |

14:49:20 06/05/2021

# Table of Results - Appendix

| Method No | Reference | Description |
|---|---|---|
| PM024 | Modified BS 1377 | Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material |
| TM132 | In - house Method | ELTRA CS800 Operators Guide |
| TM133 | BS 1377: Part 3 1990;BS 6068-2.5 | Determination of pH in Soil and Water using the GLpH pH Meter |
| TM221 | Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd | Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer |

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210427-92 | **Client Reference:** | 2021LD101 | **Report Number:** | 596774 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

## Test Completion Dates

| **Lab Sample No(s)** | 24162679 | 24162654 | 24162697 | 24162685 | 24162670 | 24162676 | 24162657 | 24162666 | 24162641 | 24162662 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Customer Sample Ref.** | BHRC04A | BHRC05B | BHRC06B | BHRC08B | BHRCMMA | BHRCMMA | BHRCSSA08 | TP211 | TP213 | TP217 |
| **AGS Ref.** | D5 | D5 | D8 | D8 | D5 | D10 | D12 | D3 | D4 | D4 |
| **Depth** | 1.00 - 1.50 | 1.50 - 1.50 | 2.50 - 2.50 | 2.50 - 2.50 | 1.50 - 1.50 | 3.50 - 3.50 | 4.50 - 4.50 | 0.70 - 0.80 | 1.20 - 1.20 | 1.30 - 1.60 |
| **Type** | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| pH | | | 30-Apr-2021 | 30-Apr-2021 | 29-Apr-2021 | 29-Apr-2021 | | | | |
| Sample description | 28-Apr-2021 | 28-Apr-2021 | 28-Apr-2021 | 28-Apr-2021 | 28-Apr-2021 | 28-Apr-2021 | 28-Apr-2021 | 28-Apr-2021 | 28-Apr-2021 | 28-Apr-2021 |
| Total Organic Carbon | 06-May-2021 | | | | 06-May-2021 | | | 06-May-2021 | 06-May-2021 | 06-May-2021 |
| Total Sulphate | | 04-May-2021 | 04-May-2021 | 04-May-2021 | | 04-May-2021 | 04-May-2021 | | | |

# Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

# General

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

| | |
|---|---|
| 1 | **Container with Headspace provided for volatiles analysis** |
| 2 | **Incorrect container received** |
| 3 | **Deviation from method** |
| 4 | **Matrix interference** |
| ♦ | **Sample holding time exceeded in laboratory** |
| @ | **Sample holding time exceeded due to late arrival of instructions or samples** |
| § | **Sampled on date not provided** |

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

**Identification of Asbestos in Bulk Materials & Soils**

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

| Asbestos Type | Common Name |
|---|---|
| Chrysotile | White Asbestos |
| Amosite | Brown Asbestos |
| Crocidolite | Blue Asbestos |
| Fibrous Actinolite | - |
| Fibrous Anthophyllite | - |
| Fibrous Tremolite | - |

**Visual Estimation Of Fibre Content**

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

**Respirable Fibres**

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

**Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.**

**The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.**

Unit 7-8 Hawarden Business Park
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Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway

**Attention:** Dympna Darcy

# CERTIFICATE OF ANALYSIS

| | |
|---|---|
| **Date of report Generation:** | 02 June 2021 |
| **Customer:** | Irish Drilling Limited |
| **Sample Delivery Group (SDG):** | 210513-119 |
| **Your Reference:** | 2021LD101 |
| **Location:** | Derryadd |
| **Report No:** | 600396 |

We received 45 samples on Thursday May 13, 2021 and 45 of these samples were scheduled for analysis which was completed on Tuesday June 01, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

**Sonia McWhan**
Operations Manager

# Received Sample Overview

| Lab Sample No(s) | Customer Sample Ref. | AGS Ref. | Depth (m) | Sampled Date |
|---|---|---|---|---|
| 24262622 | BHRC12A | D7 | 2.50 - 2.50 | 29/03/2021 |
| 24262591 | BHRC01B | D8 | 2.50 - 2.50 | 24/02/2021 |
| 24262662 | BHRC15B | D2 | 1.00 - 1.00 | 14/04/2021 |
| 24262709 | BHRCBPA1 | D4 | 1.50 - 1.50 | 25/03/2021 |
| 24262730 | BHRCBPA2 | D5 | 1.50 - 1.50 | 25/03/2021 |
| 24262734 | BHRCBPB4 | D8 | 2.50 - 2.50 | 12/04/2021 |
| 24262736 | BHRCBPC1 | D2 | 1.00 - 1.00 | 08/04/2021 |
| 24262740 | BHRCPSG | D5 | 1.50 - 1.50 | 25/03/2021 |
| 24262742 | BHRCSSA01 | D2 | 1.00 - 1.00 | 24/03/2021 |
| 24262594 | BHRCSSA06 | D2 | 1.00 - 1.00 | 24/03/2021 |
| 24262597 | TP103 | D6 | 4.50 - 4.50 | 24/03/2021 |
| 24262603 | TP218 | D6 | 3.00 - 3.10 | 12/03/2021 |
| 24262605 | TP222 | D4 | 2.00 - 2.10 | 16/03/2021 |
| 24262610 | TP233 | D4 | 1.50 - 1.60 | 22/03/2021 |
| 24262612 | TP238 | D4 | 2.20 - 2.30 | 23/03/2021 |
| 24262614 | TP238 | D6 | 3.50 - 3.90 | 23/03/2021 |
| 24262617 | TP245 | D4 | 1.10 - 1.20 | 11/03/2021 |
| 24262625 | TP256 | D4 | 1.50 - 1.60 | 09/03/2021 |
| 24262627 | TPAR04 | B6 | 2.60 - 2.90 | 03/03/2021 |
| 24262632 | TPBPB04 | D4 | 1.40 - 1.50 | 18/03/2021 |
| 24262636 | TPBPC01 | D4 | 1.70 - 1.80 | 17/03/2021 |
| 24262643 | TPPSG01 | D3 | 1.30 - 1.40 | 04/03/2021 |
| 24262650 | TPPSI01 | D4 | 1.60 - 1.70 | 23/03/2021 |
| 24262653 | TPPSI02 | D4 | 2.40 - 2.50 | 23/03/2021 |
| 24262657 | TPPSJ02 | B3 | 0.70 - 1.00 | 16/03/2021 |
| 24262659 | TPPSJ02 | D5 | 2.30 - 2.40 | 16/03/2021 |
| 24262600 | TP121R | D4 | 1.60 - 1.70 | 29/03/2021 |
| 24262620 | TP249R | D6 | 3.80 - 3.80 | 10/03/2021 |
| 24262666 | TPS278 | D1 | 0.30 - 0.40 | 05/03/2021 |
| 24262669 | TPSSA01 | D1 | 0.30 - 0.40 | 04/03/2021 |
| 24262673 | TPSSA02 | B4 | 1.40 - 1.50 | 04/03/2021 |
| 24262676 | TPSSA02 | D6 | 2.50 - 2.50 | 04/03/2021 |
| 24262679 | TPSSA04 | D5 | 2.20 - 2.30 | 03/03/2021 |
| 24262683 | TPSSA05 | D1 | 0.40 - 0.50 | 04/03/2021 |
| 24262688 | TPSSA06 | D1 | 0.50 - 0.60 | 04/03/2021 |
| 24262691 | TPT11 | D1 | 0.30 - 0.40 | 08/03/2021 |
| 24262696 | TPT12 | B3 | 1.20 - 1.50 | 09/03/2021 |
| 24262706 | TPT12 | D4 | 1.50 - 1.60 | 09/03/2021 |
| 24262713 | TPT14 | D4 | 1.50 - 1.60 | 17/03/2021 |
| 24262715 | TPT15 | D4 | 0.90 - 1.00 | 22/03/2021 |
| 24262718 | TPT15 | B5 | 1.70 - 1.90 | 22/03/2021 |
| 24262722 | TPT16 | D4 | 1.50 - 1.60 | 22/03/2021 |
| 24319774 | TPT20 | | 1.20 | 09/04/2021 |
| 24319773 | TPT20 | | 1.90 | 09/04/2021 |
| 24262726 | TPTCCD1 | D4 | 1.70 - 1.80 | 24/03/2021 |

**Only received samples which have had analysis scheduled will be shown on the following pages.**

Validated

# CERTIFICATE OF ANALYSIS

**SDG:** 210513-119 **Client Reference:** 2021LD101 **Report Number:** 600396
**Location:** Derryadd **Order Number:** 9628 **Superseded Report:**

**Results Legend**

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

| Lab Sample No(s) | | | 24262622 | 24262591 | 24262662 | 24262709 | 24262730 | 24262734 | 24262736 | 24262740 | 24262742 | 24262594 | 24262597 | 24262603 | 24262605 | 24262610 | 24262612 | 24262614 | 24262617 | 24262625 | 24262627 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Customer Sample Reference | | | BHRC12A | BHRC01B | BHRC15B | BHRCBPA1 | BHRCBPA2 | BHRCBPB4 | BHRCBPC1 | BHRCPSG | BHRCSSA01 | BHRCSSA06 | TP103 | TP218 | TP222 | TP233 | TP238 | TP238 | TP245 | TP256 | TPAR04 |
| AGS Reference | | | D7 | D8 | D2 | D4 | D5 | D8 | D2 | D5 | D2 | D2 | D6 | D6 | D4 | D4 | D4 | D6 | D4 | D4 | B6 |
| Depth (m) | | | 2.50 - 2.50 | 2.50 - 2.50 | 1.00 - 1.00 | 1.50 - 1.50 | 1.50 - 1.50 | 2.50 - 2.50 | 1.00 - 1.00 | 1.50 - 1.50 | 1.00 - 1.00 | 1.00 - 1.00 | 4.50 - 4.50 | 3.00 - 3.10 | 2.00 - 2.10 | 1.50 - 1.60 | 2.20 - 2.30 | 3.50 - 3.90 | 1.10 - 1.20 | 1.50 - 1.60 | 2.60 - 2.90 |
| Container | | | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) |
| Sample Type | | | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S | S |
| Alkalinity as CaCO3 | All | NDPs: 0 Tests: 2 | | | | | | | | | | | | | | | | | | | |
| pH | All | NDPs: 0 Tests: 14 | X | | | | X | | | | | | | | | | | | | | |
| Sample description | All | NDPs: 0 Tests: 45 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Total Organic Carbon | All | NDPs: 0 Tests: 32 | X | | X | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Total Sulphate | All | NDPs: 0 Tests: 15 | X | X | | | X | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24262715 | TPT15 | D4 | 0.90 - 1.00 | 250g Amber Jar (ALE210) | S | | | | | | X | | X | |
| 24262713 | TPT14 | D4 | 1.50 - 1.60 | 250g Amber Jar (ALE210) | S | | | | X | | X | | | X |
| 24262706 | TPT12 | D4 | 1.50 - 1.60 | 250g Amber Jar (ALE210) | S | | | | X | | X | | | X |
| 24262696 | TPT12 | B3 | 1.20 - 1.50 | 250g Amber Jar (ALE210) | S | | | | | | X | | X | |
| 24262691 | TPT11 | D1 | 0.30 - 0.40 | 250g Amber Jar (ALE210) | S | | | | X | | X | | | X |
| 24262688 | TPSSA06 | D1 | 0.50 - 0.60 | 250g Amber Jar (ALE210) | S | | X | | X | | X | | | X |
| 24262683 | TPSSA05 | D1 | 0.40 - 0.50 | 250g Amber Jar (ALE210) | S | | | | | | X | | X | |
| 24262679 | TPSSA04 | D5 | 2.20 - 2.30 | 250g Amber Jar (ALE210) | S | | | | | | X | | X | |
| 24262676 | TPSSA02 | D6 | 2.50 - 2.50 | 250g Amber Jar (ALE210) | S | | | | | | X | | X | |
| 24262673 | TPSSA02 | B4 | 1.40 - 1.50 | 250g Amber Jar (ALE210) | S | | X | | X | | X | | | X |
| 24262669 | TPSSA01 | D1 | 0.30 - 0.40 | 250g Amber Jar (ALE210) | S | | | | | | X | | X | |
| 24262666 | TPS278 | D1 | 0.30 - 0.40 | 250g Amber Jar (ALE210) | S | | | | | | X | | X | |
| 24262620 | TP249R | D6 | 3.80 - 3.80 | 250g Amber Jar (ALE210) | S | | | | | | X | | X | |
| 24262600 | TP121R | D4 | 1.60 - 1.70 | 250g Amber Jar (ALE210) | S | | | | X | | X | | | X |
| 24262659 | TPPSJ02 | D5 | 2.30 - 2.40 | 250g Amber Jar (ALE210) | S | | | | | | X | | X | |
| 24262657 | TPPSJ02 | B3 | 0.70 - 1.00 | 250g Amber Jar (ALE210) | S | | | | X | | X | | | X |
| 24262653 | TPPSI02 | D4 | 2.40 - 2.50 | 250g Amber Jar (ALE210) | S | | | | | | X | | X | |
| 24262650 | TPPSI01 | D4 | 1.60 - 1.70 | 250g Amber Jar (ALE210) | S | | | | | | X | | X | |
| 24262643 | TPPSG01 | D3 | 1.30 - 1.40 | 250g Amber Jar (ALE210) | S | | | | | | X | | X | |
| 24262636 | TPBPC01 | D4 | 1.70 - 1.80 | 250g Amber Jar (ALE210) | S | | | | X | | X | | | X |
| 24262632 | TPBPB04 | D4 | 1.40 - 1.50 | 250g Amber Jar (ALE210) | S | | | | X | | X | | | X |

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210513-119 | **Client Reference:** | 2021LD101 | **Report Number:** | 600396 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Lab Sample No(s)** | | | 24262718 | 24262722 | 24319774 | 24319773 | 24262726 |
| **Customer Sample Reference** | | | TPT15 | TPT16 | TPT20 | TPT20 | TPTCCD1 |
| **AGS Reference** | | | B5 | D4 | | | D4 |
| **Depth (m)** | | | 1.70 - 1.90 | 1.50 - 1.60 | 1.20 | 1.90 | 1.70 - 1.80 |
| **Container** | | | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) |
| **Sample Type** | | | S | S | S | S | S |
| pH | All | NDPs: 0 Tests: 14 | X | X | | X | |
| Sample description | All | NDPs: 0 Tests: 45 | X | X | X | X | X |
| Total Organic Carbon | All | NDPs: 0 Tests: 32 | | X | X | | X |
| Total Sulphate | All | NDPs: 0 Tests: 15 | X | X | | X | |

# Sample Descriptions

## Grain Sizes

| very fine | <0.063mm | fine | 0.063mm - 0.1mm | medium | 0.1mm - 2mm | coarse | 2mm - 10mm | very coarse | >10mm |
|---|---|---|---|---|---|---|---|---|---|

| Lab Sample No(s) | Customer Sample Ref. | Depth (m) | Colour | Description | Inclusions | Inclusions 2 |
|---|---|---|---|---|---|---|
| 24262622 | BHRC12A | 2.50 - 2.50 | Dark Brown | Silty Clay Loam | Vegetation | None |
| 24262591 | BHRC01B | 2.50 - 2.50 | Dark Brown | Sandy Clay Loam | Stones | Vegetation |
| 24262662 | BHRC15B | 1.00 - 1.00 | Black | Loamy Sand | Vegetation | None |
| 24262709 | BHRCBPA1 | 1.50 - 1.50 | Dark Brown | Loamy Sand | None | None |
| 24262730 | BHRCBPA2 | 1.50 - 1.50 | Dark Brown | Sandy Clay Loam | Vegetation | None |
| 24262734 | BHRCBPB4 | 2.50 - 2.50 | Dark Brown | Loamy Sand | Vegetation | None |
| 24262736 | BHRCBPC1 | 1.00 - 1.00 | Dark Brown | Sandy Clay Loam | Stones | None |
| 24262740 | BHRCPSG | 1.50 - 1.50 | Dark Brown | Peat | Stones | None |
| 24262742 | BHRCSSA01 | 1.00 - 1.00 | Grey | Sandy Clay Loam | Vegetation | None |
| 24262594 | BHRCSSA06 | 1.00 - 1.00 | Dark Brown | Silt Loam | Vegetation | Stones |
| 24262597 | TP103 | 4.50 - 4.50 | Dark Brown | Silty Clay Loam | Vegetation | None |
| 24262603 | TP218 | 3.00 - 3.10 | Dark Brown | Sandy Silt Loam | None | None |
| 24262605 | TP222 | 2.00 - 2.10 | Dark Brown | Silt Loam | Vegetation | None |
| 24262610 | TP233 | 1.50 - 1.60 | Dark Brown | Sandy Clay Loam | None | None |
| 24262612 | TP238 | 2.20 - 2.30 | Dark Brown | Silt Loam | Vegetation | None |
| 24262614 | TP238 | 3.50 - 3.90 | Dark Brown | Sludge | None | None |
| 24262617 | TP245 | 1.10 - 1.20 | Dark Brown | Silty Clay Loam | None | None |
| 24262625 | TP256 | 1.50 - 1.60 | Dark Brown | Sandy Clay | None | None |
| 24262627 | TPAR04 | 2.60 - 2.90 | Dark Brown | Sandy Clay | None | None |
| 24262632 | TPBPB04 | 1.40 - 1.50 | Dark Brown | Sandy Clay Loam | Vegetation | None |
| 24262636 | TPBPC01 | 1.70 - 1.80 | Light Brown | Sandy Clay | Stones | None |
| 24262643 | TPPSG01 | 1.30 - 1.40 | Dark Brown | Sandy Clay | None | None |
| 24262650 | TPPSI01 | 1.60 - 1.70 | Dark Brown | Silty Sand | Vegetation | None |
| 24262653 | TPPSI02 | 2.40 - 2.50 | Dark Brown | Silt Loam | Vegetation | None |
| 24262657 | TPPSJ02 | 0.70 - 1.00 | Dark Brown | Peat | Vegetation | None |
| 24262659 | TPPSJ02 | 2.30 - 2.40 | Dark Brown | Sandy Clay | None | None |
| 24262600 | TP121R | 1.60 - 1.70 | Dark Brown | Peat | Vegetation | None |
| 24262620 | TP249R | 3.80 - 3.80 | Dark Brown | Sandy Clay Loam | None | None |
| 24262666 | TPS278 | 0.30 - 0.40 | Dark Brown | Silt Loam | Vegetation | None |
| 24262669 | TPSSA01 | 0.30 - 0.40 | Dark Brown | Silty Clay Loam | Vegetation | None |
| 24262673 | TPSSA02 | 1.40 - 1.50 | Dark Brown | Sandy Clay | None | None |
| 24262676 | TPSSA02 | 2.50 - 2.50 | Light Brown | Sandy Clay | Stones | None |
| 24262679 | TPSSA04 | 2.20 - 2.30 | Dark Brown | Sandy Loam | None | None |
| 24262683 | TPSSA05 | 0.40 - 0.50 | Dark Brown | Clay | None | None |
| 24262688 | TPSSA06 | 0.50 - 0.60 | Dark Brown | Silty Clay Loam | Vegetation | None |
| 24262691 | TPT11 | 0.30 - 0.40 | Dark Brown | Sandy Clay | Vegetation | None |
| 24262696 | TPT12 | 1.20 - 1.50 | Dark Brown | Sandy Loam | None | None |
| 24262706 | TPT12 | 1.50 - 1.60 | Dark Brown | Loamy Sand | None | None |
| 24262713 | TPT14 | 1.50 - 1.60 | Dark Brown | Loamy Sand | None | None |

# CERTIFICATE OF ANALYSIS

**SDG:** 210513-119 **Client Reference:** 2021LD101 **Report Number:** 600396
**Location:** Derryadd **Order Number:** 9628 **Superseded Report:**

| | | | Colour | Description | Inclusions | Inclusions 2 |
|---|---|---|---|---|---|---|
| 24262715 | TPT15 | 0.90 - 1.00 | Dark Brown | Silty Clay Loam | None | None |
| 24262718 | TPT15 | 1.70 - 1.90 | Black | Loamy Sand | Vegetation | None |
| 24262722 | TPT16 | 1.50 - 1.60 | Dark Brown | Peat | Vegetation | None |
| 24319773 | TPT20 | 1.90 | Dark Brown | Sand | Stones | Vegetation |
| 24319774 | TPT20 | 1.20 | Dark Brown | Sandy Loam | Stones | Vegetation |
| 24262726 | TPTCCD1 | 1.70 - 1.80 | Light Brown | Sandy Clay Loam | Vegetation | None |

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210513-119 | **Client Reference:** | 2021LD101 | **Report Number:** | 600396 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | BHRC12A | BHRC01B | BHRC15B | BHRCBPA1 | BHRCBPA2 | BHRCBPB4 |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 2.50 - 2.50 | 2.50 - 2.50 | 1.00 - 1.00 | 1.50 - 1.50 | 1.50 - 1.50 | 2.50 - 2.50 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 29/03/2021 | 24/02/2021 | 14/04/2021 | 25/03/2021 | 25/03/2021 | 12/04/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 |
| SDG Ref | | | 210513-119 | 210513-119 | 210513-119 | 210513-119 | 210513-119 | 210513-119 |
| Lab Sample No.(s) | | | 24262622 | 24262591 | 24262662 | 24262709 | 24262730 | 24262734 |
| AGS Reference | | | D7 | D8 | D2 | D4 | D5 | D8 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 33 | 9.8 | 84 | 44 | 46 | 14 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | 2.88 @ # | | 82.8 @ # | 9.69 @ # | | 0.96 @ # |
| pH | 1 pH Units | TM133 | 7.8 @ M | | | | 7.75 @ M | |
| Sulphate, Total | <48 mg/kg | TM221 | 1800 M | 643 M | | | 438 M | |

17:24:12 02/06/2021

Validated

# CERTIFICATE OF ANALYSIS

**SDG:** 210513-119 **Client Reference:** 2021LD101 **Report Number:** 600396
**Location:** Derryadd **Order Number:** 9628 **Superseded Report:**

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | BHRCBPC1 | BHRCPSG | BHRCSSA01 | BHRCSSA06 | TP103 | TP218 |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 1.00 - 1.00 | 1.50 - 1.50 | 1.00 - 1.00 | 1.00 - 1.00 | 4.50 - 4.50 | 3.00 - 3.10 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 08/04/2021 | 25/03/2021 | 24/03/2021 | 24/03/2021 | 24/03/2021 | 12/03/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 |
| SDG Ref | | | 210513-119 | 210513-119 | 210513-119 | 210513-119 | 210513-119 | 210513-119 |
| Lab Sample No.(s) | | | 24262736 | 24262740 | 24262742 | 24262594 | 24262597 | 24262603 |
| AGS Reference | | | D2 | D5 | D2 | D2 | D6 | D6 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 12 | 64 | 40 | 49 | 40 | 28 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | 1.24 @ # | 36.9 @ # | 5.05 @ # | 14.9 @ # | 4.57 @ # | 1.35 @ # |

17:24:12 02/06/2021

Validated

# CERTIFICATE OF ANALYSIS

**SDG:** 210513-119 **Client Reference:** 2021LD101 **Report Number:** 600396
**Location:** Derryadd **Order Number:** 9628 **Superseded Report:**

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | TP222 | TP233 | TP238 | TP238 | TP245 | TP256 |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 2.00 - 2.10 | 1.50 - 1.60 | 2.20 - 2.30 | 3.50 - 3.90 | 1.10 - 1.20 | 1.50 - 1.60 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 16/03/2021 | 22/03/2021 | 23/03/2021 | 23/03/2021 | 11/03/2021 | 09/03/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 |
| SDG Ref | | | 210513-119 | 210513-119 | 210513-119 | 210513-119 | 210513-119 | 210513-119 |
| Lab Sample No.(s) | | | 24262605 | 24262610 | 24262612 | 24262614 | 24262617 | 24262625 |
| AGS Reference | | | D4 | D4 | D4 | D6 | D4 | D4 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 50 | 40 | 59 | 40 | 32 | 41 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | 8.03 @ # | 6.19 @ # | 19.5 @ # | 1.95 @ # | 2.79 @ # | 7.19 @ # |

17:24:12 02/06/2021

Validated

# CERTIFICATE OF ANALYSIS

**SDG:** 210513-119 **Client Reference:** 2021LD101 **Report Number:** 600396
**Location:** Derryadd **Order Number:** 9628 **Superseded Report:**

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | TPAR04 | TPBPB04 | TPBPC01 | TPPSG01 | TPPSI01 | TPPSI02 |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 2.60 - 2.90 | 1.40 - 1.50 | 1.70 - 1.80 | 1.30 - 1.40 | 1.60 - 1.70 | 2.40 - 2.50 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 03/03/2021 | 18/03/2021 | 17/03/2021 | 04/03/2021 | 23/03/2021 | 23/03/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 |
| SDG Ref | | | 210513-119 | 210513-119 | 210513-119 | 210513-119 | 210513-119 | 210513-119 |
| Lab Sample No.(s) | | | 24262627 | 24262632 | 24262636 | 24262643 | 24262650 | 24262653 |
| AGS Reference | | | B6 | D4 | D4 | D3 | D4 | D4 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 30 | 29 | 11 | 21 | 43 | 57 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | 2.4 @ # | | | 1.23 @ # | 9.57 @ # | 13.5 @ # |
| pH | 1 pH Units | TM133 | | 8.13 @ M | 8.61 @ M | | | |
| Sulphate, Total | <48 mg/kg | TM221 | | 375 M | 265 M | | | |

17:24:12 02/06/2021

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# CERTIFICATE OF ANALYSIS

**SDG:** 210513-119 **Client Reference:** 2021LD101 **Report Number:** 600396
**Location:** Derryadd **Order Number:** 9628 **Superseded Report:**

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | TPPSJ02 | TPPSJ02 | TP121R | TP249R | TPS278 | TPSSA01 |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 0.70 - 1.00 | 2.30 - 2.40 | 1.60 - 1.70 | 3.80 - 3.80 | 0.30 - 0.40 | 0.30 - 0.40 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 16/03/2021 | 16/03/2021 | 29/03/2021 | 10/03/2021 | 05/03/2021 | 04/03/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 |
| SDG Ref | | | 210513-119 | 210513-119 | 210513-119 | 210513-119 | 210513-119 | 210513-119 |
| Lab Sample No.(s) | | | 24262657 | 24262659 | 24262600 | 24262620 | 24262666 | 24262669 |
| AGS Reference | | | B3 | D5 | D4 | D6 | D1 | D1 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 88 | 18 | 87 | 36 | 54 | 40 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | | 0.841 @ # | | 4.9 @ # | 11.7 @ # | 4.17 @ # |
| pH | 1 pH Units | TM133 | 6.18 @ # | | 5.71 @ # | | | |
| Sulphate, Total | <48 mg/kg | TM221 | 1770 # | | 1100 # | | | |

17:24:12 02/06/2021

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# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210513-119 | **Client Reference:** | 2021LD101 | **Report Number:** | 600396 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | TPSSA02 | TPSSA02 | TPSSA04 | TPSSA05 | TPSSA06 | TPT11 |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 1.40 - 1.50 | 2.50 - 2.50 | 2.20 - 2.30 | 0.40 - 0.50 | 0.50 - 0.60 | 0.30 - 0.40 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 04/03/2021 | 04/03/2021 | 03/03/2021 | 04/03/2021 | 04/03/2021 | 08/03/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 |
| SDG Ref | | | 210513-119 | 210513-119 | 210513-119 | 210513-119 | 210513-119 | 210513-119 |
| Lab Sample No.(s) | | | 24262673 | 24262676 | 24262679 | 24262683 | 24262688 | 24262691 |
| AGS Reference | | | B4 | D6 | D5 | D1 | D1 | D1 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 24 | 8.1 | 36 | 22 | 29 | 24 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | | 0.405 @ # | 3.47 @ # | 1.71 @ # | | |
| pH | 1 pH Units | TM133 | 7.96 @ M | | | | 7.66 @ M | 8.36 @ M |
| Sulphate, Total | <48 mg/kg | TM221 | 839 M | | | | 3740 M | 172 M |
| Alkalinity, Carbonate as CaCO3 | <10 mg/kg | TM230 | <10 | | | | <10 | |

Validated

# CERTIFICATE OF ANALYSIS

**SDG:** 210513-119 **Client Reference:** 2021LD101 **Report Number:** 600396
**Location:** Derryadd **Order Number:** 9628 **Superseded Report:**

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | TPT12 | TPT12 | TPT14 | TPT15 | TPT15 | TPT16 |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 1.20 - 1.50 | 1.50 - 1.60 | 1.50 - 1.60 | 0.90 - 1.00 | 1.70 - 1.90 | 1.50 - 1.60 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 09/03/2021 | 09/03/2021 | 17/03/2021 | 22/03/2021 | 22/03/2021 | 22/03/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 | 13/05/2021 |
| SDG Ref | | | 210513-119 | 210513-119 | 210513-119 | 210513-119 | 210513-119 | 210513-119 |
| Lab Sample No.(s) | | | 24262696 | 24262706 | 24262713 | 24262715 | 24262718 | 24262722 |
| AGS Reference | | | B3 | D4 | D4 | D4 | B5 | D4 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 29 | 31 | 11 | 31 | 85 | 87 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | 2.03 @ # | | | 3.31 @ # | | 80.9 @ # |
| pH | 1 pH Units | TM133 | | 7.82 @ M | 8.55 @ M | | 6.17 @ M | 6 @ # |
| Sulphate, Total | <48 mg/kg | TM221 | | 3220 M | 323 M | | 2070 M | 2050 # |

17:24:12 02/06/2021

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# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210513-119 | **Client Reference:** | 2021LD101 | **Report Number:** | 600396 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | TPT20 | TPT20 | TPTCCD1 | | | |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 1.20 | 1.90 | 1.70 - 1.80 | | | |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | | | |
| Date Sampled | | | 09/04/2021 | 09/04/2021 | 24/03/2021 | | | |
| Sample Time | | | . | . | . | | | |
| Date Received | | | 13/05/2021 | 13/05/2021 | 13/05/2021 | | | |
| SDG Ref | | | 210513-119 | 210513-119 | 210513-119 | | | |
| Lab Sample No.(s) | | | 24319774 | 24319773 | 24262726 | | | |
| AGS Reference | | | | | D4 | | | |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 75 | 9.3 | 72 | | | |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | 34 @ # | | 17.4 @ # | | | |
| pH | 1 pH Units | TM133 | | 8.43 @ M | | | | |
| Sulphate, Total | <48 mg/kg | TM221 | | 487 M | | | | |

17:24:12 02/06/2021

# Table of Results - Appendix

| Method No | Reference | Description |
|---|---|---|
| PM024 | Modified BS 1377 | Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material |
| TM132 | In - house Method | ELTRA CS800 Operators Guide |
| TM133 | BS 1377: Part 3 1990;BS 6068-2.5 | Determination of pH in Soil and Water using the GLpH pH Meter |
| TM221 | Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd | Determination of Acid Extractable Sulphate in Soils by ICP OES |
| TM230 | Methods 2320B and 4500-CO2 D, AWWA/APHA 19th Edition, 1995. | Determination of Alkalinity in Aqueous Sludge and Soil extracts |

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

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# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210513-119 | **Client Reference:** | 2021LD101 | **Report Number:** | 600396 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

## Test Completion Dates

| **Lab Sample No(s)** | 24262622 | 24262591 | 24262662 | 24262709 | 24262730 | 24262734 | 24262736 | 24262740 | 24262742 | 24262594 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Customer Sample Ref.** | BHRC12A | BHRC01B | BHRC15B | BHRCBPA1 | BHRCBPA2 | BHRCBPB4 | BHRCBPC1 | BHRCPSG | BHRCSSA01 | BHRCSSA06 |
| **AGS Ref.** | D7 | D8 | D2 | D4 | D5 | D8 | D2 | D5 | D2 | D2 |
| **Depth** | 2.50 - 2.50 | 2.50 - 2.50 | 1.00 - 1.00 | 1.50 - 1.50 | 1.50 - 1.50 | 2.50 - 2.50 | 1.00 - 1.00 | 1.50 - 1.50 | 1.00 - 1.00 | 1.00 - 1.00 |
| **Type** | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| pH | 14-May-2021 | | | | 14-May-2021 | | | | | |
| Sample description | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 |
| Total Organic Carbon | 20-May-2021 | | 20-May-2021 | 20-May-2021 | | 20-May-2021 | 20-May-2021 | 20-May-2021 | 20-May-2021 | 20-May-2021 |
| Total Sulphate | 19-May-2021 | 19-May-2021 | | | 19-May-2021 | | | | | |

| **Lab Sample No(s)** | 24262597 | 24262603 | 24262605 | 24262610 | 24262612 | 24262614 | 24262617 | 24262625 | 24262627 | 24262632 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Customer Sample Ref.** | TP103 | TP218 | TP222 | TP233 | TP238 | TP238 | TP245 | TP256 | TPAR04 | TPBPB04 |
| **AGS Ref.** | D6 | D6 | D4 | D4 | D4 | D6 | D4 | D4 | B6 | D4 |
| **Depth** | 4.50 - 4.50 | 3.00 - 3.10 | 2.00 - 2.10 | 1.50 - 1.60 | 2.20 - 2.30 | 3.50 - 3.90 | 1.10 - 1.20 | 1.50 - 1.60 | 2.60 - 2.90 | 1.40 - 1.50 |
| **Type** | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| pH | | | | | | | | | | 14-May-2021 |
| Sample description | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 |
| Total Organic Carbon | 18-May-2021 | 20-May-2021 | 20-May-2021 | 20-May-2021 | 20-May-2021 | 20-May-2021 | 20-May-2021 | 20-May-2021 | 20-May-2021 | |
| Total Sulphate | | | | | | | | | | 19-May-2021 |

| **Lab Sample No(s)** | 24262636 | 24262643 | 24262650 | 24262653 | 24262657 | 24262659 | 24262600 | 24262620 | 24262666 | 24262669 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Customer Sample Ref.** | TPBPC01 | TPPSG01 | TPPSI01 | TPPSI02 | TPPSJ02 | TPPSJ02 | TP121R | TP249R | TPS278 | TPSSA01 |
| **AGS Ref.** | D4 | D3 | D4 | D4 | B3 | D5 | D4 | D6 | D1 | D1 |
| **Depth** | 1.70 - 1.80 | 1.30 - 1.40 | 1.60 - 1.70 | 2.40 - 2.50 | 0.70 - 1.00 | 2.30 - 2.40 | 1.60 - 1.70 | 3.80 - 3.80 | 0.30 - 0.40 | 0.30 - 0.40 |
| **Type** | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| pH | 14-May-2021 | | | | 14-May-2021 | | 14-May-2021 | | | |
| Sample description | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 |
| Total Organic Carbon | | 20-May-2021 | 20-May-2021 | 20-May-2021 | | 20-May-2021 | | 20-May-2021 | 18-May-2021 | 20-May-2021 |
| Total Sulphate | 19-May-2021 | | | | 19-May-2021 | | 19-May-2021 | | | |

| **Lab Sample No(s)** | 24262673 | 24262676 | 24262679 | 24262683 | 24262688 | 24262691 | 24262696 | 24262706 | 24262713 | 24262715 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Customer Sample Ref.** | TPSSA02 | TPSSA02 | TPSSA04 | TPSSA05 | TPSSA06 | TPT11 | TPT12 | TPT12 | TPT14 | TPT15 |
| **AGS Ref.** | B4 | D6 | D5 | D1 | D1 | D1 | B3 | D4 | D4 | D4 |
| **Depth** | 1.40 - 1.50 | 2.50 - 2.50 | 2.20 - 2.30 | 0.40 - 0.50 | 0.50 - 0.60 | 0.30 - 0.40 | 1.20 - 1.50 | 1.50 - 1.60 | 1.50 - 1.60 | 0.90 - 1.00 |
| **Type** | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Alkalinity as CaCO3 | 18-May-2021 | | | | 19-May-2021 | | | | | |
| pH | 14-May-2021 | | | | 14-May-2021 | 14-May-2021 | | 14-May-2021 | 14-May-2021 | |
| Sample description | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 | 14-May-2021 |
| Total Organic Carbon | | 20-May-2021 | 18-May-2021 | 20-May-2021 | | | 18-May-2021 | | | 20-May-2021 |
| Total Sulphate | 19-May-2021 | | | | 19-May-2021 | 19-May-2021 | | 19-May-2021 | 19-May-2021 | |

| **Lab Sample No(s)** | 24262718 | 24262722 | 24319773 | 24319774 | 24262726 |
|---|---|---|---|---|---|
| **Customer Sample Ref.** | TPT15 | TPT16 | TPT20 | TPT20 | TPTCCD1 |
| **AGS Ref.** | B5 | D4 | | | D4 |
| **Depth** | 1.70 - 1.90 | 1.50 - 1.60 | 1.90 | 1.20 | 1.70 - 1.80 |
| **Type** | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| pH | 14-May-2021 | 14-May-2021 | 26-May-2021 | | |
| Sample description | 14-May-2021 | 14-May-2021 | 24-May-2021 | 24-May-2021 | 14-May-2021 |
| Total Organic Carbon | | 20-May-2021 | | 01-Jun-2021 | 20-May-2021 |
| Total Sulphate | 19-May-2021 | 19-May-2021 | 28-May-2021 | | |

# Appendix

## General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

| | |
|---|---|
| 1 | **Container with Headspace provided for volatiles analysis** |
| 2 | **Incorrect container received** |
| 3 | **Deviation from method** |
| 4 | **Matrix interference** |
| ♦ | **Sample holding time exceeded in laboratory** |
| @ | **Sample holding time exceeded due to late arrival of instructions or samples** |
| § | **Sampled on date not provided** |

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

**Identification of Asbestos in Bulk Materials & Soils**

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

| Asbestos Type | Common Name |
|---|---|
| Chrysotile | White Asbestos |
| Amosite | Brown Asbestos |
| Crocidolite | Blue Asbestos |
| Fibrous Actinolite | - |
| Fibrous Anthophyllite | - |
| Fibrous Tremolite | - |

**Visual Estimation Of Fibre Content**

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

**Respirable Fibres**

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

**Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.**

**The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.**

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
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Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway

**Attention:** Dympna Darcy

# CERTIFICATE OF ANALYSIS

| | |
|---|---|
| **Date of report Generation:** | 09 June 2021 |
| **Customer:** | Irish Drilling Limited |
| **Sample Delivery Group (SDG):** | 210603-70 |
| **Your Reference:** | 2021LD101 |
| **Location:** | Derryadd |
| **Report No:** | 601289 |

We received 9 samples on Thursday June 03, 2021 and 9 of these samples were scheduled for analysis which was completed on Wednesday June 09, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

**Sonia McWhan**

Operations Manager

# Received Sample Overview

| Lab Sample No(s) | Customer Sample Ref. | AGS Ref. | Depth (m) | Sampled Date |
|---|---|---|---|---|
| 24384180 | RC02A | EW1 | 1.34 - 1.34 | 01/06/2021 |
| 24384177 | RC05A | EW1 | 2.95 - 2.95 | 01/06/2021 |
| 24384172 | RC09A | EW1 | 1.10 - 1.10 | 01/06/2021 |
| 24384143 | RC17A | EW1 | 0.26 - 0.26 | 01/06/2021 |
| 24384159 | RC24A | EW1 | 0.83 - 0.83 | 01/06/2021 |
| 24384163 | RC12B | EW1 | 0.15 - 0.15 | 01/06/2021 |
| 24384147 | RC18B | EW1 | 0.57 - 0.57 | 01/06/2021 |
| 24384153 | RC21B | EW1 | 0.23 - 0.23 | 01/06/2021 |
| 24384166 | SSA05 | EW1 | 0.51 - 0.51 | 01/06/2021 |

**Only received samples which have had analysis scheduled will be shown on the following pages.**

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210603-70 | **Client Reference:** | 2021LD101 | **Report Number:** | 601289 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

X **Test**

N **No Determination Possible**

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample No(s)** | | | 24384180 | 24384177 | 24384172 | 24384143 | 24384159 | 24384163 | 24384147 | 24384153 | 24384166 |
| **Customer Sample Reference** | | | RC02A | RC05A | RC09A | RC17A | RC24A | RC12B | RC18B | RC21B | SSA05 |
| **AGS Reference** | | | EW1 | EW1 | EW1 | EW1 | EW1 | EW1 | EW1 | EW1 | EW1 |
| **Depth (m)** | | | 1.34 - 1.34 | 2.95 - 2.95 | 1.10 - 1.10 | 0.26 - 0.26 | 0.83 - 0.83 | 0.15 - 0.15 | 0.57 - 0.57 | 0.23 - 0.23 | 0.51 - 0.51 |
| **Container** | | | 500ml Plastic (ALE208) | 500ml Plastic (ALE208) | 500ml Plastic (ALE208) | 500ml Plastic (ALE208) | 500ml Plastic (ALE208) | 500ml Plastic (ALE208) | 500ml Plastic (ALE208) | 500ml Plastic (ALE208) | 500ml Plastic (ALE208) |
| **Sample Type** | | | GW | GW | GW | GW | GW | GW | GW | GW | GW |
| Anions by Kone (w) | All | NDPs: 0 Tests: 9 | X | X | X | X | X | X | X | X | X |
| pH Value | All | NDPs: 0 Tests: 9 | X | X | X | X | X | X | X | X | X |

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210603-70 | **Client Reference:** | 2021LD101 | **Report Number:** | 601289 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | RC02A | RC05A | RC09A | RC17A | RC24A | RC12B |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 1.34 - 1.34 | 2.95 - 2.95 | 1.10 - 1.10 | 0.26 - 0.26 | 0.83 - 0.83 | 0.15 - 0.15 |
| Sample Type | | | Ground Water (GW) | Ground Water (GW) | Ground Water (GW) | Ground Water (GW) | Ground Water (GW) | Ground Water (GW) |
| Date Sampled | | | 01/06/2021 | 01/06/2021 | 01/06/2021 | 01/06/2021 | 01/06/2021 | 01/06/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 03/06/2021 | 03/06/2021 | 03/06/2021 | 03/06/2021 | 03/06/2021 | 03/06/2021 |
| SDG Ref | | | 210603-70 | 210603-70 | 210603-70 | 210603-70 | 210603-70 | 210603-70 |
| Lab Sample No.(s) | | | 24384180 | 24384177 | 24384172 | 24384143 | 24384159 | 24384163 |
| AGS Reference | | | EW1 | EW1 | EW1 | EW1 | EW1 | EW1 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Sulphate | <2 mg/l | TM184 | 134 # | <2 # | <2 # | <2 # | <10 # | <2 # |
| pH | <1 pH Units | TM256 | 7.06 # | 7.11 # | 7.27 # | 7.51 # | 7.88 # | 7.4 # |

13:42:37 09/06/2021

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210603-70 | **Client Reference:** | 2021LD101 | **Report Number:** | 601289 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | RC18B | RC21B | SSA05 | | | |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 0.57 - 0.57 | 0.23 - 0.23 | 0.51 - 0.51 | | | |
| Sample Type | | | Ground Water (GW) | Ground Water (GW) | Ground Water (GW) | | | |
| Date Sampled | | | 01/06/2021 | 01/06/2021 | 01/06/2021 | | | |
| Sample Time | | | . | . | . | | | |
| Date Received | | | 03/06/2021 | 03/06/2021 | 03/06/2021 | | | |
| SDG Ref | | | 210603-70 | 210603-70 | 210603-70 | | | |
| Lab Sample No.(s) | | | 24384147 | 24384153 | 24384166 | | | |
| AGS Reference | | | EW1 | EW1 | EW1 | | | |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Sulphate | <2 mg/l | TM184 | <2 # | <2 # | <2 # | | | |
| pH | <1 pH Units | TM256 | 7.27 # | 7.32 # | 7.32 # | | | |

13:42:37 09/06/2021

# Table of Results - Appendix

| Method No | Reference | Description |
|---|---|---|
| TM184 | EPA Methods 325.1 & 325.2, | The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers |
| TM256 | The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4. | Determination of pH in Water and Leachate using the GLpH pH Meter |

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210603-70 | **Client Reference:** | 2021LD101 | **Report Number:** | 601289 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

## Test Completion Dates

| **Lab Sample No(s)** | 24384180 | 24384177 | 24384172 | 24384143 | 24384159 | 24384163 | 24384147 | 24384153 | 24384166 |
|---|---|---|---|---|---|---|---|---|---|
| **Customer Sample Ref.** | RC02A | RC05A | RC09A | RC17A | RC24A | RC12B | RC18B | RC21B | SSA05 |
| **AGS Ref.** | EW1 | EW1 | EW1 | EW1 | EW1 | EW1 | EW1 | EW1 | EW1 |
| **Depth** | 1.34 - 1.34 | 2.95 - 2.95 | 1.10 - 1.10 | 0.26 - 0.26 | 0.83 - 0.83 | 0.15 - 0.15 | 0.57 - 0.57 | 0.23 - 0.23 | 0.51 - 0.51 |
| **Type** | Ground Water | Ground Water | Ground Water | Ground Water | Ground Water | Ground Water | Ground Water | Ground Water | Ground Water |
| Anions by Kone (w) | 09-Jun-2021 | 09-Jun-2021 | 09-Jun-2021 | 09-Jun-2021 | 09-Jun-2021 | 09-Jun-2021 | 09-Jun-2021 | 09-Jun-2021 | 09-Jun-2021 |
| pH Value | 04-Jun-2021 | 04-Jun-2021 | 04-Jun-2021 | 04-Jun-2021 | 04-Jun-2021 | 04-Jun-2021 | 04-Jun-2021 | 04-Jun-2021 | 04-Jun-2021 |

# Appendix

## General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

| | |
|---|---|
| 1 | **Container with Headspace provided for volatiles analysis** |
| 2 | **Incorrect container received** |
| 3 | **Deviation from method** |
| 4 | **Matrix interference** |
| ♦ | **Sample holding time exceeded in laboratory** |
| @ | **Sample holding time exceeded due to late arrival of instructions or samples** |
| § | **Sampled on date not provided** |

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

**Identification of Asbestos in Bulk Materials & Soils**

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

| Asbestos Type | Common Name |
|---|---|
| Chrysotile | White Asbestos |
| Amosite | Brown Asbestos |
| Crocidolite | Blue Asbestos |
| Fibrous Actinolite | - |
| Fibrous Anthophyllite | - |
| Fibrous Tremolite | - |

**Visual Estimation Of Fibre Content**

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

**Respirable Fibres**

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

**Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.**

**The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.**

Unit 7-8 Hawarden Business Park
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Fax: (01244) 528701
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Website: www.alsenvironmental.co.uk

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway

**Attention:** Dympna Darcy

# CERTIFICATE OF ANALYSIS

| | |
|---|---|
| **Date of report Generation:** | 10 August 2021 |
| **Customer:** | Irish Drilling Limited |
| **Sample Delivery Group (SDG):** | 210802-18 |
| **Your Reference:** | 2021LD101 |
| **Location:** | Derryadd |
| **Report No:** | 608859 |

We received 7 samples on Monday August 02, 2021 and 7 of these samples were scheduled for analysis which was completed on Tuesday August 10, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

**Sonia McWhan**

Operations Manager

# Received Sample Overview

| Lab Sample No(s) | Customer Sample Ref. | AGS Ref. | Depth (m) | Sampled Date |
|---|---|---|---|---|
| 24733183 | BHRC10B | D2 | 1.00 - 1.00 | 04/05/2021 |
| 24733189 | BHRC10B | D5 | 1.50 - 1.50 | 04/05/2021 |
| 24733186 | BHRC12C | D2 | 1.00 - 1.00 | 04/05/2021 |
| 24733196 | BHRC12C | D7 | 3.00 - 3.00 | 04/05/2021 |
| 24733206 | BHRC15C | D5 | 1.50 - 1.50 | 11/05/2021 |
| 24733202 | BHRCSSA11 | D2 | 0.50 - 0.50 | 05/05/2021 |
| 24733204 | BHRCSSA12 | D6 | 2.00 - 2.00 | 05/05/2021 |

**Only received samples which have had analysis scheduled will be shown on the following pages.**

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210802-18 | **Client Reference:** | 2021LD101 | **Report Number:** | 608859 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample No(s)** | | | 24733183 | 24733189 | 24733186 | 24733196 | 24733206 | 24733202 | 24733204 |
| **Customer Sample Reference** | | | BHRC10B | BHRC10B | BHRC12C | BHRC12C | BHRC15C | BHRCSSA11 | BHRCSSA12 |
| **AGS Reference** | | | D2 | D5 | D2 | D7 | D5 | D2 | D6 |
| **Depth (m)** | | | 1.00 - 1.00 | 1.50 - 1.50 | 1.00 - 1.00 | 3.00 - 3.00 | 1.50 - 1.50 | 0.50 - 0.50 | 2.00 - 2.00 |
| **Container** | | | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) |
| **Sample Type** | | | S | S | S | S | S | S | S |
| Anions by Kone (soil) | All | NDPs: 0 Tests: 2 | X | | X | | | | |
| pH | All | NDPs: 0 Tests: 2 | X | | X | | | | |
| Sample description | All | NDPs: 0 Tests: 7 | X | X | X | X | X | X | X |
| Total Organic Carbon | All | NDPs: 0 Tests: 6 | | X | X | X | X | X | X |

# Sample Descriptions

## Grain Sizes

| very fine | <0.063mm | fine | 0.063mm - 0.1mm | medium | 0.1mm - 2mm | coarse | 2mm - 10mm | very coarse | >10mm |
|---|---|---|---|---|---|---|---|---|---|

| Lab Sample No(s) | Customer Sample Ref. | Depth (m) | Colour | Description | Inclusions | Inclusions 2 |
|---|---|---|---|---|---|---|
| 24733183 | BHRC10B | 1.00 - 1.00 | Dark Brown | Sandy Clay | Stones | None |
| 24733189 | BHRC10B | 1.50 - 1.50 | Dark Brown | Sandy Clay | Stones | None |
| 24733186 | BHRC12C | 1.00 - 1.00 | Dark Brown | Silt Loam | None | None |
| 24733196 | BHRC12C | 3.00 - 3.00 | Dark Brown | Silty Clay | None | None |
| 24733206 | BHRC15C | 1.50 - 1.50 | Dark Brown | Silt Loam | None | None |
| 24733202 | BHRCSSA11 | 0.50 - 0.50 | Dark Brown | Clay | None | None |
| 24733204 | BHRCSSA12 | 2.00 - 2.00 | Dark Brown | Sandy Clay | Stones | None |

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210802-18 | **Client Reference:** | 2021LD101 | **Report Number:** | 608859 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | BHRC10B | BHRC10B | BHRC12C | BHRC12C | BHRC15C | BHRCSSA11 |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 1.00 - 1.00 | 1.50 - 1.50 | 1.00 - 1.00 | 3.00 - 3.00 | 1.50 - 1.50 | 0.50 - 0.50 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 04/05/2021 | 04/05/2021 | 04/05/2021 | 04/05/2021 | 11/05/2021 | 05/05/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 02/08/2021 | 02/08/2021 | 02/08/2021 | 02/08/2021 | 02/08/2021 | 02/08/2021 |
| SDG Ref | | | 210802-18 | 210802-18 | 210802-18 | 210802-18 | 210802-18 | 210802-18 |
| Lab Sample No.(s) | | | 24733183 | 24733189 | 24733186 | 24733196 | 24733206 | 24733202 |
| AGS Reference | | | D2 | D5 | D2 | D7 | D5 | D2 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 23 | 12 | 86 | 28 | 58 | 22 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | | 0.488 @ # | 39 @ # | 1.01 @ # | 21.6 @ # | 1.33 @ # |
| pH | 1 pH Units | TM133 | 8.3 @ M | | 4.85 @ M | | | |
| Water Soluble Sulphate as SO4 2:1 Extract | <0.004 g/l | TM243 | 0.018 @ M | | 1.15 @ M | | | |

14:42:41 10/08/2021

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210802-18 | **Client Reference:** | 2021LD101 | **Report Number:** | 608859 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| | |
|---|---|
| **Customer Sample Ref.** | BHRCSSA12 |
| **Depth (m)** | 2.00 - 2.00 |
| **Sample Type** | Soil/Solid (S) |
| **Date Sampled** | 05/05/2021 |
| **Sample Time** | . |
| **Date Received** | 02/08/2021 |
| **SDG Ref** | 210802-18 |
| **Lab Sample No.(s)** | 24733204 |
| **AGS Reference** | D6 |

| Component | LOD/Units | Method | |
|---|---|---|---|
| Moisture Content Ratio (% of as received sample) | % | PM024 | 15 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | 0.784 @ # |

14:42:41 10/08/2021

# Table of Results - Appendix

| Method No | Reference | Description |
|---|---|---|
| PM024 | Modified BS 1377 | Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material |
| TM132 | In - house Method | ELTRA CS800 Operators Guide |
| TM133 | BS 1377: Part 3 1990;BS 6068-2.5 | Determination of pH in Soil and Water using the GLpH pH Meter |
| TM243 | | Mixed Anions In Soils By Kone |

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210802-18 | **Client Reference:** | 2021LD101 | **Report Number:** | 608859 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

## Test Completion Dates

| **Lab Sample No(s)** | 24733183 | 24733189 | 24733186 | 24733196 | 24733206 | 24733202 | 24733204 |
|---|---|---|---|---|---|---|---|
| **Customer Sample Ref.** | BHRC10B | BHRC10B | BHRC12C | BHRC12C | BHRC15C | BHRCSSA11 | BHRCSSA12 |
| **AGS Ref.** | D2 | D5 | D2 | D7 | D5 | D2 | D6 |
| **Depth** | 1.00 - 1.00 | 1.50 - 1.50 | 1.00 - 1.00 | 3.00 - 3.00 | 1.50 - 1.50 | 0.50 - 0.50 | 2.00 - 2.00 |
| **Type** | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Anions by Kone (soil) | 06-Aug-2021 | | 09-Aug-2021 | | | | |
| pH | 04-Aug-2021 | | 04-Aug-2021 | | | | |
| Sample description | 03-Aug-2021 | 03-Aug-2021 | 03-Aug-2021 | 03-Aug-2021 | 03-Aug-2021 | 03-Aug-2021 | 03-Aug-2021 |
| Total Organic Carbon | | 09-Aug-2021 | 10-Aug-2021 | 09-Aug-2021 | 09-Aug-2021 | 09-Aug-2021 | 09-Aug-2021 |

# Appendix

## General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

| | |
|---|---|
| 1 | **Container with Headspace provided for volatiles analysis** |
| 2 | **Incorrect container received** |
| 3 | **Deviation from method** |
| 4 | **Matrix interference** |
| ♦ | **Sample holding time exceeded in laboratory** |
| @ | **Sample holding time exceeded due to late arrival of instructions or samples** |
| § | **Sampled on date not provided** |

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

**Identification of Asbestos in Bulk Materials & Soils**

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

| Asbestos Type | Common Name |
|---|---|
| Chrysotile | White Asbestos |
| Amosite | Brown Asbestos |
| Crocidolite | Blue Asbestos |
| Fibrous Actinolite | - |
| Fibrous Anthophyllite | - |
| Fibrous Tremolite | - |

**Visual Estimation Of Fibre Content**

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

**Respirable Fibres**

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

**Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.**

**The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.**

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway

**Attention:** Dympna Darcy

# CERTIFICATE OF ANALYSIS

| | |
|---|---|
| **Date of report Generation:** | 25 August 2021 |
| **Customer:** | Irish Drilling Limited |
| **Sample Delivery Group (SDG):** | 210817-59 |
| **Your Reference:** | 2021LD101 |
| **Location:** | Derryadd |
| **Report No:** | 610534 |

We received 11 samples on Tuesday August 17, 2021 and 11 of these samples were scheduled for analysis which was completed on Wednesday August 25, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

**Sonia McWhan**

Operations Manager

# Received Sample Overview

| Lab Sample No(s) | Customer Sample Ref. | AGS Ref. | Depth (m) | Sampled Date |
|---|---|---|---|---|
| 24818461 | BHRCSSA13 | D4 | 1.00 - 1.00 | 10/05/2021 |
| 24818464 | BHRCSSA13 | D7 | 1.50 - 1.50 | 10/05/2021 |
| 24818443 | TP108 | D4 | 1.90 - 2.00 | 25/03/2021 |
| 24818457 | TP135 | D4 | 0.80 - 0.90 | 31/03/2021 |
| 24818466 | TP138 | D4 | 1.70 - 1.80 | 31/03/2021 |
| 24818470 | TP139 | D4 | 1.50 - 1.60 | 31/03/2021 |
| 24818477 | TP156 | D4 | 1.60 - 1.70 | 07/04/2021 |
| 24818452 | TP167 | B3 | 0.80 - 1.10 | 01/04/2021 |
| 24818474 | TP173 | D6 | 3.50 - 3.50 | 31/03/2021 |
| 24818454 | TP176 | D4 | 1.10 - 1.20 | 09/04/2021 |
| 24818449 | TPT23 | D1 | 0.30 - 0.80 | 12/04/2021 |

**Only received samples which have had analysis scheduled will be shown on the following pages.**

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210817-59 | **Client Reference:** | 2021LD101 | **Report Number:** | 610534 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample No(s)** | | | 24818461 | 24818464 | 24818443 | 24818457 | 24818466 | 24818470 | 24818477 | 24818452 | 24818474 | 24818454 | 24818449 |
| **Customer Sample Reference** | | | BHRCSSA13 | BHRCSSA13 | TP108 | TP135 | TP138 | TP139 | TP156 | TP167 | TP173 | TP176 | TPT23 |
| **AGS Reference** | | | D4 | D7 | D4 | D4 | D4 | D4 | D4 | B3 | D6 | D4 | D1 |
| **Depth (m)** | | | 1.00 - 1.00 | 1.50 - 1.50 | 1.90 - 2.00 | 0.80 - 0.90 | 1.70 - 1.80 | 1.50 - 1.60 | 1.60 - 1.70 | 0.80 - 1.10 | 3.50 - 3.50 | 1.10 - 1.20 | 0.30 - 0.80 |
| **Container** | | | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) |
| **Sample Type** | | | S | S | S | S | S | S | S | S | S | S | S |
| pH | All | NDPs: 0 Tests: 4 | X | X | | | | | | | | X | X |
| Sample description | All | NDPs: 0 Tests: 11 | X | X | X | X | X | X | X | X | X | X | X |
| Total Organic Carbon | All | NDPs: 0 Tests: 9 | X | X | X | X | X | X | X | X | X | | |
| Total Sulphate | All | NDPs: 0 Tests: 4 | X | X | | | | | | | | X | X |

# Sample Descriptions

## Grain Sizes

| very fine | <0.063mm | fine | 0.063mm - 0.1mm | medium | 0.1mm - 2mm | coarse | 2mm - 10mm | very coarse | >10mm |
|---|---|---|---|---|---|---|---|---|---|

| Lab Sample No(s) | Customer Sample Ref. | Depth (m) | Colour | Description | Inclusions | Inclusions 2 |
|---|---|---|---|---|---|---|
| 24818461 | BHRCSSA13 | 1.00 - 1.00 | Black | Silt Loam | Vegetation | None |
| 24818464 | BHRCSSA13 | 1.50 - 1.50 | Dark Brown | Silt Loam | None | None |
| 24818443 | TP108 | 1.90 - 2.00 | Grey | Silt Loam | Stones | None |
| 24818457 | TP135 | 0.80 - 0.90 | Light Brown | Silt Loam | Stones | None |
| 24818466 | TP138 | 1.70 - 1.80 | Light Brown | Silt Loam | None | None |
| 24818470 | TP139 | 1.50 - 1.60 | Light Brown | Silty Clay Loam | Stones | None |
| 24818477 | TP156 | 1.60 - 1.70 | Light Brown | Sandy Loam | Stones | None |
| 24818452 | TP167 | 0.80 - 1.10 | Grey | Sandy Silt Loam | Stones | None |
| 24818474 | TP173 | 3.50 - 3.50 | Grey | Silt Loam | None | None |
| 24818454 | TP176 | 1.10 - 1.20 | Dark Brown | Clay Loam | Stones | None |
| 24818449 | TPT23 | 0.30 - 0.80 | Light Brown | Silty Clay Loam | Stones | None |

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210817-59 | **Client Reference:** | 2021LD101 | **Report Number:** | 610534 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | BHRCSSA13 | BHRCSSA13 | TP108 | TP135 | TP138 | TP139 |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 1.00 - 1.00 | 1.50 - 1.50 | 1.90 - 2.00 | 0.80 - 0.90 | 1.70 - 1.80 | 1.50 - 1.60 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 10/05/2021 | 10/05/2021 | 25/03/2021 | 31/03/2021 | 31/03/2021 | 31/03/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 17/08/2021 | 17/08/2021 | 17/08/2021 | 17/08/2021 | 17/08/2021 | 17/08/2021 |
| SDG Ref | | | 210817-59 | 210817-59 | 210817-59 | 210817-59 | 210817-59 | 210817-59 |
| Lab Sample No.(s) | | | 24818461 | 24818464 | 24818443 | 24818457 | 24818466 | 24818470 |
| AGS Reference | | | D4 | D7 | D4 | D4 | D4 | D4 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 71 | 34 | 23 | 8.9 | 66 | 65 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | 28.6 @ # | 9.38 @ # | 0.769 @ # | <0.35 @ # | 4.91 @ # | 5.36 @ # |
| pH | 1 pH Units | TM133 | 7.53 @ M | 7.44 @ M | | | | |
| Sulphate, Total | <48 mg/kg | TM221 | 6990 M | 3000 M | | | | |

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210817-59 | **Client Reference:** | 2021LD101 | **Report Number:** | 610534 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | TP156 | TP167 | TP173 | TP176 | TPT23 |
|---|---|---|---|---|---|---|---|
| Depth (m) | | | 1.60 - 1.70 | 0.80 - 1.10 | 3.50 - 3.50 | 1.10 - 1.20 | 0.30 - 0.80 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 07/04/2021 | 01/04/2021 | 31/03/2021 | 09/04/2021 | 12/04/2021 |
| Sample Time | | | . | . | . | . | . |
| Date Received | | | 17/08/2021 | 17/08/2021 | 17/08/2021 | 17/08/2021 | 17/08/2021 |
| SDG Ref | | | 210817-59 | 210817-59 | 210817-59 | 210817-59 | 210817-59 |
| Lab Sample No.(s) | | | 24818477 | 24818452 | 24818474 | 24818454 | 24818449 |
| AGS Reference | | | D4 | B3 | D6 | D4 | D1 |
| **Component** | **LOD/Units** | **Method** | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 11 | 11 | 35 | 9.1 | 17 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | 0.474 @ # | <0.35 @ # | 1.57 @ # | | |
| pH | 1 pH Units | TM133 | | | | 8.48 @ M | 8.59 @ M |
| Sulphate, Total | <48 mg/kg | TM221 | | | | 358 M | 303 M |

13:43:55 25/08/2021

# Table of Results - Appendix

| Method No | Reference | Description |
|---|---|---|
| PM024 | Modified BS 1377 | Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material |
| TM132 | In - house Method | ELTRA CS800 Operators Guide |
| TM133 | BS 1377: Part 3 1990;BS 6068-2.5 | Determination of pH in Soil and Water using the GLpH pH Meter |
| TM221 | Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd | Determination of Acid Extractable Sulphate in Soils by ICP OES |

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210817-59 | **Client Reference:** | 2021LD101 | **Report Number:** | 610534 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

## Test Completion Dates

| **Lab Sample No(s)** | 24818461 | 24818464 | 24818443 | 24818457 | 24818466 | 24818470 | 24818477 | 24818452 | 24818474 | 24818454 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Customer Sample Ref.** | BHRCSSA13 | BHRCSSA13 | TP108 | TP135 | TP138 | TP139 | TP156 | TP167 | TP173 | TP176 |
| **AGS Ref.** | D4 | D7 | D4 | D4 | D4 | D4 | D4 | B3 | D6 | D4 |
| **Depth** | 1.00 - 1.00 | 1.50 - 1.50 | 1.90 - 2.00 | 0.80 - 0.90 | 1.70 - 1.80 | 1.50 - 1.60 | 1.60 - 1.70 | 0.80 - 1.10 | 3.50 - 3.50 | 1.10 - 1.20 |
| **Type** | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| pH | 19-Aug-2021 | 19-Aug-2021 | | | | | | | | 19-Aug-2021 |
| Sample description | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 |
| Total Organic Carbon | 24-Aug-2021 | 24-Aug-2021 | 23-Aug-2021 | 23-Aug-2021 | 23-Aug-2021 | 23-Aug-2021 | 23-Aug-2021 | 23-Aug-2021 | 23-Aug-2021 | |
| Total Sulphate | 25-Aug-2021 | 24-Aug-2021 | | | | | | | | 23-Aug-2021 |

| **Lab Sample No(s)** | 24818449 |
|---|---|
| **Customer Sample Ref.** | TPT23 |
| **AGS Ref.** | D1 |
| **Depth** | 0.30 - 0.80 |
| **Type** | Soil/Solid (S) |
| pH | 19-Aug-2021 |
| Sample description | 18-Aug-2021 |
| Total Sulphate | 23-Aug-2021 |

# Appendix

## General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

| | |
|---|---|
| 1 | **Container with Headspace provided for volatiles analysis** |
| 2 | **Incorrect container received** |
| 3 | **Deviation from method** |
| 4 | **Matrix interference** |
| ♦ | **Sample holding time exceeded in laboratory** |
| @ | **Sample holding time exceeded due to late arrival of instructions or samples** |
| § | **Sampled on date not provided** |

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

**Identification of Asbestos in Bulk Materials & Soils**

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

| Asbestos Type | Common Name |
|---|---|
| Chrysotile | White Asbestos |
| Amosite | Brown Asbestos |
| Crocidolite | Blue Asbestos |
| Fibrous Actinolite | - |
| Fibrous Anthophyllite | - |
| Fibrous Tremolite | - |

**Visual Estimation Of Fibre Content**

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

**Respirable Fibres**

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

**Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.**

**The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.**

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway

**Attention:** Dympna Darcy

# CERTIFICATE OF ANALYSIS

| | |
|---|---|
| **Date of report Generation:** | 25 August 2021 |
| **Customer:** | Irish Drilling Limited |
| **Sample Delivery Group (SDG):** | 210817-60 |
| **Your Reference:** | 2021LD101 |
| **Location:** | Derryadd |
| **Report No:** | 610535 |

We received 13 samples on Tuesday August 17, 2021 and 13 of these samples were scheduled for analysis which was completed on Wednesday August 25, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

**Sonia McWhan**

Operations Manager

# Received Sample Overview

| Lab Sample No(s) | Customer Sample Ref. | AGS Ref. | Depth (m) | Sampled Date |
|---|---|---|---|---|
| 24818509 | BHRC20A | D2 | 1.00 - 1.00 | 26/04/2021 |
| 24818513 | BHRC20B | D4 | 1.50 - 1.50 | 26/04/2021 |
| 24818516 | BHRC24B | D8 | 2.50 - 2.50 | 28/04/2021 |
| 24818528 | BHRCPSK | D12 | 4.50 - 4.50 | 19/04/2021 |
| 24818519 | BHRCPSN | D5 | 1.50 - 1.50 | 29/04/2021 |
| 24818523 | BHRCSSA14 | D4 | 1.50 - 1.50 | 10/05/2021 |
| 24818534 | TP181 | D6 | 3.60 - 3.60 | 13/04/2021 |
| 24818536 | TP183 | D4 | 1.70 - 1.80 | 13/04/2021 |
| 24818492 | TP184 | D8 | 2.50 - 2.60 | 14/04/2021 |
| 24818499 | TP186 | D4 | 1.20 - 1.30 | 14/04/2021 |
| 24818505 | TP199 | D4 | 1.60 - 1.70 | 19/04/2021 |
| 24818501 | TP196R | D8 | 3.80 - 3.80 | 19/04/2021 |
| 24818496 | TPT24 | D6 | 2.70 - 2.80 | 13/04/2021 |

**Only received samples which have had analysis scheduled will be shown on the following pages.**

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210817-60 | **Client Reference:** | 2021LD101 | **Report Number:** | 610535 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

X **Test**

N **No Determination Possible**

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

| **Lab Sample No(s)** | 24818509 | 24818513 | 24818516 | 24818528 | 24818519 | 24818523 | 24818534 | 24818536 | 24818492 | 24818499 | 24818505 | 24818501 | 24818496 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Customer Sample Reference** | BHRC20A | BHRC20B | BHRC24B | BHRCPSK | BHRCPSN | BHRCSSA14 | TP181 | TP183 | TP184 | TP186 | TP199 | TP196R | TPT24 |
| **AGS Reference** | D2 | D4 | D8 | D12 | D5 | D4 | D6 | D4 | D8 | D4 | D4 | D8 | D6 |
| **Depth (m)** | 1.00 - 1.00 | 1.50 - 1.50 | 2.50 - 2.50 | 4.50 - 4.50 | 1.50 - 1.50 | 1.50 - 1.50 | 3.60 - 3.60 | 1.70 - 1.80 | 2.50 - 2.60 | 1.20 - 1.30 | 1.60 - 1.70 | 3.80 - 3.80 | 2.70 - 2.80 |
| **Container** | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) | 250g Amber Jar (ALE210) |
| **Sample Type** | S | S | S | S | S | S | S | S | S | S | S | S | S |
| pH — All — NDPs: 0 Tests: 2 | X | | X | | | | | | | | | | |
| Sample description — All — NDPs: 0 Tests: 13 | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Total Organic Carbon — All — NDPs: 0 Tests: 11 | | X | | X | X | X | X | X | X | X | X | X | X |
| Total Sulphate — All — NDPs: 0 Tests: 2 | X | | X | | | | | | | | | | |

# Sample Descriptions

## Grain Sizes

| very fine | <0.063mm | fine | 0.063mm - 0.1mm | medium | 0.1mm - 2mm | coarse | 2mm - 10mm | very coarse | >10mm |
|---|---|---|---|---|---|---|---|---|---|

| Lab Sample No(s) | Customer Sample Ref. | Depth (m) | Colour | Description | Inclusions | Inclusions 2 |
|---|---|---|---|---|---|---|
| 24818509 | BHRC20A | 1.00 - 1.00 | Dark Brown | Silt Loam | Vegetation | None |
| 24818513 | BHRC20B | 1.50 - 1.50 | Dark Brown | Peat | Vegetation | None |
| 24818516 | BHRC24B | 2.50 - 2.50 | Dark Brown | Clay Loam | Vegetation | None |
| 24818528 | BHRCPSK | 4.50 - 4.50 | Dark Brown | Silt Loam | None | None |
| 24818519 | BHRCPSN | 1.50 - 1.50 | Dark Brown | Silt Loam | Vegetation | None |
| 24818523 | BHRCSSA14 | 1.50 - 1.50 | Dark Brown | Silty Clay Loam | None | None |
| 24818534 | TP181 | 3.60 - 3.60 | Light Brown | Sludge | None | None |
| 24818536 | TP183 | 1.70 - 1.80 | Dark Brown | Silty Clay Loam | Stones | None |
| 24818492 | TP184 | 2.50 - 2.60 | Light Brown | Sandy Clay | Stones | None |
| 24818499 | TP186 | 1.20 - 1.30 | Light Brown | Sandy Silt Loam | Stones | None |
| 24818505 | TP199 | 1.60 - 1.70 | Dark Brown | Silt Loam | None | Vegetation |
| 24818501 | TP196R | 3.80 - 3.80 | Beige | Sandy Clay | Stones | None |
| 24818496 | TPT24 | 2.70 - 2.80 | Grey | Sludge | None | None |

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210817-60 | **Client Reference:** | 2021LD101 | **Report Number:** | 610535 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | BHRC20A | BHRC20B | BHRC24B | BHRCPSK | BHRCPSN | BHRCSSA14 |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 1.00 - 1.00 | 1.50 - 1.50 | 2.50 - 2.50 | 4.50 - 4.50 | 1.50 - 1.50 | 1.50 - 1.50 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 26/04/2021 | 26/04/2021 | 28/04/2021 | 19/04/2021 | 29/04/2021 | 10/05/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 17/08/2021 | 17/08/2021 | 17/08/2021 | 17/08/2021 | 17/08/2021 | 17/08/2021 |
| SDG Ref | | | 210817-60 | 210817-60 | 210817-60 | 210817-60 | 210817-60 | 210817-60 |
| Lab Sample No.(s) | | | 24818509 | 24818513 | 24818516 | 24818528 | 24818519 | 24818523 |
| AGS Reference | | | D2 | D4 | D8 | D12 | D5 | D4 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 65 | 88 | 37 | 36 | 84 | 24 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | | 60.5 @ # | | 5.17 @ # | 48.4 @ # | 1.84 @ # |
| pH | 1 pH Units | TM133 | 7.8 @ M | | 7.59 @ M | | | |
| Sulphate, Total | <48 mg/kg | TM221 | 2150 M | | 3190 M | | | |

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210817-60 | **Client Reference:** | 2021LD101 | **Report Number:** | 610535 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| Customer Sample Ref. | | | TP181 | TP183 | TP184 | TP186 | TP199 | TP196R |
|---|---|---|---|---|---|---|---|---|
| Depth (m) | | | 3.60 - 3.60 | 1.70 - 1.80 | 2.50 - 2.60 | 1.20 - 1.30 | 1.60 - 1.70 | 3.80 - 3.80 |
| Sample Type | | | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Date Sampled | | | 13/04/2021 | 13/04/2021 | 14/04/2021 | 14/04/2021 | 19/04/2021 | 19/04/2021 |
| Sample Time | | | . | . | . | . | . | . |
| Date Received | | | 17/08/2021 | 17/08/2021 | 17/08/2021 | 17/08/2021 | 17/08/2021 | 17/08/2021 |
| SDG Ref | | | 210817-60 | 210817-60 | 210817-60 | 210817-60 | 210817-60 | 210817-60 |
| Lab Sample No.(s) | | | 24818534 | 24818536 | 24818492 | 24818499 | 24818505 | 24818501 |
| AGS Reference | | | D6 | D4 | D8 | D4 | D4 | D8 |
| **Component** | **LOD/Units** | **Method** | | | | | | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 64 | 13 | 12 | 29 | 76 | 14 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | 11.9 @ # | 0.534 @ # | 0.89 @ # | 1.83 @ # | 52.4 @ # | 0.409 @ # |

13:44:41 25/08/2021

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210817-60 | **Client Reference:** | 2021LD101 | **Report Number:** | 610535 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

**Results Legend**

| | |
|---|---|
| # | ISO17025 accredited. |
| M | mCERTS accredited. |
| aq | Aqueous / settled sample. |
| diss.filt | Dissolved / filtered sample. |
| tot.unfilt | Total / unfiltered sample. |
| * | Subcontracted - refer to subcontractor report for accreditation status. |
| ** | % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery |
| (F) | Trigger breach confirmed |
| 1-4+§@ | Sample deviation (see appendix) |

| | | | |
|---|---|---|---|
| | | **Customer Sample Ref.** | TPT24 |
| | | **Depth (m)** | 2.70 - 2.80 |
| | | **Sample Type** | Soil/Solid (S) |
| | | **Date Sampled** | 13/04/2021 |
| | | **Sample Time** | . |
| | | **Date Received** | 17/08/2021 |
| | | **SDG Ref** | 210817-60 |
| | | **Lab Sample No.(s)** | 24818496 |
| | | **AGS Reference** | D6 |
| **Component** | **LOD/Units** | **Method** | |
| Moisture Content Ratio (% of as received sample) | % | PM024 | 63 |
| Soil Organic Matter (SOM) | <0.35 % | TM132 | 14.3 @ # |

13:44:41 25/08/2021

# Table of Results - Appendix

| Method No | Reference | Description |
|---|---|---|
| PM024 | Modified BS 1377 | Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material |
| TM132 | In - house Method | ELTRA CS800 Operators Guide |
| TM133 | BS 1377: Part 3 1990;BS 6068-2.5 | Determination of pH in Soil and Water using the GLpH pH Meter |
| TM221 | Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd | Determination of Acid Extractable Sulphate in Soils by ICP OES |

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

Validated

# CERTIFICATE OF ANALYSIS

| | | | | | |
|---|---|---|---|---|---|
| **SDG:** | 210817-60 | **Client Reference:** | 2021LD101 | **Report Number:** | 610535 |
| **Location:** | Derryadd | **Order Number:** | 9628 | **Superseded Report:** | |

## Test Completion Dates

| **Lab Sample No(s)** | 24818509 | 24818513 | 24818516 | 24818528 | 24818519 | 24818523 | 24818534 | 24818536 | 24818492 | 24818499 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Customer Sample Ref.** | BHRC20A | BHRC20B | BHRC24B | BHRCPSK | BHRCPSN | BHRCSSA14 | TP181 | TP183 | TP184 | TP186 |
| **AGS Ref.** | D2 | D4 | D8 | D12 | D5 | D4 | D6 | D4 | D8 | D4 |
| **Depth** | 1.00 - 1.00 | 1.50 - 1.50 | 2.50 - 2.50 | 4.50 - 4.50 | 1.50 - 1.50 | 1.50 - 1.50 | 3.60 - 3.60 | 1.70 - 1.80 | 2.50 - 2.60 | 1.20 - 1.30 |
| **Type** | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| pH | 19-Aug-2021 | | 19-Aug-2021 | | | | | | | |
| Sample description | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 |
| Total Organic Carbon | | 24-Aug-2021 | | 24-Aug-2021 | 24-Aug-2021 | 23-Aug-2021 | 24-Aug-2021 | 23-Aug-2021 | 24-Aug-2021 | 24-Aug-2021 |
| Total Sulphate | 25-Aug-2021 | | 24-Aug-2021 | | | | | | | |

| **Lab Sample No(s)** | 24818505 | 24818501 | 24818496 |
|---|---|---|---|
| **Customer Sample Ref.** | TP199 | TP196R | TPT24 |
| **AGS Ref.** | D4 | D8 | D6 |
| **Depth** | 1.60 - 1.70 | 3.80 - 3.80 | 2.70 - 2.80 |
| **Type** | Soil/Solid (S) | Soil/Solid (S) | Soil/Solid (S) |
| Sample description | 18-Aug-2021 | 18-Aug-2021 | 18-Aug-2021 |
| Total Organic Carbon | 24-Aug-2021 | 24-Aug-2021 | 24-Aug-2021 |

# Appendix

## General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

| | |
|---|---|
| 1 | **Container with Headspace provided for volatiles analysis** |
| 2 | **Incorrect container received** |
| 3 | **Deviation from method** |
| 4 | **Matrix interference** |
| ♦ | **Sample holding time exceeded in laboratory** |
| @ | **Sample holding time exceeded due to late arrival of instructions or samples** |
| § | **Sampled on date not provided** |

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

**Identification of Asbestos in Bulk Materials & Soils**

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

| Asbestos Type | Common Name |
|---|---|
| Chrysotile | White Asbestos |
| Amosite | Brown Asbestos |
| Crocidolite | Blue Asbestos |
| Fibrous Actinolite | - |
| Fibrous Anthophyllite | - |
| Fibrous Tremolite | - |

**Visual Estimation Of Fibre Content**

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

**Respirable Fibres**

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

**Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.**

**The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.**

# Oedometer Settlement Tests

Test Method: BS1377 : Part 5 : 1990 Clause 3

**Sample Details**

| | | |
|---|---|---|
| Soil description: | | Dark brown/black PEAT with completely decomposed vegetation |
| Initial height (mm) | | 20.0 |
| Diameter (mm) | | 50 |
| Initial wet weight of specimen (gms) | | 39.77 |
| Bulk density (Mg/m3) | | 1.01 |
| Particle density | (Assumed) | 1.50 |

**Initial conditions**

| | |
|---|---|
| Settlement Channel | SB2 |
| Moisture content (%) | 746.17 |
| Dry density (Mg/m3) | 0.12 |
| Initial Voids Ratio | 11.53 |
| Deg of Saturation (%) | 97.0 |
| Swelling pressure (kPa) | n/a |

**Final conditions**

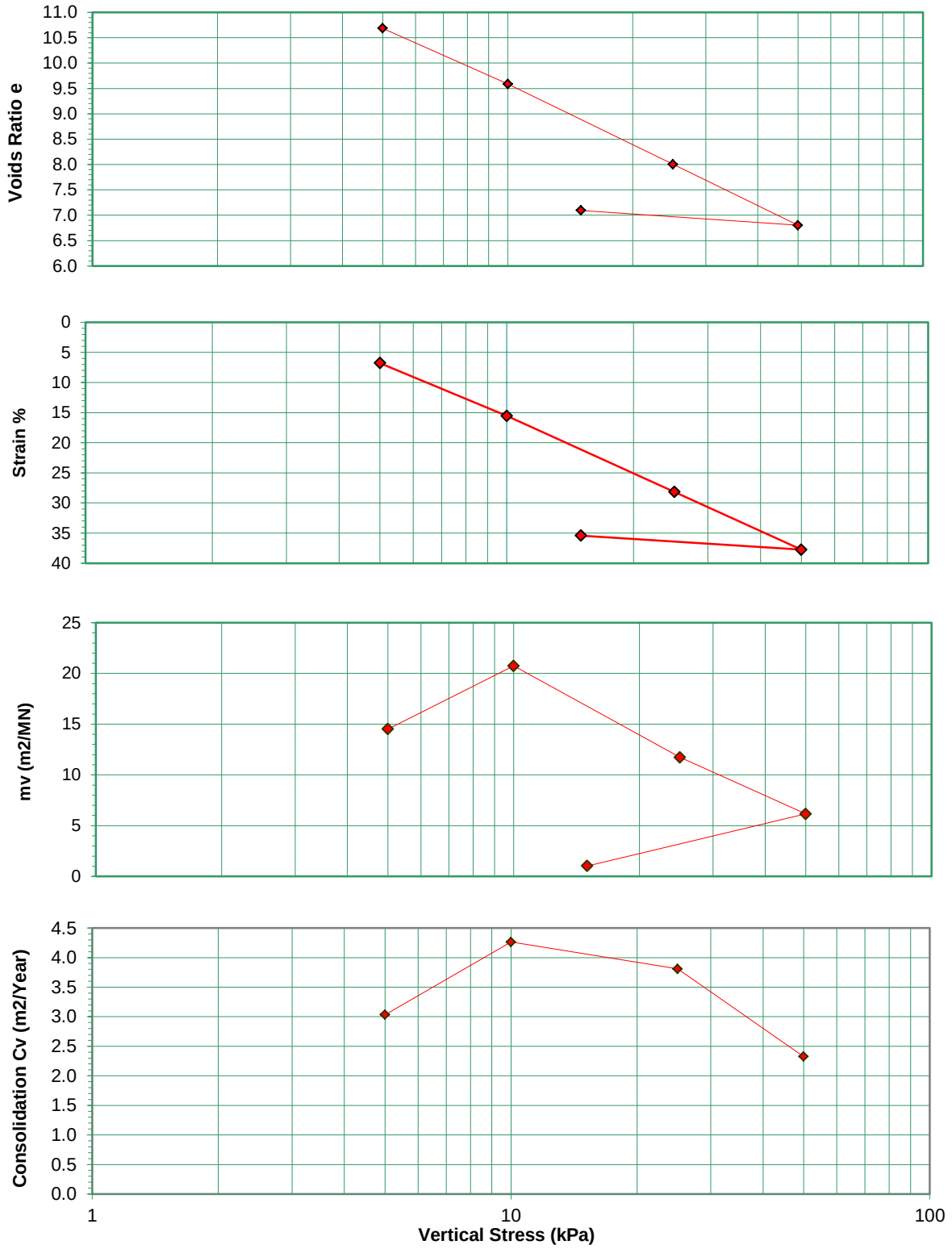
| | |
|---|---|
| Moisture Content (%) | 472.1 |
| Dry Density (Mg/m3) | 0.19 |
| Final voids ratio | 7.09 |
| Final degree of saturation (%) | 99.8 |
| Final settlement | 7.085 |

Notes: **1) Log time method used for t50 time**
**2) Tested at 20ºc**

| | | | |
|---|---|---|---|
| **NM TL Ltd Standard** | Project Derryadd Wind Farm IDL Project ID:2021LD101 | Job No. | NMTL-3360 |
| | | Borehole No. | BHRCPSK |
| | | Sample No. | U8 |
| | | Depth m. | 3.0-3.45m |

## Oedometer settlement Tests

### Test Method: BS 1377 : Part 5: 1990 Clause 3




| | | | |
|---|---|---|---|
| NM TL Ltd Standard | Project<br>Derryadd Wind Farm<br>IDL Project ID:2021LD101 | Job No.<br>Borehole No.<br>Sample No.<br>Depth m. | NMTL-3360<br>BHRCPSK<br>U8<br>3.0-3.45m |

## Oedometer Test

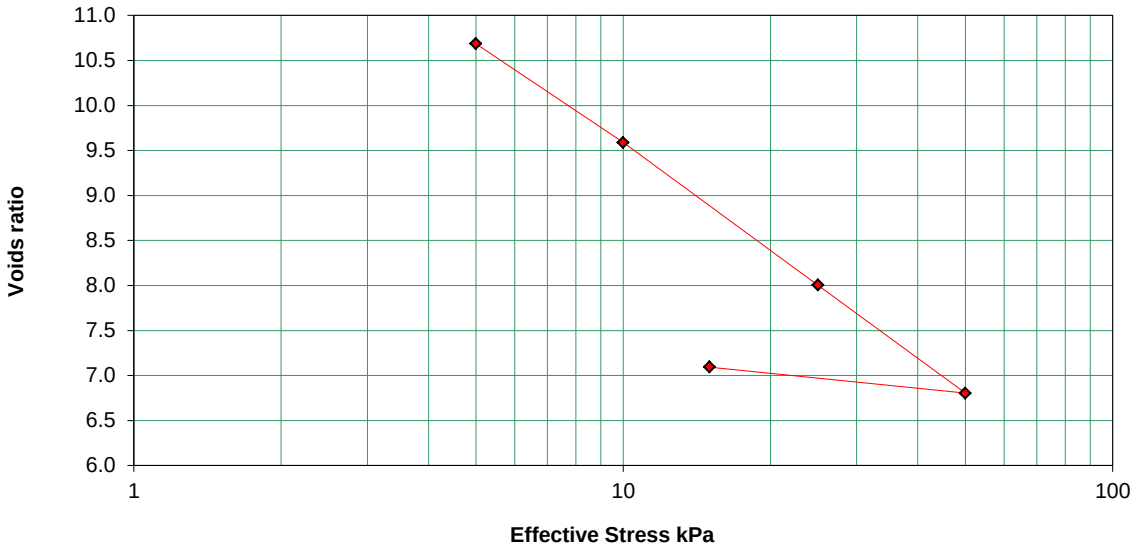
## Test Method: BS 1377 : Part 5 1990 Clause 3

### Sample Details

Description: Dark brown/black PEAT with completely decomposed vegetation

| | | |
|---|---|---|
| Initial height (mm) | | 20.00 |
| Diameter (mm) | | 50.00 |
| Initial weight of specimen (gms) | | 39.77 |
| Bulk Density (mg/m3) | | 1.013 |
| Particle Density | Assumed | 1.50 |

| Initial Conditions | | Final Conditions | |
|---|---|---|---|
| Moisture content | 746.2 | 472.1 | % |
| Dry Density | 0.120 | 0.185 | Mg/m3 |
| Initial Voids Ratio | 11.5346 | 7.0942 | |
| Degree of Saturation | 97.03 | 99.83 | % |




| Stage No. | Effective Stress kPa | Strain % | Voids Ratio | Mv m2/MN | CV m2/Year | Settlement mm |
|---|---|---|---|---|---|---|
| 1 | 5 | 6.770 | 10.6860 | 14.523 | 3.03 | 1.354 |
| 2 | 10 | 15.530 | 9.5880 | 20.741 | 4.26 | 3.106 |
| 3 | 25 | 28.170 | 8.0036 | 11.731 | 3.81 | 5.634 |
| 4 | 50 | 37.745 | 6.8034 | 6.152 | 2.33 | 7.549 |
| 5 | 15 | 35.425 | 7.0942 | 1.026 | | 7.085 |

| | | | |
|---|---|---|---|
| NM TL Ltd Standard | Project Derryadd Wind Farm IDL Project ID:2021LD101 | Job No. | NMTL-3360 |
| | | Borehole No. | BHRCPSK |
| | | Sample No. | U8 |
| | | Depth m. | 3.0-3.45m |

# Oedometer Settlement Tests

Test Method: BS1377 : Part 5 : 1990 Clause 3

**Sample Details**

| | | |
|---|---|---|
| Soil description: | | Firm dark brown/black slightly fiberous PEAT |
| Initial height (mm) | | 20.0 |
| Diameter (mm) | | 50 |
| Initial wet weight of specimen (gms) | | 41.2 |
| Bulk density (Mg/m3) | | 1.05 |
| Particle density | (Assumed) | 1.50 |

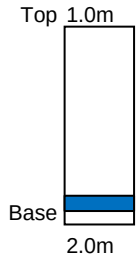
**Initial conditions**

| | |
|---|---|
| Settlement Channel | 1107 |
| Moisture content (%) | 809.49 |
| Dry density (Mg/m3) | 0.12 |
| Initial Voids Ratio | 12.00 |
| Deg of Saturation (%) | 101.1 |
| Swelling pressure (kPa) | n/a |

**Final conditions**

| | |
|---|---|
| Moisture Content (%) | 555.0 |
| Dry Density (Mg/m3) | 0.16 |
| Final voids ratio | 8.67 |
| Final degree of saturation (%) | 96.1 |
| Final settlement | 5.135 |

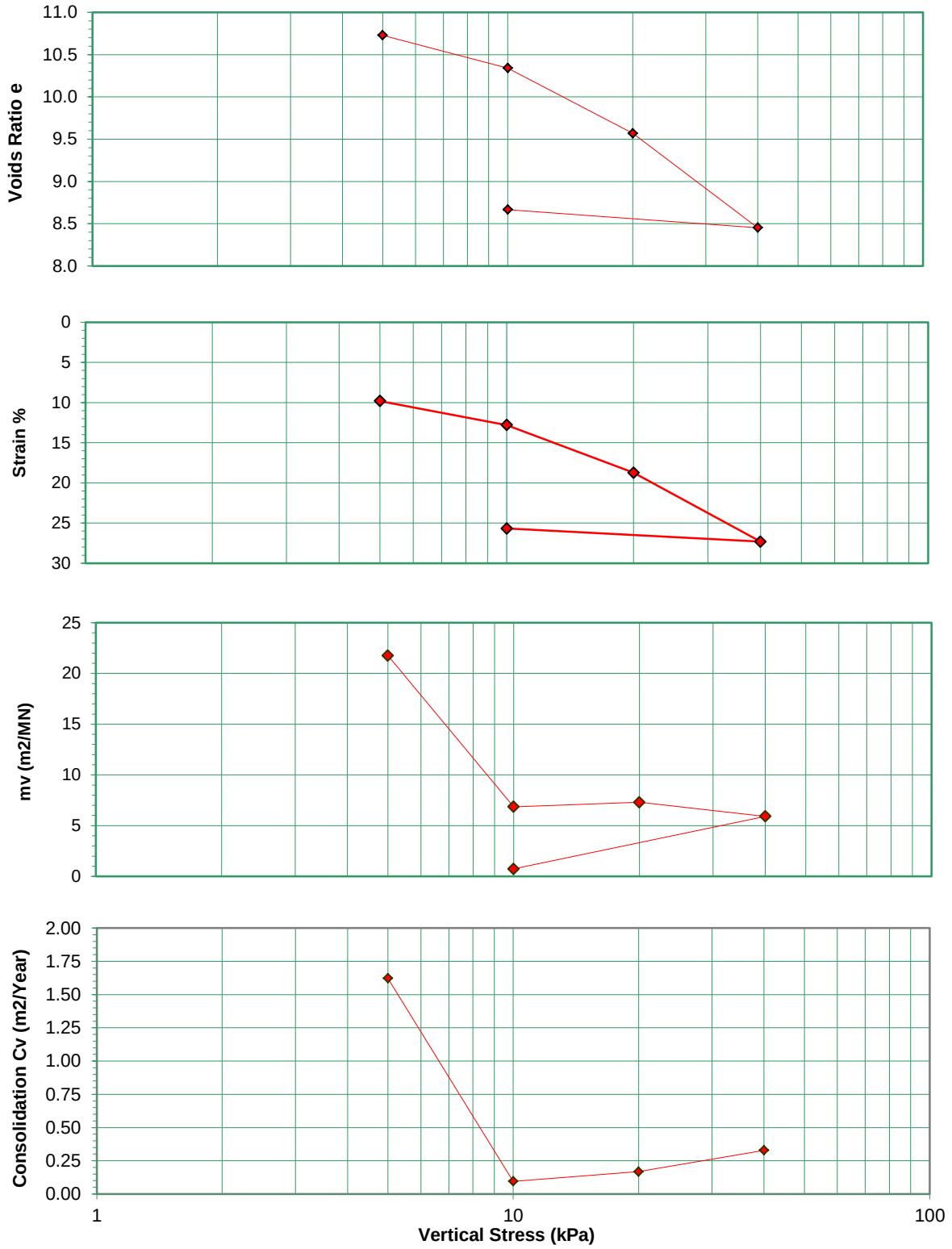
Notes:
**1) Log time method used for t50 time**
**2) Tested at 20ºc**




| | | | |
|---|---|---|---|
| NM TL Ltd Standard | Project Derryadd Wind Farm | Job No. | NMTL-3360 |
| | | Borehole No. | BHRCSSA08 |
| | | Sample No. | P3 |
| | | Depth m. | 1.0-2.0m |

## Oedometer settlement Tests

### Test Method: BS 1377 : Part 5: 1990 Clause 3




| | | | |
|---|---|---|---|
| NM TL Ltd Standard | Project<br>Derryadd Wind Farm | Job No.<br>Borehole No.<br>Sample No.<br>Depth m. | NMTL-3360<br>BHRCSSA08<br>P3<br>1.0-2.0m |

## Oedometer Test

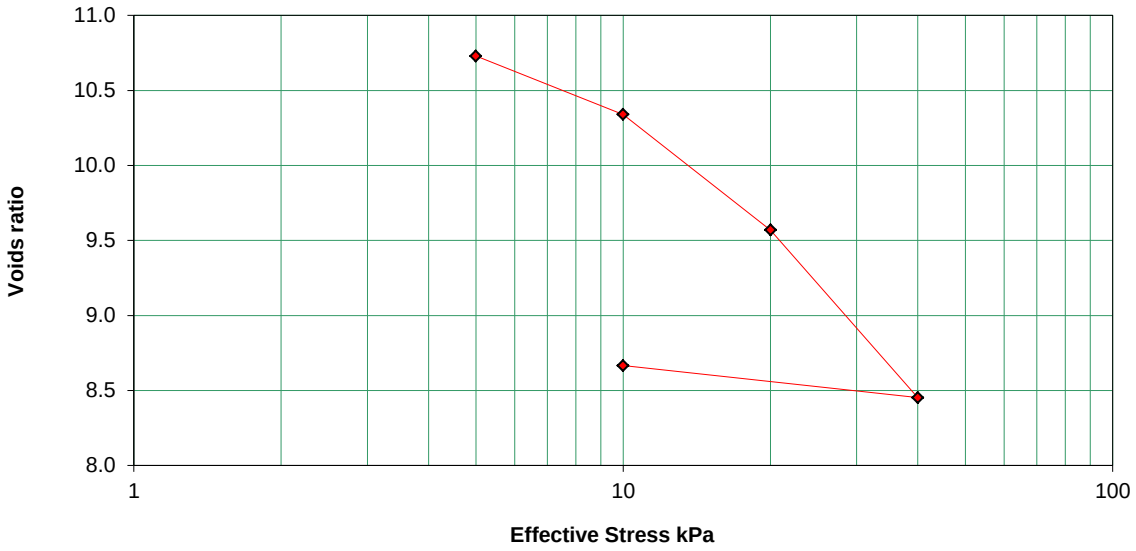
## Test Method: BS 1377 : Part 5 1990 Clause 3

### Sample Details

Description: Firm dark brown/black slightly fiberous PEAT

| | | |
|---|---|---|
| Initial height (mm) | | 20.00 |
| Diameter (mm) | | 50.00 |
| Initial weight of specimen (gms) | | 41.20 |
| Bulk Density (mg/m3) | | 1.049 |
| Particle Density | Assumed | 1.50 |

| Initial Conditions | | Final Conditions | |
|---|---|---|---|
| Moisture content | 809.5 | 555.0 | % |
| Dry Density | 0.12 | 0.16 | Mg/m3 |
| Initial Voids Ratio | 12.0050 | 8.6659 | |
| Degree of Saturation | 101.14 | 96.06 | % |




| Stage No. | Effective Stress kPa | Strain % | Voids Ratio | Mv m2/MN | CV m2/Year | Settlement mm |
|---|---|---|---|---|---|---|
| 1 | 5 | 9.810 | 10.7292 | 21.754 | 1.622 | 1.962 |
| 2 | 10 | 12.800 | 10.3403 | 6.858 | 0.096 | 2.560 |
| 3 | 20 | 18.730 | 9.5691 | 7.297 | 0.168 | 3.746 |
| 4 | 40 | 27.320 | 8.4520 | 5.909 | 0.328 | 5.464 |
| 5 | 10 | 25.675 | 8.6659 | 0.738 | | 5.135 |

| | | | |
|---|---|---|---|
| NM TL Ltd Standard | Project Derryadd Wind Farm | Job No. | NMTL-3360 |
| | | Borehole No. | BHRCSSA08 |
| | | Sample No. | P3 |
| | | Depth m. | 1.0-2.0m |

# Oedometer Settlement Tests

Test Method: BS1377 : Part 5 : 1990 Clause 3

**Sample Details**

| | | |
|---|---|---|
| Soil description: | | Grey slightly sandy slightly gravelly silty CLAY |
| Initial height (mm) | | 20.0 |
| Diameter (mm) | | 50 |
| Initial wet weight of specimen (gms) | | 88.35 |
| Bulk density (Mg/m3) | | 2.25 |
| Particle density | (Assumed) | 2.70 |

**Initial conditions**

| | |
|---|---|
| Settlement Channel | SB1 |
| Moisture content (%) | 13.18 |
| Dry density (Mg/m3) | 1.99 |
| Initial Voids Ratio | 0.3585 |
| Deg of Saturation (%) | 99.3 |
| Swelling pressure (kPa) | n/a |

**Final conditions**

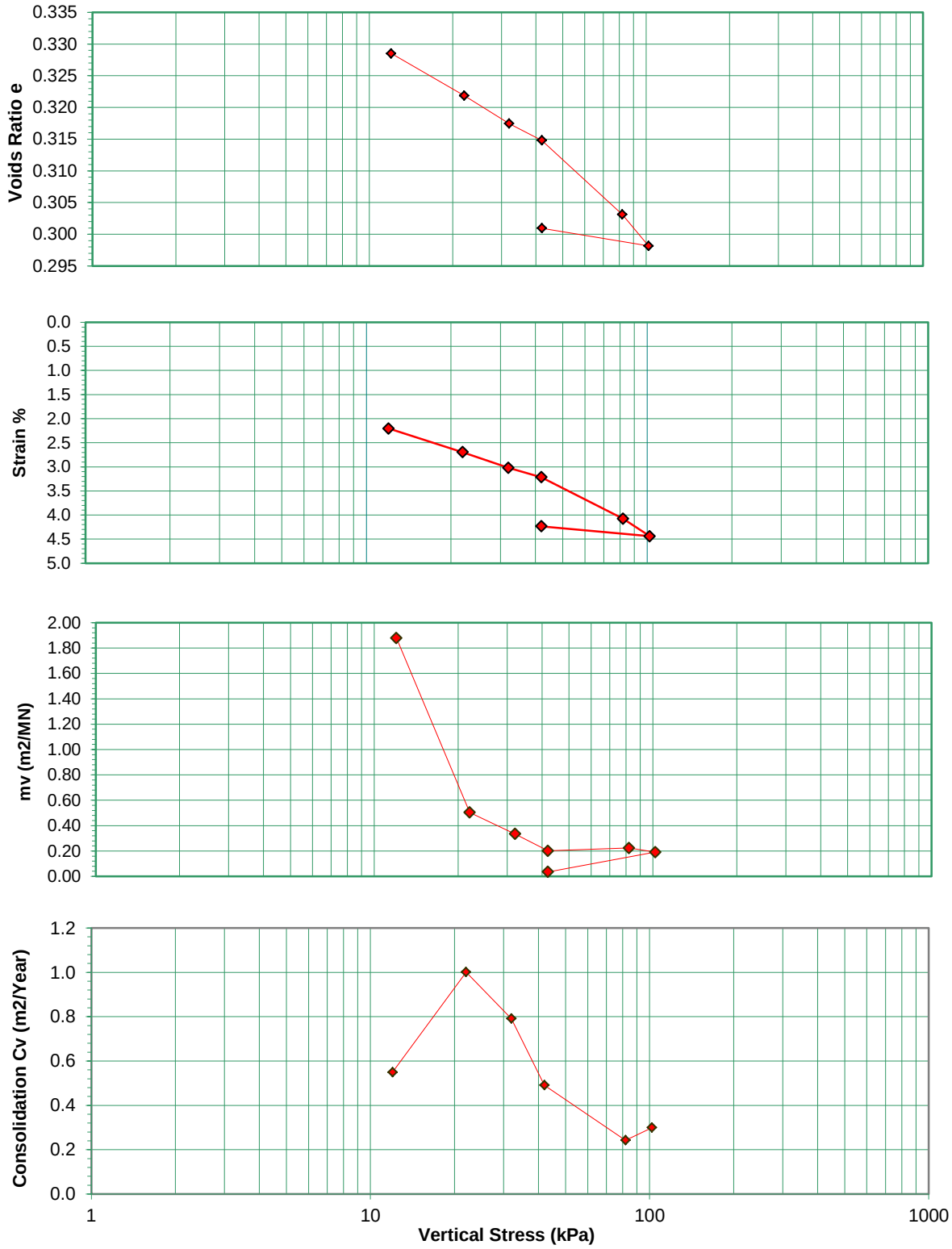
| | |
|---|---|
| Moisture Content (%) | 11.0 |
| Dry Density (Mg/m3) | 2.07 |
| Final voids ratio | 0.3031 |
| Final degree of saturation (%) | 98.0 |
| Final settlement | 0.815 |

Notes:
**1) Log time method used for t50 time**
**2) Tested at 20ºc**
**3) Specimen prepared from intact block within the sample bag**

| | | | |
|---|---|---|---|
| **NM TL Ltd Standard** | Project Derryadd Wind Farm IDL Project ID:2021LD101 | Job No. | NMTL-3360 |
| | | Borehole No. | BHRCSSA11 |
| | | Sample No. | B6 |
| | | Depth m. | 2.0m |

## Oedometer settlement Tests

### Test Method: BS 1377 : Part 5: 1990 Clause 3




| | | | |
|---|---|---|---|
| NM TL Ltd Standard | Project<br>Derryadd Wind Farm<br>IDL Project ID:2021LD101 | Job No.<br>Borehole No.<br>Sample No.<br>Depth m. | NMTL-3360<br>BHRCSSA11<br>B6<br>2.0m |

## Oedometer Test

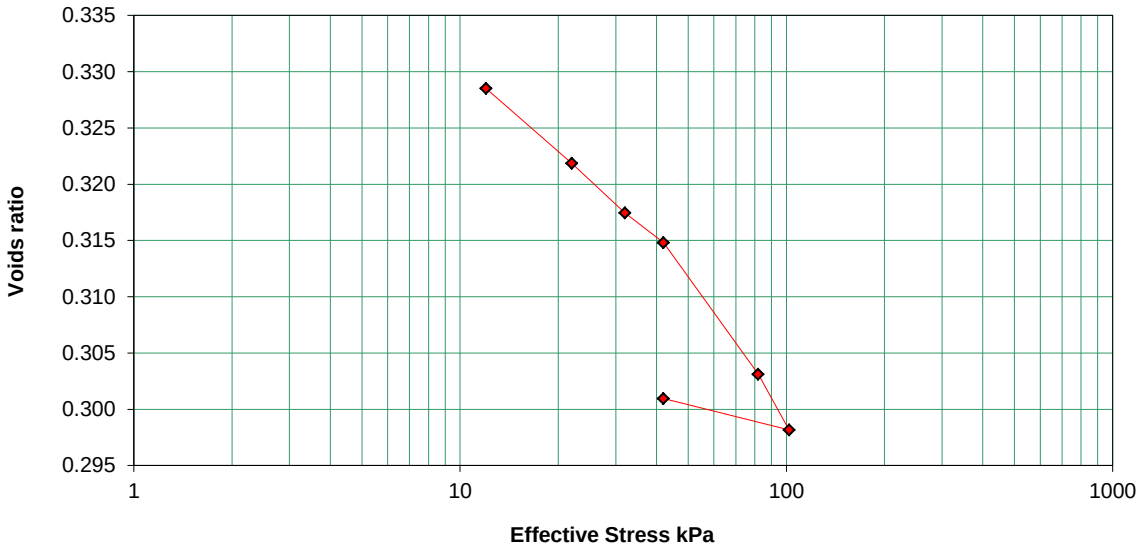
## Test Method: BS 1377 : Part 5 1990 Clause 3

### Sample Details

Description: Grey slightly sandy slightly gravelly silty CLAY

| | | |
|---|---|---|
| Initial height (mm) | | 20.00 |
| Diameter (mm) | | 50.00 |
| Initial weight of specimen (gms) | | 88.35 |
| Bulk Density (mg/m3) | | 2.250 |
| Particle Density | Assumed | 2.70 |

| Initial Conditions | | Final Conditions | |
|---|---|---|---|
| Moisture content | 13.2 | 11.0 | % |
| Dry Density | 1.988 | 2.072 | Mg/m3 |
| Initial Voids Ratio | 0.3585 | 0.3009 | |
| Degree of Saturation | 99.29 | 98.02 | % |




| Stage No. | Effective Stress kPa | Strain % | Voids Ratio | Mv m2/MN | CV m2/Year | Settlement mm |
|---|---|---|---|---|---|---|
| 1 | 12 | 2.205 | 0.3285 | 1.879 | 0.550 | 0.441 |
| 2 | 22 | 2.695 | 0.3219 | 0.504 | 1.001 | 0.539 |
| 3 | 32 | 3.020 | 0.3174 | 0.335 | 0.792 | 0.604 |
| 4 | 42 | 3.215 | 0.3148 | 0.201 | 0.491 | 0.643 |
| 5 | 82 | 4.075 | 0.3031 | 0.224 | 0.242 | 0.815 |
| 6 | 102 | 4.440 | 0.2982 | 0.191 | 0.300 | 0.888 |
| 7 | 42 | 4.235 | 0.3009 | 0.036 | | 0.847 |

| | | | |
|---|---|---|---|
| NM TL Ltd Standard | Project Derryadd Wind Farm | Job No. | NMTL-3360 |
| | | Borehole No. | BHRCSSA11 |
| | | Sample No. | B6 |
| | IDL Project ID:2021LD101 | Depth m. | 2.0m |

# Oedometer Settlement Tests

Test Method: BS1377 : Part 5 : 1990 Clause 3

**Sample Details**

| | | |
|---|---|---|
| Soil description: | | Grey slightly sandy slightly gravelly silty CLAY |
| Initial height (mm) | | 20.0 |
| Diameter (mm) | | 50 |
| Initial wet weight of specimen (gms) | | 92.25 |
| Bulk density (Mg/m3) | | 2.35 |
| Particle density | (Assumed) | 2.70 |

**Initial conditions**

| | |
|---|---|
| Settlement Channel | SB1 |
| Moisture content (%) | 9.35 |
| Dry density (Mg/m3) | 2.15 |
| Initial Voids Ratio | 0.2570 |
| Deg of Saturation (%) | 98.2 |
| Swelling pressure (kPa) | n/a |

**Final conditions**

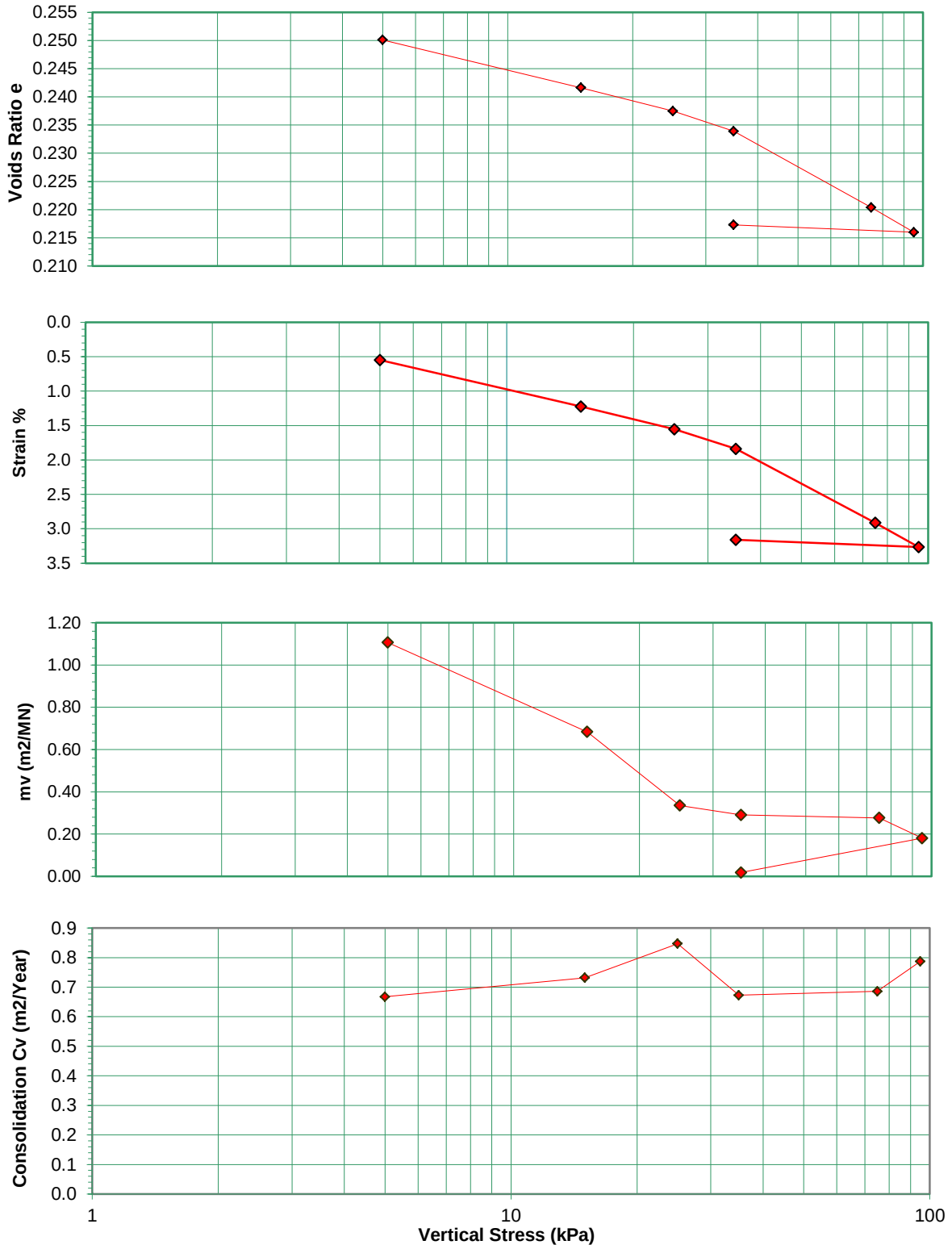
| | |
|---|---|
| Moisture Content (%) | 8.0 |
| Dry Density (Mg/m3) | 2.22 |
| Final voids ratio | 0.2160 |
| Final degree of saturation (%) | 99.9 |
| Final settlement | 0.653 |

Notes: **1) Log time method used for t50 time**
**2) Tested at 20ºc**

| | | | |
|---|---|---|---|
| **NM TL Ltd Standard** | Project Derryadd Wind Farm IDL Project ID:2021LD101 | Job No. | NMTL-3360 |
| | | Borehole No. | BHRCSSA12 |
| | | Sample No. | P5 |
| | | Depth m. | 1.0-1.70m |

## Oedometer settlement Tests

### Test Method: BS 1377 : Part 5: 1990 Clause 3




| | | | |
|---|---|---|---|
| NM TL Ltd Standard | Project<br>Derryadd Wind Farm<br>IDL Project ID:2021LD101 | Job No.<br>Borehole No.<br>Sample No.<br>Depth m. | NMTL-3360<br>BHRCSSA12<br>P5<br>1.0-1.70m |

# Oedometer Test

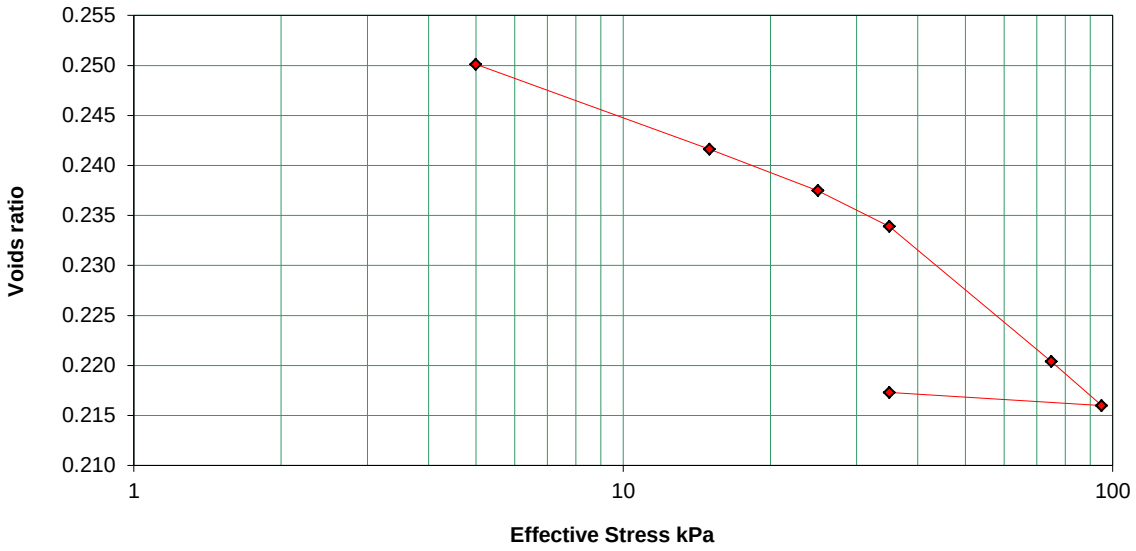
## Test Method: BS 1377 : Part 5 1990 Clause 3

### Sample Details

Description: Grey slightly sandy slightly gravelly silty CLAY

| | | |
|---|---|---|
| Initial height (mm) | | 20.00 |
| Diameter (mm) | | 50.00 |
| Initial weight of specimen (gms) | | 92.25 |
| Bulk Density (mg/m3) | | 2.349 |
| Particle Density | Assumed | 2.70 |

| Initial Conditions | | Final Conditions | |
|---|---|---|---|
| Moisture content | 9.4 | 8.0 | % |
| Dry Density | 2.148 | 2.220 | Mg/m3 |
| Initial Voids Ratio | 0.2570 | 0.2173 | |
| Degree of Saturation | 98.25 | 99.88 | % |




| Stage No. | Effective Stress kPa | Strain % | Voids Ratio | Mv m2/MN | CV m2/Year | Settlement mm |
|---|---|---|---|---|---|---|
| 1 | 5 | 0.550 | 0.2501 | 1.106 | 0.667 | 0.110 |
| 2 | 15 | 1.225 | 0.2416 | 0.683 | 0.732 | 0.245 |
| 3 | 25 | 1.555 | 0.2375 | 0.335 | 0.847 | 0.311 |
| 4 | 35 | 1.840 | 0.2339 | 0.290 | 0.673 | 0.368 |
| 5 | 75 | 2.915 | 0.2204 | 0.277 | 0.686 | 0.583 |
| 6 | 95 | 3.265 | 0.2160 | 0.181 | 0.787 | 0.653 |
| 7 | 35 | 3.160 | 0.2173 | 0.018 | | 0.632 |

| | | | |
|---|---|---|---|
| NM TL Ltd Standard | Project Derryadd Wind Farm | Job No. | NMTL-3360 |
| | | Borehole No. | BHRCSSA12 |
| | | Sample No. | P5 |
| | IDL Project ID:2021LD101 | Depth m. | 1.0-1.70m |

# Oedometer Settlement Tests

Test Method: BS1377 : Part 5 : 1990 Clause 3

**Sample Details**

| | | |
|---|---|---|
| Soil description: | | Grey slightly sandy laminated silty CLAY. |
| Initial height (mm) | | 20.0 |
| Diameter (mm) | | 50 |
| Initial wet weight of specimen (gms) | | 77.06 |
| Bulk density (Mg/m3) | | 1.96 |
| Particle density | (Assumed) | 2.70 |

**Initial conditions**

| | |
|---|---|
| Settlement Channel | SB2 |
| Moisture content (%) | 29.19 |
| Dry density (Mg/m3) | 1.52 |
| Initial Voids Ratio | 0.7777 |
| Deg of Saturation (%) | 101.3 |
| Swelling pressure (kPa) | n/a |

**Final conditions**

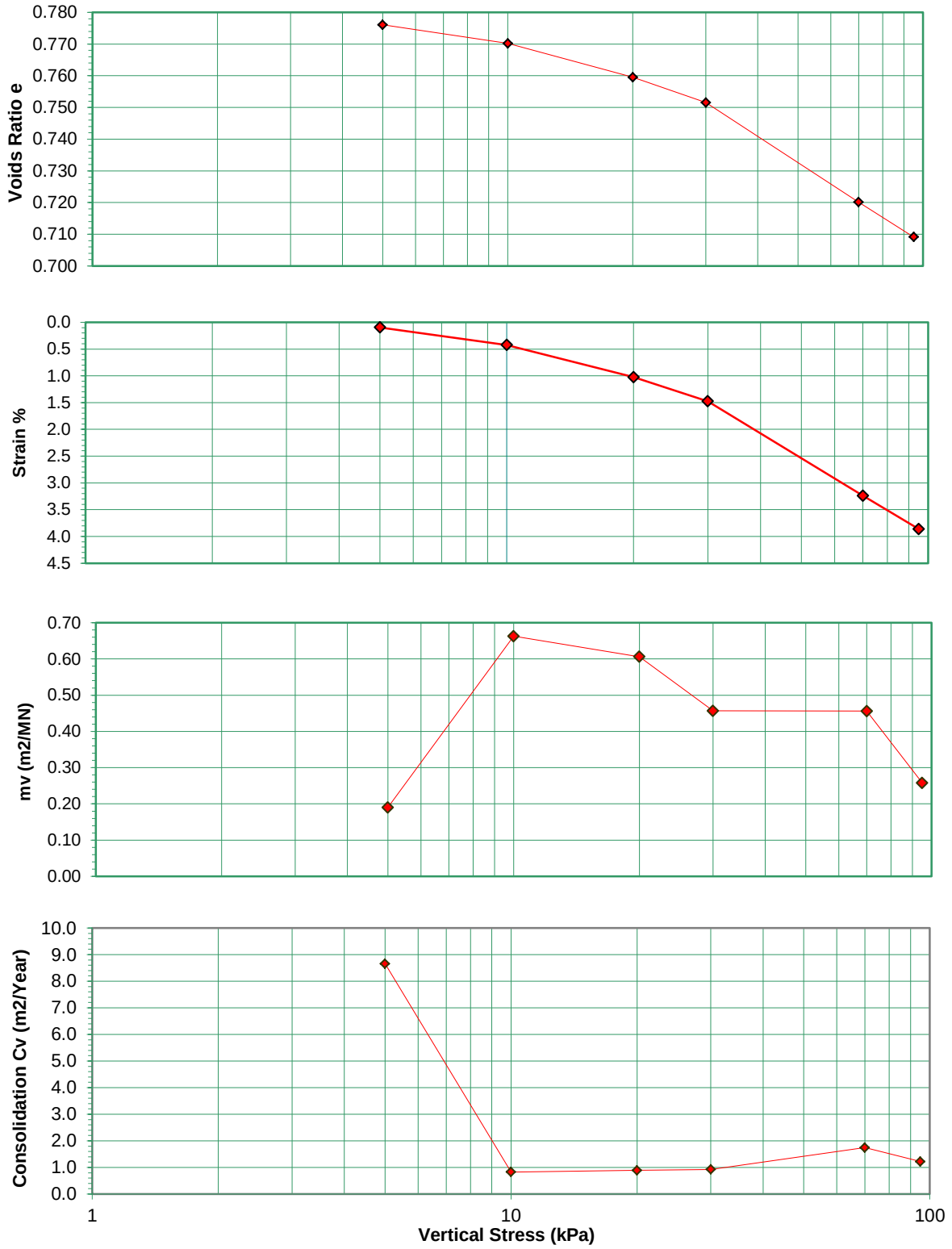
| | |
|---|---|
| Moisture Content (%) | 26.5 |
| Dry Density (Mg/m3) | 1.58 |
| Final voids ratio | 0.7091 |
| Final degree of saturation (%) | 100.9 |
| Final settlement | 0.772 |

Notes: **1) Log time method used for t50 time**
**2) Tested at 20ºc**

| | | | |
|---|---|---|---|
| **NM TL Ltd Standard** | Project Derryadd Wind Farm IDL Project ID:2021LD101 | Job No. | NMTL-3360 |
| | | Borehole No. | BHRCSSA14 |
| | | Sample No. | P3 |
| | | Depth m. | 0.50-1.50m |

## Oedometer settlement Tests

### Test Method: BS 1377 : Part 5: 1990 Clause 3




| | | | |
|---|---|---|---|
| NM TL Ltd Standard | Project<br>Derryadd Wind Farm<br>IDL Project ID:2021LD101 | Job No.<br>Borehole No.<br>Sample No.<br>Depth m. | NMTL-3360<br>BHRCSSA14<br>P3<br>0.50-1.50m |

## Oedometer Test

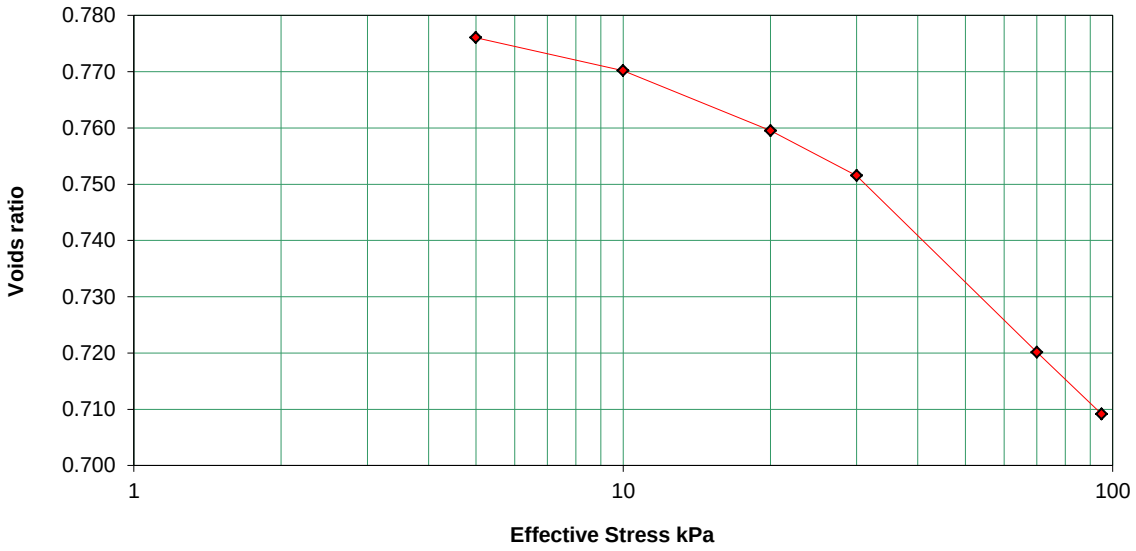
## Test Method: BS 1377 : Part 5 1990 Clause 3

### Sample Details

Description: Grey slightly sandy laminated silty CLAY.

| | | |
|---|---|---|
| Initial height (mm) | | 20.00 |
| Diameter (mm) | | 50.00 |
| Initial weight of specimen (gms) | | 77.06 |
| Bulk Density (mg/m3) | | 1.962 |
| Particle Density | Assumed | 2.70 |

| Initial Conditions | | Final Conditions | |
|---|---|---|---|
| Moisture content | 29.2 | 26.5 | % |
| Dry Density | 1.519 | 1.580 | Mg/m3 |
| Initial Voids Ratio | 0.7777 | 0.7091 | |
| Degree of Saturation | 101.32 | 100.92 | % |




| Stage No. | Effective Stress kPa | Strain % | Voids Ratio | Mv m2/MN | CV m2/Year | Settlement mm |
|---|---|---|---|---|---|---|
| 1 | 5 | 0.095 | 0.7761 | 0.190 | 8.658 | 0.019 |
| 2 | 10 | 0.425 | 0.7702 | 0.663 | 0.828 | 0.085 |
| 3 | 20 | 1.025 | 0.7595 | 0.606 | 0.893 | 0.205 |
| 4 | 30 | 1.475 | 0.7515 | 0.457 | 0.926 | 0.295 |
| 5 | 70 | 3.240 | 0.7201 | 0.456 | 1.747 | 0.648 |
| 6 | 95 | 3.860 | 0.7091 | 0.258 | 1.223 | 0.772 |

**National Materials Testing Laboratory Ltd**
Unit 18C Tullow Industrial Estate
Tel.: 059 9180822

# Certificate of Test

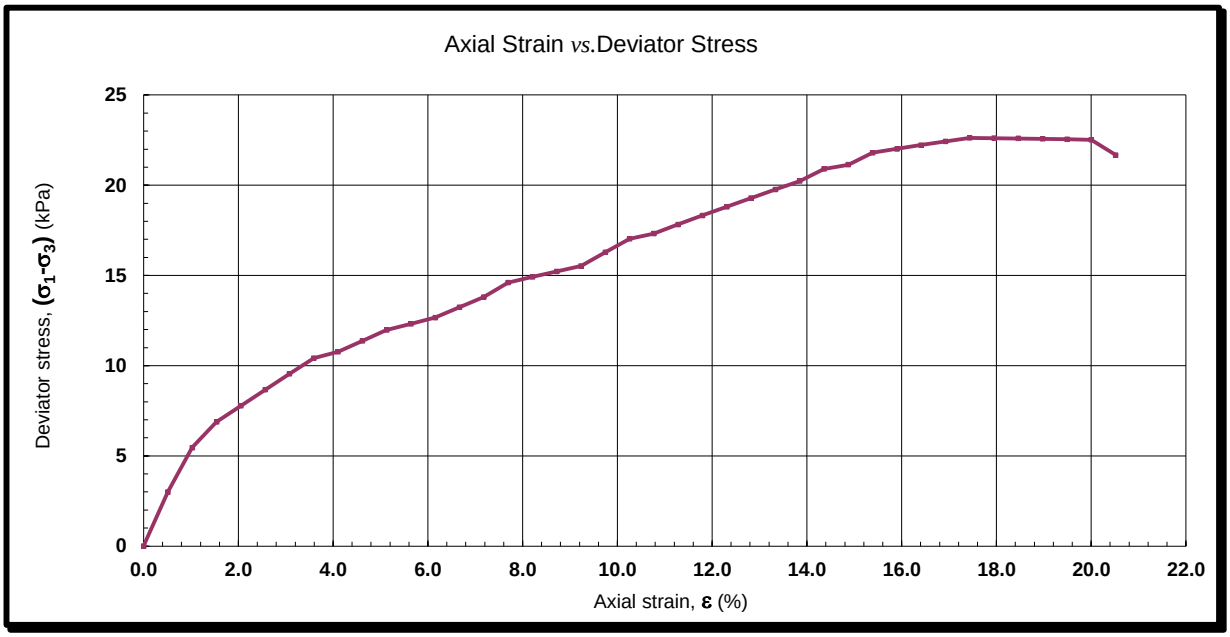
## Determination of Undrained Shear Strength Triaxial Compression

**BS 1377 : Part 7 : 1990 Clause 8**

| | | | |
|---|---|---|---|
| Client Name: | **Irish Drilling Ltd** | Contract: | **Derryadd Wind Farm** |
| Address: | **Loughrea** | Site Address: | **N/A** |
| | **Galway** | **IDL Project ID:** | **2021LD101** |
| | **Co. Galway** | | |

| | | | |
|---|---|---|---|
| Sample No.: | **BHRCMMA-U6** Depth: **2.0-2.45m** | File Reference: | **NMTL 3360** |
| Sample Description: | **Dark brown black slightly fiberous PEAT** | | |
| Location: | **Derryadd Wind Farm** | Date Sampled: | **22 February 2021** |
| Sample Type: | **Undisturbed** | Sampled by: | **Irish Drilling Ltd** |
| Client Sample Ref.: | **BHRCMMA-U6-2.0-2.50m** | Sampling Cert. Recd.: | **No** |
| Source / Supplier: | **IDL** | Date Received: | **30 March 2021** |
| Specification: | **BS 1377: Part 7: 1990 Clause 8** | Date Tested: | **06 April 2021** |

| **Specimen** | | | | | | **Test** | | |
|---|---|---|---|---|---|---|---|---|
| Length: | **195.0** | mm | Diameter: | **103.5** | mm | Membrane type: | **Latex** | |
| Area: | **8413.4** | $mm^2$ | Volume: | **1640.6** | $cm^3$ | Membrane thickness: | **0.3** | mm |
| Mass: | **1567.0** | g | | | | Membrane correction: | **3.17** | |
| Moisture content: | **738.0** | % | | | | Sample state: | **Undisturbed** | |
| Bulk density: | **0.96** | $Mg\ m^{-3}$ | | | | Number of stages: | **3** | |
| Dry density: | **0.11** | $Mg\ m^{-3}$ | | | | Rate of strain: | **1.0** | $\%\ min^{-1}$ |
| Preparation Method: | **BS 1377: Part 1: 1990 Clause 8 .3.1** | | | | | Cell pressure: $\sigma_3$ | **50** | kPa |




| | | | |
|---|---|---|---|
| **Maximum Corrected Deviator Stress at Failure:** | $(\sigma_1-\sigma_3)_f$ | **22.6** | **kPa** |
| **Strain at Failure:** | $\varepsilon$ | **17.44** | **%** |
| **Maximum Cohesion / Shear Strength:** | $C_u$ | **11.3** | **kPa** |
| **Type of Failure:** | | **Plastic** | |

Signed

Remarks: U100-Sample

Authorised Signatories
- ☐ N Chana
- ☐ B Chana

**For NMTL Ltd**

07 April 2021

Original to: **Client Rep.**
Copy 1 to: **File copy**

**National Materials Testing Laboratory Ltd**
Unit 18C Tullow Industrial Estate
Tel.: 059 9180822

# Certificate of Test

## Determination of Undrained Shear Strength in Triaxial Compression

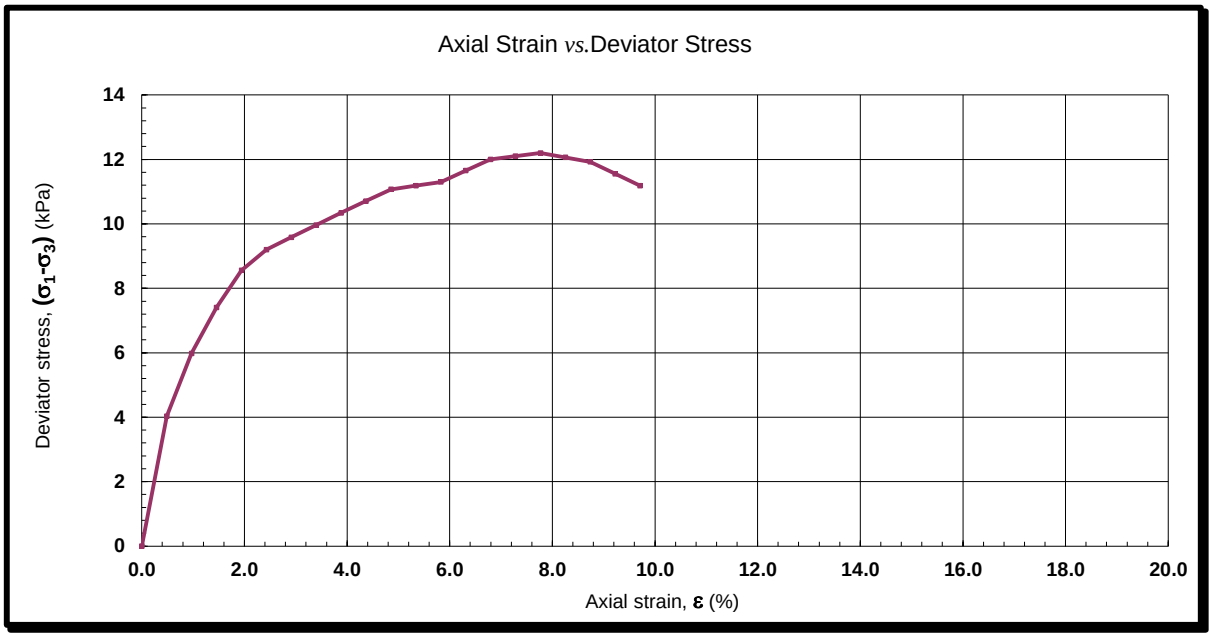
**BS 1377 : Part 7 : 1990 Clause 8**

| | | | |
|---|---|---|---|
| Client Name: | **Irish Drilling Ltd** | Contract: | **Derryadd Wind Farm** |
| Address: | **Loughrea**<br>**Galway**<br>**Co. Galway** | Site Address: | **N/A** |
| | | **IDL Project ID:** | **2021LD101** |

| | | | | | |
|---|---|---|---|---|---|
| Sample No.: | **BHRCSSA09** | Depth: | **1.0-1.45m** | File Reference: | **NMTL 3360** |

| | | | |
|---|---|---|---|
| Sample Description: | **Dark brown/black slightly fiberous PEAT.** | | |
| Location: | **Derryadd Wind Farm** | Date Sampled: | **N/A** |
| Sample Type: | **U** | Sampled by: | **Irish Drilling Ltd** |
| Client Sample Ref.: | **BHRCSSA09-U3-1.0-1.45m** | Sampling Cert. Recd.: | **No** |
| Source / Supplier: | **IDL** | Date Received: | **02 May 2021** |
| Specification: | **BS 1377: Part 7: 1990 Clause 8** | Date Tested: | **17 May 2021** |

| **Specimen** | | | | | | **Test** | | |
|---|---|---|---|---|---|---|---|---|
| Length: | **206.0** | mm | Diameter: | **103.5** | mm | Membrane type: | **Latex** | |
| Area: | **8413.4** | $mm^2$ | Volume: | **1733.2** | $cm^3$ | Membrane thickness: | **0.3** | mm |
| Mass: | **1722.4** | g | | | | Membrane correction: | **2.33** | |
| Moisture content: | **739.2** | % | | | | Sample state: | **Undisturbed** | |
| Bulk density: | **0.99** | $Mg\ m^{-3}$ | | | | Number of stages: | **single** | |
| Dry density: | **0.12** | $Mg\ m^{-3}$ | | | | Rate of strain: | **1.0** | $\%\ min^{-1}$ |
| Preparation Method: | **BS 1377: Part 1: 1990 Clause 8 .3.1** | | | | | Cell pressure: $\sigma_3$ | **10** | kPa |




| | | | |
|---|---|---|---|
| **Maximum Corrected Deviator Stress at Failure:** | $(\sigma_1-\sigma_3)_f$ | **12.2** | **kPa** |
| **Strain at Failure:** | $\varepsilon$ | **7.77** | **%** |
| **Maximum Cohesion / Shear Strength:** | $C_u$ | **6.1** | **kPa** |
| **Type of Failure:** | | **Plastic** | |

Signed

Authorised Signatories
☐ N Chana
☐ B Chana

**For NMTL Ltd**

18 May 2021

Remarks: Undisturbed

Original to: **Client Rep.**
Copy 1 to: **File copy**

# SHEAR BOX TEST

Test Method **BS 1377 : Part 7 : 1990 : Method 4**

**Preparation procedure** **Remoulded with 2.5 kg rammer at natural moisture content.**
**Material screened on 2mm sieve**

**Description** **Dark grey slightly sandy slightly gravelly silty CLAY.**

| **Weighings** | | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|---|
| Wet soil | gms | 333.8 | 333.8 | 334.8 |
| Dry soil | gms | 141.8 | 141.3 | 142.5 |
| Wet soil | gms | 179.0 | 179.0 | 180.0 |
| Dry soil | gms | 141.8 | 141.3 | 142.5 |
| Water | gms | 37.2 | 37.7 | 37.5 |
| Moisture Content (%) | | 26.2 | 26.7 | 26.4 |
| Bulk Density (Mg/m3) | | 2.00 | 2.00 | 2.01 |
| Dry density (Mg/m3) | | 1.58 | 1.58 | 1.59 |
| Voids ratio e | | 0.7061 | 0.7128 | 0.6984 |
| Degree of saturation (%) | | 100.2 | 101.1 | 101.9 |

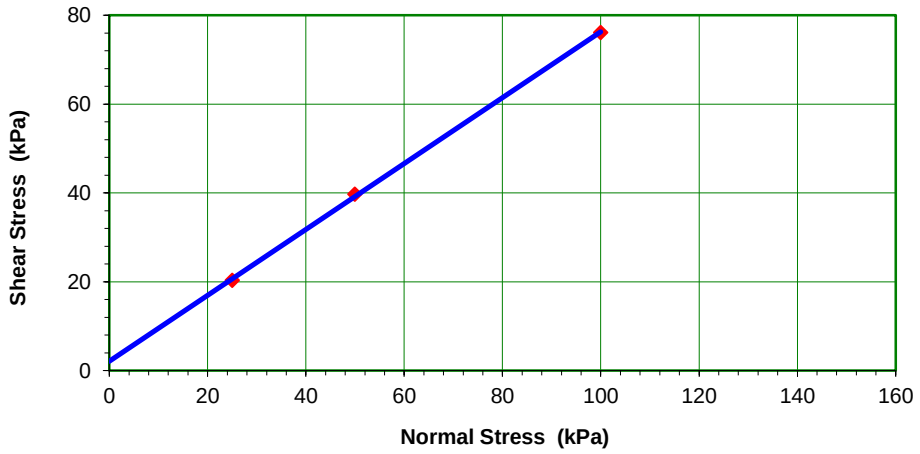
| **Nominal Dimensions** | | |
|---|---|---|
| Length | L1 mm | 60 |
| | L2 mm | 60 |
| Area | A mm2 | 3600 |
| Height | H mm | 24.89 |
| Volume | V cm3 | 89.604 |
| Particle density | Mg/m3 | 2.70 |

**Final Details**

| | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|
| Normal Loads( kPa) | 25 | 50 | 100 |
| Shear stress (kPa) | 20.3 | 39.7 | 76.1 |
| Horizontal Displacement (mm) | 6.850 | 5.807 | 7.074 |
| Vertical displacement (mm) | 0.575 | 0.257 | 0.569 |
| Rate of displacement (mm/min) | | 0.0060 | |

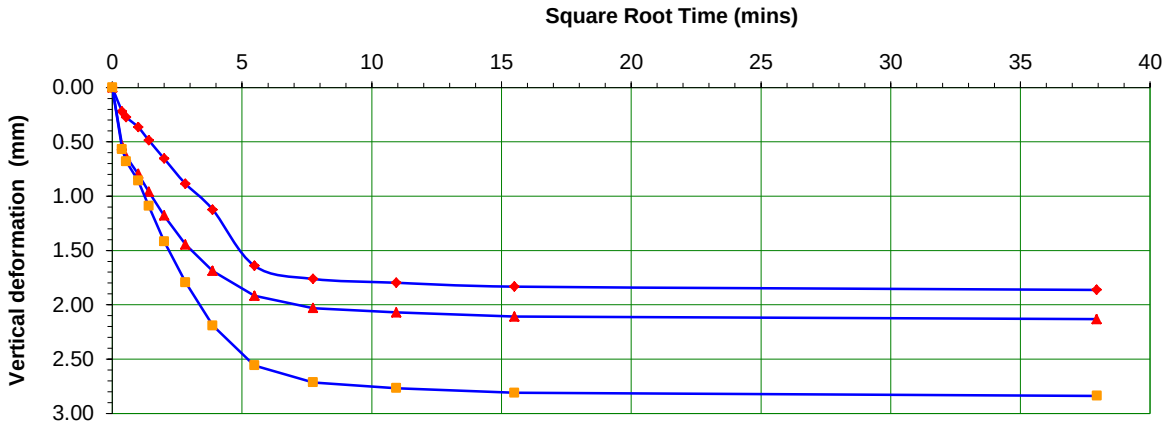
| | | | Peak |
|---|---|---|---|
| Date sampled | n/a | | |
| Date received | 02/04/2021 | Cohesion c' (kPa) | 2.1 |
| Date tested | 02/05/2021 | Friction angle phi' | 36.6° |

**Mohr Envelope**

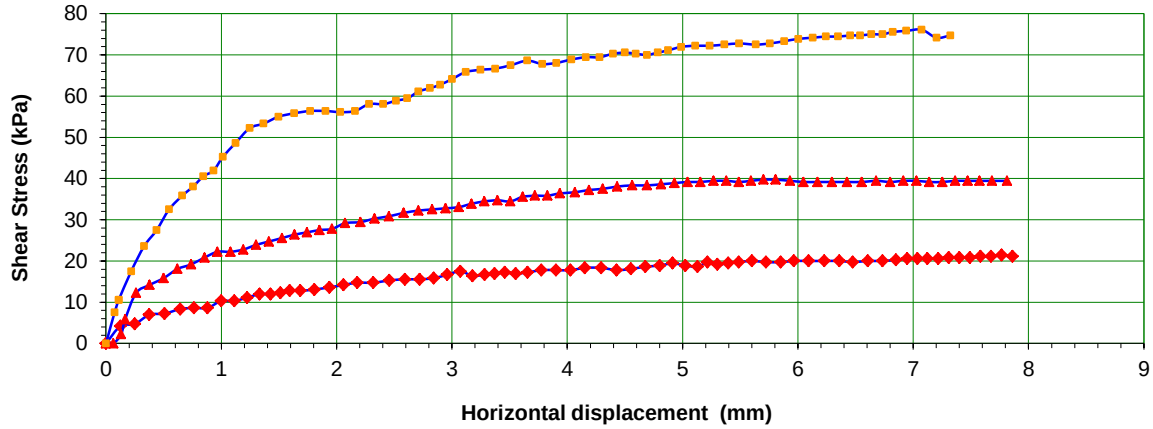


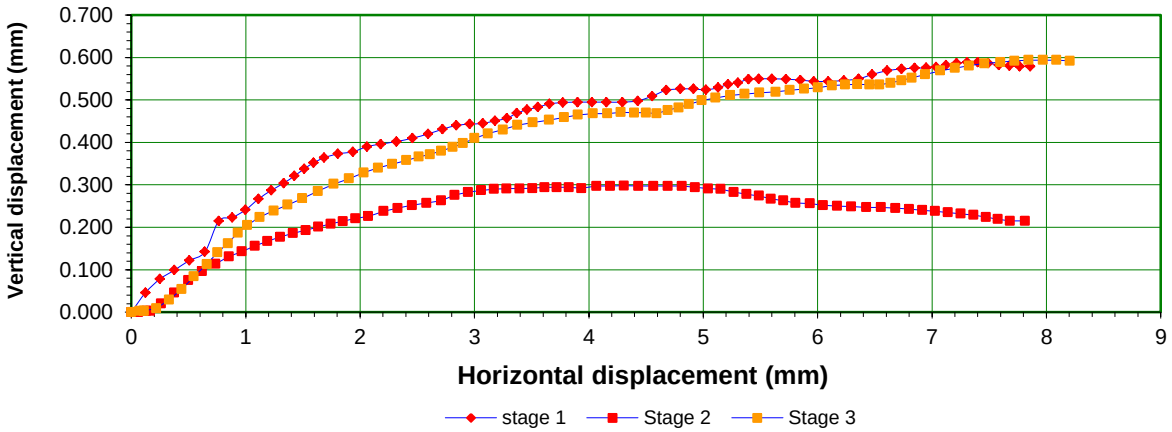

| | | | | |
|---|---|---|---|---|
| **NM T L Ltd** | Consolidated drained Shear Box Test in 60 mm square Box | | Job No. | NMTL_3360 |
| | | | Borehole No. | BHRC2B |
| | Project | Derryadd Wind Farm: 2021LD101 | Sample No. | B7 |
| Operator Sb | Checked Nc | Approved Bc | Depth. | 2.0-2.50m |

## CONSOLIDATION STAGE




## SHEAR STAGE




| | | | | | |
|---|---|---|---|---|---|
| NM T L Ltd | Consolidated drained Shear Box Test in 60 mm square Box | | | Job No. | NMTL_3360 |
| | | | | Borehole No. | BHRC2B |
| | Project | Derryadd Wind Farm: 2021LD101 | | Sample No. | B7 |
| Operator Sb | Checked | Nc | Approved Bc | Depth. | 2.0-2.50m |

# SHEAR BOX TEST

Test Method **BS 1377 : Part 7 : 1990 : Method 4**

**Preparation procedure** **Remoulded with 2.5 kg rammer at natural moisture content.**
**Specimens taken on intact lump of sample**

**Description** **Firm dark brown/black PEAT.**

| **Weighings** | | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|---|
| Wet soil | gms | 248.1 | 248.2 | 248.2 |
| Dry soil | gms | 15.6 | 15.1 | 15.6 |
| Wet soil | gms | 93.4 | 90.4 | 93.4 |
| Dry soil | gms | 15.6 | 15.1 | 15.6 |
| Water | gms | 77.8 | 75.3 | 77.8 |
| Moisture Content (%) | | 498.5 | 497.9 | 498.8 |
| Bulk Density (Mg/m3) | | 1.04 | 1.01 | 1.04 |
| Dry density (Mg/m3) | | 0.17 | 0.17 | 0.17 |
| Voids ratio e | | 7.6158 | 7.8893 | 7.6158 |
| Degree of saturation (%) | | 98.2 | 94.7 | 98.2 |

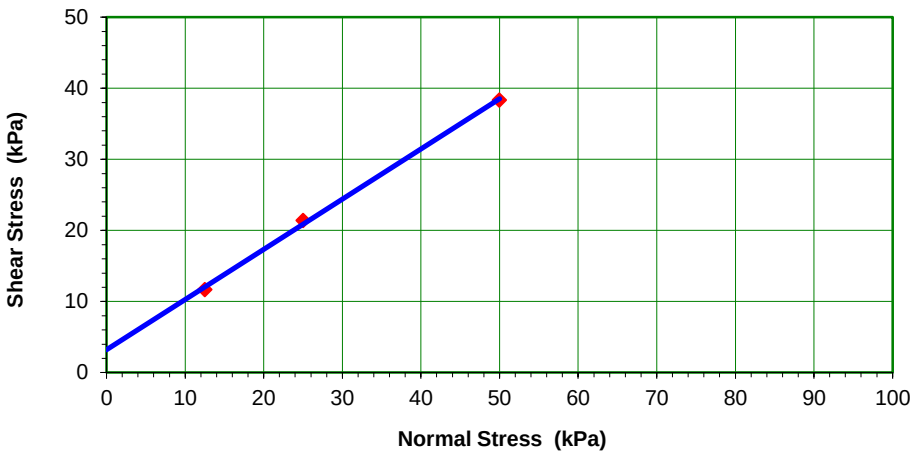
| **Nominal Dimensions** | | |
|---|---|---|
| Length | L1 mm | 60 |
| | L2 mm | 60 |
| Area | A mm2 | 3600 |
| Height | H mm | 24.89 |
| Volume | V cm3 | 89.604 |
| Particle density | Mg/m3 | 1.50 |

**Final Details**

| | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|
| Normal Loads( kPa) | 12.5 | 25 | 50 |
| Shear stress (kPa) | 11.7 | 21.4 | 38.3 |
| Horizontal Displacement (mm) | 7.798 | 7.640 | 7.758 |
| Vertical displacement (mm) | 0.747 | 1.077 | 1.253 |
| Rate of displacement (mm/min) | | 0.0060 | |

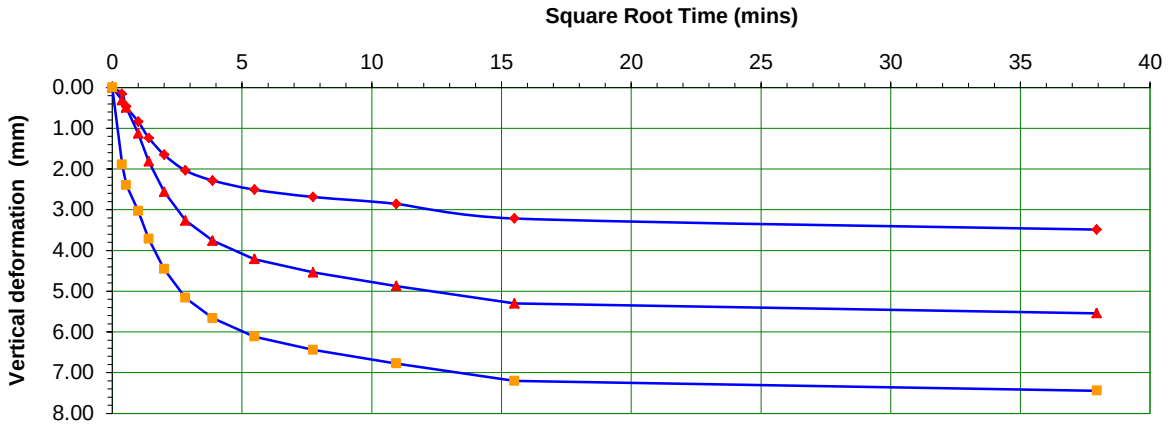
| | | | Peak |
|---|---|---|---|
| Date sampled | n/a | | |
| Date received | 02/04/2021 | Cohesion c' (kPa) | 3.19 |
| Date tested | 10/05/2021 | Friction angle phi' | 35.2° |

**Mohr Envelope**

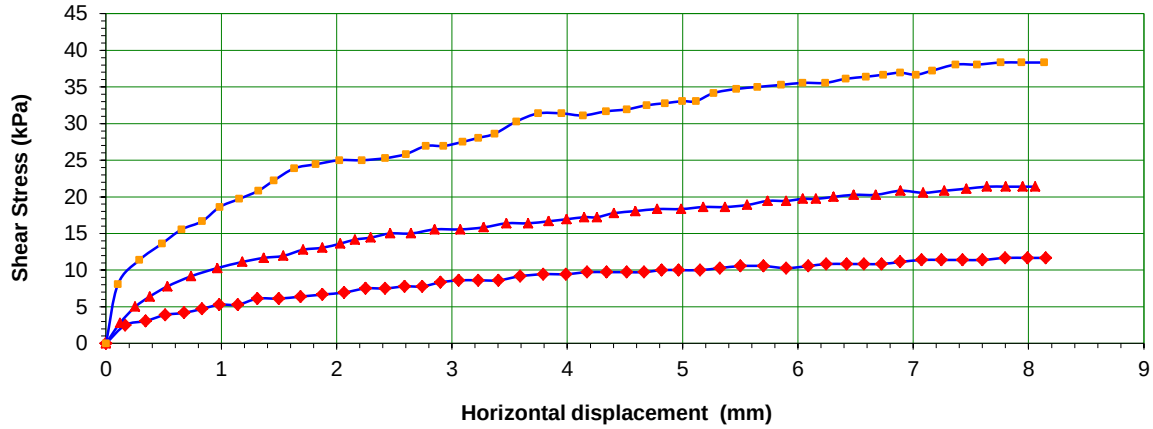


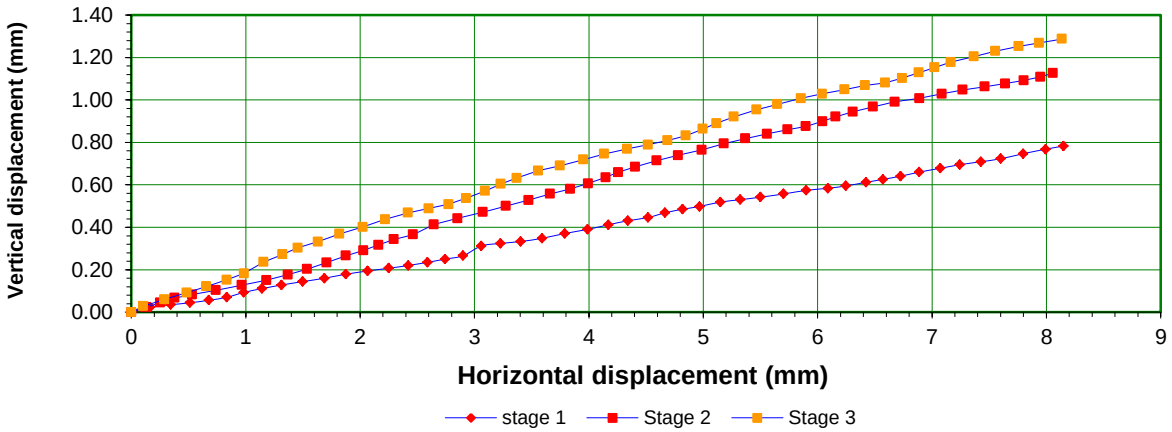

| | | | | |
|---|---|---|---|---|
| **NM T L Ltd** | Consolidated drained Shear Box Test in 60 mm square Box | | Job No. | NMTL_3360 |
| | | | Borehole No. | BHRC07A |
| | Project | Derryadd Wind Farm: 2021LD101 | Sample No. | B15 |
| Operator Sb | Checked Nc | Approved Bc | Depth. | 5.0-5.50m |

## CONSOLIDATION STAGE




## SHEAR STAGE




| | | | | | |
|---|---|---|---|---|---|
| NM T L Ltd | Consolidated drained Shear Box Test in 60 mm square Box | | | Job No. | NMTL_3360 |
| | | | | Borehole No. | BHRC07A |
| | Project | Derryadd Wind Farm: 2021LD101 | | Sample No. | B15 |
| Operator Sb | Checked | Nc | Approved Bc | Depth. | 5.0-5.50m |

# SHEAR BOX TEST

Test Method **BS 1377 : Part 7 : 1990 : Method 4**

**Preparation procedure** **Remoulded with 2.5 kg rammer at natural moisture content.**
**Specimen screened on 2mm sieve.**

**Description** **Compact grey/brown slightly gravelly silty SAND.**

| **Weighings** | | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|---|
| Wet soil | gms | 321.1 | 321.4 | 321.4 |
| Dry soil | gms | 148.6 | 148.8 | 148.3 |
| Wet soil | gms | 166.4 | 166.7 | 166.7 |
| Dry soil | gms | 148.6 | 148.8 | 148.3 |
| Water | gms | 17.8 | 18.0 | 18.4 |
| Moisture Content (%) | | 12.0 | 12.1 | 12.4 |
| Bulk Density (Mg/m3) | | 1.92 | 1.92 | 1.92 |
| Dry density (Mg/m3) | | 1.71 | 1.72 | 1.71 |
| Voids ratio e | | 0.5750 | 0.5728 | 0.5773 |
| Degree of saturation (%) | | 56.4 | 56.9 | 58.0 |

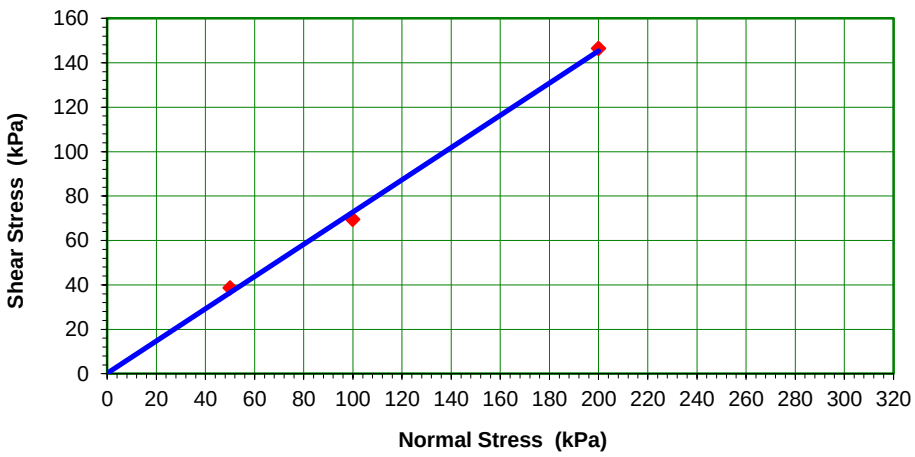
| **Nominal Dimensions** | | |
|---|---|---|
| Length | L1 mm | 60 |
| | L2 mm | 60 |
| Area | A mm2 | 3600 |
| Height | H mm | 24.07 |
| Volume | V cm3 | 86.652 |
| Particle density | Mg/m3 | 2.70 |

**Final Details**

| | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|
| Normal Loads( kPa) | 50 | 100 | 200 |
| Shear stress (kPa) | 38.6 | 69.4 | 146.4 |
| Horizontal Displacement (mm) | 3.643 | 3.841 | 3.382 |
| Vertical displacement (mm) | 0.147 | 0.204 | 0.090 |
| Rate of displacement (mm/min) | | 0.0060 | |

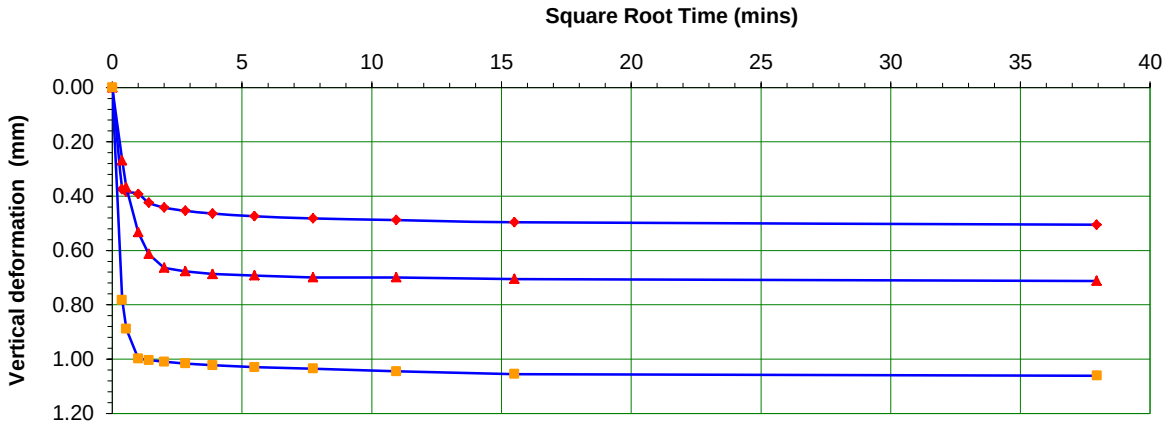
| | | | Peak |
|---|---|---|---|
| Date sampled | n/a | | |
| Date received | 02/04/2021 | Cohesion c' (kPa) | 0.14 |
| Date tested | 12/05/2021 | Friction angle phi' | 36.0° |

**Mohr Envelope**

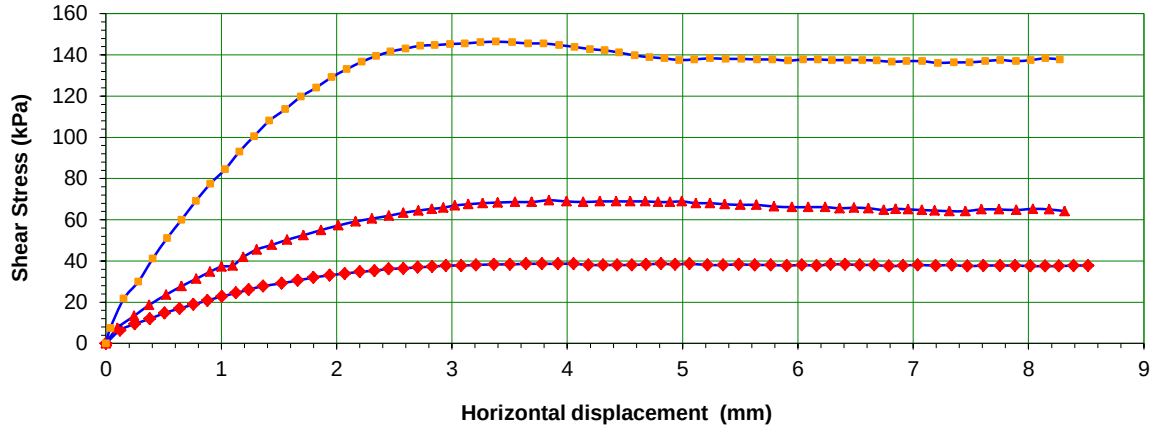


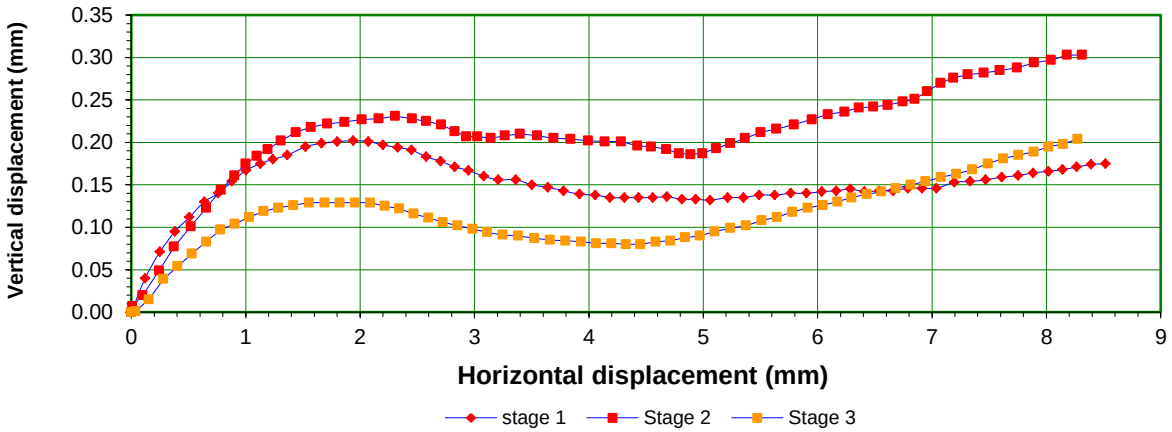

| | | | | |
|---|---|---|---|---|
| **NM T L Ltd** | Consolidated drained Shear Box Test in 60 mm square Box | | Job No. | NMTL_3360 |
| | | | Borehole No. | BHRC08A |
| | Project | Derryadd Wind Farm: 2021LD101 | Sample No. | B15 |
| Operator Sb | Checked Nc | Approved Bc | Depth. | 5.0-5.50m |

## CONSOLIDATION STAGE




## SHEAR STAGE




| | | | | | |
|---|---|---|---|---|---|
| NM T L Ltd | Consolidated drained Shear Box Test in 60 mm square Box | | | Job No. | NMTL_3360 |
| | | | | Borehole No. | BHRC08A |
| | Project | Derryadd Wind Farm: 2021LD101 | | Sample No. | B15 |
| Operator Sb | Checked | Nc | Approved Bc | Depth. | 5.0-5.50m |

# SHEAR BOX TEST

Test Method **BS 1377 : Part 7 : 1990 : Method 4**

**Preparation procedure** **Remoulded with 2.5 kg rammer at natural moisture content.**
**Specimen screened on 2mm sieve.**

**Description** **Compact brown/grey silty gravelly SAND.**

| **Weighings** | | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|---|
| Wet soil | gms | 329.8 | 329.8 | 329.4 |
| Dry soil | gms | 150.7 | 150.8 | 150.1 |
| | | | | |
| Wet soil | gms | 175.1 | 175.1 | 174.7 |
| Dry soil | gms | 150.7 | 150.8 | 150.1 |
| Water | gms | 24.3 | 24.2 | 24.6 |
| Moisture Content (%) | | 16.1 | 16.1 | 16.4 |
| | | | | |
| Bulk Density (Mg/m3) | | 2.02 | 2.02 | 2.02 |
| Dry density (Mg/m3) | | 1.74 | 1.74 | 1.73 |
| Voids ratio e | | 0.5523 | 0.5513 | 0.5587 |
| Degree of saturation (%) | | 78.9 | 78.7 | 79.1 |

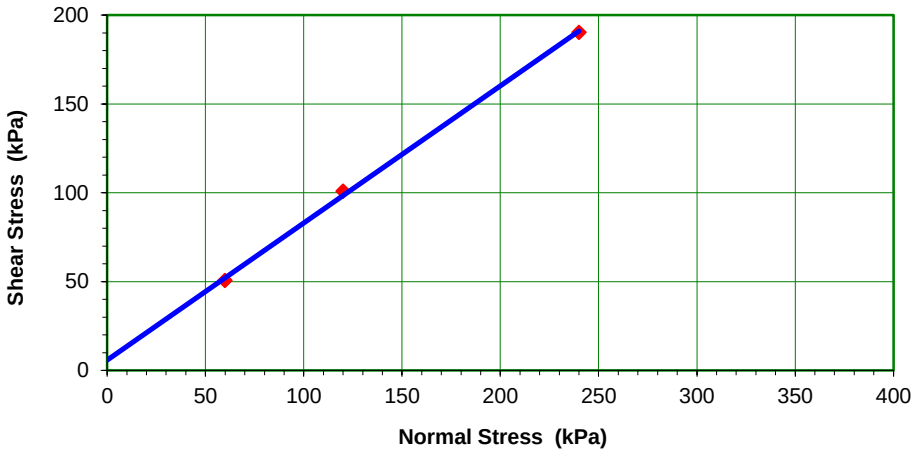
| **Nominal Dimensions** | | |
|---|---|---|
| Length | L1 mm | 60 |
| | L2 mm | 60 |
| Area | A mm2 | 3600 |
| Height | H mm | 24.07 |
| Volume | V cm3 | 86.652 |
| Particle density | Mg/m3 | 2.70 |

**Final Details**

| | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|
| Normal Loads( kPa) | 60 | 120 | 240 |
| Shear stress (kPa) | 50.6 | 100.8 | 190.3 |
| Horizontal Displacement (mm) | 2.967 | 2.232 | 3.085 |
| Vertical displacement (mm) | -0.111 | -0.044 | -0.012 |
| Rate of displacement (mm/min) | | 0.0060 | |

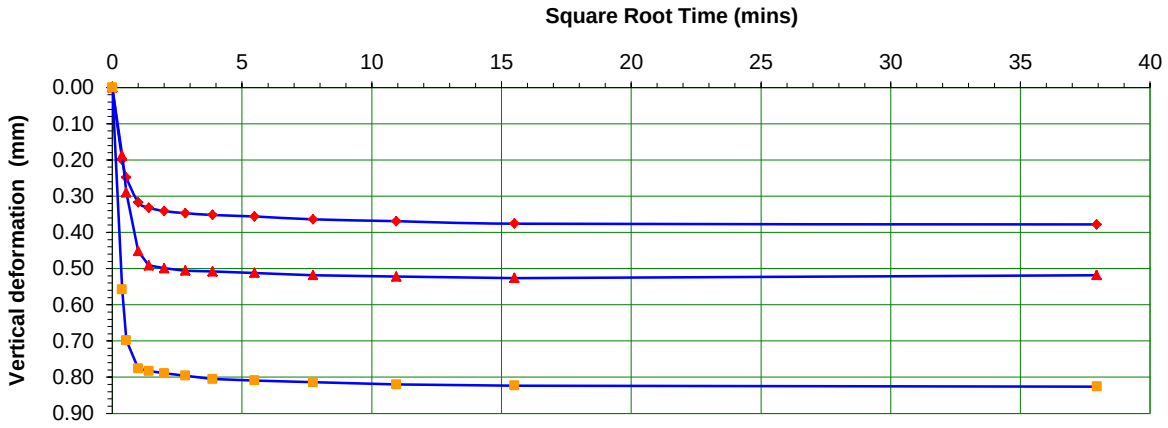
| | | | |
|---|---|---|---|
| Date sampled | n/a | | Peak |
| Date received | 02/04/2021 | Cohesion c' (kPa) | 5.8 |
| Date tested | 14/05/2021 | Friction angle phi' | 37.7° |

**Mohr Envelope**

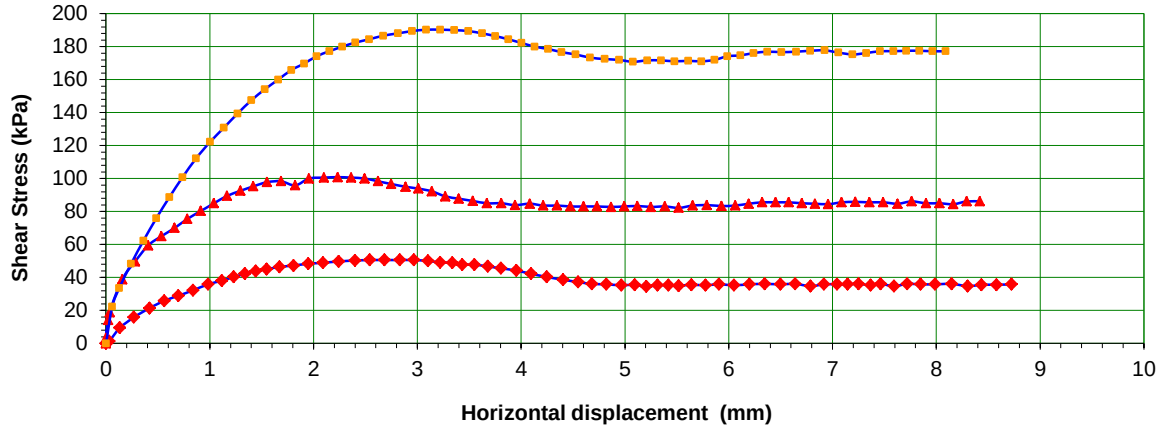


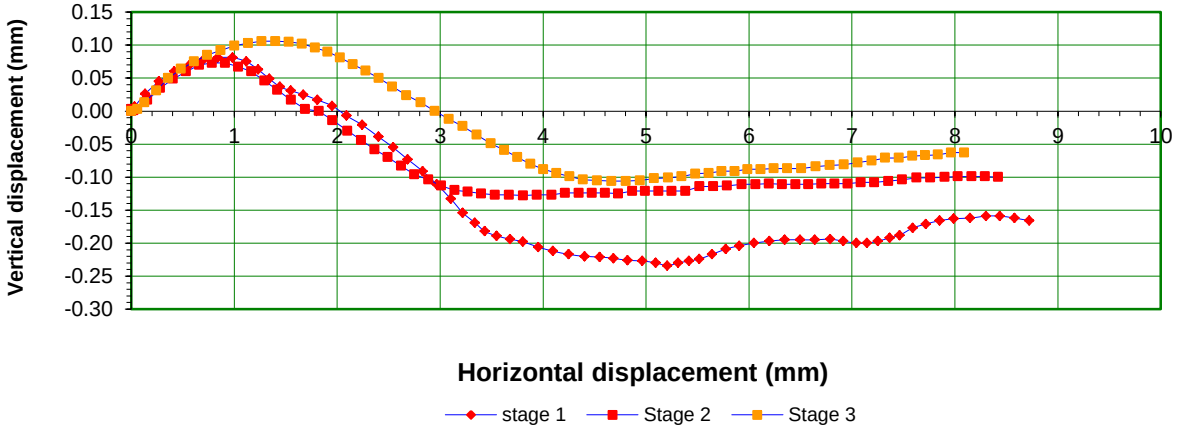

| | | | | | |
|---|---|---|---|---|---|
| **NM T L Ltd** | Consolidated drained Shear Box Test in 60 mm square Box | | | Job No. | NMTL_3360 |
| | | | | Borehole No. | BHRC09B |
| | Project | Derryadd Wind Farm: 2021LD101 | | Sample No. | B18 |
| Operator Sb | Checked | Nc | Approved Bc | Depth. | 6.50-7.0m |

## CONSOLIDATION STAGE




## SHEAR STAGE




| | | | | | |
|---|---|---|---|---|---|
| NM T L Ltd | Consolidated drained Shear Box Test in 60 mm square Box | | | Job No. | NMTL_3360 |
| | | | | Borehole No. | BHRC09B |
| | Project | Derryadd Wind Farm: 2021LD101 | | Sample No. | B18 |
| Operator Sb | Checked | Nc | Approved Bc | Depth. | 6.50-7.0m |

# SHEAR BOX TEST

Test Method **BS 1377 : Part 7 : 1990 : Method 4**

**Preparation procedure** **Remoulded with 2.5 kg rammer at natural moisture content.**
**Material screened on 2mm sieve**

**Description** **Dark grey/brown slightly sandy slightly gravelly silty CLAY.**

| **Weighings** | | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|---|
| Wet soil | gms | 344.7 | 345.1 | 345.1 |
| Dry soil | gms | 159.0 | 159.0 | 159.4 |
| Wet soil | gms | 190.0 | 190.4 | 190.3 |
| Dry soil | gms | 159.0 | 159.0 | 159.4 |
| Water | gms | 31.0 | 31.4 | 30.8 |
| Moisture Content (%) | | 19.5 | 19.8 | 19.3 |
| Bulk Density (Mg/m3) | | 2.12 | 2.13 | 2.12 |
| Dry density (Mg/m3) | | 1.77 | 1.77 | 1.78 |
| Voids ratio e | | 0.5217 | 0.5215 | 0.5176 |
| Degree of saturation (%) | | 101.0 | 102.3 | 100.9 |

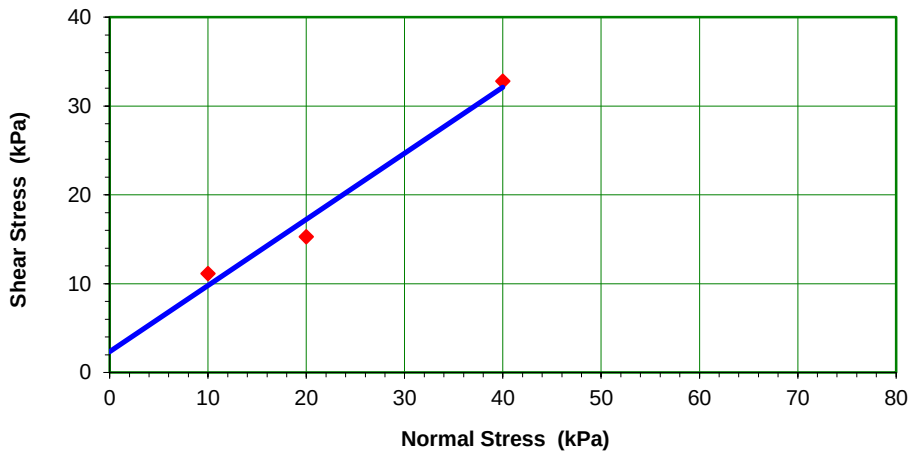
| **Nominal Dimensions** | | |
|---|---|---|
| Length | L1 mm | 60 |
| | L2 mm | 60 |
| Area | A mm2 | 3600 |
| Height | H mm | 24.89 |
| Volume | V cm3 | 89.604 |
| Particle density | Mg/m3 | 2.70 |

**Final Details**

| | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|
| Normal Loads( kPa) | 10 | 20 | 40 |
| Shear stress (kPa) | 11.1 | 15.3 | 32.8 |
| Horizontal Displacement (mm) | 4.813 | 5.062 | 7.061 |
| Vertical displacement (mm) | 0.064 | -0.052 | 0.208 |
| Rate of displacement (mm/min) | | 0.0060 | |

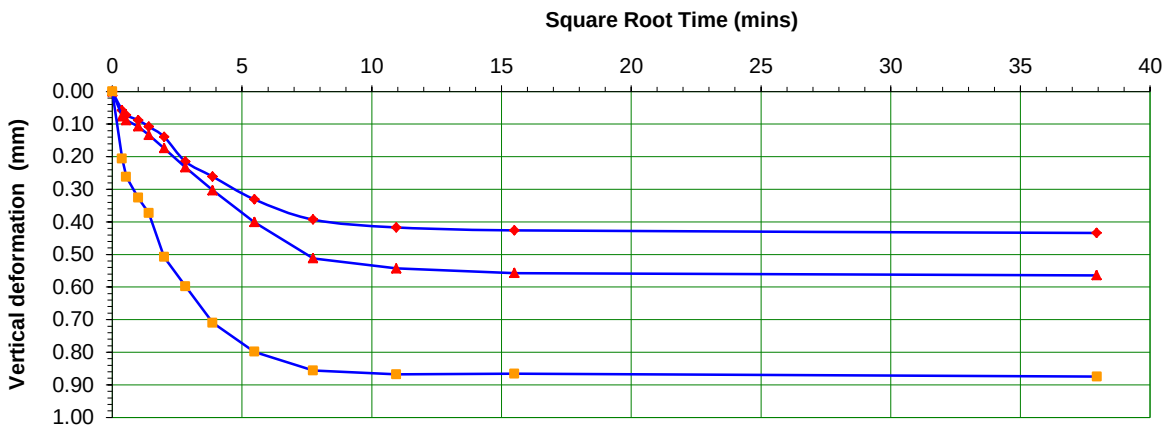
| | | | Peak |
|---|---|---|---|
| Date sampled | n/a | | |
| Date received | 02/04/2021 | Cohesion c' (kPa) | 2.36 |
| Date tested | 02/05/2021 | Friction angle phi' | 36.6° |

**Mohr Envelope**

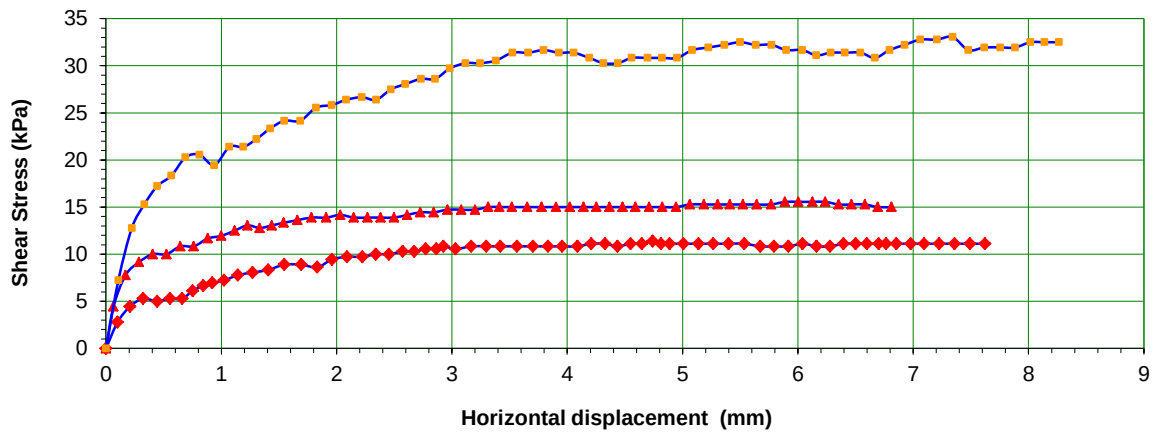


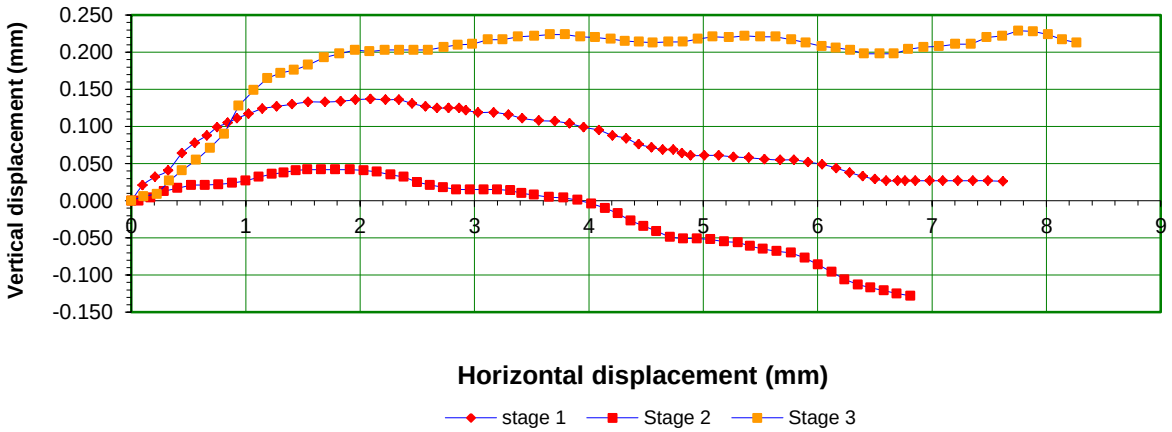

| | | | | |
|---|---|---|---|---|
| **NM T L Ltd** | Consolidated drained Shear Box Test in 60 mm square Box | | Job No. | NMTL_3360 |
| | | | Borehole No. | TP266 |
| | Project | Derryadd Wind Farm: 2021LD101 | Sample No. | B4 |
| Operator Sb | Checked Nc | Approved Bc | Depth. | 1.3-1.60m |

## CONSOLIDATION STAGE




## SHEAR STAGE




| | | | | | |
|---|---|---|---|---|---|
| NM T L Ltd | | Consolidated drained Shear Box Test in 60 mm square Box | | Job No. | NMTL_3360 |
| | | | | Borehole No. | TP266 |
| | Project | Derryadd Wind Farm: 2021LD101 | | Sample No. | B4 |
| Operator Sb | Checked | Nc | Approved Bc | Depth. | 1.3-1.60m |

# SHEAR BOX TEST

Test Method **BS 1377 : Part 7 : 1990 : Method 4**

**Preparation procedure** **Remoulded with 2.5 kg rammer at natural moisture content.**
**Material screened on 2mm sieve**

**Description** **Dark grey silty SAND.**

| **Weighings** | | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|---|
| Wet soil | gms | 317.2 | 317.6 | 317.9 |
| Dry soil | gms | 123.8 | 124.4 | 124.1 |
| | | | | |
| Wet soil | gms | 162.4 | 162.8 | 163.1 |
| Dry soil | gms | 123.8 | 124.4 | 124.1 |
| Water | gms | 38.6 | 38.4 | 39.0 |
| Moisture Content (%) | | 31.1 | 30.9 | 31.4 |
| | | | | |
| Bulk Density (Mg/m3) | | 1.87 | 1.88 | 1.88 |
| Dry density (Mg/m3) | | 1.43 | 1.44 | 1.43 |
| Voids ratio e | | 0.8892 | 0.8806 | 0.8850 |
| Degree of saturation (%) | | 94.5 | 94.7 | 95.9 |

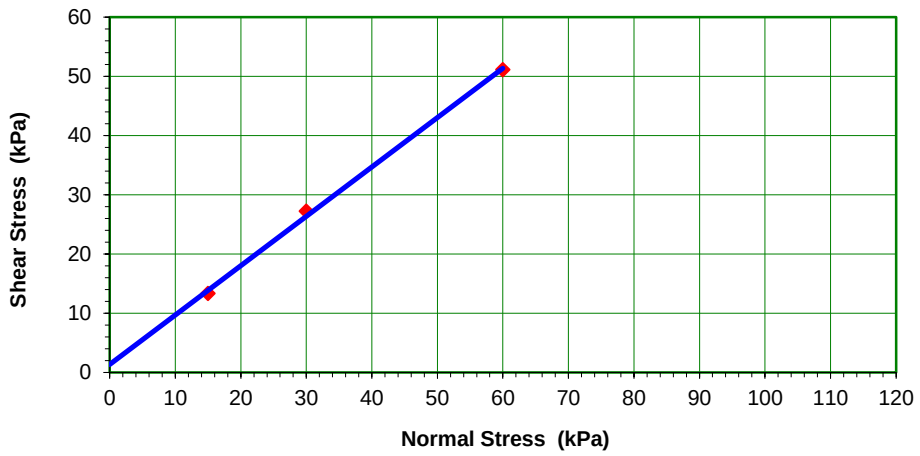
| **Nominal Dimensions** | | |
|---|---|---|
| Length | L1 mm | 60 |
| | L2 mm | 60 |
| Area | A mm2 | 3600 |
| Height | H mm | 24.07 |
| Volume | V cm3 | 86.652 |
| Particle density | Mg/m3 | 2.70 |

**Final Details**

| | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|
| Normal Loads( kPa) | 15 | 30 | 60 |
| Shear stress (kPa) | 13.3 | 27.2 | 51.1 |
| Horizontal Displacement (mm) | 2.738 | 3.175 | 3.253 |
| Vertical displacement (mm) | -0.141 | -0.103 | -0.021 |
| Rate of displacement (mm/min) | | 0.0060 | |

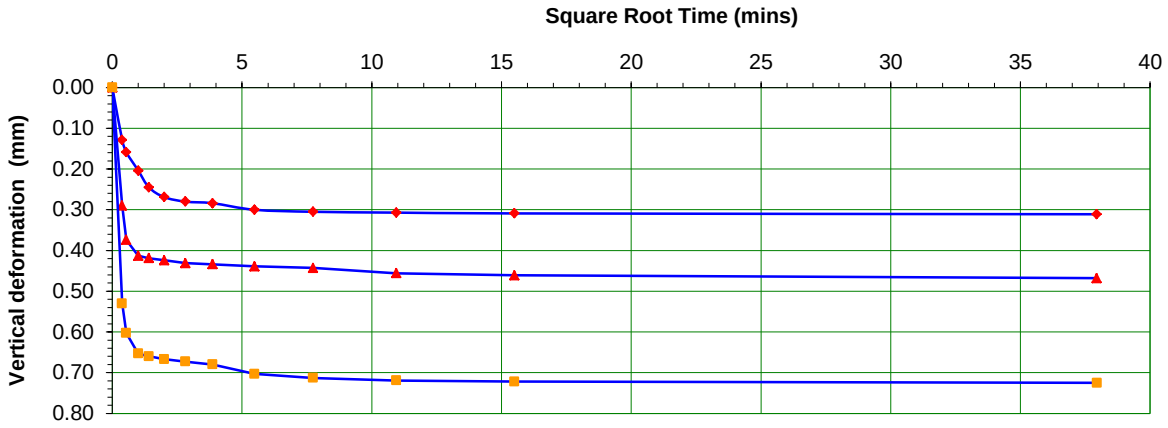
| | | | Peak |
|---|---|---|---|
| Date sampled | n/a | | |
| Date received | 02/04/2021 | Cohesion c' (kPa) | 1.39 |
| Date tested | 04/05/2021 | Friction angle phi' | 39.8° |

**Mohr Envelope**

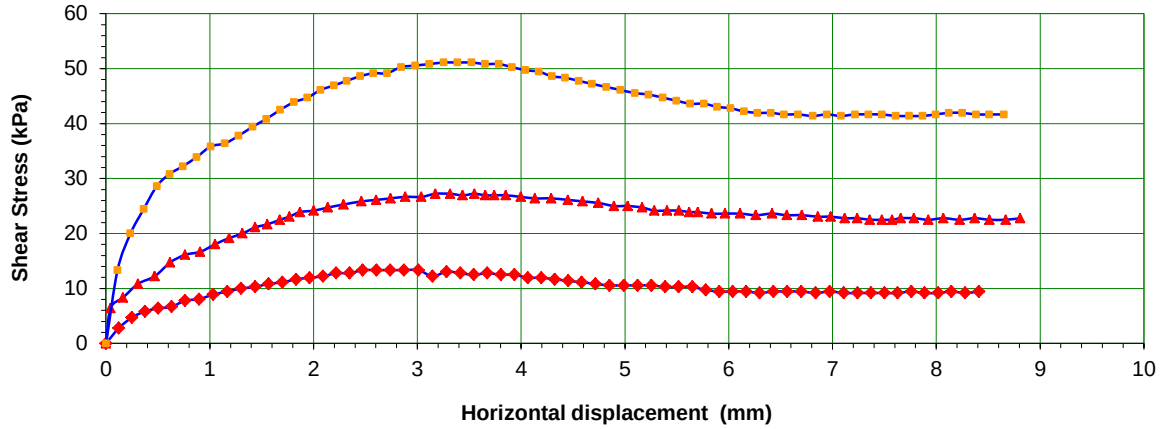


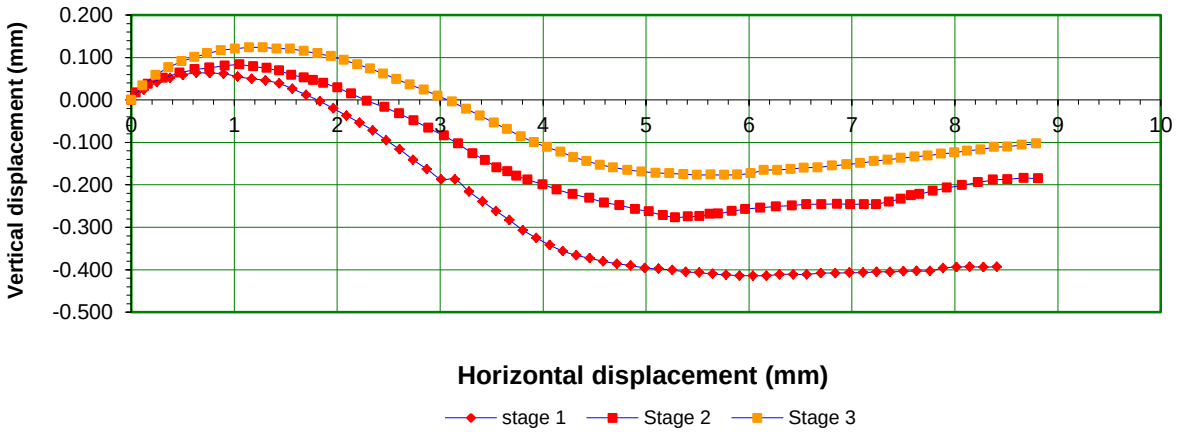

| | | | | |
|---|---|---|---|---|
| **NM T L Ltd** | Consolidated drained Shear Box Test in 60 mm square Box | | Job No. | NMTL_3360 |
| | | | Borehole No. | TP295 |
| | Project | Derryadd Wind Farm: 2021LD101 | Sample No. | B2 |
| Operator Sb | Checked Nc | Approved Bc | Depth. | 1.80-2.10m |

## CONSOLIDATION STAGE




## SHEAR STAGE




| | | | | | |
|---|---|---|---|---|---|
| NM T L Ltd | | Consolidated drained Shear Box Test in 60 mm square Box | | Job No. | NMTL_3360 |
| | | | | Borehole No. | TP295 |
| | Project | Derryadd Wind Farm: 2021LD101 | | Sample No. | B2 |
| Operator Sb | Checked | Nc | Approved Bc | Depth. | 1.80-2.10m |

# SHEAR BOX TEST

Test Method **BS 1377 : Part 7 : 1990 : Method 4**

**Preparation procedure** **Remoulded with 2.5 kg rammer at natural moisture content.**
**Material screened on 2mm sieve**

**Description** **Grey/brown slightly sandy gravelly SILT/CLAY.**

| **Weighings** | | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|---|
| Wet soil | gms | 352.5 | 352.3 | 352.5 |
| Dry soil | gms | 173.2 | 173.0 | 173.2 |
| | | | | |
| Wet soil | gms | 197.8 | 197.6 | 197.8 |
| Dry soil | gms | 173.2 | 173.0 | 173.2 |
| Water | gms | 24.6 | 24.6 | 24.6 |
| Moisture Content (%) | | 14.2 | 14.2 | 14.2 |
| | | | | |
| Bulk Density (Mg/m3) | | 2.21 | 2.21 | 2.21 |
| Dry density (Mg/m3) | | 1.93 | 1.93 | 1.93 |
| Voids ratio e | | 0.3969 | 0.3983 | 0.3969 |
| Degree of saturation (%) | | 96.6 | 96.2 | 96.5 |

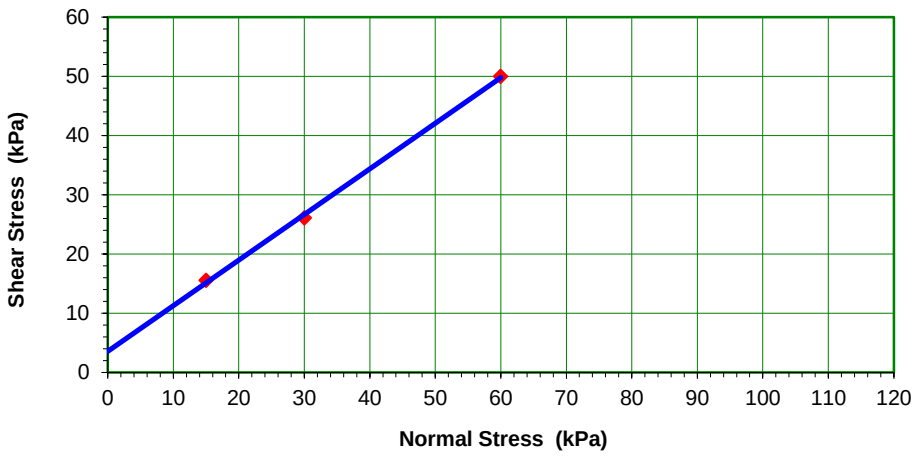
| **Nominal Dimensions** | | |
|---|---|---|
| Length | L1 mm | 60 |
| | L2 mm | 60 |
| Area | A mm2 | 3600 |
| Height | H mm | 24.89 |
| Volume | V cm3 | 89.604 |
| Particle density | Mg/m3 | 2.70 |

**Final Details**

| | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|
| Normal Loads( kPa) | 15 | 30 | 60 |
| Shear stress (kPa) | 15.6 | 26.1 | 50.0 |
| Horizontal Displacement (mm) | 2.924 | 2.721 | 3.004 |
| Vertical displacement (mm) | -0.164 | 0.048 | 0.104 |
| Rate of displacement (mm/min) | | 0.0060 | |

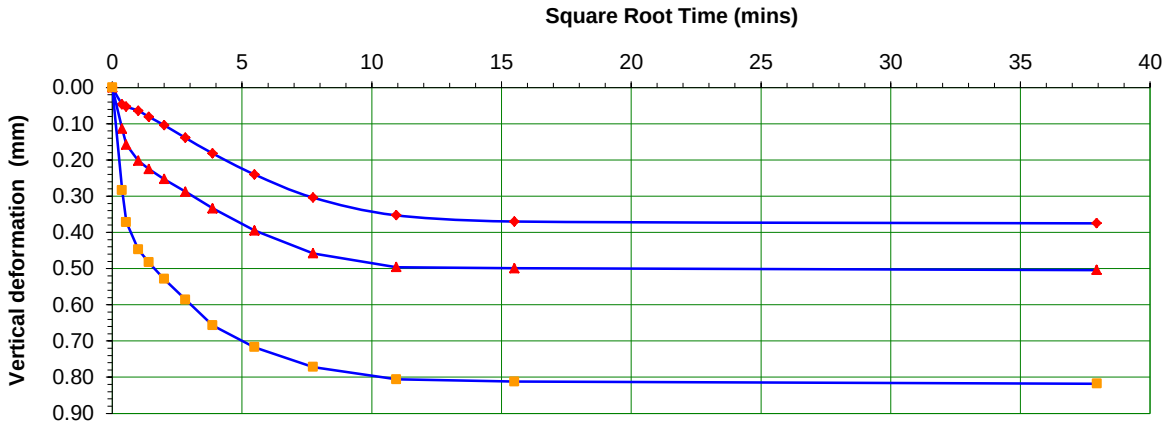
| | | | Peak |
|---|---|---|---|
| Date sampled | n/a | | |
| Date received | 02/04/2021 | Cohesion c' (kPa) | 3.6 |
| Date tested | 06/05/2021 | Friction angle phi' | 37.6° |

**Mohr Envelope**

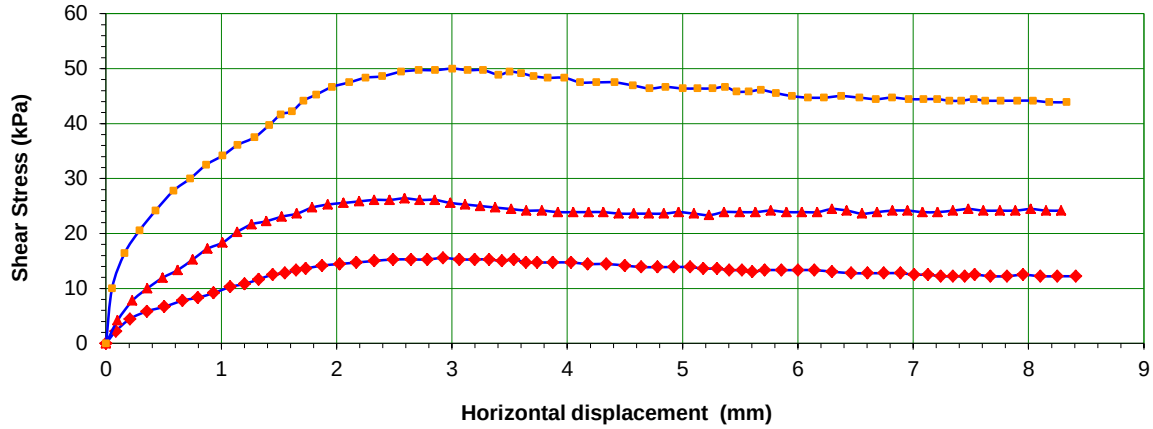


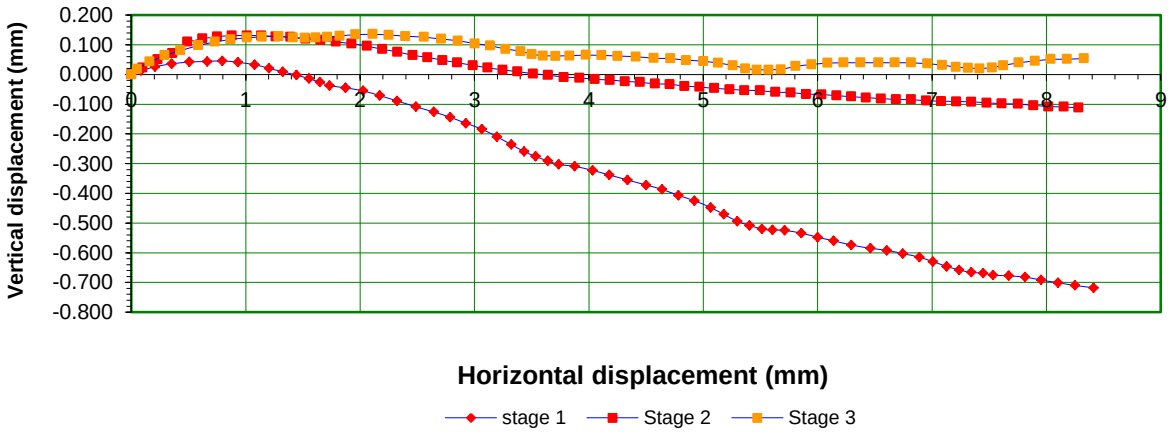

| | | | | | |
|---|---|---|---|---|---|
| **NM T L Ltd** | | Consolidated drained Shear Box Test in 60 mm square Box | | Job No. | NMTL_3360 |
| | | | | Borehole No. | TP341 |
| | Project | Derryadd Wind Farm: 2021LD101 | | Sample No. | B3 |
| Operator Sb | Checked | Nc | Approved Bc | Depth. | 2.0-2.30m |

## CONSOLIDATION STAGE




## SHEAR STAGE




| | | | | | |
|---|---|---|---|---|---|
| NM T L Ltd | Consolidated drained Shear Box Test in 60 mm square Box | | | Job No. | NMTL_3360 |
| | | | | Borehole No. | TP341 |
| | Project | Derryadd Wind Farm: 2021LD101 | | Sample No. | B3 |
| Operator Sb | Checked | Nc | Approved Bc | Depth. | 2.0-2.30m |

# SHEAR BOX TEST

Test Method **BS 1377 : Part 7 : 1990 : Method 4**

**Preparation procedure** **Remoulded with 2.5 kg rammer at natural moisture content.**
**Specimen screened on 2mm sieve.**

**Description** **Compact grey silty gravelly SAND.**

| **Weighings** | | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|---|
| Wet soil | gms | 347.0 | 347.1 | 347.0 |
| Dry soil | gms | 170.6 | 171.0 | 170.8 |
| Wet soil | gms | 192.2 | 192.3 | 192.3 |
| Dry soil | gms | 170.6 | 171.0 | 170.8 |
| Water | gms | 21.5 | 21.4 | 21.4 |
| Moisture Content (%) | | 12.6 | 12.5 | 12.6 |
| Bulk Density (Mg/m3) | | 2.22 | 2.22 | 2.22 |
| Dry density (Mg/m3) | | 1.97 | 1.97 | 1.97 |
| Voids ratio e | | 0.3712 | 0.3686 | 0.3696 |
| Degree of saturation (%) | | 91.8 | 91.6 | 91.7 |

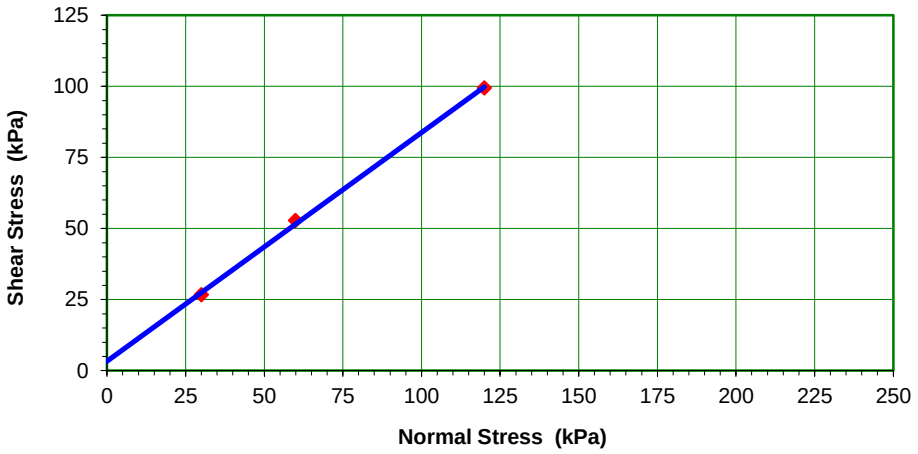
| **Nominal Dimensions** | | |
|---|---|---|
| Length | L1 mm | 60 |
| | L2 mm | 60 |
| Area | A mm2 | 3600 |
| Height | H mm | 24.07 |
| Volume | V cm3 | 86.652 |
| Particle density | Mg/m3 | 2.70 |

**Final Details**

| | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|
| Normal Loads( kPa) | 30 | 60 | 120 |
| Shear stress (kPa) | 26.7 | 52.8 | 99.4 |
| Horizontal Displacement (mm) | 2.270 | 2.483 | 2.133 |
| Vertical displacement (mm) | -0.305 | -0.222 | -0.164 |
| Rate of displacement (mm/min) | | 0.0060 | |

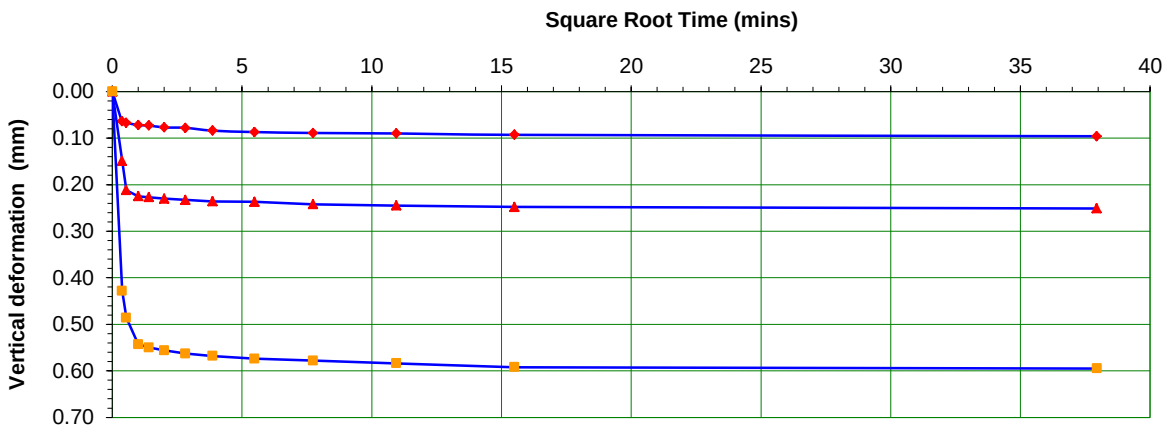
| | | | Peak |
|---|---|---|---|
| Date sampled | n/a | | |
| Date received | 02/04/2021 | Cohesion c' (kPa) | 3.33 |
| Date tested | 18/05/2021 | Friction angle phi' | 38.8° |

**Mohr Envelope**

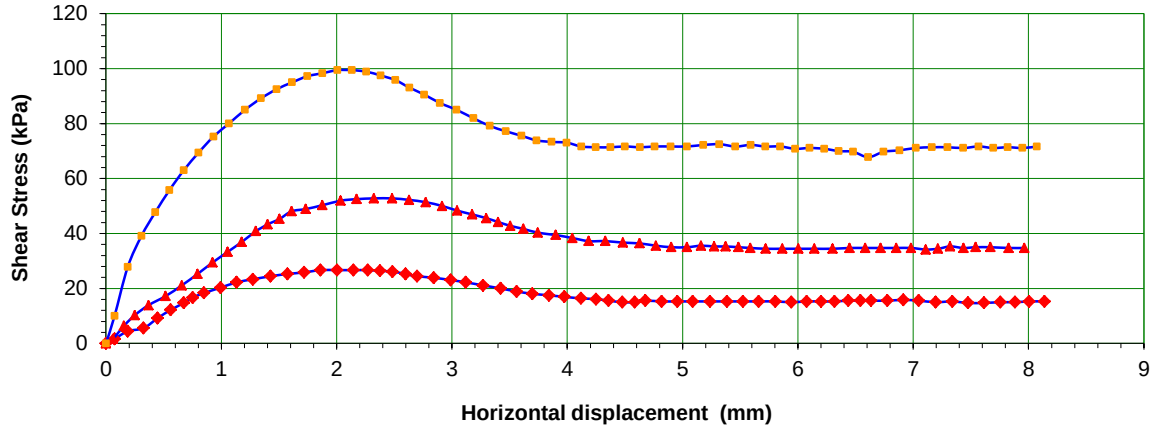


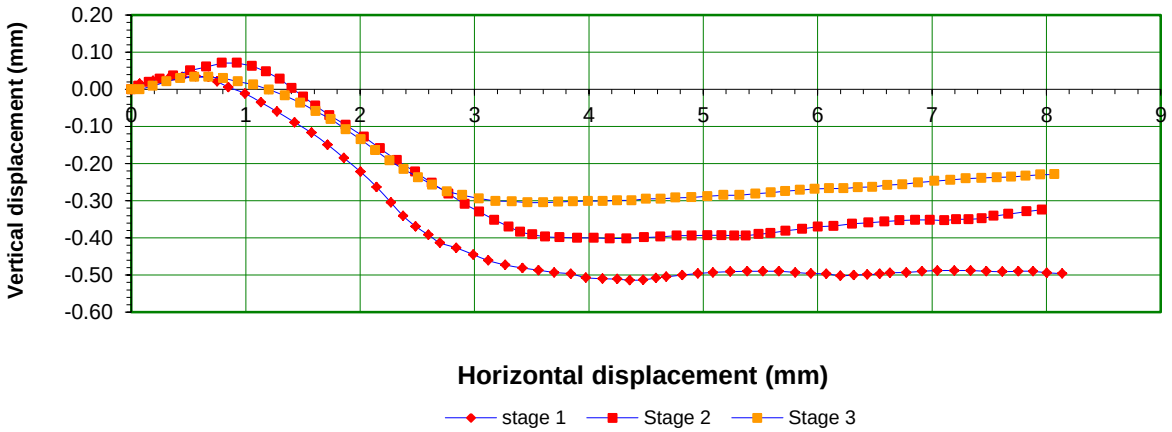

| | | | | |
|---|---|---|---|---|
| **NM T L Ltd** | Consolidated drained Shear Box Test in 60 mm square Box | | Job No. | NMTL_3360 |
| | | | Borehole No. | TPMMC02 |
| | Project | Derryadd Wind Farm: 2021LD101 | Sample No. | B7 |
| Operator Sb | Checked Nc | Approved Bc | Depth. | 2.30-2.60m |

## CONSOLIDATION STAGE




## SHEAR STAGE




| | | | | | |
|---|---|---|---|---|---|
| NM T L Ltd | Consolidated drained Shear Box Test in 60 mm square Box | | | Job No. | NMTL_3360 |
| | | | | Borehole No. | TPMMC02 |
| | Project | Derryadd Wind Farm: 2021LD101 | | Sample No. | B7 |
| Operator Sb | Checked | Nc | Approved Bc | Depth. | 2.30-2.60m |

# SHEAR BOX TEST

Test Method **BS 1377 : Part 7 : 1990 : Method 4**

**Preparation procedure** **Remoulded with 2.5 kg rammer at natural moisture content.**
**Material screened on 2mm sieve**

**Description** **Grey/brown slightly sandy gravelly SILT/CLAY**

| **Weighings** | | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|---|
| Wet soil | gms | 356.1 | 356.4 | 356.1 |
| Dry soil | gms | 178.5 | 179.2 | 178.5 |
| | | | | |
| Wet soil | gms | 201.4 | 201.6 | 201.3 |
| Dry soil | gms | 178.5 | 179.2 | 178.5 |
| Water | gms | 22.9 | 22.5 | 22.8 |
| Moisture Content (%) | | 12.8 | 12.5 | 12.8 |
| | | | | |
| Bulk Density (Mg/m3) | | 2.25 | 2.25 | 2.25 |
| Dry density (Mg/m3) | | 1.99 | 2.00 | 1.99 |
| Voids ratio e | | 0.3553 | 0.3503 | 0.3552 |
| Degree of saturation (%) | | 97.5 | 96.6 | 97.0 |

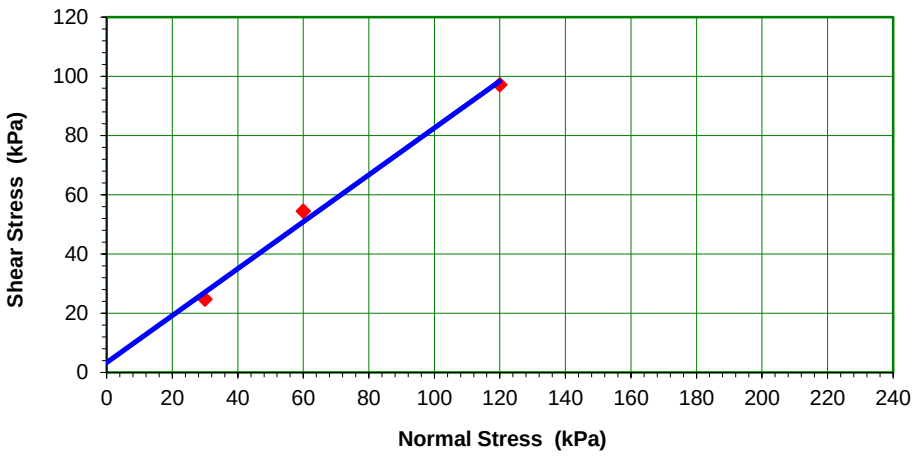
| **Nominal Dimensions** | | |
|---|---|---|
| Length | L1 mm | 60 |
| | L2 mm | 60 |
| Area | A mm2 | 3600 |
| Height | H mm | 24.89 |
| Volume | V cm3 | 89.604 |
| Particle density | Mg/m3 | 2.70 |

**Final Details**

| | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|
| Normal Loads( kPa) | 30 | 60 | 120 |
| Shear stress (kPa) | 24.7 | 54.4 | 97.2 |
| Horizontal Displacement (mm) | 2.210 | 7.404 | 3.111 |
| Vertical displacement (mm) | -0.015 | -0.522 | 0.094 |
| Rate of displacement (mm/min) | | 0.0060 | |

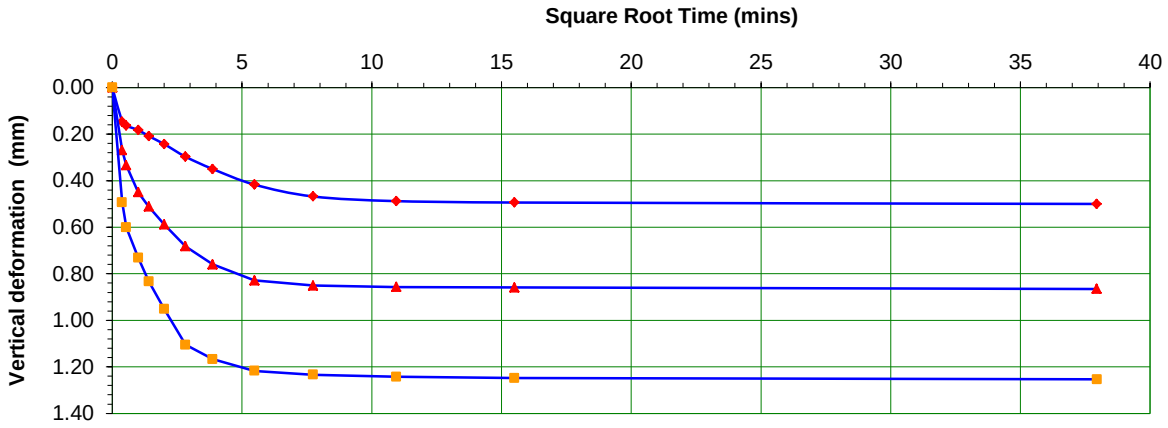
| | | | Peak |
|---|---|---|---|
| Date sampled | n/a | | |
| Date received | 02/04/2021 | Cohesion c' (kPa) | 3.4 |
| Date tested | 19/05/2021 | Friction angle phi' | 38.4° |

**Mohr Envelope**

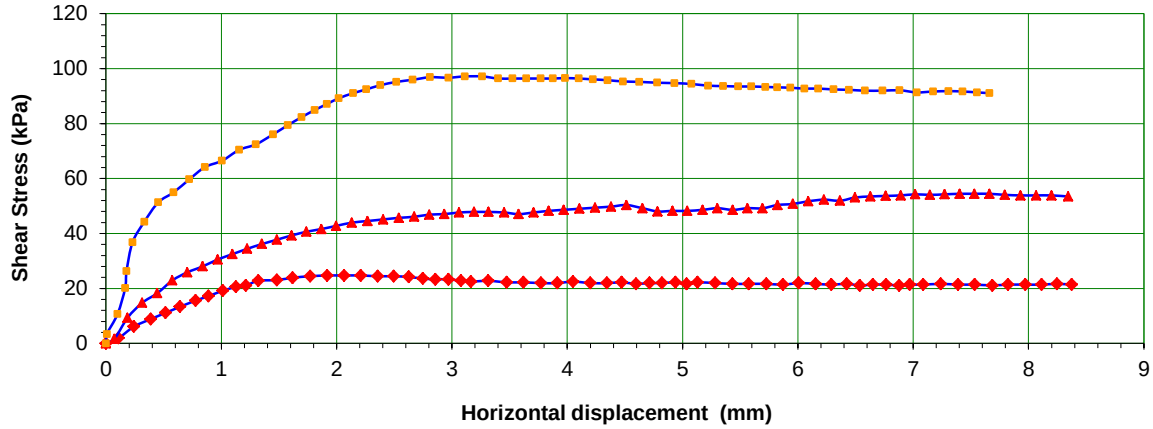


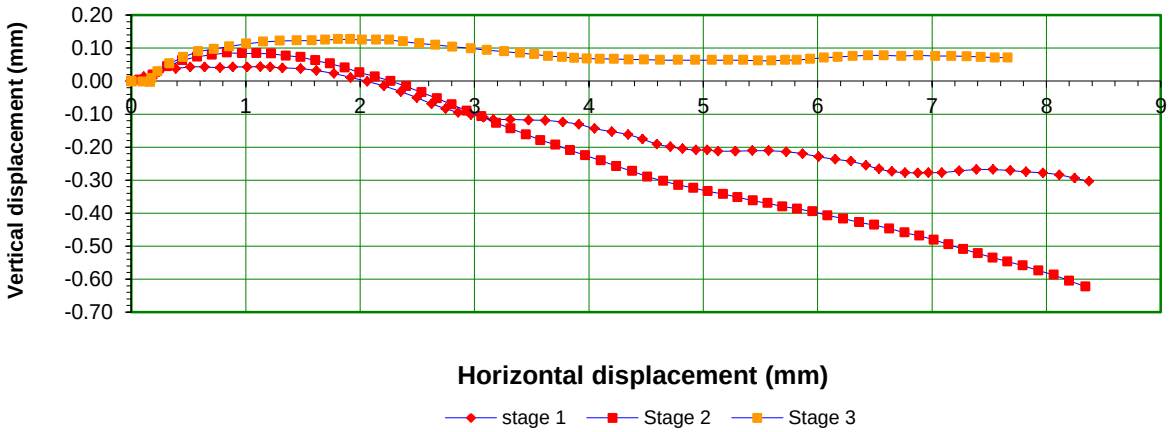

| | | | | |
|---|---|---|---|---|
| **NM T L Ltd** | Consolidated drained Shear Box Test in 60 mm square Box | | Job No. | NMTL_3360 |
| | | | Borehole No. | TPSSA04 |
| | Project | Derryadd Wind Farm: 2021LD101 | Sample No. | B6 |
| Operator Sb | Checked Nc | Approved Bc | Depth. | 3.0-3.30m |

## CONSOLIDATION STAGE




## SHEAR STAGE




| | | | | | |
|---|---|---|---|---|---|
| NM T L Ltd | Consolidated drained Shear Box Test in 60 mm square Box | | | Job No. | NMTL_3360 |
| | | | | Borehole No. | TPSSA04 |
| | Project | Derryadd Wind Farm: 2021LD101 | | Sample No. | B6 |
| Operator Sb | Checked | Nc | Approved Bc | Depth. | 3.0-3.30m |

# SHEAR BOX TEST

Test Method **BS 1377 : Part 7 : 1990 : Method 4**

**Preparation procedure** **Remoulded with 2.5 kg rammer at natural moisture content.**
**Material screened on 2mm sieve**

**Description** **Light grey slightly sandy gravelly SILT/CLAY.**

| **Weighings** | | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|---|
| Wet soil | gms | 350.9 | 350.4 | 350.7 |
| Dry soil | gms | 168.6 | 168.2 | 168.5 |
| | | | | |
| Wet soil | gms | 196.1 | 195.6 | 195.9 |
| Dry soil | gms | 168.6 | 168.2 | 168.5 |
| Water | gms | 27.5 | 27.4 | 27.4 |
| Moisture Content (%) | | 16.3 | 16.3 | 16.3 |
| | | | | |
| Bulk Density (Mg/m3) | | 2.19 | 2.18 | 2.19 |
| Dry density (Mg/m3) | | 1.88 | 1.88 | 1.88 |
| Voids ratio e | | 0.4350 | 0.4383 | 0.4356 |
| Degree of saturation (%) | | 101.2 | 100.4 | 100.8 |

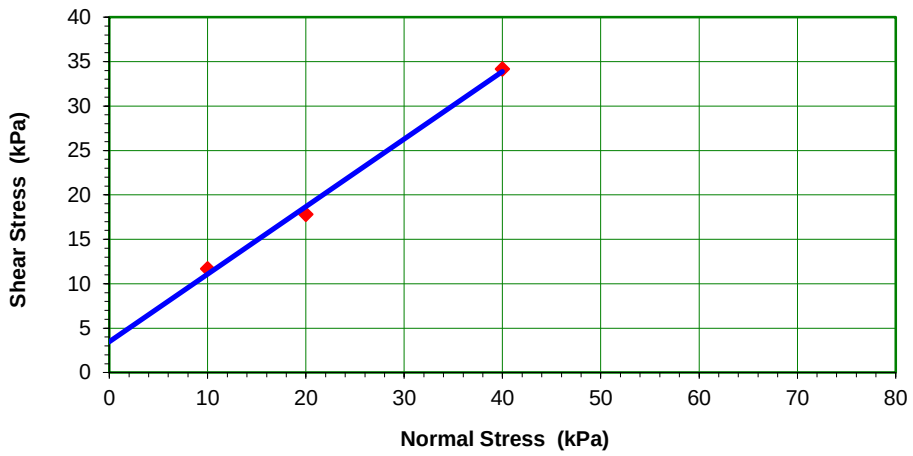
| **Nominal Dimensions** | | |
|---|---|---|
| Length | L1 mm | 60 |
| | L2 mm | 60 |
| Area | A mm2 | 3600 |
| Height | H mm | 24.89 |
| Volume | V cm3 | 89.604 |
| Particle density | Mg/m3 | 2.70 |

**Final Details**

| | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|
| Normal Loads( kPa) | 10 | 20 | 40 |
| Shear stress (kPa) | 11.7 | 17.8 | 34.2 |
| Horizontal Displacement (mm) | 3.037 | 2.879 | 7.236 |
| Vertical displacement (mm) | 0.039 | 0.026 | 0.131 |
| Rate of displacement (mm/min) | | 0.0060 | |

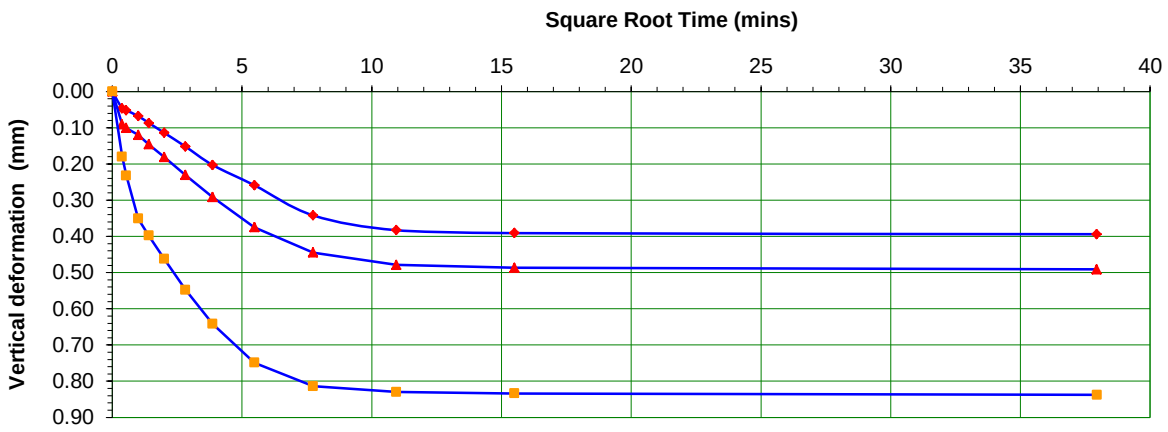
| | | | Peak |
|---|---|---|---|
| Date sampled | n/a | | |
| Date received | 02/04/2021 | Cohesion c' (kPa) | 3.4 |
| Date tested | 08/05/2021 | Friction angle phi' | 37.2° |

**Mohr Envelope**

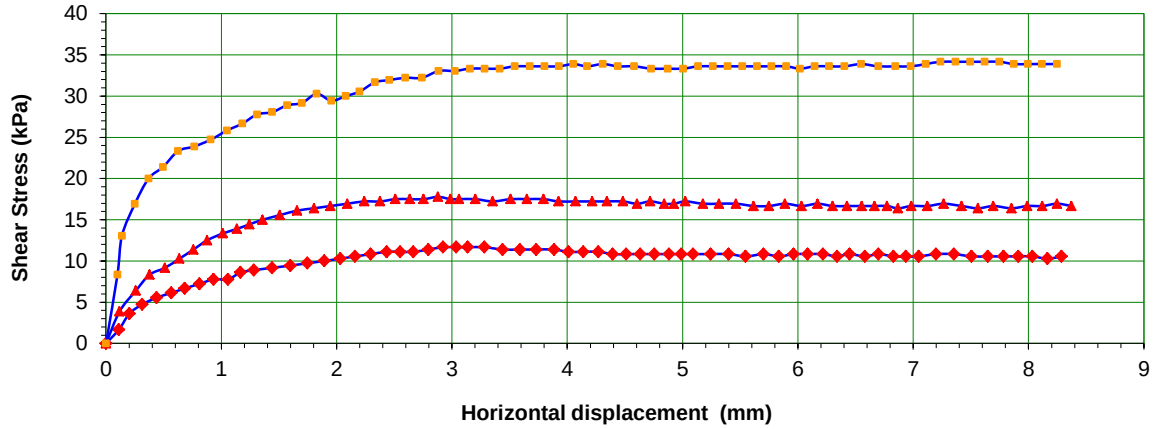


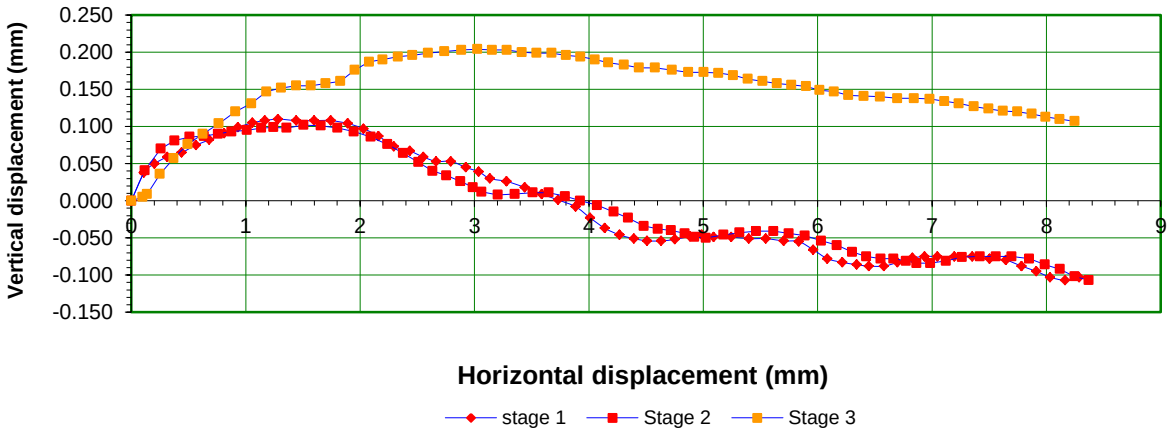

| | | | | |
|---|---|---|---|---|
| **NM T L Ltd** | Consolidated drained Shear Box Test in 60 mm square Box | | Job No. | NMTL_3360 |
| | | | Borehole No. | TPT11 |
| | Project | Derryadd Wind Farm: 2021LD101 | Sample No. | B3 |
| Operator Sb | Checked Nc | Approved Bc | Depth. | 1.40-1.60m |

## CONSOLIDATION STAGE




## SHEAR STAGE




| | | | | | |
|---|---|---|---|---|---|
| NM T L Ltd | Consolidated drained Shear Box Test in 60 mm square Box | | | Job No. | NMTL_3360 |
| | | | | Borehole No. | TPT11 |
| | Project | Derryadd Wind Farm: 2021LD101 | | Sample No. | B3 |
| Operator Sb | Checked | Nc | Approved Bc | Depth. | 1.40-1.60m |

# SHEAR BOX TEST

Test Method **BS 1377 : Part 7 : 1990 : Method 4**

**Preparation procedure** **Remoulded with 2.5 kg rammer at natural moisture content.**
**Material screened on 2mm sieve**

**Description** **Brown/grey slightly sandy slightly gravelly silt/CLAY**

| **Weighings** | | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|---|
| Wet soil | gms | 353.5 | 353.5 | 353.1 |
| Dry soil | gms | 179.0 | 179.0 | 179.1 |
| | | | | |
| Wet soil | gms | 198.7 | 198.8 | 198.4 |
| Dry soil | gms | 179.0 | 179.0 | 179.1 |
| Water | gms | 19.7 | 19.8 | 19.3 |
| Moisture Content (%) | | 11.0 | 11.0 | 10.8 |
| | | | | |
| Bulk Density (Mg/m3) | | 2.29 | 2.29 | 2.29 |
| Dry density (Mg/m3) | | 2.07 | 2.07 | 2.07 |
| Voids ratio e | | 0.3067 | 0.3070 | 0.3062 |
| Degree of saturation (%) | | 96.8 | 97.1 | 95.0 |

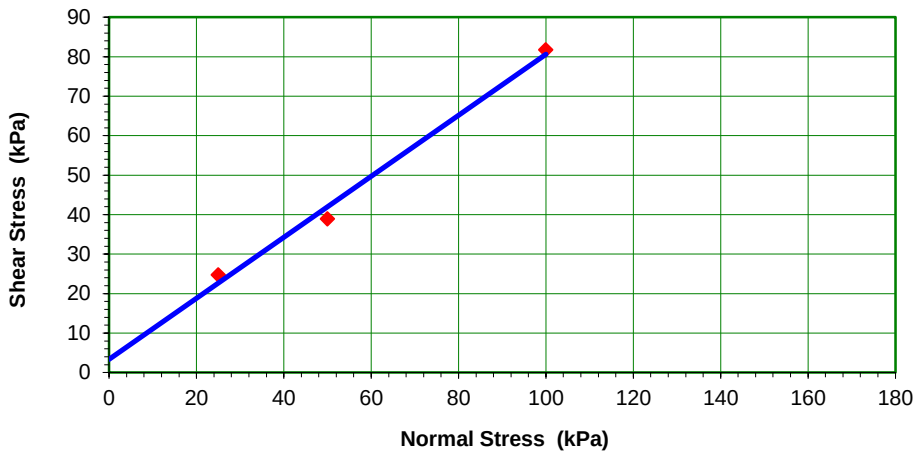
| **Nominal Dimensions** | | |
|---|---|---|
| Length | L1 mm | 60 |
| | L2 mm | 60 |
| Area | A mm2 | 3600 |
| Height | H mm | 24.07 |
| Volume | V cm3 | 86.652 |
| Particle density | Mg/m3 | 2.70 |

**Final Details**

| | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|
| Normal Loads( kPa) | 25 | 50 | 100 |
| Shear stress (kPa) | 24.7 | 38.9 | 81.7 |
| Horizontal Displacement (mm) | 2.174 | 6.520 | 7.777 |
| Vertical displacement (mm) | 0.024 | 0.081 | 0.174 |
| Rate of displacement (mm/min) | | 0.0060 | |

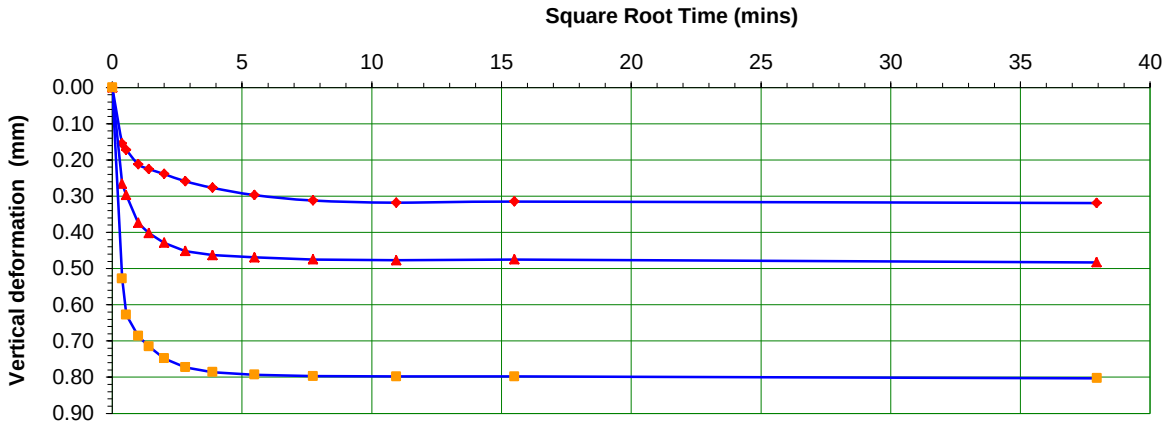
| | | | Peak |
|---|---|---|---|
| Date sampled | n/a | | |
| Date received | 02/04/2021 | Cohesion c' (kPa) | 3.33 |
| Date tested | 21/05/2021 | Friction angle phi' | 37.7° |

**Mohr Envelope**

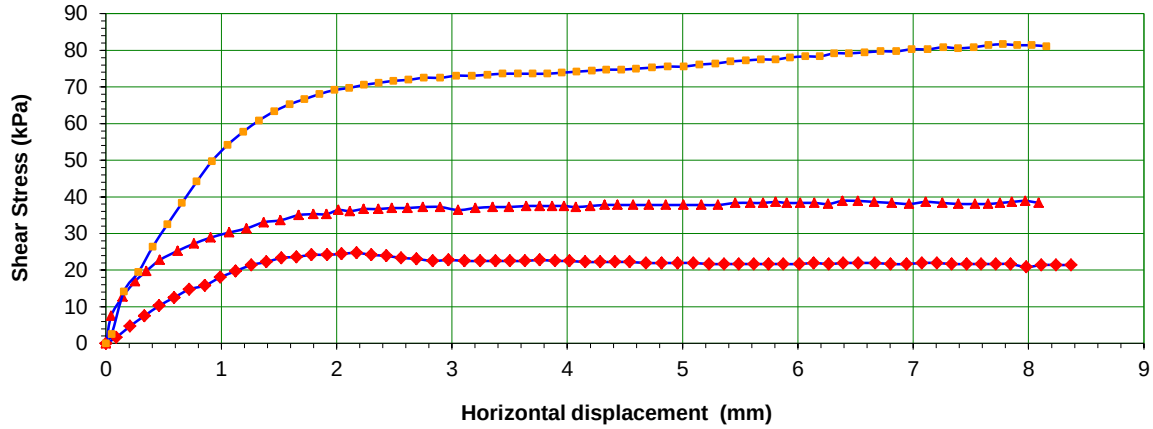


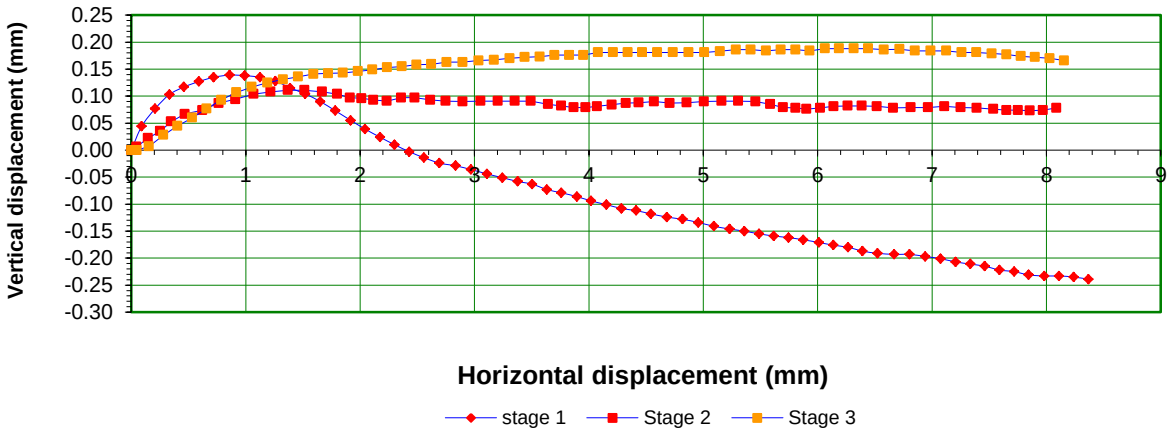

| | | | | |
|---|---|---|---|---|
| **NM T L Ltd** | Consolidated drained Shear Box Test in 60 mm square Box | | Job No. | NMTL_3360 |
| | | | Borehole No. | TPT14 |
| | Project | Derryadd Wind Farm: 2021LD101 | Sample No. | B5 |
| Operator Sb | Checked Nc | Approved Bc | Depth. | 2.30-2.60m |

## CONSOLIDATION STAGE




## SHEAR STAGE




| | | | | | |
|---|---|---|---|---|---|
| NM T L Ltd | | Consolidated drained Shear Box Test in 60 mm square Box | | Job No. | NMTL_3360 |
| | | | | Borehole No. | TPT14 |
| | Project | Derryadd Wind Farm: 2021LD101 | | Sample No. | B5 |
| Operator Sb | Checked | Nc | Approved Bc | Depth. | 2.30-2.60m |

# SHEAR BOX TEST

Test Method **BS 1377 : Part 7 : 1990 : Method 4**

**Preparation procedure** **Remoulded with 2.5 kg rammer at natural moisture content.**
**Material screened on 2mm sieve**

**Description** **Brown/grey slightly gravelly slightly sandy silt/CLAY**

| **Weighings** | | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|---|
| Wet soil | gms | 356.5 | 356.6 | 356.7 |
| Dry soil | gms | 183.4 | 183.2 | 183.3 |
| | | | | |
| Wet soil | gms | 201.8 | 201.8 | 202.0 |
| Dry soil | gms | 183.4 | 183.2 | 183.3 |
| Water | gms | 18.5 | 18.7 | 18.7 |
| Moisture Content (%) | | 10.1 | 10.2 | 10.2 |
| | | | | |
| Bulk Density (Mg/m3) | | 2.33 | 2.33 | 2.33 |
| Dry density (Mg/m3) | | 2.12 | 2.11 | 2.12 |
| Voids ratio e | | 0.2760 | 0.2772 | 0.2765 |
| Degree of saturation (%) | | 98.5 | 99.2 | 99.6 |

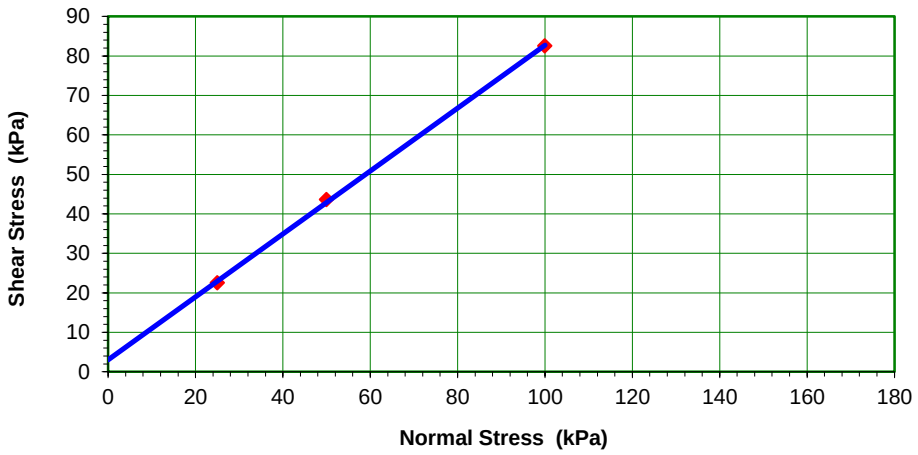
| **Nominal Dimensions** | | |
|---|---|---|
| Length | L1 mm | 60 |
| | L2 mm | 60 |
| Area | A mm2 | 3600 |
| Height | H mm | 24.07 |
| Volume | V cm3 | 86.652 |
| Particle density | Mg/m3 | 2.70 |

**Final Details**

| | **Stage 1** | **Stage 2** | **Stage 3** |
|---|---|---|---|
| Normal Loads( kPa) | 25 | 50 | 100 |
| Shear stress (kPa) | 22.5 | 43.6 | 82.5 |
| Horizontal Displacement (mm) | 2.174 | 2.547 | 6.690 |
| Vertical displacement (mm) | 0.024 | 0.023 | 0.255 |
| Rate of displacement (mm/min) | | 0.0060 | |

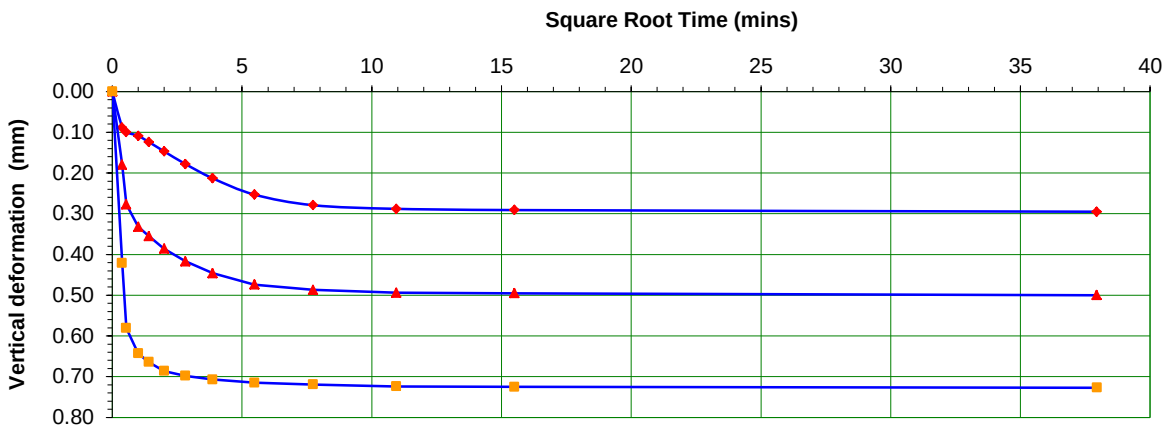
| | | | Peak |
|---|---|---|---|
| Date sampled | n/a | | |
| Date received | 02/04/2021 | Cohesion c' (kPa) | 3.1 |
| Date tested | 23/05/2021 | Friction angle phi' | 38.5° |

**Mohr Envelope**

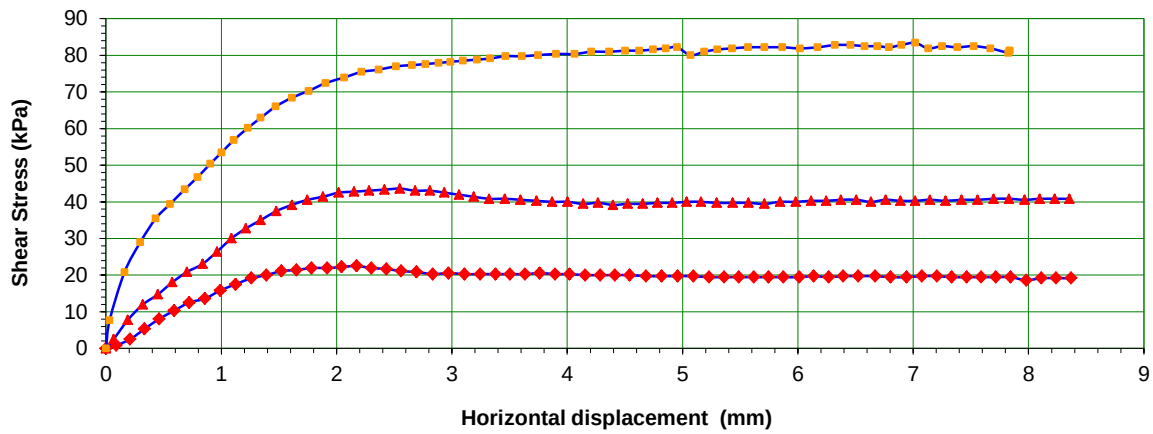


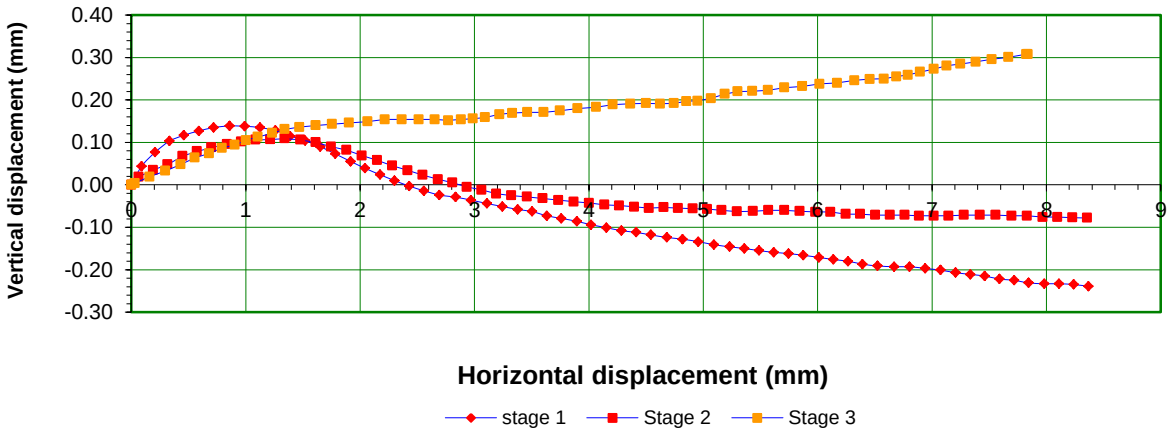

| | | | | |
|---|---|---|---|---|
| **NM T L Ltd** | Consolidated drained Shear Box Test in 60 mm square Box | | Job No. | NMTL_3360 |
| | | | Borehole No. | TPT18 |
| | Project | Derryadd Wind Farm: 2021LD101 | Sample No. | B5 |
| Operator Sb | Checked Nc | Approved Bc | Depth. | 2.0-2.30m |

## CONSOLIDATION STAGE




## SHEAR STAGE




| | | | | | |
|---|---|---|---|---|---|
| NM T L Ltd | Consolidated drained Shear Box Test in 60 mm square Box | | | Job No. | NMTL_3360 |
| | | | | Borehole No. | TPT18 |
| | Project | Derryadd Wind Farm: 2021LD101 | | Sample No. | B5 |
| Operator Sb | Checked | Nc | Approved Bc | Depth. | 2.0-2.30m |

IDL

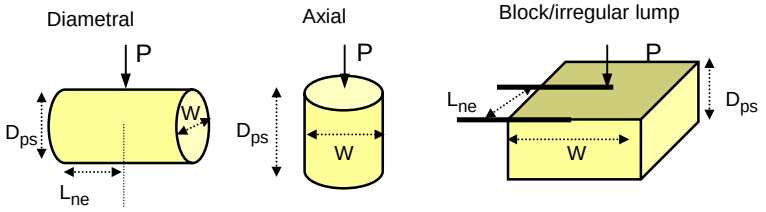
# Point Load Strength Index Tests
# Summary of Results

Project No.
2021LD101

Project Name
Derryadd Wind Farm

| Borehole No. | Sample | | | Specimen | | Rock Type and Test condition | Test Type see ISRM | | Failure Valid (Y/N) | Dimensions | | | | Force P | Equivalent diameter, De | Point Load Strength Index | | Remarks (including water content if measured) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Top Depth | Base Depth | Type | Top | Base | | Type (D, A, I, B) | Direction (L, P or U) | | Lne | W | Dps | Dps' | | | Is | Is(50) | |
| | m | m | | m | m | | | | | mm | mm | mm | mm | kN | mm | MPa | MPa | |
| BHRC01A | 8.80 | 10.4 | C | 9.24 | 9.50 | | D | U | YES | | 63.4 | | 63.4 | 19.6 | 63.4 | 4.9 | 5.4 | Very Strong |
| BHRC01B | 5.00 | 6 | C | 5 | 5.20 | | D | U | YES | | 63.4 | | 63.4 | 22.1 | 63.4 | 5.5 | 6.1 | Very Strong |
| BHRC02A | 4.60 | 6 | C | 4.9 | 5.13 | | D | U | YES | | 63.4 | | 63.4 | 19.9 | 63.4 | 4.9 | 5.5 | Very Strong |
| BHRC02B | 6.00 | 7.6 | C | 6.76 | 7.00 | | D | U | YES | | 63.4 | | 63.4 | 19.4 | 63.4 | 4.8 | 5.4 | Very Strong |
| BHRC03A | 8.90 | 10.5 | C | 9.9 | 10.10 | | D | U | YES | | 63.4 | | 63.4 | 20.1 | 63.4 | 5.0 | 5.6 | Very Strong |
| BHRC03B | 11.20 | 12.8 | C | 12.5 | 12.70 | | D | U | YES | | 63.4 | | 63.4 | 14.9 | 63.4 | 3.7 | 4.1 | Very Strong |
| BHRC04A | 6.90 | 8.5 | C | 7.6 | 7.80 | | D | U | YES | | 63.4 | | 63.4 | 12.7 | 63.4 | 3.2 | 3.5 | Strong |
| BHRC04B | 8.10 | 9 | C | 8.4 | 8.60 | | D | U | YES | | 63.4 | | 63.4 | 15.4 | 63.4 | 3.8 | 4.3 | Very Strong |
| BHRC04B | 12.00 | 13.6 | C | 12.73 | 13.00 | | D | U | YES | | 63.4 | | 63.4 | 18.3 | 63.4 | 4.5 | 5.1 | Very Strong |
| BHRC05A | 10.50 | 12 | C | 11.4 | 11.60 | | D | U | YES | | 63.4 | | 63.4 | 18.7 | 63.4 | 4.7 | 5.2 | Very Strong |
| BHRC05B | 15.00 | 16.5 | C | 15.9 | 16.05 | | D | U | YES | | 63.4 | | 63.4 | 15.6 | 63.4 | 3.9 | 4.3 | Very Strong |
| BHRC06A | 13.90 | 15.1 | C | 14.6 | 14.75 | | D | U | YES | | 63.4 | | 63.4 | 18.5 | 63.4 | 4.6 | 5.1 | Very Strong |
| BHRC06B | 19.60 | 20.8 | C | 20.17 | 20.46 | | D | U | YES | | 63.4 | | 63.4 | 6.9 | 63.4 | 1.7 | 1.9 | Medium Strong |
| BHRC07B | 7.50 | 9 | C | 8.3 | 8.55 | | D | U | YES | | 63.4 | | 63.4 | 22.5 | 63.4 | 5.6 | 6.2 | Very Strong |
| BHRC07B | 13.50 | 14.5 | C | 14.2 | 14.50 | | D | U | YES | | 63.4 | | 63.4 | 17.2 | 63.4 | 4.3 | 4.8 | Very Strong |
| BHRC08B | 9.00 | 10.6 | C | 9.8 | 10.00 | | D | U | YES | | 63.4 | | 63.4 | 34.7 | 63.4 | 8.6 | 9.6 | Very Strong |
| BHRC08B | 12.00 | 13.6 | C | 12.8 | 13.00 | | D | U | YES | | 63.4 | | 63.4 | 26.4 | 63.4 | 6.6 | 7.3 | Very Strong |
| BHRC09A | 8.80 | 10.4 | C | 9.15 | 9.40 | | D | U | YES | | 63.4 | | 63.4 | 21.5 | 63.4 | 5.3 | 5.9 | Very Strong |
| BHRC09B | 8.60 | 10.2 | C | 9.7 | 9.90 | | D | U | YES | | 63.4 | | 63.4 | 22.9 | 63.4 | 5.7 | 6.3 | Very Strong |
| BHRC10B | 5.70 | 7.3 | C | 6.1 | 6.30 | | D | U | YES | | 63.4 | | 63.4 | 15.9 | 63.4 | 4.0 | 4.4 | Very Strong |

Test Type
D - Diametral, A - Axial, I - Irregular Lump, B - Block
Direction
L - parallel to planes of weakness
P - perpendicular to planes of weakness
U - unknown or random
Dimensions
Dps - Distance between platens ( platen separation )
Dps' - at failure ( see ISRM note 6)
Lne - Length from platens to nearest free end
W - Width of shortest dimension perpendicular to load, P




Test performed in accordance with ISRM Suggested Methods : 2007, unless noted otherwise
Detailed legend for test and dimensions, based on ISRM, is shown above.
Size factor, F = (De/50)0.45 for all tests.

| Date Printed | Approved By | Table |
|---|---|---|
| 25/08/2021 | DCD | 1 |
| | | sheet 1 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

IDL

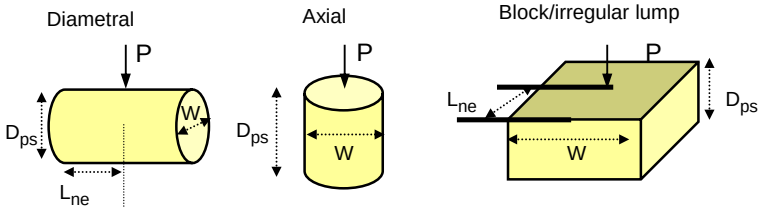
# Point Load Strength Index Tests
# Summary of Results

Project No.
2021LD101

Project Name
Derryadd Wind Farm

| Borehole No. | Sample | | | Specimen | | Rock Type and Test condition | Test Type see ISRM | | Failure Valid (Y/N) | Dimensions | | | | Force P | Equivalent diameter, De | Point Load Strength Index | | Remarks (including water content if measured) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Top Depth | Base Depth | Type | Top | Base | | Type (D, A, I, B) | Direction (L, P or U) | | Lne | W | Dps | Dps' | | | Is | Is(50) | |
| | m | m | | m | m | | | | | mm | mm | mm | mm | kN | mm | MPa | MPa | |
| BHRC11A | 2.40 | 3.5 | C | 2.93 | 3.10 | | D | U | YES | | 63.4 | | 63.4 | 17.7 | 63.4 | 4.4 | 4.9 | Very Strong |
| BHRC12A | 8.60 | 11.1 | C | 9.2 | 9.40 | | D | U | YES | | 63.4 | | 63.4 | 9.0 | 63.4 | 2.2 | 2.5 | Strong |
| BHRC12B | 3.80 | 5.3 | C | 4.5 | 4.65 | | D | U | YES | | 63.4 | | 63.4 | 16.9 | 63.4 | 4.2 | 4.7 | Very Strong |
| BHRC12C | 7.80 | 9.2 | C | 9.8 | 10.10 | | D | U | YES | | 63.4 | | 63.4 | 15.5 | 63.4 | 3.9 | 4.3 | Very Strong |
| BHRC13A | 6.00 | 8.1 | C | 7.4 | 7.60 | | D | U | YES | | 63.4 | | 63.4 | 19.5 | 63.4 | 4.9 | 5.4 | Very Strong |
| BHRC13A | 9.00 | 10.6 | C | 9 | 10.60 | | D | U | YES | | 63.4 | | 63.4 | 13.7 | 63.4 | 3.4 | 3.8 | Strong |
| BHRC14A | 5.20 | 6.7 | C | 6 | 6.20 | | D | U | YES | | 63.4 | | 63.4 | 14.9 | 63.4 | 3.7 | 4.1 | Very Strong |
| BHRC14B | 5.40 | 7 | C | 6 | 6.35 | | D | U | YES | | 63.4 | | 63.4 | 14.5 | 63.4 | 3.6 | 4.0 | Very Strong |
| BHRC15B | 18.00 | 19.5 | C | 19.2 | 19.40 | | D | U | YES | | 63.4 | | 63.4 | 17.2 | 63.4 | 4.3 | 4.8 | Very Strong |
| BHRC15C | 5.20 | 6 | C | 5.3 | 5.54 | | D | U | YES | | 63.4 | | 63.4 | 19.6 | 63.4 | 4.9 | 5.4 | Very Strong |
| BHRC15D | 5.10 | 6.7 | C | 5.9 | 6.10 | | D | U | YES | | 63.4 | | 63.4 | 13.5 | 63.4 | 3.4 | 3.7 | Strong |
| BHRC16A | 5.20 | 6.8 | C | 5.7 | 5.90 | | D | U | YES | | 63.4 | | 63.4 | 10.8 | 63.4 | 2.7 | 3.0 | Strong |
| BHRC16B | 7.60 | 9 | C | 8.2 | 8.40 | | D | U | YES | | 63.4 | | 63.4 | 12.8 | 63.4 | 3.2 | 3.5 | Strong |
| BHRC17A | 6.00 | 9 | C | 8 | 8.24 | | D | U | YES | | 63.4 | | 63.4 | 21.7 | 63.4 | 5.4 | 6.0 | Very Strong |
| BHRC17B | 9.00 | 12 | C | 10.7 | 10.90 | | D | U | YES | | 63.4 | | 63.4 | 11.4 | 63.4 | 2.8 | 3.2 | Strong |
| BHRC18A | 6.20 | 9.2 | C | 7.1 | 7.30 | | D | U | YES | | 63.4 | | 63.4 | 32.9 | 63.4 | 8.2 | 9.1 | Very Strong |
| BHRC18B | 3.00 | 6 | C | 5.4 | 5.70 | | D | U | YES | | 63.4 | | 63.4 | 35.4 | 63.4 | 8.8 | 9.8 | Extremely Strong |
| BHRC19A | 8.30 | 9.2 | C | 8.4 | 8.65 | | D | U | YES | | 63.4 | | 63.4 | 26.8 | 63.4 | 6.7 | 7.4 | Very Strong |
| BHRC19B | 4.50 | 6 | C | 5 | 5.16 | | D | U | YES | | 63.4 | | 63.4 | 32.7 | 63.4 | 8.1 | 9.1 | Very Strong |
| BHRC20A | 10.50 | 11.9 | C | 11 | 11.20 | | D | U | YES | | 63.4 | | 63.4 | 23.4 | 63.4 | 5.8 | 6.5 | Very Strong |

Test Type
D - Diametral, A - Axial, I - Irregular Lump, B - Block
Direction
L - parallel to planes of weakness
P - perpendicular to planes of weakness
U - unknown or random
Dimensions
Dps - Distance between platens ( platen separation )
Dps' - at failure ( see ISRM note 6)
Lne - Length from platens to nearest free end
W - Width of shortest dimension perpendicular to load, P




Test performed in accordance with ISRM Suggested Methods : 2007, unless noted otherwise
Detailed legend for test and dimensions, based on ISRM, is shown above.
Size factor, F = (De/50)0.45 for all tests.

| Date Printed | Approved By | Table |
|---|---|---|
| 25/08/2021 | DCD | 1 sheet 2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

IDL

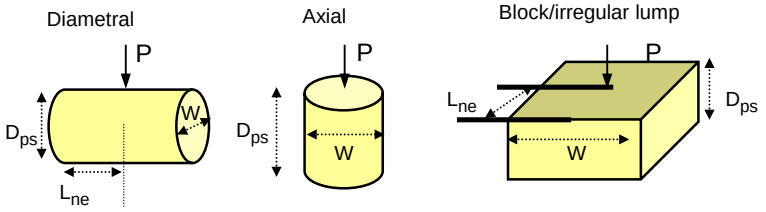
# Point Load Strength Index Tests
# Summary of Results

Project No.
2021LD101

Project Name
Derryadd Wind Farm

| Borehole No. | Sample | | | Specimen | | Rock Type and Test condition | Test Type see ISRM | | Failure Valid (Y/N) | Dimensions | | | | Force P | Equivalent diameter, De | Point Load Strength Index | | Remarks (including water content if measured) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Top Depth | Base Depth | Type | Top | Base | | Type (D, A, I, B) | Direction (L, P or U) | | Lne | W | Dps | Dps' | | | Is | Is(50) | |
| | m | m | | m | m | | | | | mm | mm | mm | mm | kN | mm | MPa | MPa | |
| BHRC20B | 13.30 | 14.8 | C | 14.05 | 14.30 | | D | U | YES | | 63.4 | | 63.4 | 14.6 | 63.4 | 3.6 | 4.0 | Very Strong |
| BHRC21A | 9.20 | 12.2 | C | 10.7 | 10.90 | | D | U | YES | | 63.4 | | 63.4 | 19.3 | 63.4 | 4.8 | 5.3 | Very Strong |
| BHRC21B | 6.30 | 9.4 | C | 7.9 | 10.15 | | D | U | YES | | 63.4 | | 63.4 | 37.1 | 63.4 | 9.2 | 10.3 | Extremely Strong |
| BHRC22B | 5.00 | 8.2 | C | 7.4 | 7.60 | | D | U | YES | | 63.4 | | 63.4 | 22.2 | 63.4 | 5.5 | 6.1 | Very Strong |
| BHRC23A | 18.00 | 19.6 | C | 18.4 | 18.70 | | D | U | YES | | 63.4 | | 63.4 | 26.3 | 63.4 | 6.6 | 7.3 | Very Strong |
| BHRC23B | 10.50 | 12 | C | 10.7 | 10.90 | | D | U | YES | | 63.4 | | 63.4 | 21.9 | 63.4 | 5.5 | 6.1 | Very Strong |
| BHRC24A | 4.50 | 6.2 | C | 5.66 | 5.82 | | D | U | YES | | 63.4 | | 63.4 | 11.9 | 63.4 | 3.0 | 3.3 | Strong |
| BHRC24B | 8.50 | 12.2 | C | 10.8 | 11.00 | | D | U | YES | | 63.4 | | 63.4 | 14.3 | 63.4 | 3.6 | 4.0 | Very Strong |
| BHRCBPA1 | 6.10 | 7.4 | C | 7.05 | 7.20 | | D | U | YES | | 63.4 | | 63.4 | 17.0 | 63.4 | 4.2 | 4.7 | Very Strong |
| BHRCBPA3 | 2.90 | 4.4 | C | 3.75 | 3.87 | | D | U | YES | | 63.4 | | 63.4 | 16.3 | 63.4 | 4.1 | 4.5 | Very Strong |
| BHRCBPB1 | 0.00 | 1.5 | C | 1.5 | 1.70 | | D | U | YES | | 63.4 | | 63.4 | 16.4 | 63.4 | 4.1 | 4.5 | Very Strong |
| BHRCBPC2 | 0.00 | 2.8 | C | 4.9 | 6.00 | | D | U | YES | | 63.4 | | 63.4 | 9.5 | 63.4 | 2.4 | 2.6 | Strong |
| BHRCMMA | 6.70 | 8.2 | C | 7.06 | 7.25 | | D | U | YES | | 63.4 | | 63.4 | 18.1 | 63.4 | 4.5 | 5.0 | Very Strong |
| BHRCSSA01 | 4.50 | 6 | C | 5.2 | 5.40 | | D | U | YES | | 63.4 | | 63.4 | 15.5 | 63.4 | 3.9 | 4.3 | Very Strong |
| BHRCSSA02 | 6.00 | 7.3 | C | 6.75 | 7.05 | | D | U | YES | | 63.4 | | 63.4 | 19.3 | 63.4 | 4.8 | 5.3 | Very Strong |
| BHRCSSA04 | 4.40 | 5.9 | C | 4.44 | 4.60 | | D | U | YES | | 63.4 | | 63.4 | 18.4 | 63.4 | 4.6 | 5.1 | Very Strong |
| BHRCSSA09 | 11.60 | 13.2 | C | 12.2 | 12.40 | | D | U | YES | | 63.4 | | 63.4 | 11.3 | 63.4 | 2.8 | 3.1 | Strong |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

Test Type
D - Diametral, A - Axial, I - Irregular Lump, B - Block
Direction
L - parallel to planes of weakness
P - perpendicular to planes of weakness
U - unknown or random
Dimensions
Dps - Distance between platens ( platen separation )
Dps' - at failure ( see ISRM note 6)
Lne - Length from platens to nearest free end
W - Width of shortest dimension perpendicular to load, P




Test performed in accordance with ISRM Suggested Methods : 2007, unless noted otherwise
Detailed legend for test and dimensions, based on ISRM, is shown above.
Size factor, F = (De/50)0.45 for all tests.

| Date Printed | Approved By | Table |
|---|---|---|
| 25/08/2021 | DCD | 1 |
| | | sheet 3 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

IDL

# UNIAXIAL COMPRESSION TEST ON ROCK - SUMMARY OF RESULTS

Project No. 2021LD101

Project Name: Derryadd Wind Farm

| Hole No. | Sample | | | | Specimen Depth (m) | Specimen Dimensions2 | | | Bulk Density2 | Water Content 1 | Uniaxial Compression3 | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ref | Top | Base | Type | | Dia. mm | Length mm | H/D | Mg/m3 | % | Condition | Stress Rate MPa/s | Mode of failure | UCS MPa | |
| BHRC01B | | 6.70 | 8.30 | C | 7.1-7.4 | 63.4 | 166.9 | 2.6 | 2.69 | | as received | 0.5843 | AC | 80.0 | Strong |
| BHRC02A | | 3.00 | 4.60 | C | 4.3-4.5 | 63.4 | 168.7 | 2.7 | 2.65 | | as received | 0.3995 | AC | 68.7 | Strong |
| BHRC03A | | 7.60 | 8.90 | C | 8.2-8.5 | 63.4 | 168.4 | 2.7 | 2.67 | | as received | 0.5147 | AC | 70.5 | Strong |
| BHRC04B | | 9.00 | 10.60 | C | 9.4-9.7 | 63.4 | 168.6 | 2.7 | 2.68 | | as received | 0.4455 | AC | 76.6 | Strong |
| BHRC05B | | 19.20 | 20.80 | C | 19.76-20.0 | 63.4 | 167.2 | 2.6 | 2.77 | | as received | 0.3132 | AC | 39.5 | Medium Strong |
| BHRC06A | | 12.00 | 13.00 | C | 12.7-13.0 | 63.4 | 167.6 | 2.6 | 2.67 | | as received | 0.3520 | AC | 59.1 | Strong |
| BHRC07A | | 13.60 | 15.20 | C | 14.0-14.25 | 63.4 | 164.3 | 2.6 | 2.61 | | as received | 0.3997 | F | 69.9 | Strong |
| BHRC08A | | 10.50 | 11.70 | C | 11.2-11.4 | 63.4 | 166.3 | 2.6 | 2.67 | | as received | 0.4693 | AC | 105.0 | Very Strong |
| BHRC09A | | 10.40 | 11.80 | C | 11.23-11.5 | 63.4 | 168.5 | 2.7 | 2.69 | | as received | 0.5006 | F | 110.0 | Very Strong |
| BHRC11A | | 3.50 | 5.00 | C | 3.95-4.17 | 63.4 | 165.4 | 2.6 | 2.68 | | as received | 0.4226 | AC | 77.8 | Strong |
| BHRC12C | | 9.20 | 10.80 | C | 9.9-10.18 | 63.4 | 166.6 | 2.6 | 2.73 | | as received | 0.3061 | AC | 48.1 | Medium Strong |
| BHRC13B | | 7.60 | 9.00 | C | 8.0-8.3 | 63.4 | 167.2 | 2.6 | 2.67 | | as received | 0.7001 | | 48.3 | Medium Strong |
| BHRC14A | | 6.70 | 8.30 | C | 6.8-7.13 | 63.4 | 167.2 | 2.6 | 2.69 | | as received | 0.3737 | F | 53.8 | Strong |
| BHRC15B | | 19.50 | 21.00 | C | 119.85-20.15 | 63.4 | 168.3 | 2.7 | 2.66 | | as received | 0.5250 | F | 98.7 | Strong |
| BHRC15C | | 6.00 | 7.60 | C | 6.66-7.0 | 63.4 | 165.9 | 2.6 | 2.68 | | as received | 0.0915 | AC | 68.0 | Strong |
| BHRC15D | | 8.30 | 9.40 | C | 8.6-8.9 | 63.4 | 166.1 | 2.6 | 2.68 | | as received | 0.5725 | AC | 99.1 | Strong |
| BHRC16A | | 6.80 | 8.40 | C | 7.7-7.9 | 63.4 | 169.6 | 2.7 | 2.67 | | as received | 0.5357 | F | 135.0 | Very Strong |
| BHRC17B | | 12.00 | 15.00 | C | 13.85-14.2 | 63.4 | 166.0 | 2.6 | 2.73 | | as received | 0.4770 | AC | 104.0 | Very Strong |
| BHRC18B | | 6.00 | 9.00 | C | 7.85-8.14 | 63.4 | 166.2 | 2.6 | 2.73 | | as received | 0.6969 | AC | 141.0 | Very Strong |
| BHRC19A | | 3.70 | 5.30 | C | 3.9-4.23 | 63.4 | 165.6 | 2.6 | 2.62 | | as received | 0.4839 | AC | 165.0 | Very Strong |
| BHRC20B | | 10.20 | 11.70 | C | 11.06-11.30 | 63.4 | 169.4 | 2.7 | 2.67 | | as received | 0.5085 | AC | 108.0 | Very Strong |
| BHRC21A | | 8.20 | 9.20 | C | 8.2-8.6 | 63.4 | 167.2 | 2.6 | 2.53 | | as received | 0.4359 | AC | 95.5 | Strong |
| BHRC22A | | 9.00 | 12.00 | C | 11.0-11.2 | 63.4 | 146.7 | 2.3 | 2.80 | | as received | 0.4791 | AC | 139.0 | Very Strong |

Notes

1 ISRM p87 test 1, water content at 105 ± 3 oC, specimen as tested for UCS

2 ISRM p86 clause (vii), Caliper method used for determination of bulk volume and derivation of bulk density

3 ISRM p153 part 1, determination of Uniaxial Compressive Strength ( UCS ) of Rock Materials

above notes apply unless annotated otherwise in the remarks

Mode of failure :

S - Single shear MS - multiple shear

AC - Axial cleavage F - Fragmented

| Test Specification | Date Printed | Approved By | Table |
|---|---|---|---|
| International Society for Rock Mechanics, The complete ISRM suggested methods for Rock Characterization Testing and Monitoring, 2007 | 25/08/2021 | DCD | 1 sheet 1 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39

Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

IDL

# UNIAXIAL COMPRESSION TEST ON ROCK - SUMMARY OF RESULTS

Project No.
2021LD101

Project Name
Derryadd Wind Farm

| Hole No. | Sample | | | | Specimen Depth (m) | Specimen Dimensions2 | | | Bulk Density2 | Water Content 1 | Uniaxial Compression3 | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ref | Top | Base | Type | | Dia. mm | Length mm | H/D | Mg/m3 | % | Condition | Stress Rate MPa/s | Mode of failure | UCS MPa | |
| BHRC23A | | 18.00 | 19.60 | C | 18.7-19.0 | 63.4 | 166.4 | 2.6 | 2.45 | | as received | 0.4441 | AC | 192.0 | Very Strong |
| BHRC24A | | 6.20 | 9.20 | C | 8.5-8.75 | 63.4 | 167.5 | 2.6 | 2.64 | | as received | 0.8422 | AC | 28.6 | Medium Strong |
| BHRCBPA1 | | 3.00 | 4.60 | C | 3.7-4.0 | 63.4 | 168.4 | 2.7 | 2.68 | | as received | 0.5257 | AC | 83.1 | Strong |
| BHRCBPA3 | | 4.40 | 5.90 | C | 5.0-5.25 | 63.4 | 167.3 | 2.6 | 2.72 | | as received | 0.5448 | F | 114.0 | Very Strong |
| BHRCBPB1 | | 0.00 | 1.50 | C | 8.0-8.24 | 63.4 | 164.5 | 2.6 | 2.67 | | as received | 0.2679 | F | 67.2 | Strong |
| BHRCBPC1 | | 0.00 | 1.50 | C | 5.8-6.14 | 63.4 | 167.5 | 2.6 | 2.69 | | as received | 0.5167 | F | 149.0 | Very Strong |
| BHRCSSA01 | | 6.00 | 7.50 | C | 6.25-6.50 | 63.4 | 166.5 | 2.6 | 2.66 | | as received | 0.3595 | AC | 42.1 | Medium Strong |
| BHRCSSA06 | | 5.90 | 7.20 | C | 6.5-6.7 | 63.4 | 140.3 | 2.2 | 2.68 | | as received | 0.4192 | AC | 72.1 | Strong |

Notes

1 ISRM p87 test 1, water content at 105 ± 3 oC, specimen as tested for UCS
2 ISRM p86 clause (vii), Caliper method used for determination of bulk volume and derivation of bulk density
3 ISRM p153 part 1, determination of Uniaxial Compressive Strength ( UCS ) of Rock Materials
above notes apply unless annotated otherwise in the remarks

Mode of failure :
S - Single shear MS - multiple shear
AC - Axial cleavage F - Fragmented

| Test Specification | Date Printed | Approved By | Table |
|---|---|---|---|
| International Society for Rock Mechanics, The complete ISRM suggested methods for Rock Characterization Testing and Monitoring, 2007 | 25/08/2021 | DCD | 1 sheet 2 |

Tested in: Irish Drilling Ltd.(IDL), Old Galway Road, Loughrea, Co. Galway, Ireland. H62VX39
Approved Signatures: Dympna Darcy (DCD) Lab Manager, Declan Joyce (DJ) Chartered Geotechnical Engineer, Ronan Killeen (RK) Quality Manager.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.:** 21/06/2937
**Order No.:** 9979
**Date Received:** 18/06/2021
**Date Tested:** 12/07/2021
**Test Spec.:** BS 1377
**Item:** Rock Cores

BHP Laboratories Ltd
New Road
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Tel +353 61 455399
Fax +353 61 455447
E Mail
seamusoconnell@bhp.ie

**Project:** Derryadd Wind Farm
**Client Ref:** 2021LD101
**Location Ref:** BHRCBPA1 - 4.6-6.1m

**Sampling Certificate Provided**: No

## DETERMINATION OF MAGNESIUM SULPHATE SOUNDNESS TO EN 1367-2 : 2009

| | | |
|---|---|---|
| Date Sampled | : | 07/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPA1 - 4.6-6.1m |
| Deviation from Test Method | : | None |
| Bulk Sample Material Size | : | Not Applied |

**Results:**

| | | | |
|---|---|---|---|
| Portion 1 (MS1) | : | 0.9 | % |
| Portion 2 (MS2) | : | 0.8 | % |
| Magnesium SulfateValue (MS) | : | 1 | % |

**Remarks:**
In accordance with the TII Specification for Roadworks (Series 800), the maximum Magnesium Sulphate Value is 25.

Seamus O'Connell
Laboratory Technical Manager
For and On Behalf of BHP Laboratories

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.:** 21/06/2937
**Order No.:** 9979
**Date Received:** 18/06/2021
**Date Tested:** 27/06/2021
**Test Spec.:** BS 1377
**Item:** Rock Cores

BHP Laboratories Ltd
New Road
Thomondgate
Limerick
Ireland
Tel +353 61 455399
Fax +353 61 455447
E Mail
seamusoconnell@bhp.ie

**Project:** Derryadd Wind Farm
**Client Ref:** 2021LD101
**Location Ref:** BHRCBPA1 - 4.6-6.1m

**Sampling Certificate Provided**: No

## DETERMINATION OF THE RESISTANCE TO FRAGMENTATION BY THE LOS ANGELES TEST METHOD TO EN 1097-2 : 2020

| | | |
|---|---|---|
| Date Sampled | : | 07/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPA1 - 4.6-6.1m |
| Source | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |
| Bulk Sample Nominal Material Size | : | Not Applied |
| Nominal Size of Test Aggregate | : | 14mm |

**Results:**

Los Angeles Coefficient (LA) = 22

**Remarks:**
The sample, as supplied, categorizes as an $LA_{25}$ aggregate.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.**: 21/06/2935
**Order No.:** 9979
**Date Received**: 18/06/2021
**Date Tested**: 28/06/2021
**Test Spec.**: BS 1377
**Item**: Rock Cores

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New Road
Thomondgate
Limerick
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Fax +353 61 455447
E Mail
seamusoconnell@bhp.ie

**Project:** Derryadd Wind Farm
**Client Ref**: 2021LD101
**Location Ref:** BHRCBPA3 - 5.9-7.4m

**Sampling Certificate Provided**: No

## DETERMINATION OF SLAKE DURABILITY TO ASTM D4644-16

| | | |
|---|---|---|
| Date Sampled | : | 08/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPA3 - 5.9-7.4m |
| Source of Material | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |

**Results:**

| | |
|---|---|
| Slake Durability 1st Cycle | 99.7 |
| Slake Durability 2nd Cycle | 99.5 |
| Slake Durability Index | 99.5 |

**Remarks:**
The test result found does meet the requirements of a 6F2 Fill Material, as detailed in the TII Specification for Road Works, Series 600 Table 6/1, namely the SD (2nd cycle) value shall be ≥ 95%.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

| | | | |
|---|---|---|---|
| **Client:** | Irish Drilling Ltd | **BHP Ref. No.**: | 21/06/2936 |
| | Loughrea | **Order No.:** | 9979 |
| | Loughrea | **Date Received**: | 18/06/2021 |
| | Galway | **Date Tested**: | 02/07/2021 |
| | Co. Galway | **Test Spec.**: | BS 1377 |
| **F.T.A.O.:** | Dympna Darcy | **Item**: | Rock Cores |
| **Project:** | Derryadd Wind Farm | | |
| **Client Ref**: | 2021LD101 | | |
| **Location Ref:** | BHRCBPA3 - 7.4-8.0m | | |

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seamusoconnell@bhp.ie

**Sampling Certificate Provided**: No

## DETERMINATION OF PARTICLE DENSITY AND WATER ABSORPTION TO EN 1097-6:2013

| | | |
|---|---|---|
| Date Sampled | : | 08/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPA3 - 7.4-8.0m |
| Deviation from Test Method | : | None |
| Artificially heated before test | : | No |

**Results:**

| | | |
|---|---|---|
| Apparent Particle Density | : | 2.73 $Mg/m^3$ |
| Particle Density on an oven-dried basis | : | 2.65 $Mg/m^3$ |
| Particle Density on a saturated and surface-dried basis | : | 2.68 $Mg/m^3$ |
| Water Absorption | : | 1.1 % |

**Remarks:**

Nil.

Seamus O'Connell
Laboratory Technical Manager
For and On Behalf of BHP Laboratories

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.

Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.:** 21/06/2936
**Order No.:** 9979
**Date Received:** 18/06/2021
**Date Tested:** 27/06/2021
**Test Spec.:** BS 1377
**Item:** Rock Cores

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Ireland
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Fax +353 61 455447
E Mail
seamusoconnell@bhp.ie

**Project:** Derryadd Wind Farm
**Client Ref:** 2021LD101
**Location Ref:** BHRCBPA3 - 7.4-8.0m

**Sampling Certificate Provided**: No

## DETERMINATION OF THE RESISTANCE TO FRAGMENTATION BY THE LOS ANGELES TEST METHOD TO EN 1097-2 : 2020

| | | |
|---|---|---|
| Date Sampled | : | 08/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPA3 - 7.4-8.0m |
| Source | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |
| Bulk Sample Nominal Material Size | : | 0/31.5mm |
| Nominal Size of Test Aggregate | : | 14mm |

**Results:**

Los Angeles Coefficient (LA) = 24

**Remarks:**
The sample, as supplied, categorizes as an $LA_{25}$ aggregate.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

BHP Laboratories Ltd
New Road
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Tel +353 61 455399
Fax +353 61 455447
E Mail
seamusoconnell@bhp.ie

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.:** 21/06/2936
**Order No.:** 9979
**Date Received:** 18/06/2021
**Date Tested:** 28/06/2021
**Test Spec.:** BS 1377
**Item:** Rock Cores

**Project:** Derryadd Wind Farm
**Client Ref:** 2021LD101
**Location Ref:** BHRCBPA3 - 7.4-8.0m

**Sampling Certificate Provided**: No

## DETERMINATION OF SLAKE DURABILITY TO ASTM D4644-16

| | | |
|---|---|---|
| Date Sampled | : | 08/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPA3 - 7.4-8.0m |
| Source of Material | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |

**Results:**

| | |
|---|---|
| Slake Durability 1st Cycle | 99.6 |
| Slake Durability 2nd Cycle | 99.5 |
| Slake Durability Index | 99.5 |

**Remarks:**
The test result found does meet the requirements of a 6F2 Fill Material, as detailed in the TII Specification for Road Works, Series 600 Table 6/1, namely the SD (2nd cycle) value shall be ≥ 95%.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.:** 21/06/4644
**Order No.:** 9979
**Date Received:** 30/06/2021
**Date Tested:** 07/07/2021
**Test Spec.:** BS 1377
**Item:** Rock Cores

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**Project:** Derryadd Wind Farm
**Client Ref:** 2021LD101
**Location Ref:** BHRCBPB1 - 2.6-8.3

**Sampling Certificate Provided**: No

## DETERMINATION OF THE RESISTANCE TO FRAGMENTATION BY THE LOS ANGELES TEST METHOD TO EN 1097-2 : 2020

| | | |
|---|---|---|
| Date Sampled | : | 22/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPB1 - 2.6-8.3 |
| Source | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |
| Bulk Sample Nominal Material Size | : | 0/31.5mm |
| Nominal Size of Test Aggregate | : | 14mm |

**Results:**

Los Angeles Coefficient (LA) = 23

**Remarks:**
The sample, as supplied, categorizes as an $LA_{25}$ aggregate.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 04/08/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.**: 21/06/4644
**Order No.:** 9979
**Date Received**: 30/06/2021
**Date Tested**: 07/07/2021
**Test Spec.**: BS 1377
**Item**: Rock Cores

BHP Laboratories Ltd
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Fax +353 61 455447
E Mail
seamusoconnell@bhp.ie

**Project:** Derryadd Wind Farm
**Client Ref**: 2021LD101
**Location Ref:** BHRCBPB1 - 2.6-8.3

**Sampling Certificate Provided**: No

## DETERMINATION OF SLAKE DURABILITY TO ASTM D4644-16

| | | |
|---|---|---|
| Date Sampled | : | 22/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPB1 - 2.6-8.3 |
| Source of Material | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |

**Results:**

| | |
|---|---|
| Slake Durability 1st Cycle | 99.6 |
| Slake Durability 2nd Cycle | 99.4 |
| Slake Durability Index | 99.4 |

**Remarks:**
Nil.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 04/08/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

| | | | |
|---|---|---|---|
| **Client:** | Irish Drilling Ltd<br>Loughrea<br>Loughrea<br>Galway<br>Co. Galway | **BHP Ref. No.**: | 21/06/2938 |
| | | **Order No.:** | 9979 |
| | | **Date Received**: | 18/06/2021 |
| | | **Date Tested**: | 12/07/2021 |
| | | **Test Spec.**: | BS 1377 |
| **F.T.A.O.:** | Dympna Darcy | **Item**: | Rock Cores |
| **Project:** | Derryadd Wind Farm | | |
| **Client Ref**: | 2021LD101 | | |
| **Location Ref:** | BHRCBPB2 - 3.0-3.6m | | |

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**Sampling Certificate Provided**: No

## DETERMINATION OF MAGNESIUM SULPHATE SOUNDNESS TO EN 1367-2 : 2009

| | | |
|---|---|---|
| Date Sampled | : | 26/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPB2 - 3.0-3.6m |
| Deviation from Test Method | : | None |
| Bulk Sample Material Size | : | Not Applied |

**Results:**

| | | | |
|---|---|---|---|
| Portion 1 (MS1) | : | 0.8 | % |
| Portion 2 (MS2) | : | 1.4 | % |
| Magnesium SulfateValue (MS) | : | 1 | % |

**Remarks:**
In accordance with the TII Specification for Roadworks (Series 800), the maximum Magnesium Sulphate Value is 25.

Seamus O'Connell
Laboratory Technical Manager
For and On Behalf of BHP Laboratories

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

| | | | |
|---|---|---|---|
| **Client:** | Irish Drilling Ltd | **BHP Ref. No.**: | 21/06/2938 |
| | Loughrea | **Order No.:** | 9979 |
| | Loughrea | **Date Received**: | 18/06/2021 |
| | Galway | **Date Tested**: | 02/07/2021 |
| | Co. Galway | **Test Spec.**: | BS 1377 |
| **F.T.A.O.:** | Dympna Darcy | **Item**: | Rock Cores |
| **Project:** | Derryadd Wind Farm | | |
| **Client Ref**: | 2021LD101 | | |
| **Location Ref:** | BHRCBPB2 - 3.0-3.6m | | |

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**Sampling Certificate Provided**: No

## DETERMINATION OF PARTICLE DENSITY AND WATER ABSORPTION TO EN 1097-6:2013

| | | |
|---|---|---|
| Date Sampled | : | 26/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPB2 - 3.0-3.6m |
| Deviation from Test Method | : | None |
| Artificially heated before test | : | No |

**Results:**

| | | |
|---|---|---|
| Apparent Particle Density | : | 2.75 $Mg/m^3$ |
| Particle Density on an oven-dried basis | : | 2.69 $Mg/m^3$ |
| Particle Density on a saturated and surface-dried basis | : | 2.71 $Mg/m^3$ |
| Water Absorption | : | 0.9 % |

**Remarks:**

Nil.

Seamus O'Connell
Laboratory Technical Manager
For and On Behalf of BHP Laboratories

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.

Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.:** 21/06/2938
**Order No.:** 9979
**Date Received:** 18/06/2021
**Date Tested:** 27/06/2021
**Test Spec.:** BS 1377
**Item:** Rock Cores

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E Mail
seamusoconnell@bhp.ie

**Project:** Derryadd Wind Farm
**Client Ref:** 2021LD101
**Location Ref:** BHRCBPB2 - 3.0-3.6m

**Sampling Certificate Provided**: No

## DETERMINATION OF THE RESISTANCE TO FRAGMENTATION BY THE LOS ANGELES TEST METHOD TO EN 1097-2 : 2020

| | | |
|---|---|---|
| Date Sampled | : | 26/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPB2 - 3.0-3.6m |
| Source | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |
| Bulk Sample Nominal Material Size | : | Not Applied |
| Nominal Size of Test Aggregate | : | 14mm |

**Results:**

Los Angeles Coefficient (LA) = 21

**Remarks:**
The sample, as supplied, categorizes as an $LA_{25}$ aggregate.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

| | | | |
|---|---|---|---|
| **Client:** | Irish Drilling Ltd<br>Loughrea<br>Loughrea<br>Galway<br>Co. Galway | **BHP Ref. No.**: | 21/06/2938 |
| | | **Order No.:** | 9979 |
| | | **Date Received**: | 18/06/2021 |
| | | **Date Tested**: | 28/06/2021 |
| | | **Test Spec.**: | BS 1377 |
| **F.T.A.O.:** | Dympna Darcy | **Item**: | Rock Cores |

**Project:** Derryadd Wind Farm
**Client Ref**: 2021LD101
**Location Ref:** BHRCBPB2 - 3.0-3.6m

**Sampling Certificate Provided**: No

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## DETERMINATION OF SLAKE DURABILITY TO ASTM D4644-16

| | | |
|---|---|---|
| Date Sampled | : | 26/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPB2 - 3.0-3.6m |
| Source of Material | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |

**Results:**

| | |
|---|---|
| Slake Durability 1st Cycle | 99.6 |
| Slake Durability 2nd Cycle | 99.4 |
| Slake Durability Index | 99.4 |

**Remarks:**
The test result found does meet the requirements of a 6F2 Fill Material, as detailed in the TII Specification for Road Works, Series 600 Table 6/1, namely the SD (2nd cycle) value shall be ≥ 95%.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.**: 21/06/4645
**Order No.:** 9979
**Date Received**: 30/06/2021
**Date Tested**: 28/07/2021
**Test Spec.**: BS 1377
**Item**: Rock Cores

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**Project:** Derryadd Wind Farm
**Client Ref**: 2021LD101
**Location Ref:** BHRCBPB3 - 2.4-8.4

**Sampling Certificate Provided**: No

## DETERMINATION OF MAGNESIUM SULPHATE SOUNDNESS TO EN 1367-2 : 2009

| | | |
|---|---|---|
| Date Sampled | : | 23/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPB3 - 2.4-8.4 |
| Deviation from Test Method | : | Derryadd Wind Farm |
| Bulk Sample Material Size | : | Not Applied |

**Results:**

| | | | |
|---|---|---|---|
| Portion 1 (MS1) | : | 3.4 | % |
| Portion 2 (MS2) | : | 4.4 | % |
| Magnesium SulfateValue (MS) | : | 4 | % |

**Remarks:**
Nil.

Seamus O'Connell
Laboratory Technical Manager
For and On Behalf of BHP Laboratories

Issue Date: 04/08/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.:** 21/06/4645
**Order No.:** 9979
**Date Received:** 30/06/2021
**Date Tested:** 05/07/2021
**Test Spec.:** BS 1377
**Item:** Rock Cores

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E Mail
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**Project:** Derryadd Wind Farm
**Client Ref:** 2021LD101
**Location Ref:** BHRCBPB3 - 2.4-8.4

**Sampling Certificate Provided**: No

## DETERMINATION OF THE RESISTANCE TO FRAGMENTATION BY THE LOS ANGELES TEST METHOD TO EN 1097-2 : 2020

| | | |
|---|---|---|
| Date Sampled | : | 23/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPB3 - 2.4-8.4 |
| Source | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |
| Bulk Sample Nominal Material Size | : | Not Stated |
| Nominal Size of Test Aggregate | : | 14mm |

**Results:**

Los Angeles Coefficient (LA) = 23

**Remarks:**
The sample, as supplied, categorizes as an $LA_{25}$ aggregate.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 04/08/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.**: 21/06/4645
**Order No.:** 9979
**Date Received**: 30/06/2021
**Date Tested**: 07/07/2021
**Test Spec.**: BS 1377
**Item**: Rock Cores

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E Mail
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**Project:** Derryadd Wind Farm
**Client Ref**: 2021LD101
**Location Ref:** BHRCBPB3 - 2.4-8.4

**Sampling Certificate Provided**: No

## DETERMINATION OF SLAKE DURABILITY TO ASTM D4644-16

| | | |
|---|---|---|
| Date Sampled | : | 23/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPB3 - 2.4-8.4 |
| Source of Material | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |

**Results:**

| | |
|---|---|
| Slake Durability 1st Cycle | 99.9 |
| Slake Durability 2nd Cycle | 99.6 |
| Slake Durability Index | 99.6 |

**Remarks:**
Nil.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 04/08/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.:** 21/06/4646
**Order No.:** 9979
**Date Received:** 30/06/2021
**Date Tested:** 28/07/2021
**Test Spec.:** BS 1377
**Item:** Rock Cores

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seamusoconnell@bhp.ie

**Project:** Derryadd Wind Farm
**Client Ref:** 2021LD101
**Location Ref:** BHRCBPC1 - 5.5-8.3

**Sampling Certificate Provided**: No

## DETERMINATION OF MAGNESIUM SULPHATE SOUNDNESS TO EN 1367-2 : 2009

| | | |
|---|---|---|
| Date Sampled | : | 21/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPC1 - 5.5-8.3 |
| Deviation from Test Method | : | Derryadd Wind Farm |
| Bulk Sample Material Size | : | Not Applied |

**Results:**

| | | | |
|---|---|---|---|
| Portion 1 (MS1) | : | 1.9 | % |
| Portion 2 (MS2) | : | 2.1 | % |
| Magnesium SulfateValue (MS) | : | 2 | % |

**Remarks:**
Nil.

Seamus O'Connell
Laboratory Technical Manager
For and On Behalf of BHP Laboratories

Issue Date: 04/08/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory. Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

| | | | |
|---|---|---|---|
| **Client:** | Irish Drilling Ltd | **BHP Ref. No.**: | 21/06/4646 |
| | Loughrea | **Order No.:** | 9979 |
| | Loughrea | **Date Received**: | 30/06/2021 |
| | Galway | **Date Tested**: | 07/07/2021 |
| | Co. Galway | **Test Spec.**: | BS 1377 |
| **F.T.A.O.:** | Dympna Darcy | **Item**: | Rock Cores |
| **Project:** | Derryadd Wind Farm | | |
| **Client Ref**: | 2021LD101 | | |
| **Location Ref:** | BHRCBPC1 - 5.5-8.3 | | |

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**Sampling Certificate Provided**: No

## DETERMINATION OF PARTICLE DENSITY AND WATER ABSORPTION TO EN 1097-6:2013

| | | |
|---|---|---|
| Date Sampled | : | 21/04/2021 |
| Client Reference | : | BHRCBPC1 - 5.5-8.3 |
| Location | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |
| Artificially heated before test | : | No |

**Results:**

| | | |
|---|---|---|
| Apparent Particle Density | : | 2.73 $Mg/m^3$ |
| Particle Density on an oven-dried basis | : | 2.70 $Mg/m^3$ |
| Particle Density on a saturated and surface-dried basis | : | 2.71 $Mg/m^3$ |
| Water Absorption | : | 0.4 % |

**Remarks:**

Nil.

Seamus O'Connell
Laboratory Technical Manager
For and On Behalf of BHP Laboratories

Issue Date: 04/08/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.

Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.:** 21/06/4646
**Order No.:** 9979
**Date Received:** 30/06/2021
**Date Tested:** 05/07/2021
**Test Spec.:** BS 1377
**Item:** Rock Cores

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**Project:** Derryadd Wind Farm
**Client Ref:** 2021LD101
**Location Ref:** BHRCBPC1 - 5.5-8.3

**Sampling Certificate Provided**: No

## DETERMINATION OF THE RESISTANCE TO FRAGMENTATION BY THE LOS ANGELES TEST METHOD TO EN 1097-2 : 2020

| | | |
|---|---|---|
| Date Sampled | : | 21/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPC1 - 5.5-8.3 |
| Source | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |
| Bulk Sample Nominal Material Size | : | Not Stated |
| Nominal Size of Test Aggregate | : | 14mm |

**Results:**

Los Angeles Coefficient (LA) = 23

**Remarks:**
The sample, as supplied, categorizes as an $LA_{25}$ aggregate.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 04/08/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.**: 21/06/4646
**Order No.:** 9979
**Date Received**: 30/06/2021
**Date Tested**: 07/07/2021
**Test Spec.**: BS 1377
**Item**: Rock Cores

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E Mail
seamusoconnell@bhp.ie

**Project:** Derryadd Wind Farm
**Client Ref**: 2021LD101
**Location Ref:** BHRCBPC1 - 5.5-8.3

**Sampling Certificate Provided**: No

## DETERMINATION OF SLAKE DURABILITY TO ASTM D4644-16

| | | |
|---|---|---|
| Date Sampled | : | 21/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPC1 - 5.5-8.3 |
| Source of Material | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |

**Results:**

| | |
|---|---|
| Slake Durability 1st Cycle | 99.7 |
| Slake Durability 2nd Cycle | 99.6 |
| Slake Durability Index | 99.6 |

**Remarks:**
Nil.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 04/08/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**Project:** Derryadd Wind Farm
**Client Ref**: 2021LD101
**Location Ref:** BHRCBPC2 - 0-8

**Sampling Certificate Provided**: No

**BHP Ref. No.**: 21/06/4647
**Order No.:** 9979
**Date Received**: 30/06/2021
**Date Tested**: 05/07/2021
**Test Spec.**: BS 1377
**Item**: Rock Cores

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## DETERMINATION OF THE RESISTANCE TO FRAGMENTATION BY THE LOS ANGELES TEST METHOD TO EN 1097-2 : 2020

| | | |
|---|---|---|
| Date Sampled | : | 21/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPC2 - 0-8 |
| Source | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |
| Bulk Sample Nominal Material Size | : | Not Stated |
| Nominal Size of Test Aggregate | : | 14mm |

**Results:**

Los Angeles Coefficient (LA) = 24

**Remarks:**
The sample, as supplied, categorizes as an $LA_{25}$ aggregate.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 04/08/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.**: 21/06/4647
**Order No.:** 9979
**Date Received**: 30/06/2021
**Date Tested**: 07/07/2021
**Test Spec.**: BS 1377
**Item**: Rock Cores

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**Project:** Derryadd Wind Farm
**Client Ref**: 2021LD101
**Location Ref:** BHRCBPC2 - 0-8

**Sampling Certificate Provided**: No

## DETERMINATION OF SLAKE DURABILITY TO ASTM D4644-16

| | | |
|---|---|---|
| Date Sampled | : | 21/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPC2 - 0-8 |
| Source of Material | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |

**Results:**

| | |
|---|---|
| Slake Durability 1st Cycle | 99.6 |
| Slake Durability 2nd Cycle | 99.4 |
| Slake Durability Index | 99.4 |

**Remarks:**
Nil.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 04/08/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.:** 21/06/2939
**Order No.:** 9979
**Date Received:** 18/06/2021
**Date Tested:** 27/06/2021
**Test Spec.:** BS 1377
**Item:** Rock Cores

BHP Laboratories Ltd
New Road
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Limerick
Ireland
Tel +353 61 455399
Fax +353 61 455447
E Mail
seamusoconnell@bhp.ie

**Project:** Derryadd Wind Farm
**Client Ref:** 2021LD101
**Location Ref:** BHRCBPD1 - 2.1-2.7m

**Sampling Certificate Provided**: No

## DETERMINATION OF THE RESISTANCE TO FRAGMENTATION BY THE LOS ANGELES TEST METHOD TO EN 1097-2 : 2020

| | | |
|---|---|---|
| Date Sampled | : | 29/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPD1 - 2.1-2.7m |
| Source | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |
| Bulk Sample Nominal Material Size | : | Not Applied |
| Nominal Size of Test Aggregate | : | 14mm |

**Results:**

Los Angeles Coefficient (LA) = 21

**Remarks:**
The sample, as supplied, categorizes as an $LA_{25}$ aggregate.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

| | | | |
|---|---|---|---|
| **Client:** | Irish Drilling Ltd<br>Loughrea<br>Loughrea<br>Galway<br>Co. Galway | **BHP Ref. No.**: | 21/06/2939 |
| | | **Order No.:** | 9979 |
| | | **Date Received**: | 18/06/2021 |
| | | **Date Tested**: | 28/06/2021 |
| | | **Test Spec.**: | BS 1377 |
| **F.T.A.O.:** | Dympna Darcy | **Item**: | Rock Cores |

**Project:** Derryadd Wind Farm
**Client Ref**: 2021LD101
**Location Ref:** BHRCBPD1 - 2.1-2.7m

**Sampling Certificate Provided**: No

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## DETERMINATION OF SLAKE DURABILITY TO ASTM D4644-16

| | | |
|---|---|---|
| Date Sampled | : | 29/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPD1 - 2.1-2.7m |
| Source of Material | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |

**Results:**

| | |
|---|---|
| Slake Durability 1st Cycle | 99.6 |
| Slake Durability 2nd Cycle | 99.5 |
| Slake Durability Index | 99.5 |

**Remarks:**
The test result found does meet the requirements of a 6F2 Fill Material, as detailed in the TII Specification for Road Works, Series 600 Table 6/1, namely the SD (2nd cycle) value shall be ≥ 95%.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.**: 21/06/2940
**Order No.:** 9979
**Date Received**: 18/06/2021
**Date Tested**: 15/07/2021
**Test Spec.**: BS 1377
**Item**: Rock Cores

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**Project:** Derryadd Wind Farm
**Client Ref**: 2021LD101
**Location Ref:** BHRCBPD2 - 0.0-1.7m

**Sampling Certificate Provided**: No

## DETERMINATION OF MAGNESIUM SULPHATE SOUNDNESS TO EN 1367-2 : 2009

| | | |
|---|---|---|
| Date Sampled | : | 29/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPD2 - 0.0-1.7m |
| Deviation from Test Method | : | None |
| Bulk Sample Material Size | : | Not Applied |

**Results:**

| | | | |
|---|---|---|---|
| Portion 1 (MS1) | : | 0.8 | % |
| Portion 2 (MS2) | : | 1.5 | % |
| Magnesium SulfateValue (MS) | : | 1 | % |

**Remarks:**
In accordance with the TII Specification for Roadworks (Series 800), the maximum Magnesium Sulphate Value is 25.

Seamus O'Connell
Laboratory Technical Manager
For and On Behalf of BHP Laboratories

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.:** 21/06/2940
**Order No.:** 9979
**Date Received:** 18/06/2021
**Date Tested:** 28/06/2021
**Test Spec.:** BS 1377
**Item:** Rock Cores

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seamusoconnell@bhp.ie

**Project:** Derryadd Wind Farm
**Client Ref:** 2021LD101
**Location Ref:** BHRCBPD2 - 0.0-1.7m

**Sampling Certificate Provided**: No

## DETERMINATION OF THE RESISTANCE TO FRAGMENTATION BY THE LOS ANGELES TEST METHOD TO EN 1097-2 : 2020

| | | |
|---|---|---|
| Date Sampled | : | 29/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPD2 - 0.0-1.7m |
| Source | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |
| Bulk Sample Nominal Material Size | : | Not Applied |
| Nominal Size of Test Aggregate | : | 14mm |

**Results:**

Los Angeles Coefficient (LA) = 25

**Remarks:**
The sample, as supplied, categorizes as an $LA_{25}$ aggregate.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

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seamusoconnell@bhp.ie

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.**: 21/06/2940
**Order No.:** 9979
**Date Received**: 18/06/2021
**Date Tested**: 28/06/2021
**Test Spec.**: BS 1377
**Item**: Rock Cores

**Project:** Derryadd Wind Farm
**Client Ref**: 2021LD101
**Location Ref:** BHRCBPD2 - 0.0-1.7m

**Sampling Certificate Provided**: No

## DETERMINATION OF SLAKE DURABILITY TO ASTM D4644-16

| | | |
|---|---|---|
| Date Sampled | : | 29/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPD2 - 0.0-1.7m |
| Source of Material | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |

**Results:**

| | |
|---|---|
| Slake Durability 1st Cycle | 99.6 |
| Slake Durability 2nd Cycle | 99.4 |
| Slake Durability Index | 99.4 |

**Remarks:**
The test result found does meet the requirements of a 6F2 Fill Material, as detailed in the TII Specification for Road Works, Series 600 Table 6/1, namely the SD (2nd cycle) value shall be ≥ 95%.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

| | | | |
|---|---|---|---|
| **Client:** | Irish Drilling Ltd<br>Loughrea<br>Loughrea<br>Galway<br>Co. Galway | **BHP Ref. No.**: | 21/06/2941 |
| | | **Order No.:** | 9979 |
| | | **Date Received**: | 18/06/2021 |
| | | **Date Tested**: | 15/07/2021 |
| | | **Test Spec.**: | BS 1377 |
| **F.T.A.O.:** | Dympna Darcy | **Item**: | Rock Cores |
| **Project:** | Derryadd Wind Farm | | |
| **Client Ref**: | 2021LD101 | | |
| **Location Ref:** | BHRCBPE1 - 0.0-2.6m | | |

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**Sampling Certificate Provided**: No

## DETERMINATION OF MAGNESIUM SULPHATE SOUNDNESS TO EN 1367-2 : 2009

| | | |
|---|---|---|
| Date Sampled | : | 30/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPE1 - 0.0-2.6m |
| Deviation from Test Method | : | None |
| Bulk Sample Material Size | : | Not Applied |

**Results:**

| | | | |
|---|---|---|---|
| Portion 1 (MS1) | : | 2.1 | % |
| Portion 2 (MS2) | : | 2.0 | % |
| Magnesium SulfateValue (MS) | : | 2 | % |

**Remarks:**
In accordance with the TII Specification for Roadworks (Series 800), the maximum Magnesium Sulphate Value is 25.

Seamus O'Connell
Laboratory Technical Manager
For and On Behalf of BHP Laboratories

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

| | | | |
|---|---|---|---|
| **Client:** | Irish Drilling Ltd | **BHP Ref. No.**: | 21/06/2941 |
| | Loughrea | **Order No.:** | 9979 |
| | Loughrea | **Date Received**: | 18/06/2021 |
| | Galway | **Date Tested**: | 02/07/2021 |
| | Co. Galway | **Test Spec.**: | BS 1377 |
| **F.T.A.O.:** | Dympna Darcy | **Item**: | Rock Cores |
| **Project:** | Derryadd Wind Farm | | |
| **Client Ref**: | 2021LD101 | | |
| **Location Ref:** | BHRCBPE1 - 0.0-2.6m | | |

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**Sampling Certificate Provided**: No

## DETERMINATION OF PARTICLE DENSITY AND WATER ABSORPTION TO EN 1097-6:2013

| | | |
|---|---|---|
| Date Sampled | : | 30/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPE1 - 0.0-2.6m |
| Deviation from Test Method | : | None |
| Artificially heated before test | : | No |

**Results:**

| | | |
|---|---|---|
| Apparent Particle Density | : | 2.78 $Mg/m^3$ |
| Particle Density on an oven-dried basis | : | 2.70 $Mg/m^3$ |
| Particle Density on a saturated and surface-dried basis | : | 2.73 $Mg/m^3$ |
| Water Absorption | : | 1.0 % |

**Remarks:**

Nil.

Seamus O'Connell
Laboratory Technical Manager
For and On Behalf of BHP Laboratories

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.

Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

**Client:** Irish Drilling Ltd
Loughrea
Loughrea
Galway
Co. Galway
**F.T.A.O.:** Dympna Darcy

**BHP Ref. No.:** 21/06/2941
**Order No.:** 9979
**Date Received:** 18/06/2021
**Date Tested:** 28/06/2021
**Test Spec.:** BS 1377
**Item:** Rock Cores

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E Mail
seamusoconnell@bhp.ie

**Project:** Derryadd Wind Farm
**Client Ref:** 2021LD101
**Location Ref:** BHRCBPE1 - 0.0-2.6m

**Sampling Certificate Provided**: No

## DETERMINATION OF THE RESISTANCE TO FRAGMENTATION BY THE LOS ANGELES TEST METHOD TO EN 1097-2 : 2020

| | | |
|---|---|---|
| Date Sampled | : | 30/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPE1 - 0.0-2.6m |
| Source | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |
| Bulk Sample Nominal Material Size | : | Not Applied |
| Nominal Size of Test Aggregate | : | 14mm |

**Results:**

Los Angeles Coefficient (LA) = 23

**Remarks:**
The sample, as supplied, categorizes as an $LA_{25}$ aggregate.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

# TEST REPORT

Analysing
Testing
Consulting
Calibration

| | | | |
|---|---|---|---|
| **Client:** | Irish Drilling Ltd<br>Loughrea<br>Loughrea<br>Galway<br>Co. Galway | **BHP Ref. No.**: | 21/06/2941 |
| | | **Order No.:** | 9979 |
| | | **Date Received**: | 18/06/2021 |
| | | **Date Tested**: | 28/06/2021 |
| | | **Test Spec.**: | BS 1377 |
| **F.T.A.O.:** | Dympna Darcy | **Item**: | Rock Cores |

**Project:** Derryadd Wind Farm
**Client Ref**: 2021LD101
**Location Ref:** BHRCBPE1 - 0.0-2.6m

**Sampling Certificate Provided**: No

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## DETERMINATION OF SLAKE DURABILITY TO ASTM D4644-16

| | | |
|---|---|---|
| Date Sampled | : | 30/04/2021 |
| Client Reference | : | 2021LD101 |
| Location | : | BHRCBPE1 - 0.0-2.6m |
| Source of Material | : | Derryadd Wind Farm |
| Deviation from Test Method | : | None |

**Results:**

| | |
|---|---|
| Slake Durability 1st Cycle | 99.6 |
| Slake Durability 2nd Cycle | 99.4 |
| Slake Durability Index | 99.4 |

**Remarks:**
The test result found does meet the requirements of a 6F2 Fill Material, as detailed in the TII Specification for Road Works, Series 600 Table 6/1, namely the SD (2nd cycle) value shall be ≥ 95%.

Seamus O' Connell
Laboratory Technical Manager
BHP Laboratories Ltd.

Issue Date: 26/07/2021

Test results relate to the samples, as supplied . This test report shall not be duplicated in full without the permission of the test laboratory.
Information identifying the 'Client', 'FTAO', 'Project', 'Client Ref.', 'Order No.' & information regarding the supply of a 'Sampling Certificate', has been supplied by the customer.

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INDEPENDENT MATERIALS TESTING | DIAMOND DRILLING & SAWING

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway
Ireland
IE6399801R

Date: 13 September 2021
Test Report Ref: TR 825168

Order No: 10120



Contract: 2021LD101 - Derryadd Windfarm

## LABORATORY TEST REPORT

**TEST REQUIREMENTS:** To determine the Water Soluble Sulfate of Natural and Manufactured Aggregate in accordance with **BS EN 1744-1 : 2009 + A1 : 2012 : Clause 10.1**

**SAMPLE DETAILS:**

| | |
|---|---|
| Certificate of sampling received: | **No** |
| Laboratory Ref. No: | **S96969** |
| Client Ref. No: | **BHRCSSA11** |
| Date and Time of Sampling: | **Unknown** |
| Date of Receipt at Lab: | **10/08/2021** |
| Date of Start of Test: | **09/09/2021** |
| Sampling Location: | **BHRCSSA11 - 0.5m** |
| Name of Source: | **Derryadd Windfarm** |
| Method of Sampling: | **Unknown** |
| Sampled By: | **Client (Test results apply to sample as received)** |
| Tested By: | **DW** |
| Material Description: | **Stoney/ Soily Clay** |
| Target Specification: | **N/A** |

**RESULTS:**

| | **Result** | 95% Confidence limit* |
|---|---|---|
| **Water Soluble Sulfate Content (SO3) (%) =** | **0.08** | *0.056% - 0.104%* |
| **Water Soluble Sulfate Content (SO4) (%) =** | **0.10** | *0.069% - 0.131%* |
| **Water Soluble Sulfate Content (SO4) (mg/l) =** | **500** | *347mg/l - 653mg/l* |

This test report shall not be reproduced, except in full, without the written approval of Celtest Company Limited.

These results relate only to the items tested.

**Comments:**
*95% Confidence limit is the expanded uncertainty which is the combined uncertainty standard multiplied by a factor (k) of 2
Departure from Specified Procedure - Additional reporting of of mg/l included.

Report checked and approved by:

Chantelle Kopec-Williams
Job Coordinator

celtest
INDEPENDENT MATERIALS TESTING | DIAMOND DRILLING & SAWING

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway
Ireland
IE6399801R

Date: 14 September 2021
Test Report Ref: TR 825169

Order No: 10120



Contract: 2021LD101 - Derryadd Windfarm

# LABORATORY TEST REPORT

**TEST REQUIREMENTS:** To determine the Oxidisable sulfides (OS) content of an Sample by calculation from **BS EN 1744-1:2009 + A1 2012 Cl 11 & Cl12**

**SAMPLE DETAILS:**

| | |
|---|---|
| Certificate of sampling received: | **No** |
| Laboratory Ref. No: | **S96969** |
| Client Ref. : | **BHRCSSA11** |
| Date and Time of Sampling: | **Unknown** |
| Date of Receipt at Lab: | **10/08/2021** |
| Date of Start of Test: | **10/09/2021** |
| Sampling Location: | **BHRCSSA11 - 0.5m** |
| Name of Source: | **Derryadd Windfarm** |
| Method of Sampling: | **Unknown** |
| Sampled By: | **Client (Test results apply to sample as received)** |
| Tested By: | **DW** |
| Material Description: | **Stoney/ Soily Clay** |
| Target Specification: | **N/A** |

**RESULTS**:

**Oxidisable Sulfides (OS) (%) = 0.16 $SO_4$**

This test report shall not be reproduced, except in full, without the written approval of Celtest Company Limited.

These results relate only to the items tested.

| **Comments:** | Report checked and approved by:<br>Chantelle Kopec-Williams<br>Job Coordinator |
|---|---|

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Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway
Ireland
IE6399801R

Date: 14 September 2021
Test Report Ref: TR 825170

Order No: 10120



Contract: 2021LD101 - Derryadd Windfarm

## LABORATORY TEST REPORT

**TEST REQUIREMENTS:** To determination of Total Potential Sulfate by Calculation using data obtained from Total Sulfur test carried out in accordance with **BS EN 1744-1: 2009 + A1: 2012 Clause 11**

**SAMPLE DETAILS:**

| | |
|---|---|
| Certificate of sampling received: | **No** |
| Laboratory Ref. No: | **S96969** |
| Client Ref. No: | **BHRCSSA11** |
| Date and Time of Sampling: | **Unknown** |
| Date of Receipt at Lab: | **10/08/2021** |
| Date of Start of Test: | **10/09/2021** |
| Sampling Location: | **BHRCSSA11 - 0.5m** |
| Name of Source: | **Derryadd Windfarm** |
| Method of Sampling: | **Unknown** |
| Sampled By: | **Client (Test results apply to sample as received)** |
| Tested By: | **DW** |
| Material Description: | **Stoney/ Soily Clay** |
| Target Specification: | **N/A** |

**RESULTS**:

| | | |
|---|---|---|
| **Total Sulfur Content as S (%) =** | | **0.1194** |
| *95% Confidence limit** | = | *0.08% - 0.16%* |
| **Total Potential Sulfate Content (%) =** | | **0.36** |
| *95% Confidence limit** | = | *0% - 0.74%* |

This test report shall not be reproduced, except in full, without the written approval of Celtest Company Limited.

These results relate only to the items tested.

| **Comments / Departure from specified Procedure** | Report checked and approved by: |
|---|---|
| *95% Confidence limit is the expanded uncertainty which is the combined uncertainty standard multiplied by a factor (k) of 2<br>#TPS calculaton is outside our scope of accreditation | Chantelle Kopec-Williams<br>Job Coordinator |

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INDEPENDENT MATERIALS TESTING | DIAMOND DRILLING & SAWING

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway
Ireland
IE6399801R

Date: 19 August 2021
Test Report Ref: TR 825172

Order No: 10120



Contract: 2021LD101 - Derryadd Windfarm

# LABORATORY TEST REPORT

**TEST REQUIREMENTS:** To determine the pH Value of Soils in accordance with **BS 1377:Part 3:2018 - Clause 12, Electrometric Method.**

**SAMPLE DETAILS:**

| | |
|---|---|
| Certificate of sampling received: | **No** |
| Laboratory Ref. No: | **S96969** |
| Client Ref. No: | **BHRCSSA11** |
| Date and Time of Sampling: | **Unknown** |
| Date of Receipt at Lab: | **10/08/2021** |
| Date of Start of Test: | **18/08/2021** |
| Sampling Location: | **BHRCSSA11 - 0.5m** |
| Name of Source: | **Derryadd Windfarm** |
| Method of Sampling: | **Unknown** |
| Sampled By: | **Client (Test results apply to sample as received)** |
| Tested By: | **CH** |
| Material Description: | **Stoney/ Soily Clay** |
| Target Specification: | **N/A** |

**RESULTS**:

**pH Value =** **8.0**

*95% Confidence limit** = *7.79% - 8.21%*

This test report shall not be reproduced, except in full, without the written approval of Celtest Company Limited.

These results relate only to the items tested.

| **Comments** | Report checked and approved by: |
|---|---|
| 95% confidence limit calculation:- Test Result ± expanded uncertainty. *Expanded uncertainty = combined uncertainty multiplied by a factor (k) of 2.* | Chantelle Kopec-Williams<br>Job Coordinator |

celtest
INDEPENDENT MATERIALS TESTING | DIAMOND DRILLING & SAWING

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway
Ireland
IE6399801R

Date: 27 August 2021
Test Report Ref: TR 825173

Order No: 10120



Contract: 2021LD101 - Derryadd Windfarm

# LABORATORY TEST REPORT

**TEST REQUIREMENTS:** To determine the Organic Content of Soil in accordance with **BS 1377: Part 3: 2018 clause 4.**

**SAMPLE DETAILS:**

| | |
|---|---|
| Certificate of sampling received: | **No** |
| Laboratory Ref. No: | **S96969** |
| Client Ref. No: | **BHRCSSA11** |
| Date and Time of Sampling: | **Unknown** |
| Date of Receipt at Lab: | **10/08/2021** |
| Date of Start of Test: | **27/08/2021** |
| Sampling Location: | **BHRCSSA11 - 0.5m** |
| Name of Source: | **Derryadd Windfarm** |
| Method of Sampling: | **Unknown** |
| Sampled By: | **Client (Test results apply to sample as received)** |
| Tested By: | **GR** |
| Material Description: | **Stoney/ Soily Clay** |
| Target Specification: | **N/A** |

**RESULTS**:

**Percentage of soil passing 2mm sieve (%) =** **6**

**Mean Organic Content (%) =** **2.3**

*95% Confidence limit** *2.07% - 2.53%*

This test report shall not be reproduced, except in full, without the written approval of Celtest Company Limited.

These results relate only to the items tested.

| **Comments** | Report checked and approved by: |
|---|---|
| 95% confidence limit calculation:- Test Result ± expanded uncertainty. *Expanded uncertainty = combined uncertainty multiplied by a factor (k) of 2.* | Chantelle Kopec-Williams<br>Job Coordinator |

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INDEPENDENT MATERIALS TESTING | DIAMOND DRILLING & SAWING

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway
Ireland
IE6399801R

Date: 13 September 2021
Test Report Ref: TR 825174

Order No: 10120



Contract: 2021LD101 - Derryadd Windfarm

## LABORATORY TEST REPORT

**TEST REQUIREMENTS:** To determine the Water Soluble Sulfate of Natural and Manufactured Aggregate in accordance with **BS EN 1744-1 : 2009 + A1 : 2012 : Clause 10.1**

**SAMPLE DETAILS:**

| | |
|---|---|
| Certificate of sampling received: | **No** |
| Laboratory Ref. No: | **S96969** |
| Client Ref. No: | **BHRCSSA14** |
| Date and Time of Sampling: | **Unknown** |
| Date of Receipt at Lab: | **10/08/2021** |
| Date of Start of Test: | **09/09/2021** |
| Sampling Location: | **BHRCSSA14 - 2.5m** |
| Name of Source: | **Derryadd Windfarm** |
| Method of Sampling: | **Unknown** |
| Sampled By: | **Client (Test results apply to sample as received)** |
| Tested By: | **DW** |
| Material Description: | **Stoney/ Soily Clay** |
| Target Specification: | **N/A** |

**RESULTS:**

| | **Result** | 95% Confidence limit* |
|---|---|---|
| **Water Soluble Sulfate Content (SO3) (%) =** | **<0.01** | *<0.007% - <0.013%* |
| **Water Soluble Sulfate Content (SO4) (%) =** | **<0.01** | *<0.007% - <0.013%* |
| **Water Soluble Sulfate Content (SO4) (mg/l) =** | **<50** | *<34.7mg/l - <65.3mg/l* |

This test report shall not be reproduced, except in full, without the written approval of Celtest Company Limited.

These results relate only to the items tested.

**Comments:**
*95% Confidence limit is the expanded uncertainty which is the combined uncertainty standard multiplied by a factor (k) of 2
Departure from Specified Procedure - Additional reporting of of mg/l included.

Report checked and approved by:

Chantelle Kopec-Williams
Job Coordinator

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INDEPENDENT MATERIALS TESTING | DIAMOND DRILLING & SAWING

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway
Ireland
IE6399801R

Date: 14 September 2021
Test Report Ref: TR 825175

Order No: 10120



Contract: 2021LD101 - Derryadd Windfarm

# LABORATORY TEST REPORT

**TEST REQUIREMENTS:** To determine the Oxidisable sulfides (OS) content of an Sample by calculation from **BS EN 1744-1:2009 + A1 2012 Cl 11 & Cl12**

**SAMPLE DETAILS:**

| | |
|---|---|
| Certificate of sampling received: | **No** |
| Laboratory Ref. No: | **S96969** |
| Client Ref. : | **BHRCSSA14** |
| Date and Time of Sampling: | **Unknown** |
| Date of Receipt at Lab: | **10/08/2021** |
| Date of Start of Test: | **10/09/2021** |
| Sampling Location: | **BHRCSSA14 - 2.5m** |
| Name of Source: | **Derryadd Windfarm** |
| Method of Sampling: | **Unknown** |
| Sampled By: | **Client (Test results apply to sample as received)** |
| Tested By: | **DW** |
| Material Description: | **Stoney/ Soily Clay** |
| Target Specification: | **N/A** |

**RESULTS**:

**Oxidisable Sulfides (OS) (%) = 0.08 $SO_4$**

This test report shall not be reproduced, except in full, without the written approval of Celtest Company Limited.

These results relate only to the items tested.

| **Comments:** | Report checked and approved by:<br>Chantelle Kopec-Williams<br>Job Coordinator |
|---|---|

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INDEPENDENT MATERIALS TESTING | DIAMOND DRILLING & SAWING

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway
Ireland
IE6399801R

Date: 14 September 2021
Test Report Ref: TR 825176

Order No: 10120



Contract: 2021LD101 - Derryadd Windfarm

# LABORATORY TEST REPORT

**TEST REQUIREMENTS:** To determination of Total Potential Sulfate by Calculation using data obtained from Total Sulfur test carried out in accordance with **BS EN 1744-1: 2009 + A1: 2012 Clause 11**

**SAMPLE DETAILS:**

| | |
|---|---|
| Certificate of sampling received: | **No** |
| Laboratory Ref. No: | **S96969** |
| Client Ref. No: | **BHRCSSA14** |
| Date and Time of Sampling: | **Unknown** |
| Date of Receipt at Lab: | **10/08/2021** |
| Date of Start of Test: | **10/09/2021** |
| Sampling Location: | **BHRCSSA14 - 2.5m** |
| Name of Source: | **Derryadd Windfarm** |
| Method of Sampling: | **Unknown** |
| Sampled By: | **Client (Test results apply to sample as received)** |
| Tested By: | **DW** |
| Material Description: | **Stoney/ Soily Clay** |
| Target Specification: | **N/A** |

**RESULTS**:

| | | |
|---|---|---|
| **Total Sulfur Content as S (%) =** | | **0.0343** |
| *95% Confidence limit** | = | *0.02% - 0.04%* |
| **Total Potential Sulfate Content (%) =** | | **0.10** |
| *95% Confidence limit** | = | *0% - 0.21%* |

This test report shall not be reproduced, except in full, without the written approval of Celtest Company Limited.

These results relate only to the items tested.

| **Comments / Departure from specified Procedure** | Report checked and approved by: |
|---|---|
| *95% Confidence limit is the expanded uncertainty which is the combined uncertainty standard multiplied by a factor (k) of 2<br>#TPS calculaton is outside our scope of accreditation | Chantelle Kopec-Williams<br>Job Coordinator |

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INDEPENDENT MATERIALS TESTING | DIAMOND DRILLING & SAWING

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway
Ireland
IE6399801R

Date: 19 August 2021
Test Report Ref: TR 825178

Order No: 10120



Contract: 2021LD101 - Derryadd Windfarm

# LABORATORY TEST REPORT

**TEST REQUIREMENTS:** To determine the pH Value of Soils in accordance with **BS 1377:Part 3:2018 - Clause 12, Electrometric Method.**

**SAMPLE DETAILS:**

| | |
|---|---|
| Certificate of sampling received: | **No** |
| Laboratory Ref. No: | **S96969** |
| Client Ref. No: | **BHRCSSA14** |
| Date and Time of Sampling: | **Unknown** |
| Date of Receipt at Lab: | **10/08/2021** |
| Date of Start of Test: | **18/08/2021** |
| Sampling Location: | **BHRCSSA14 - 2.5m** |
| Name of Source: | **Derryadd Windfarm** |
| Method of Sampling: | **Unknown** |
| Sampled By: | **Client (Test results apply to sample as received)** |
| Tested By: | **CH** |
| Material Description: | **Stoney/ Soily Clay** |
| Target Specification: | **N/A** |

**RESULTS**:

| | | |
|---|---|---|
| **pH Value =** | | **8.6** |
| *95% Confidence limit** | = | *8.38% - 8.82%* |

This test report shall not be reproduced, except in full, without the written approval of Celtest Company Limited.

These results relate only to the items tested.

| **Comments** | Report checked and approved by: |
|---|---|
| 95% confidence limit calculation:- Test Result ± expanded uncertainty.<br>*Expanded uncertainty = combined uncertainty multiplied by a factor (k) of 2.* | Chantelle Kopec-Williams<br>Job Coordinator |

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INDEPENDENT MATERIALS TESTING | DIAMOND DRILLING & SAWING

Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway
Ireland
IE6399801R

Date: 27 August 2021
Test Report Ref: TR 825179

Order No: 10120



Contract: 2021LD101 - Derryadd Windfarm

# LABORATORY TEST REPORT

**TEST REQUIREMENTS:** To determine the Organic Content of Soil in accordance with **BS 1377: Part 3: 2018 clause 4.**

**SAMPLE DETAILS:**

| | |
|---|---|
| Certificate of sampling received: | **No** |
| Laboratory Ref. No: | **S96969** |
| Client Ref. No: | **BHRCSSA14** |
| Date and Time of Sampling: | **Unknown** |
| Date of Receipt at Lab: | **10/08/2021** |
| Date of Start of Test: | **27/08/2021** |
| Sampling Location: | **BHRCSSA14 - 2.5m** |
| Name of Source: | **Derryadd Windfarm** |
| Method of Sampling: | **Unknown** |
| Sampled By: | **Client (Test results apply to sample as received)** |
| Tested By: | **GR** |
| Material Description: | **Stoney/ Soily Clay** |
| Target Specification: | **N/A** |

**RESULTS**:

**Percentage of soil passing 2mm sieve (%) =** **11**

**Mean Organic Content (%) =** **1.0**
*95% Confidence limit** *0.9% - 1.1%*

This test report shall not be reproduced, except in full, without the written approval of Celtest Company Limited.

These results relate only to the items tested.

| **Comments** | Report checked and approved by: |
|---|---|
| 95% confidence limit calculation:- Test Result ± expanded uncertainty. *Expanded uncertainty = combined uncertainty multiplied by a factor (k) of 2.* | Chantelle Kopec-Williams<br>Job Coordinator |

Test Report Ref: TR 825171



Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway
Ireland
IE6399801R

Date: 14 September 2021

## LABORATORY TEST REPORT

**TEST REQUIREMENTS:** To determine the Initial Consumption of Lime in accordance with **BS 1924 - Part 2: 1990.**

**SAMPLE DETAILS:**

| | |
|---|---|
| Certificate of Sampling Received: | **No** |
| Laboratory Ref. No: | **S96969** |
| Client Ref. No: | **BHRCSSA11** |
| Date and Time of Sampling: | **Unknown** |
| Date of Receipt at Lab: | **10/08/2021** |
| Date of Start of Test: | **23/08/2021** |
| Sampling Location: | **BHRCSSA11 - 0.5m** |
| Name of Source: | **Derryadd Windfarm** |
| Method of Sampling: | **Unknown** |
| Sampled By: | **Client (Test results apply to sample as received)** |
| Sample Description: | **Stoney/ Soily Clay** |

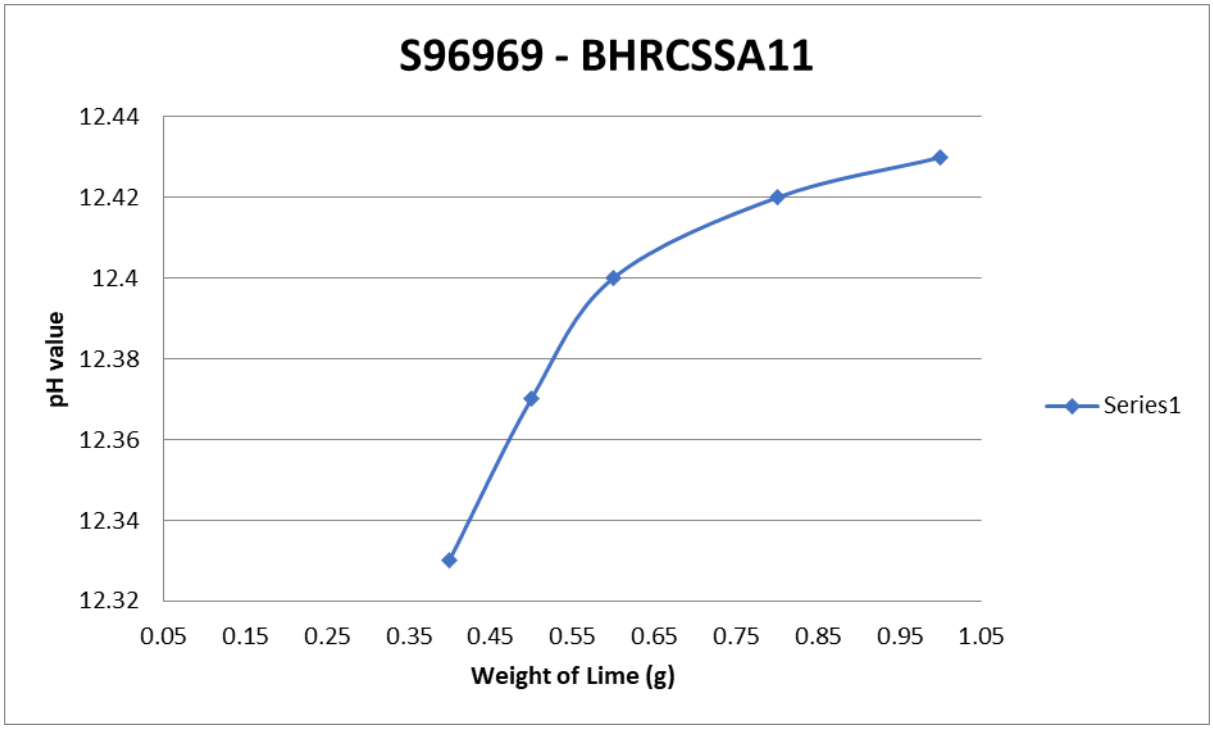
**RESULTS:**

See Attached

| **Comments:** | Report checked and approved by: |
|---|---|
| The work was carried out by our competent, subcontracted laboratory. | Chantelle Kopec-Williams<br>Job Coordinator |

**Initial Consumption of Lime**

| Replicate | Assumed percent of lime (%) | Weight of Lime (g) | pH reading |
|---|---|---|---|
| 1 | 2 | 0.4 | 12.33 |
| 2 | 2.5 | 0.5 | 12.37 |
| 3 | 3 | 0.6 | 12.4 |
| 4 | 4 | 0.8 | 12.42 |
| 5 | 5 | 1 | 12.43 |
| | 3 | 0.6 | 12.4 |



Test Report Ref: TR 825177



Irish Drilling Limited
Old Galway Road
Loughrea
Co. Galway
Ireland
IE6399801R

Date: 14 September 2021

## LABORATORY TEST REPORT

**TEST REQUIREMENTS:** To determine the Initial Consumption of Lime in accordance with **BS 1924 - Part 2: 1990.**

**SAMPLE DETAILS:**

| | |
|---|---|
| Certificate of Sampling Received: | **No** |
| Laboratory Ref. No: | **S96969** |
| Client Ref. No: | **BHRCSSA14** |
| Date and Time of Sampling: | **Unknown** |
| Date of Receipt at Lab: | **10/08/2021** |
| Date of Start of Test: | **23/08/2021** |
| Sampling Location: | **BHRCSSA14 - 2.5m** |
| Name of Source: | **Derryadd Windfarm** |
| Method of Sampling: | **Unknown** |
| Sampled By: | **Client (Test results apply to sample as received)** |
| Sample Description: | **Stoney/ Soily Clay** |

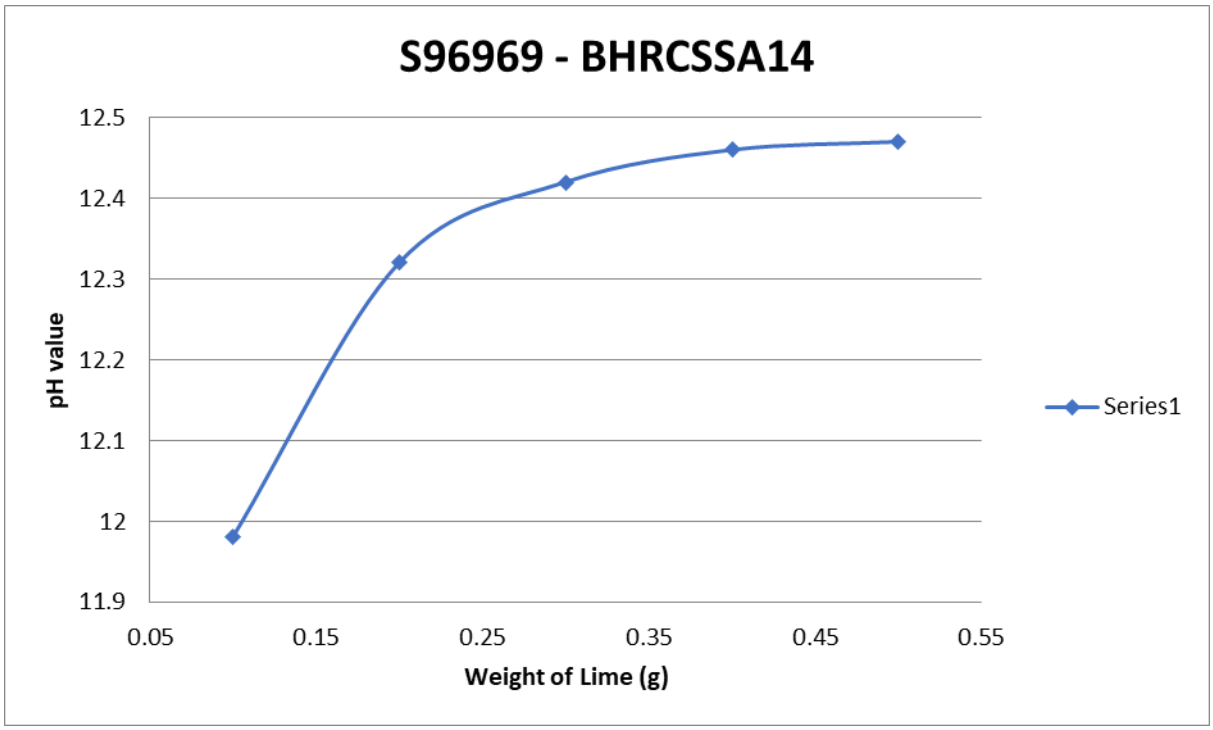
**RESULTS:**

See Attached

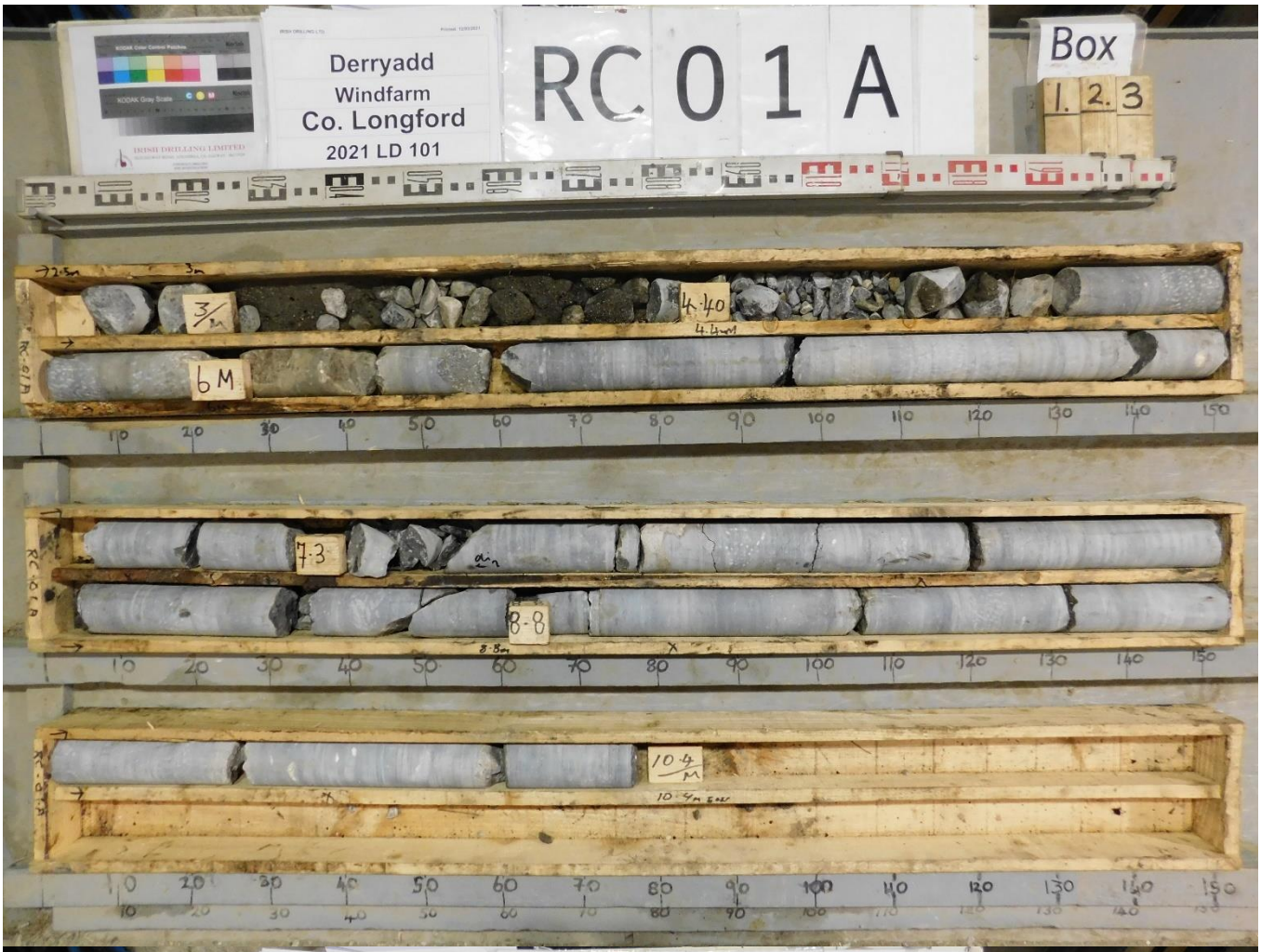
| **Comments:** | Report checked and approved by: |
|---|---|
| The work was carried out by our competent, subcontracted laboratory. | Chantelle Kopec-Williams<br>Job Coordinator |

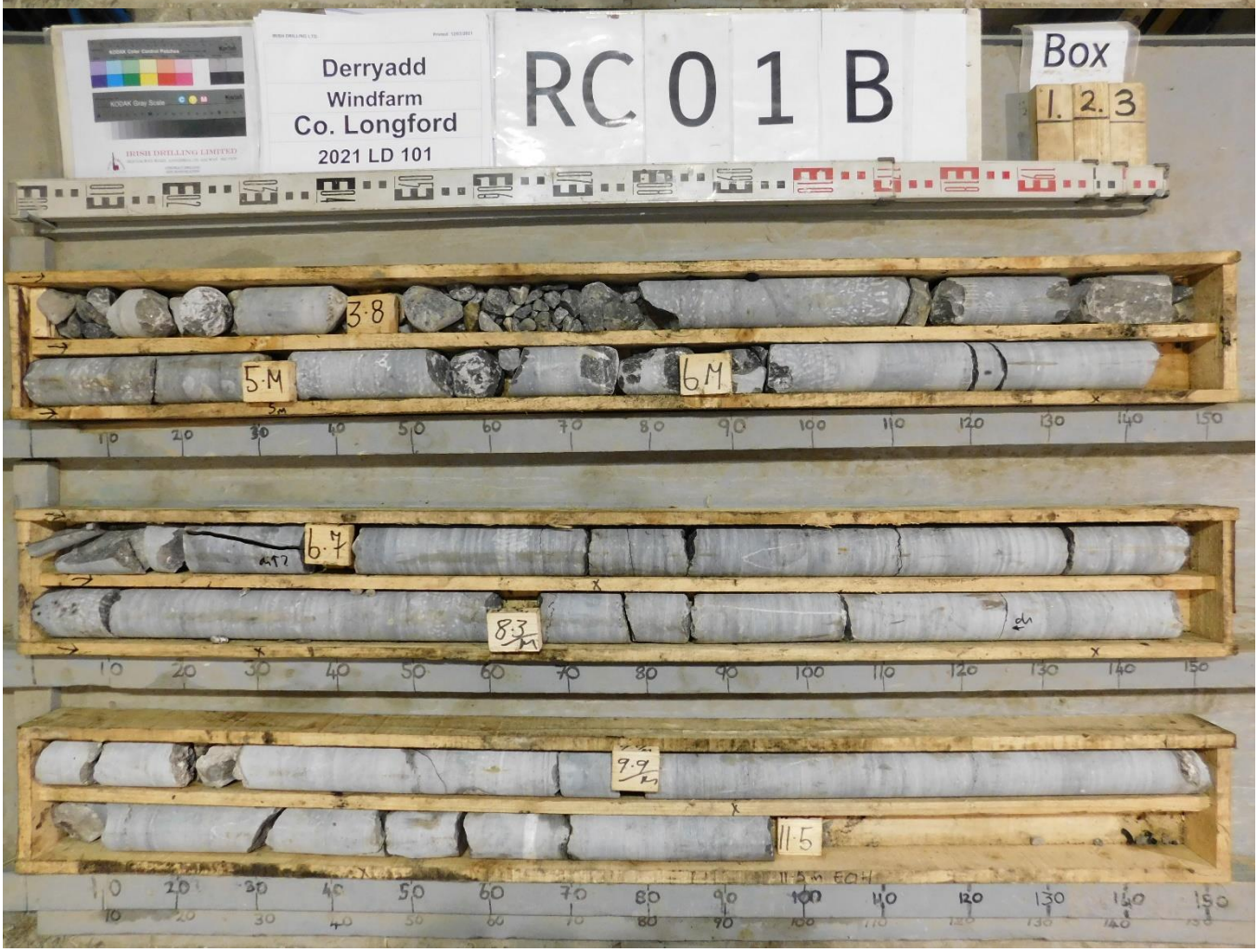
**Initial Consumption of Lime**

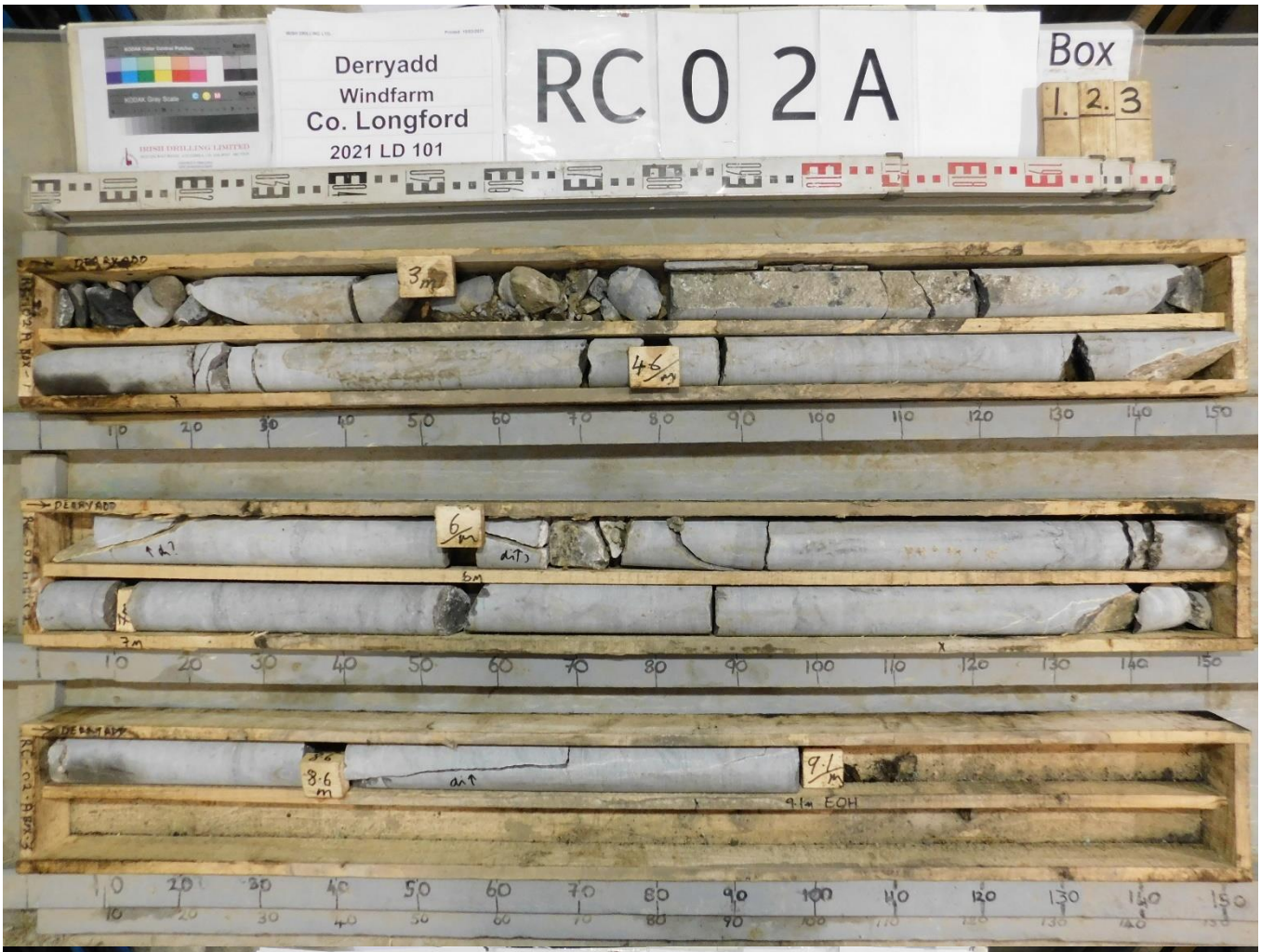
| Replicate | Assumed percent of lime (%) | Weight of Lime (g) | pH reading |
|---|---|---|---|
| 1 | 0.5 | 0.1 | 11.98 |
| 2 | 1 | 0.2 | 12.32 |
| 3 | 1.5 | 0.3 | 12.42 |
| 4 | 2 | 0.4 | 12.46 |
| 5 | 2.5 | 0.5 | 12.47 |
| | 1.35 | 0.27 | 12.4 |

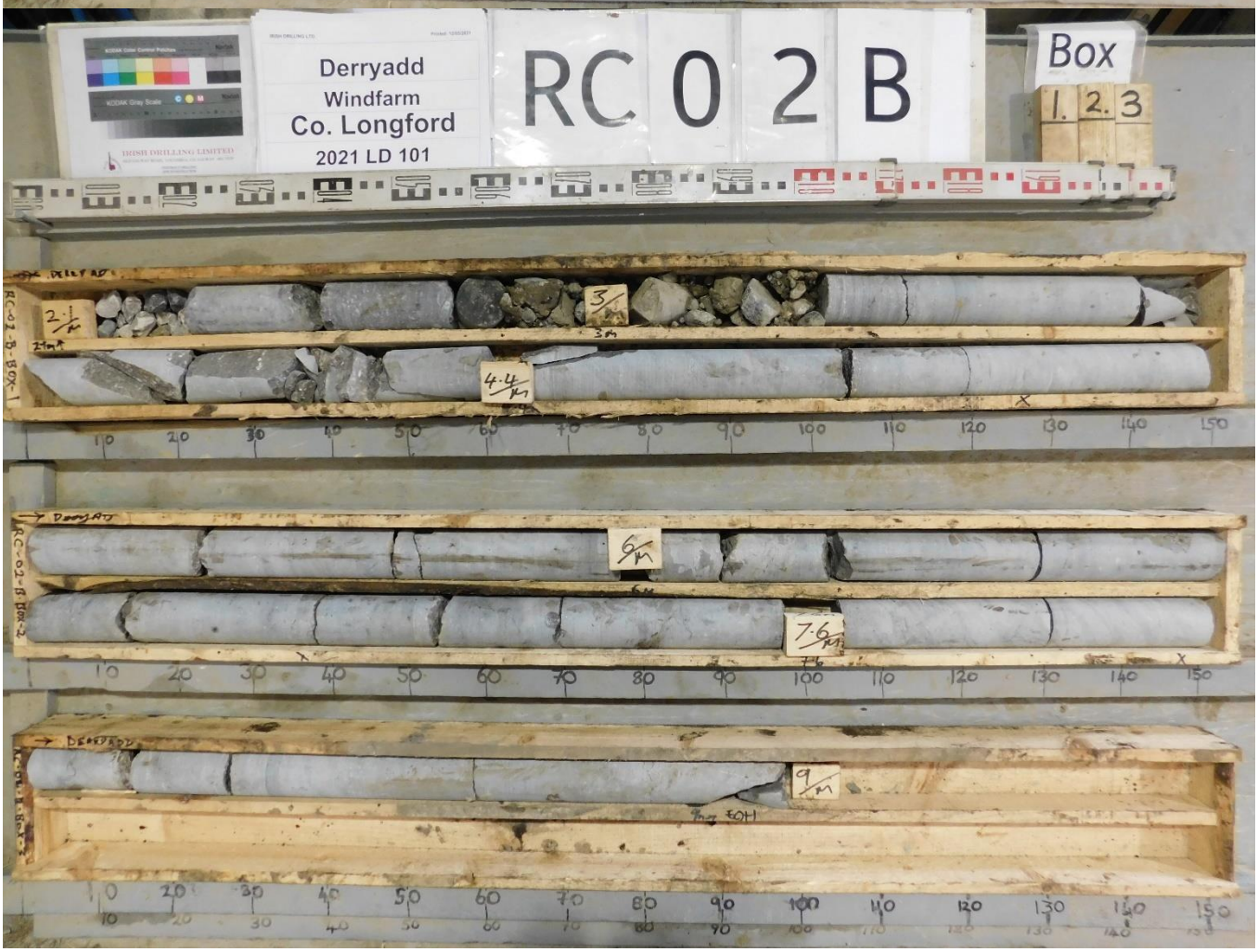


# Appendix 11
# Photographs
# (Rotary Core)


Derryadd
Windfarm
Co. Longford
2021 LD 101
RC 0 1 A
Box
1. 2. 3
3/m
4.40
6 M
7.3
8.8
10.4/m


Derryadd
Windfarm
Co. Longford
2021 LD 101
RC 0 1 B
Box
1. 2. 3
3.8
5.M
6.M
6.7
8.3/m
9.9/m
11.5

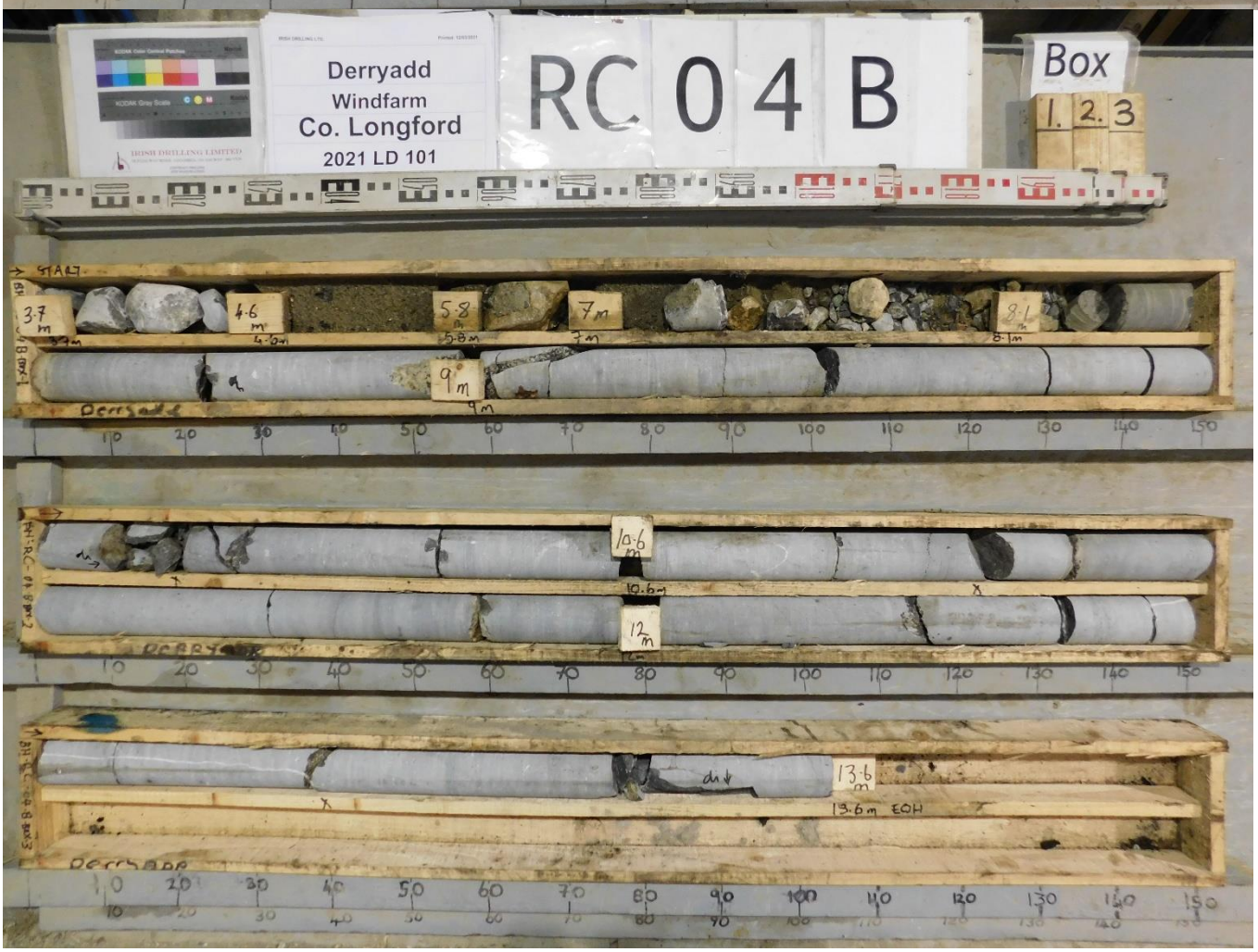

Derryadd
Windfarm
Co. Longford
2021 LD 101
RC 0 2 A
Box
1. 2. 3
3m
4.6m
6m
8.6 m
9.1m
9.1m EOH


Derryadd
Windfarm
Co. Longford
2021 LD 101
RC 0 2 B
Box
1. 2. 3
2.1m
3m
4.4m
6m
7.6m
9m
9m EOH

# Irish Drilling Ltd: Core Photos:

Printed on:31/05/2021

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
0 4 A
Box
1. 2. 3.
START
3.7 m
5.6
6.9 m
8.5 m
9 m
10.2 m
11.7 m
13.3 m


Derryadd
Windfarm
Co. Longford
2021 LD 101
RC 0 4 B
Box
1. 2. 3
START
3.7 m
4.6 m
5.8 m
7 m
8.1 m
9 m
10.6 m
12 m
13.6 m
13.6 m EOH

Derryadd
Windfarm
Co. Longford
BH RC
0 5 A
Box
1. 2.
START
1.5m
3m
4.5m
6m
7.5m
9m
12M
13.6m

Derryadd
Windfarm
Co. Longford
BH RC
0 5 A
Box
3. 4.
15m
16.6m
17M
17m EOH

Derryadd
Windfarm
Co. Longford
2021 LD 101
-BHRC 05B
Box
1. 2. 3.
4.5
6m
7.5m
9m
12m
13.5m
15m
16.5m
18m
19.2m
20.8m EOH

Derryadd
Windfarm
Co. Longford
2021 LD 101
RC C 6 A
Box
1. 2. 3
4.5m
6m
7.8m
9m
12m
13m
13.9m
15.1m
16.7
17.4
18.9

Derryadd
Windfarm
Co. Longford
2021 LD 101
-BHR C 0 6 B
Box
1. 2. 3.

Derryadd
Windfarm
Co. Longford
2021 LD 101
-BHR C 07 A
Box
1. 2. 3.

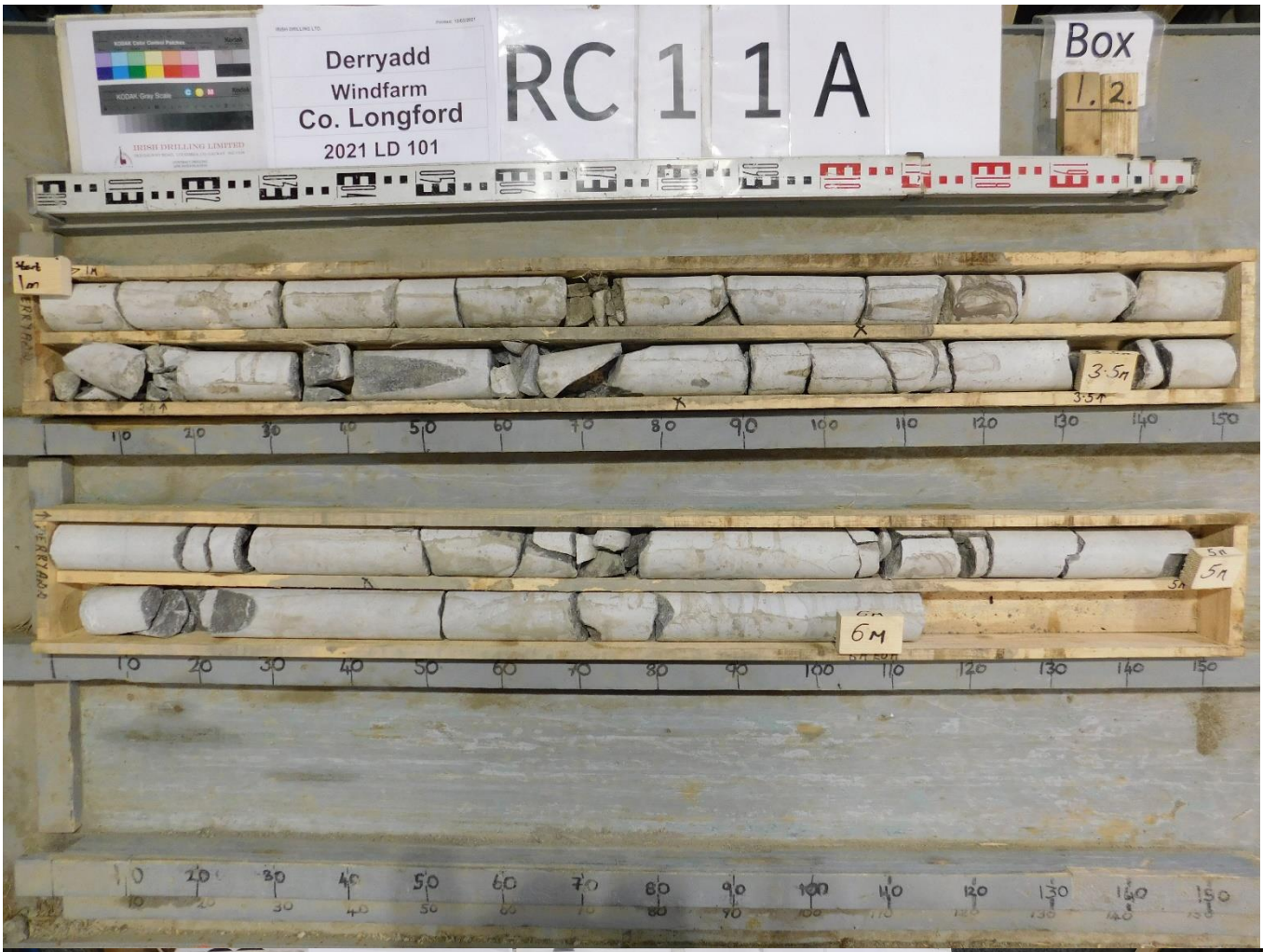
Derryadd
Windfarm
Co. Longford
2021 LD 101
BHRC 07B
Box
1. 2. 3.

Derryadd
Windfarm
Co. Longford
2021 LD 101
BHRC 08A
Box
1. 2. 3.

Derryadd
Windfarm
Co. Longford
2021 LD 101
BHR C 08B
Box
1. 2. 3.
5.5 m
6m
9m
10.6 m
12m
13.6 m
15m
15m EOH

Derryadd
Windfarm
Co. Longford
2021 LD 101
BHR C 09A
Box
1. 2. 3.
6M
7.6M
8.8 m
10.4 m
11.8 m
13.4 m
13.4m EOH

Derryadd
Windfarm
Co. Longford
BH RC
09B
Box
1.2.3
Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
10B
Box
1.2.3.


Derryadd
Windfarm
Co. Longford
2021 LD 101
RC 11A
Box
1. 2.
3.5m
5m
6M

Derryadd
Windfarm
Co. Longford
BH RC 11B
Box
1. 2.
29
44m
5.9m
7m

Derryadd
Windfarm
Co. Longford
BH RC
1 2 A
Box
1. 2. 3.
4.5M
6M
8.6 m
11.1 m
12.1M
14.1 M
15.1 m
16.2 m
18.1

Derryadd
Windfarm
Co. Longford
BH RC
1 2 A
Box
4. 5. 6.
17.6 m
21.1 m
24 M
26.6 m
26.1 m
27.9M
30.1 M

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 2 B
Box
1. 2. 3.
3.8m
5.3m
6.9 m
8.5m
10M
10m EOH

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 2 C
Box
1. 2. 3.
3.8
6.2
7.8m
9.2
10.8
12.2
EOBH

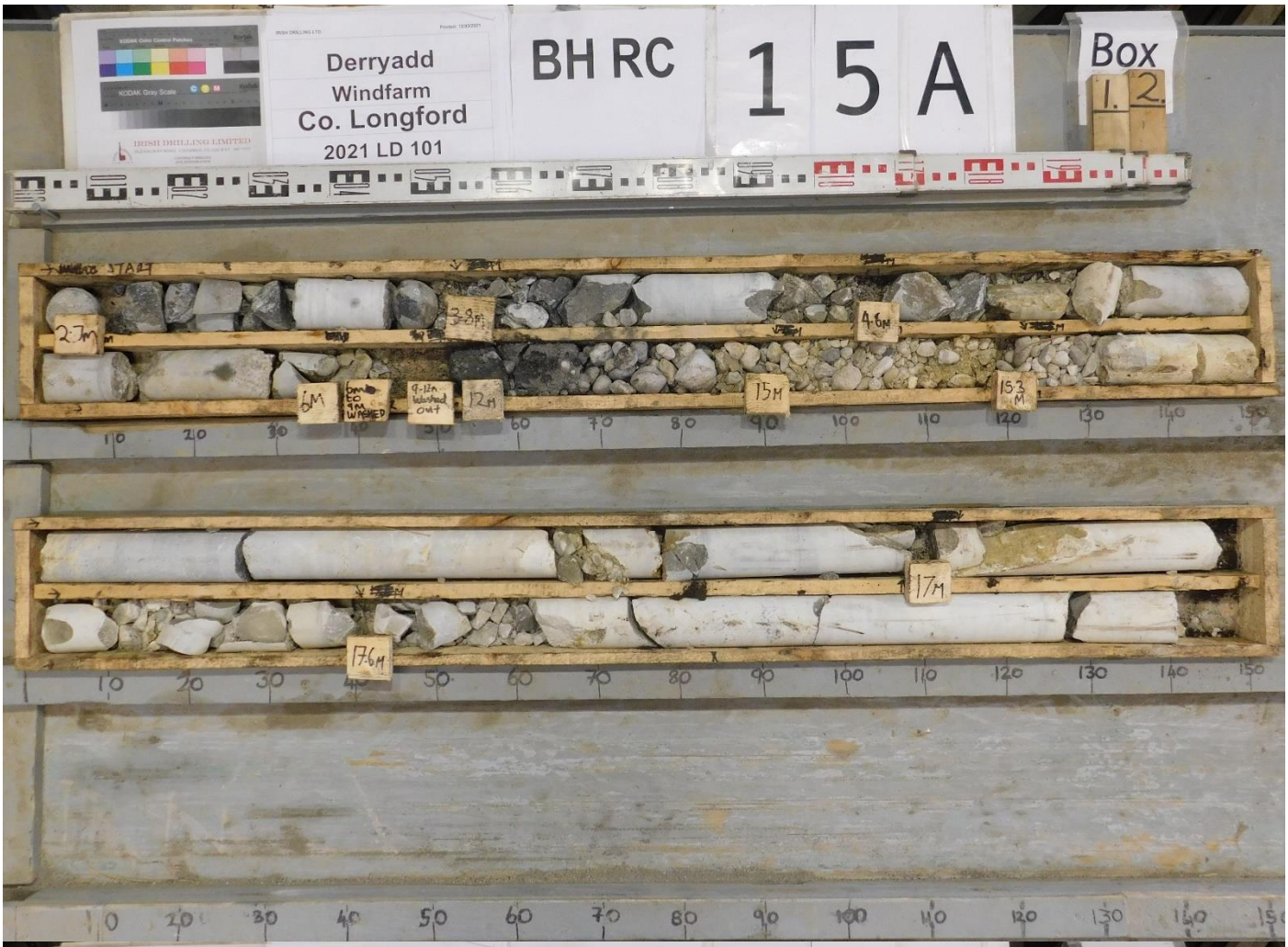
Derryadd
Windfarm
Co. Longford
BH RC
13 A
Box
1. 2.
4.5M
6M
8.1 m
9M
10.6 m
11M
Derryadd
Windfarm
Co. Longford
BH RC
13 A
Box
3. 4.
12M
13.5 m
15m

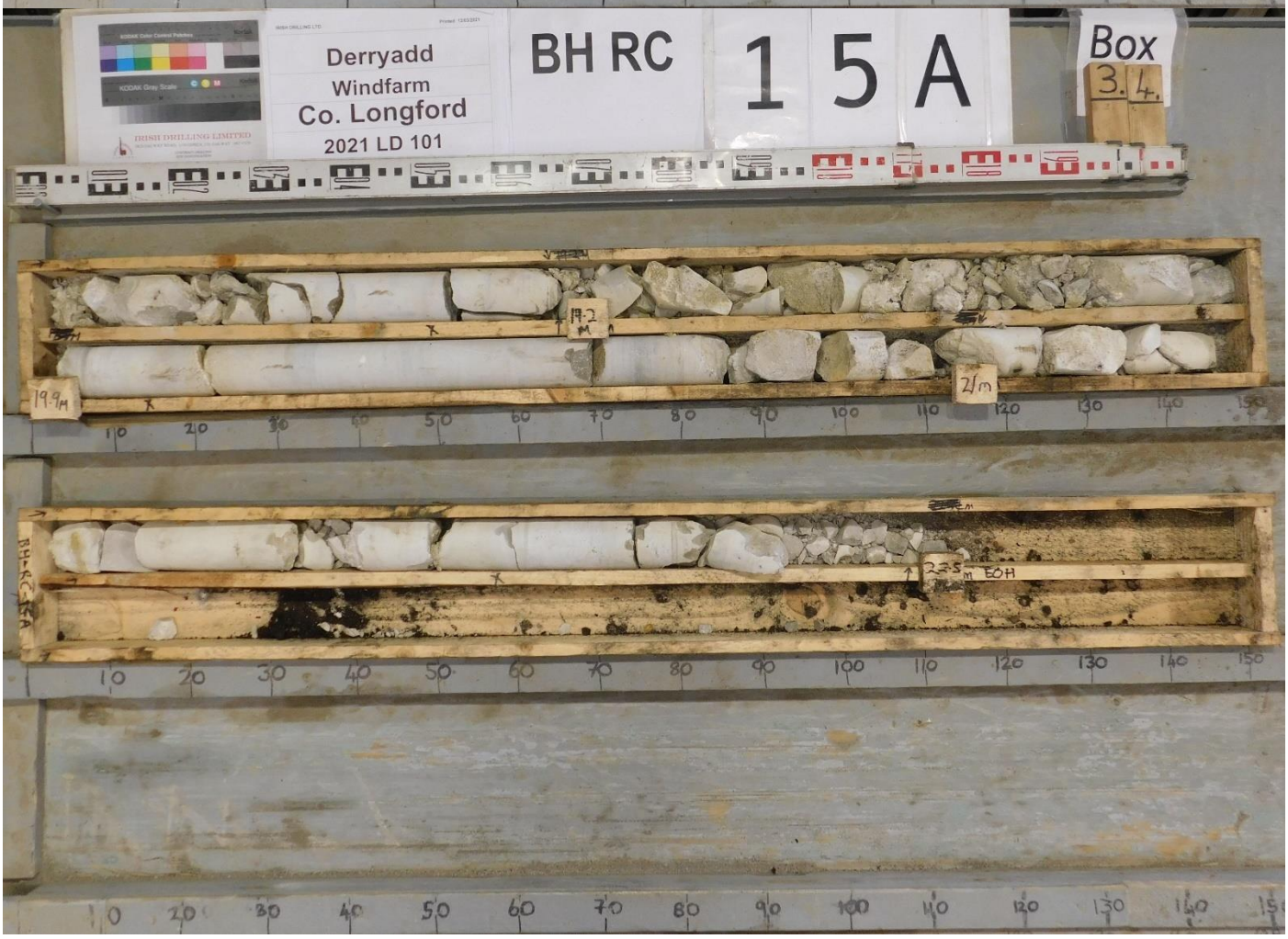
Derryadd
Windfarm
Co. Longford
BH RC
1 3 B
Box
1. 2. 3.
4.5M
6M
7.6 M
6.8 m
9M
10.5M
12M
13 m
11.1 m
17.7 m

Derryadd
Windfarm
Co. Longford
BH RC
1 3 B
Box
4. 5. 6.
19.5 m
21M
22.6 m
25.5 m
EOH

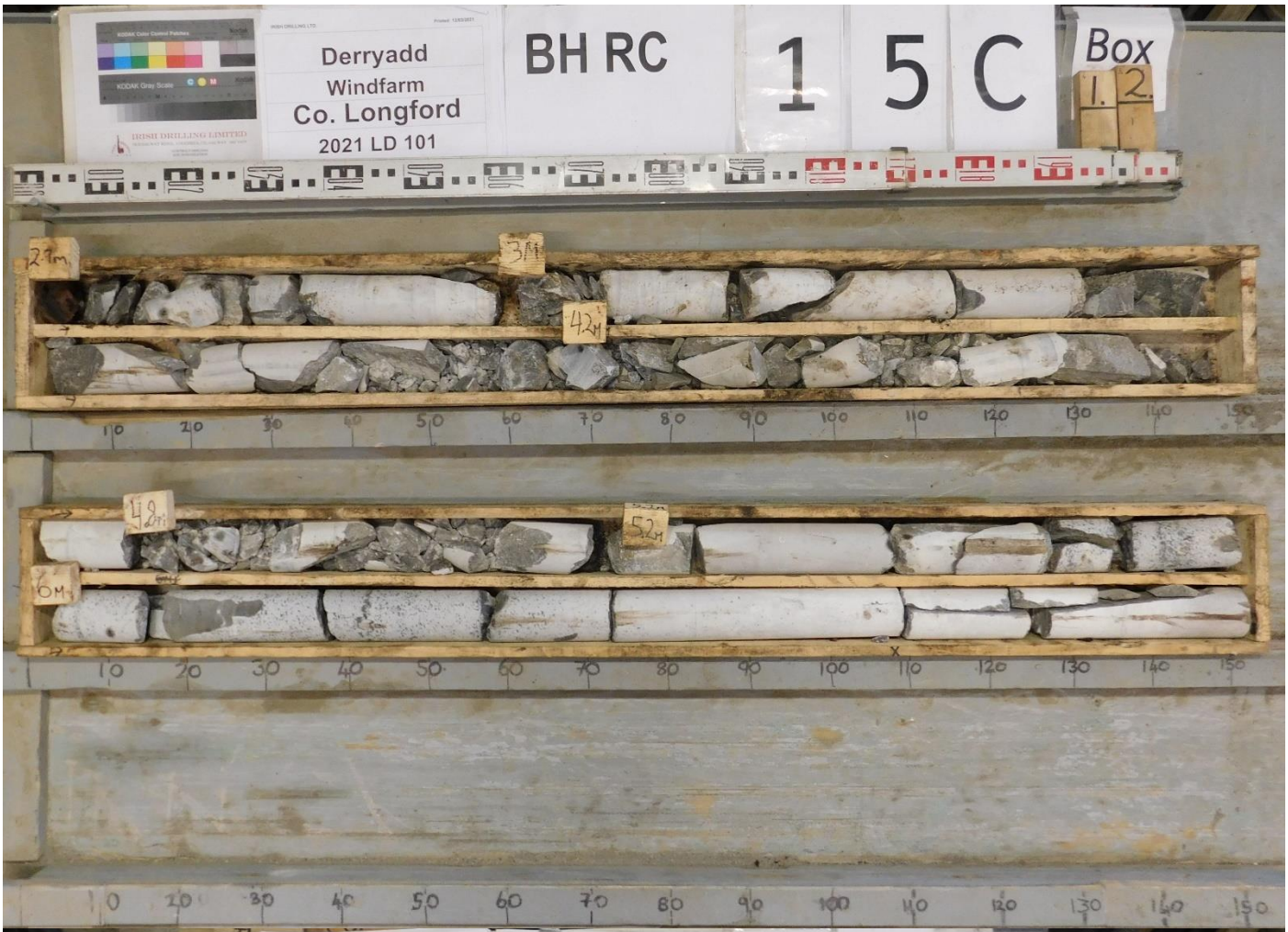
Derryadd
Windfarm
Co. Longford
BH RC
14 A
Box
1. 2. 3.
12 m
52 m
67 m
83 m
98 m EOH

Derryadd
Windfarm
Co. Longford
BH RC
14 B
Box
1. 2. 3.
4.1m
5.4m
7M
8.5M
10.1M
11.3M
EOH

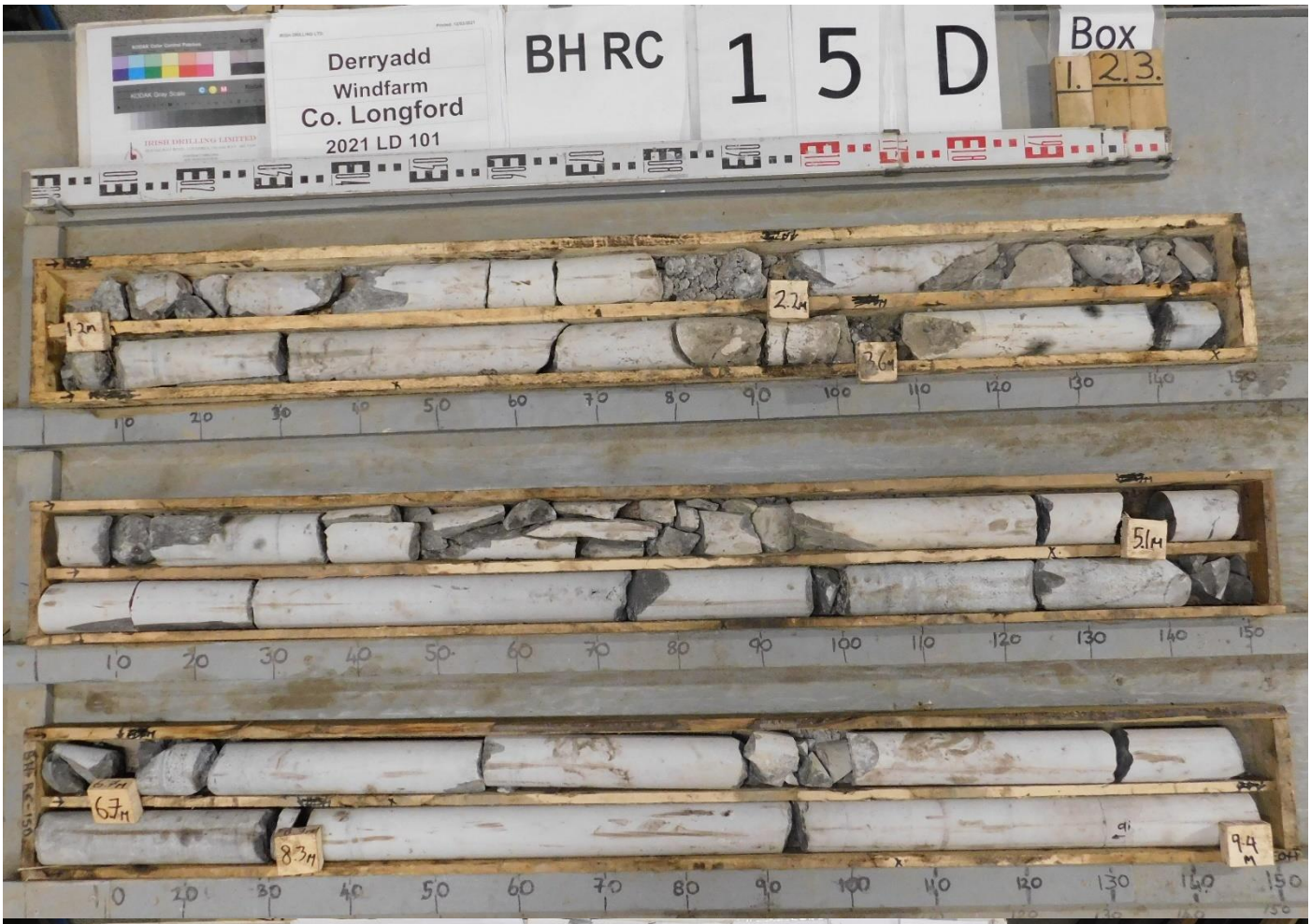

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 5 A
Box
1. 2.
2.7m
3.8m
4.6m
6M
12M
15M
15.3 M
17M
17.6M


Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 5 A
Box
3. 4.
19.2 M
19.9M
21m
22.5m EOH

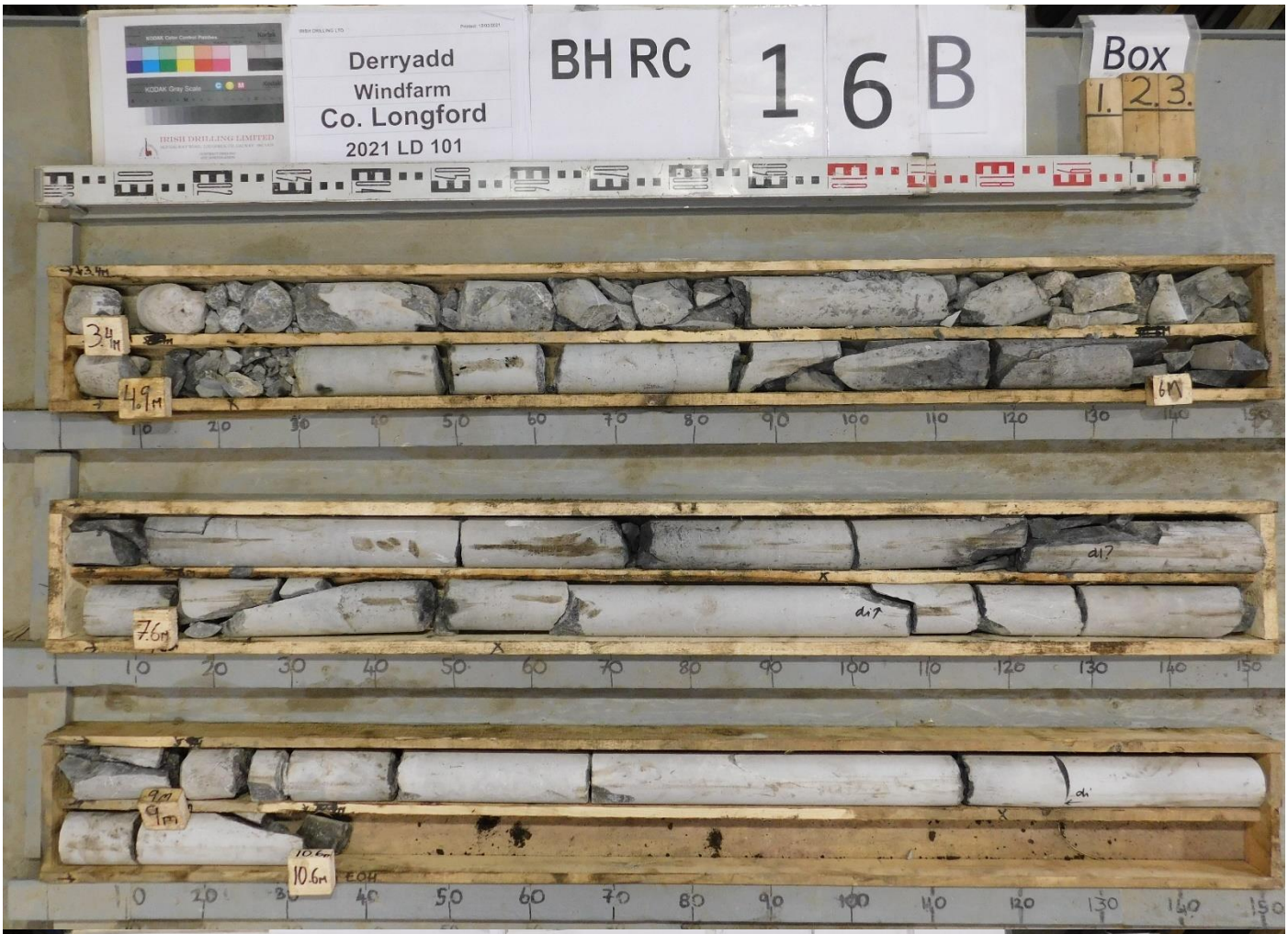
Derryadd
Windfarm
Co. Longford
BH RC
1 5 B
Box
1. 2.
START
2.5m
2.7m
3.7m
4.3m
6.0m
7.5m
10.5
12m
13.5m
15m
16.5m
18m
Derryadd
Windfarm
Co. Longford
BH RC
1 5 B
Box
3 4.
19.5 m
21 m
22.5m
24 m
EOH

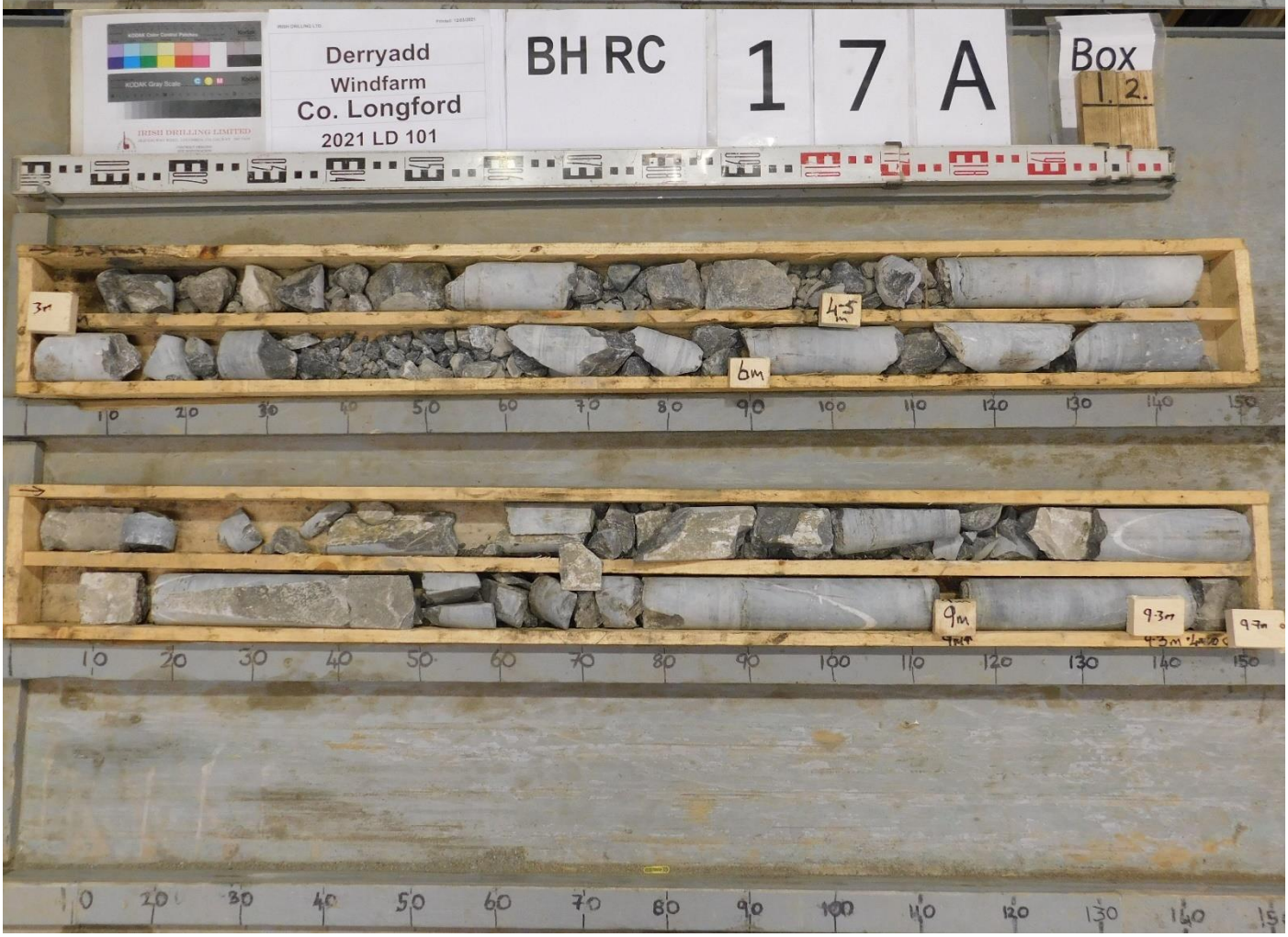

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 5 C
Box
1. 2.
2.9m
3M
4.2M
4.2m
5.2M
6M

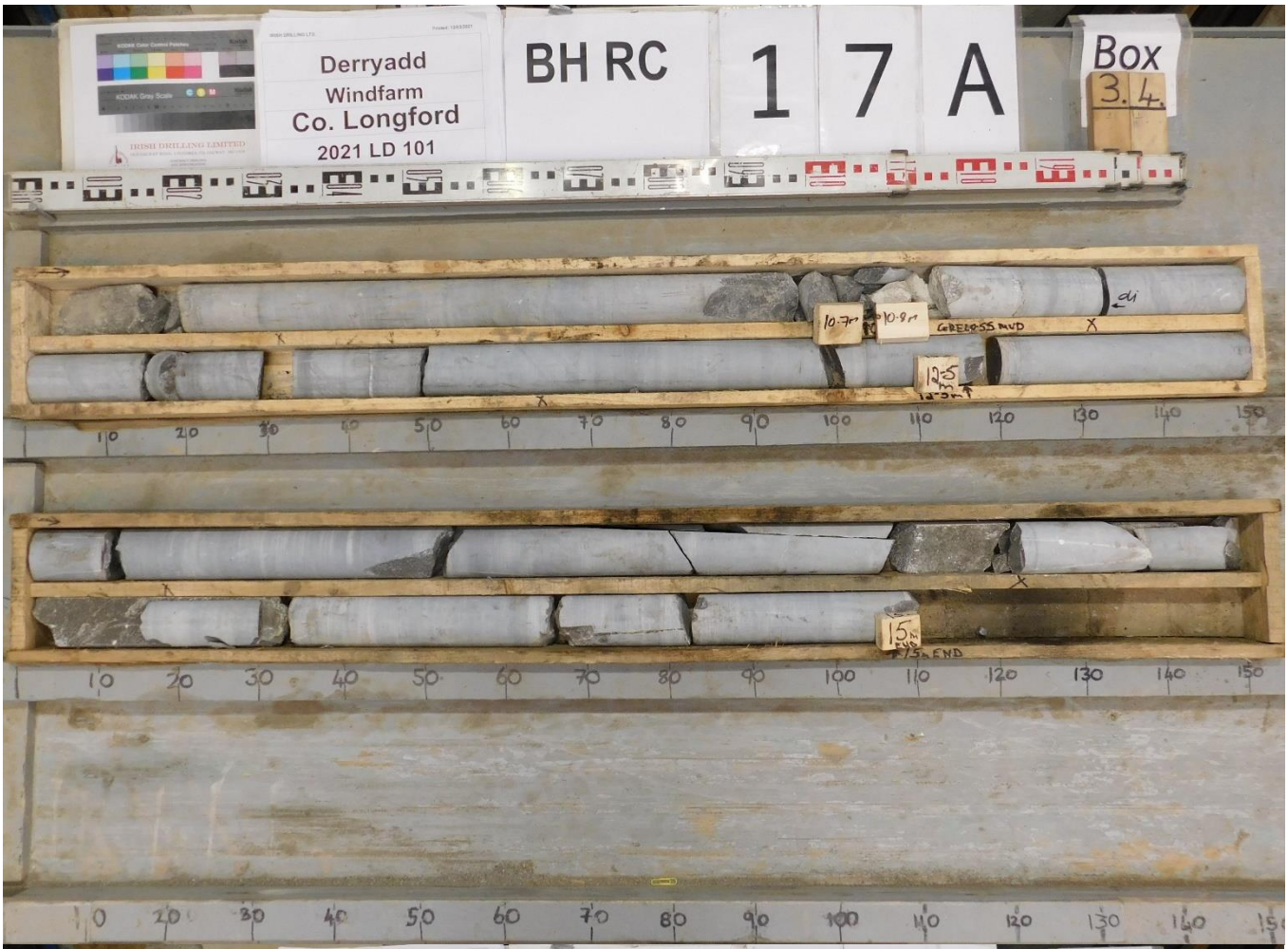
Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 5 C
Box
3. 4.
7.6M
9M
10.6M
10.6m EOH

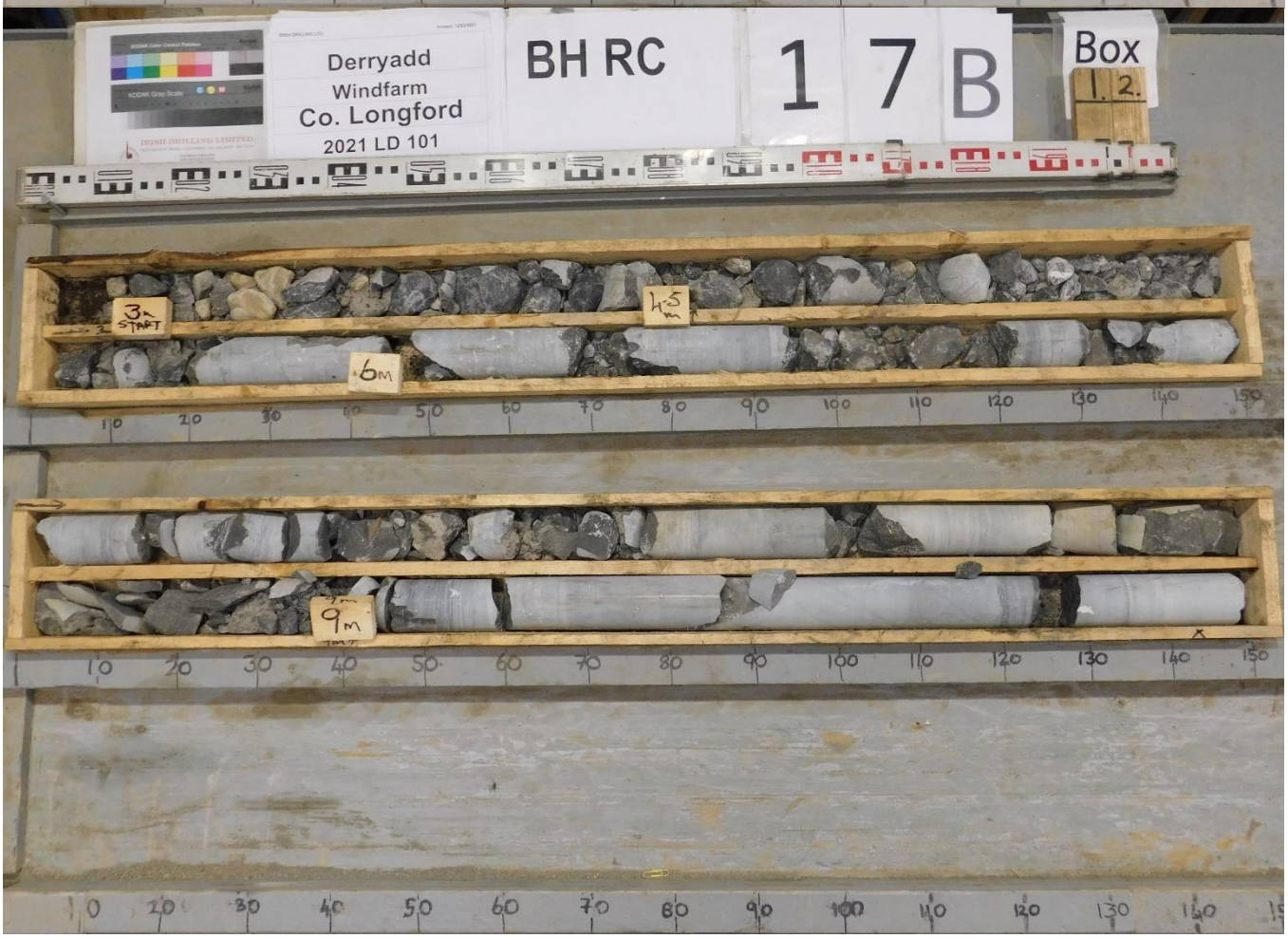

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 5 D
Box
1. 2.3.
1.2m
2.2m
3.6m
5.1m
6.7m
8.3m
9.4 m

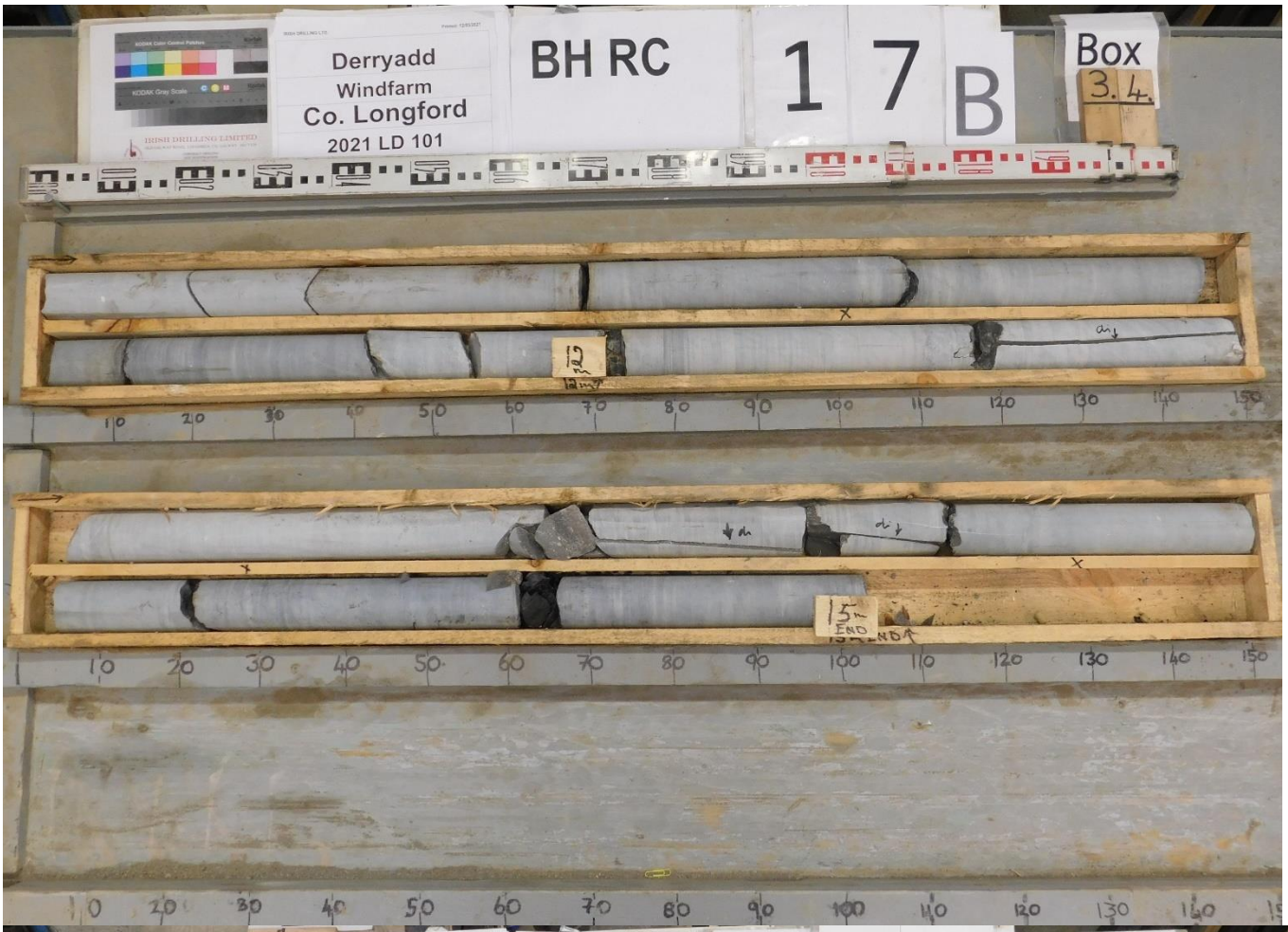
Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 6 A
Box
1. 2.3.
3.8m
5.2m
6.8m
8.4m
10m EOH


Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 6 B
Box
1. 2. 3.


Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 7 A
Box
1. 2.

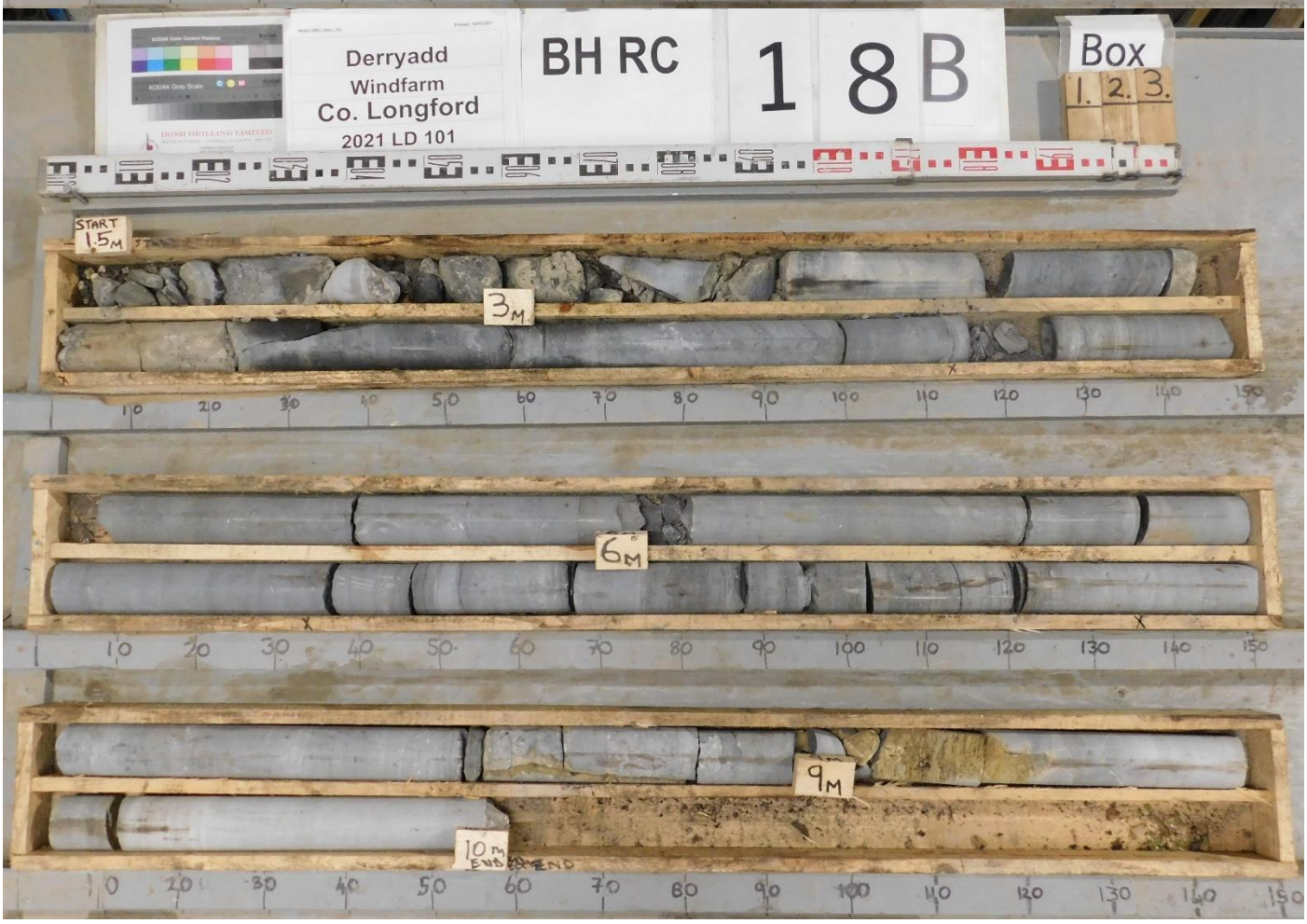

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 7 A
Box
3. 4.
10.7m
10.8m
GREEN SS MUD
15m
END

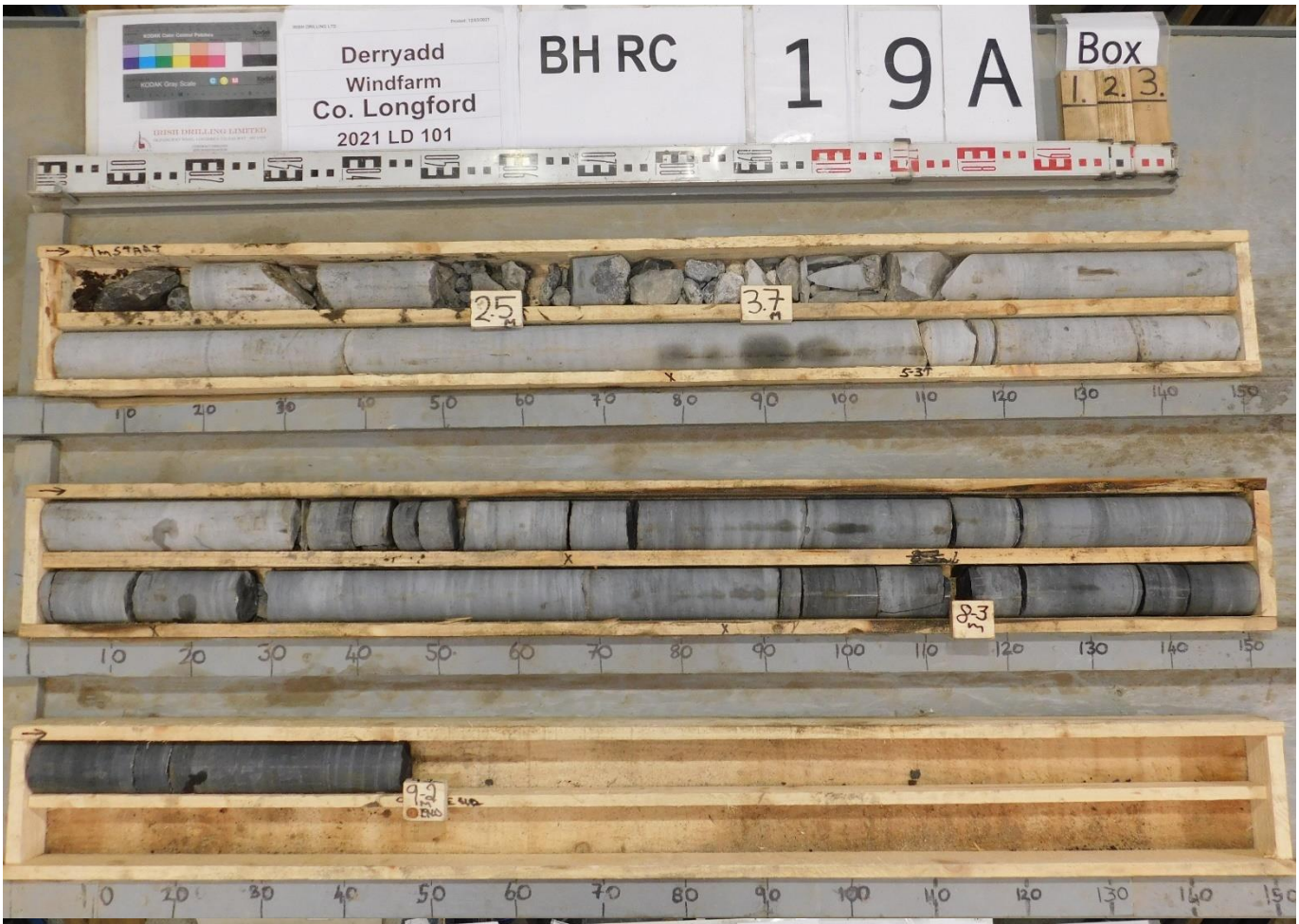

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 7 B
Box
1. 2.
3m
START
4.5
6m
9m


Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 7 B
Box
3.4.
15m
END

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 8 A
Box
1. 2.
1.5M
START
2.5M
4m
5M
6.2M

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 8 A
Box
3. 4.
9.2
12.2m
END NOT


Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 8 B
Box
1. 2. 3.
START
1.5M
3M
6M
9M
10m
END


Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 9 A
Box
1. 2. 3.
1m START
2.5 m
3.7 m
8.3 m
9.9 m
END

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
1 9 B
Box
1. 2. 3.
START 3M
4.5M
6M
9.2 m
10.8 m
END

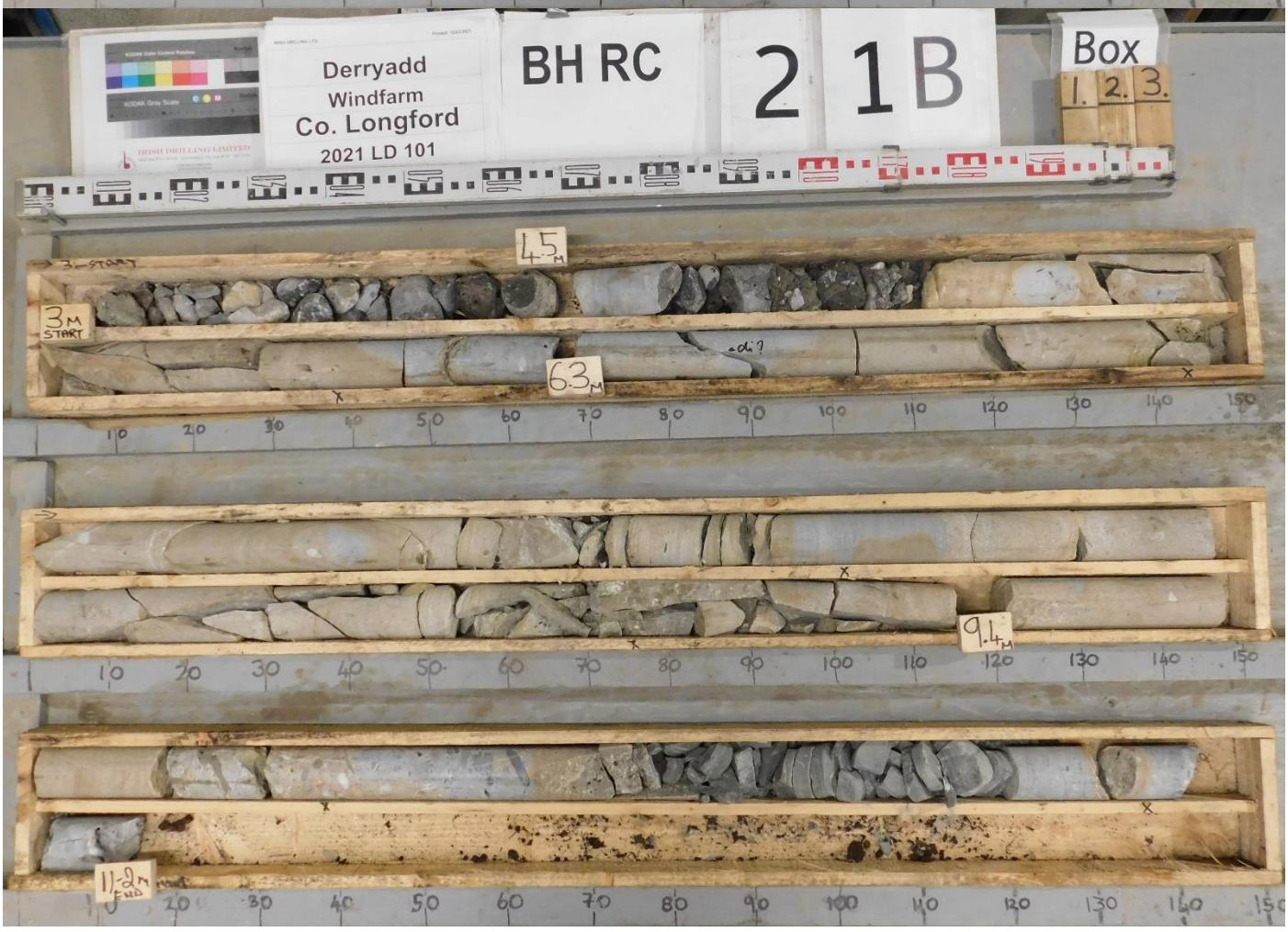
Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
20 A
Box
1. 2.
START
3M
4M
6.9 m
8.4 m
9.7 m
10.5 m
11.9 m

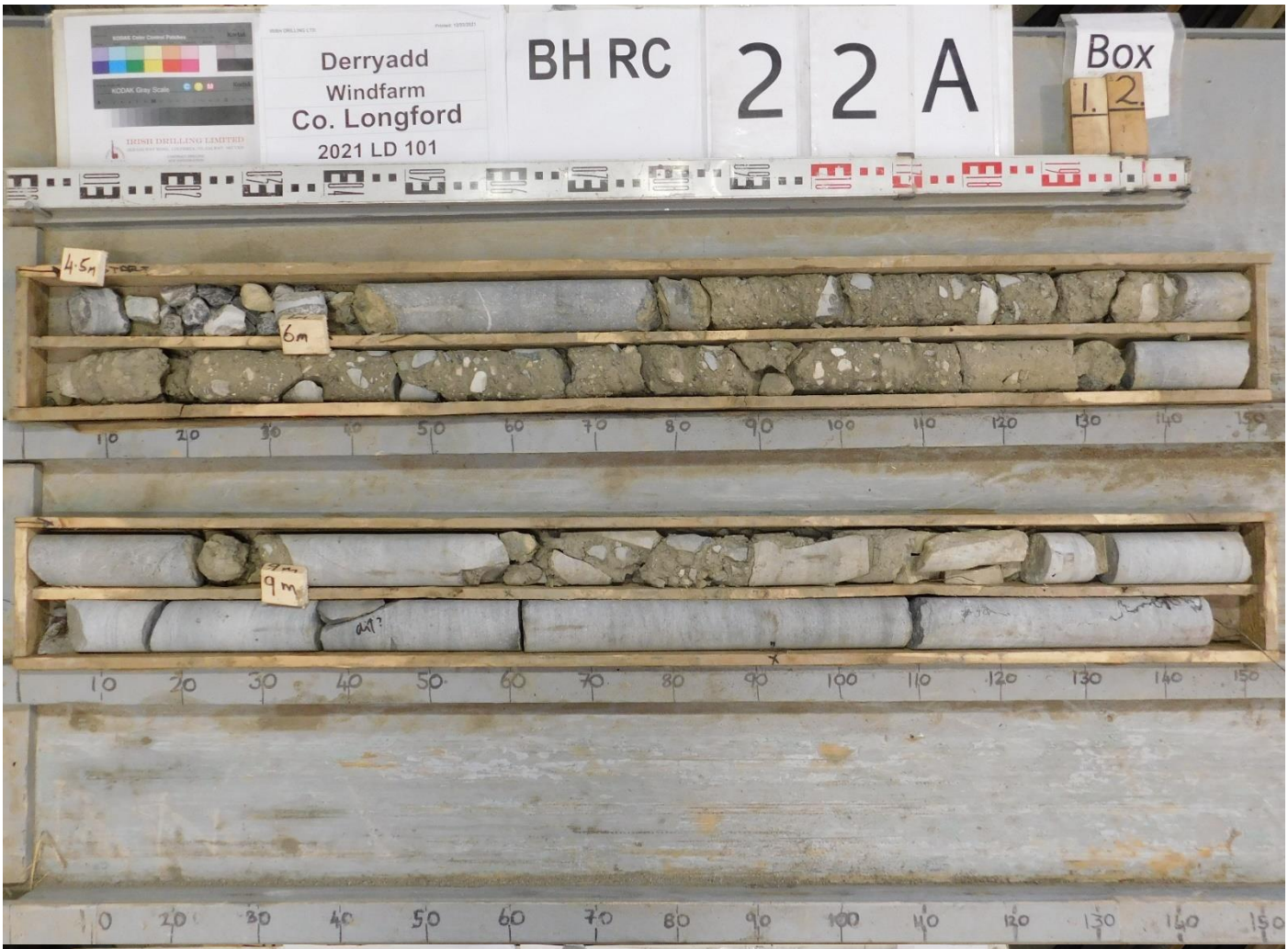
Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
20 A
Box
3. 4.
13.5 m
14.9 m
16.1 m
EOH

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
20 B
Box
1. 2. 3.

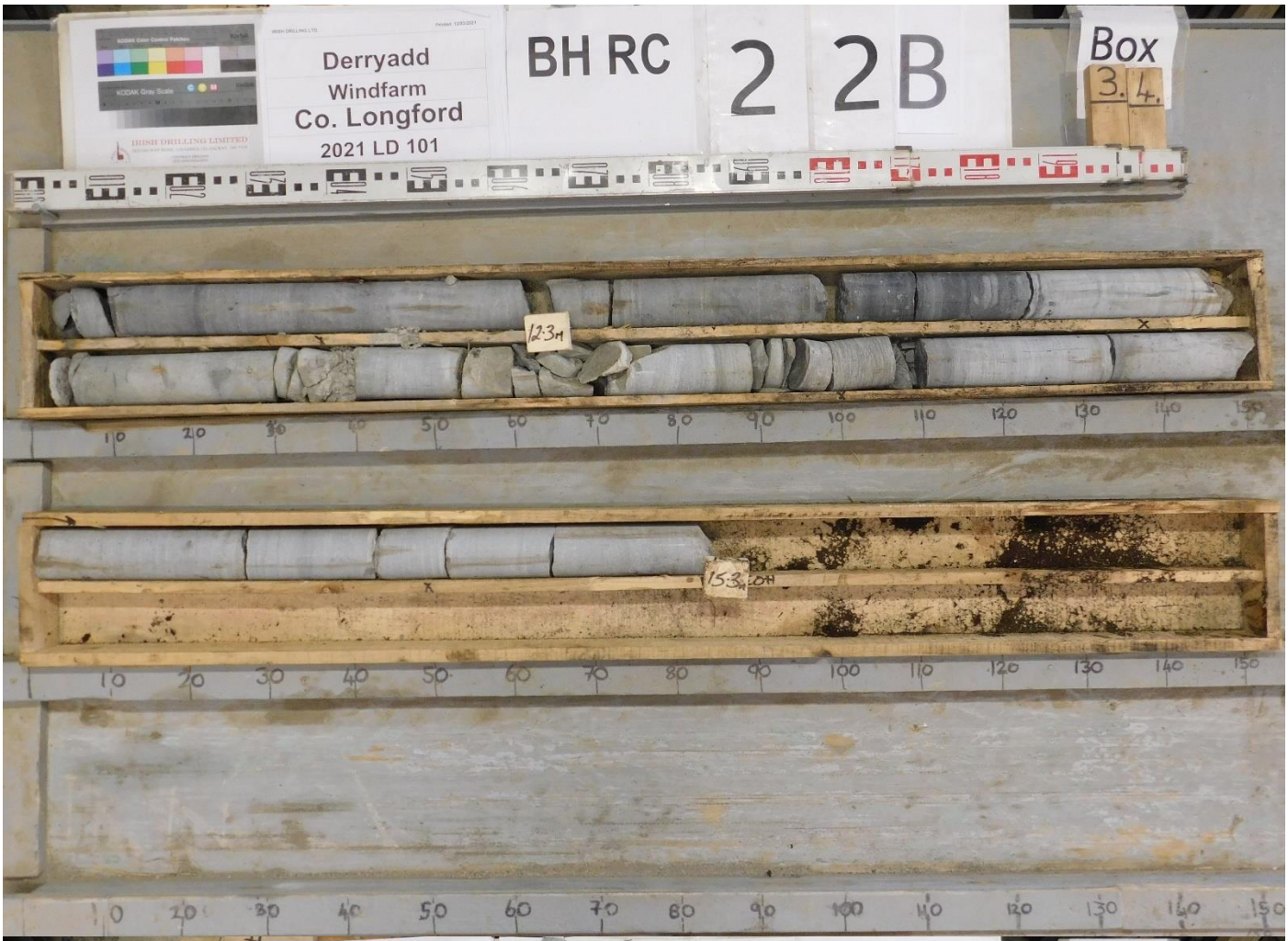
Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
21 A
Box
1. 2.
START
4 M START
5 M
5.7 M
8.2 M
9.2 M

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
2 1 A
Box
3. 4.
13.5
END OH


Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
2 1 B
Box
1. 2. 3.
4.5m
3m START
6.3m
9.4m
11.2m END

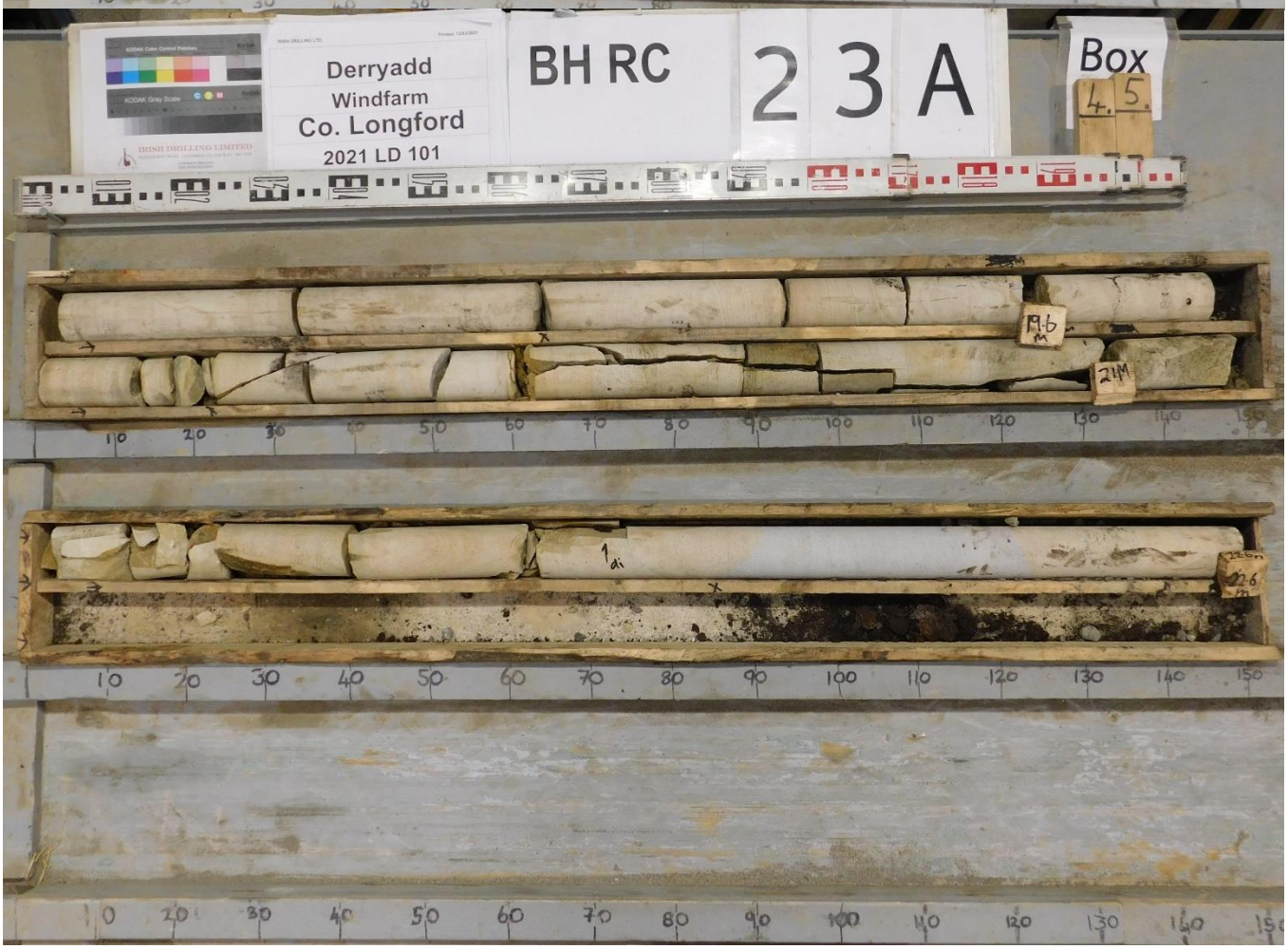

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
2 2 A
Box
1. 2.
4.5m
6m
9m

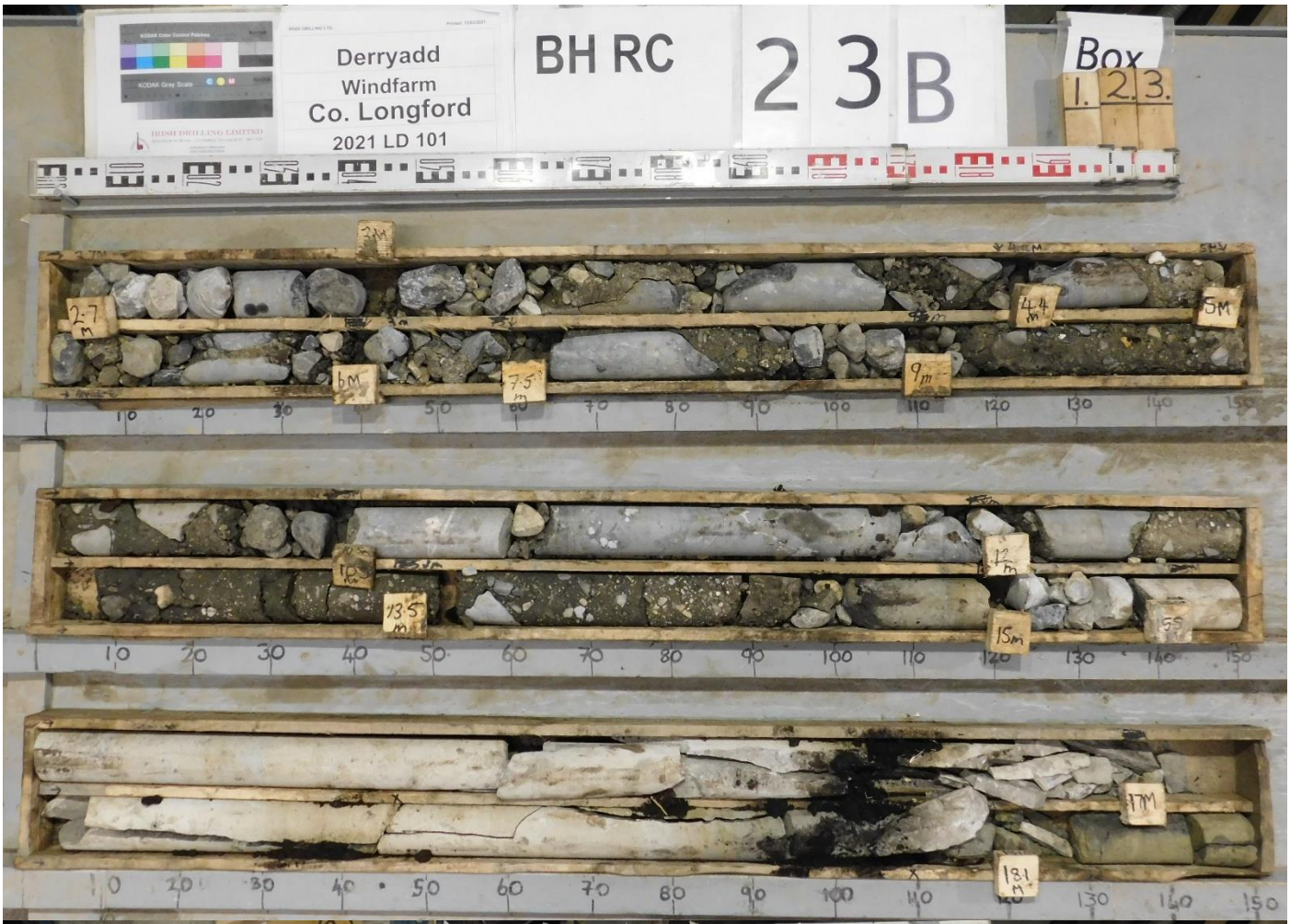
Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
2 2 A
Box
3. 4.
12m
16.5m
EOH

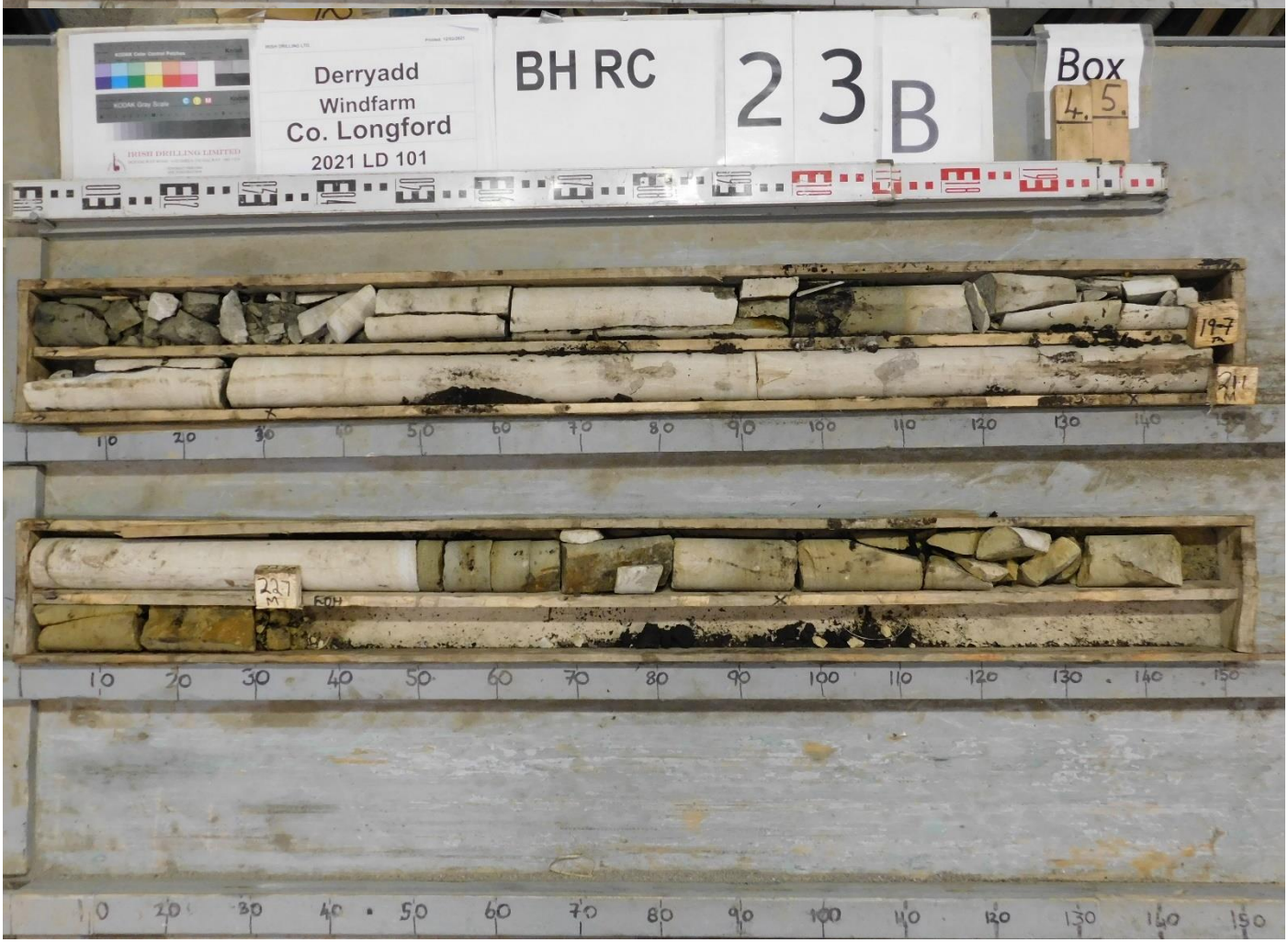

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC 2 2B
Box
3. 4.
12.3m
15.3 EOH

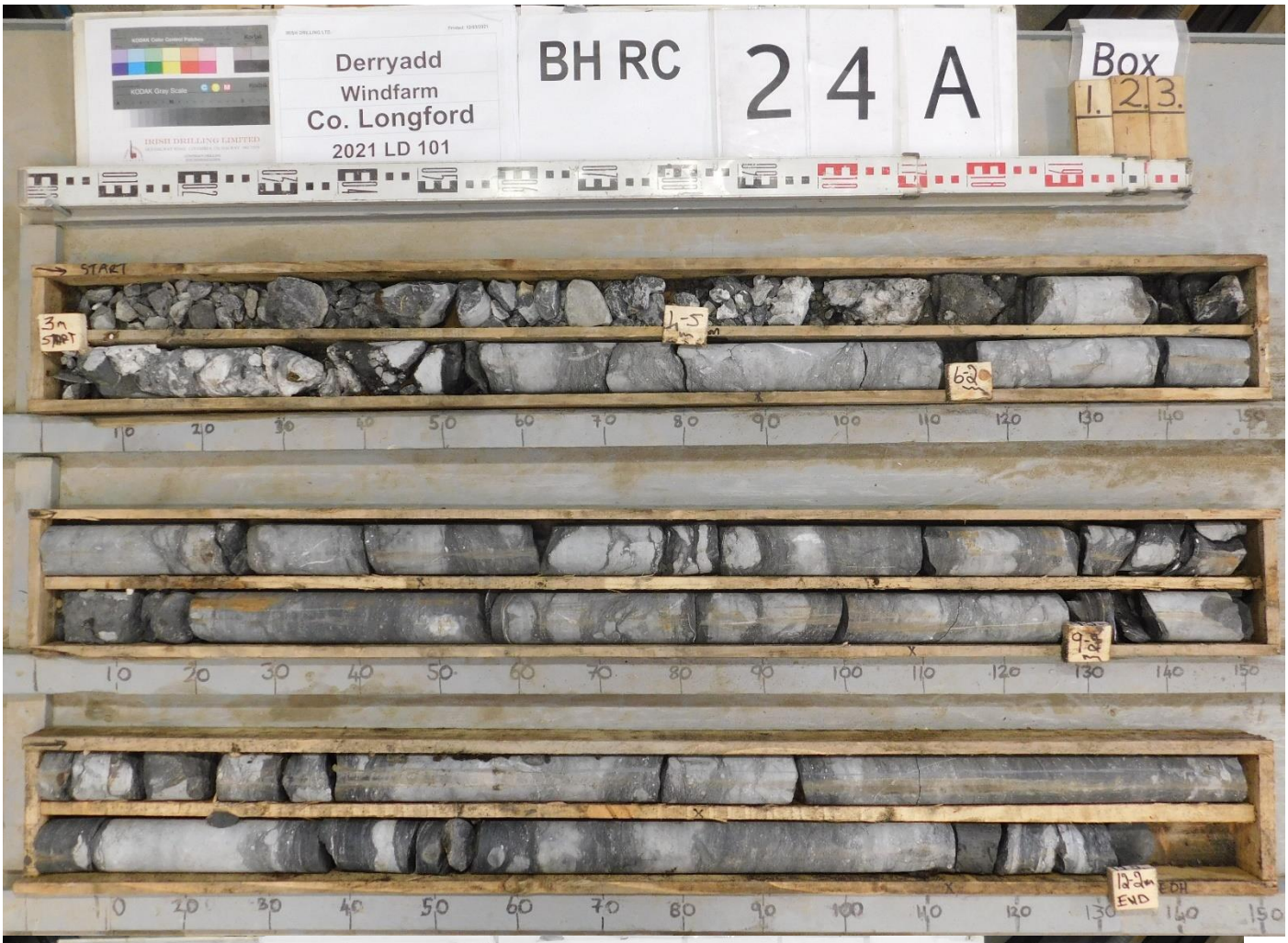
Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC 2 2B
Box
1. 2.
START
4m
5m
8.2m
9.7m
11.2m

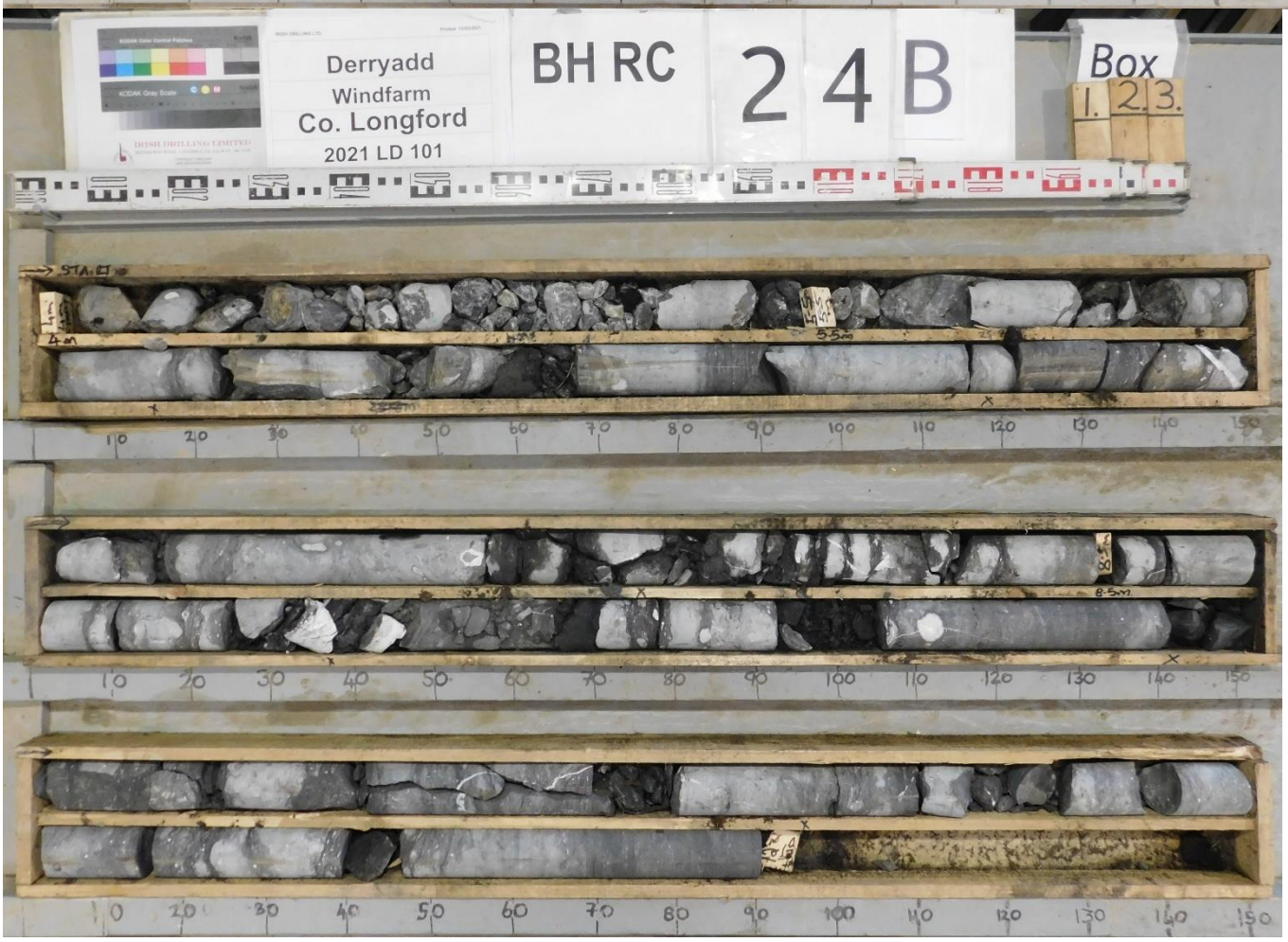
Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
23A
Box
1. 2. 3.

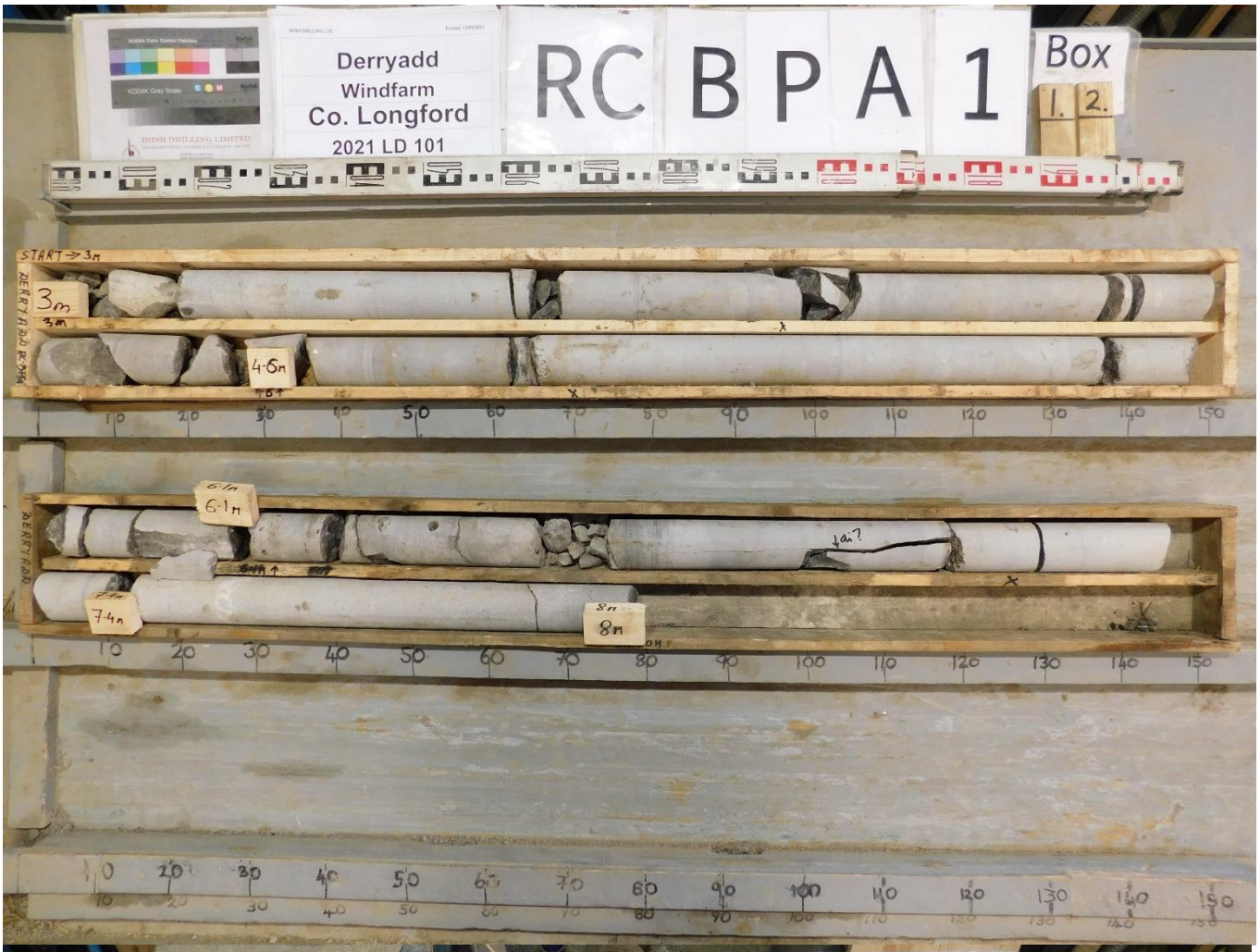

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
23A
Box
4. 5.

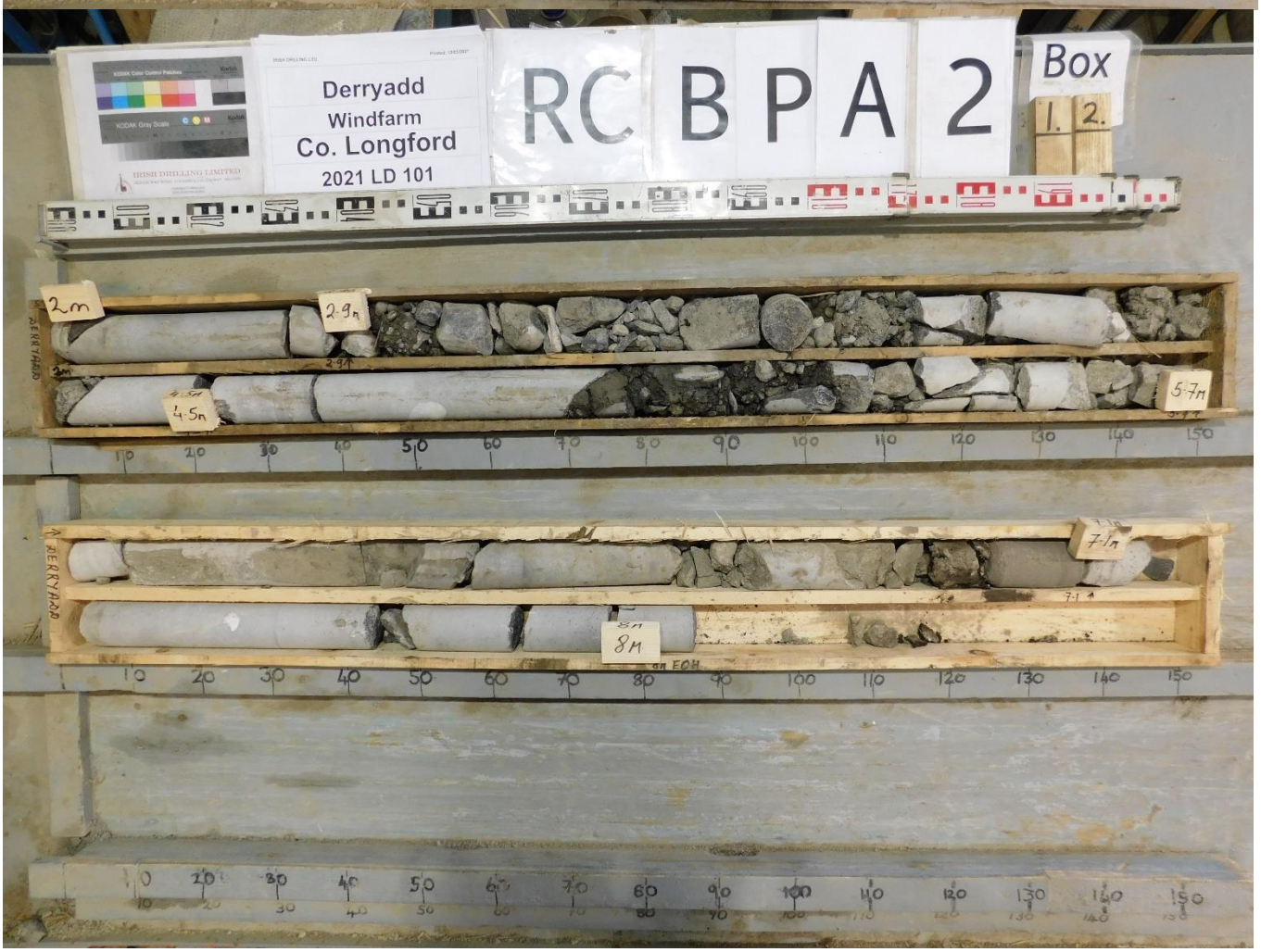

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
2 3 B
Box
1. 2. 3.

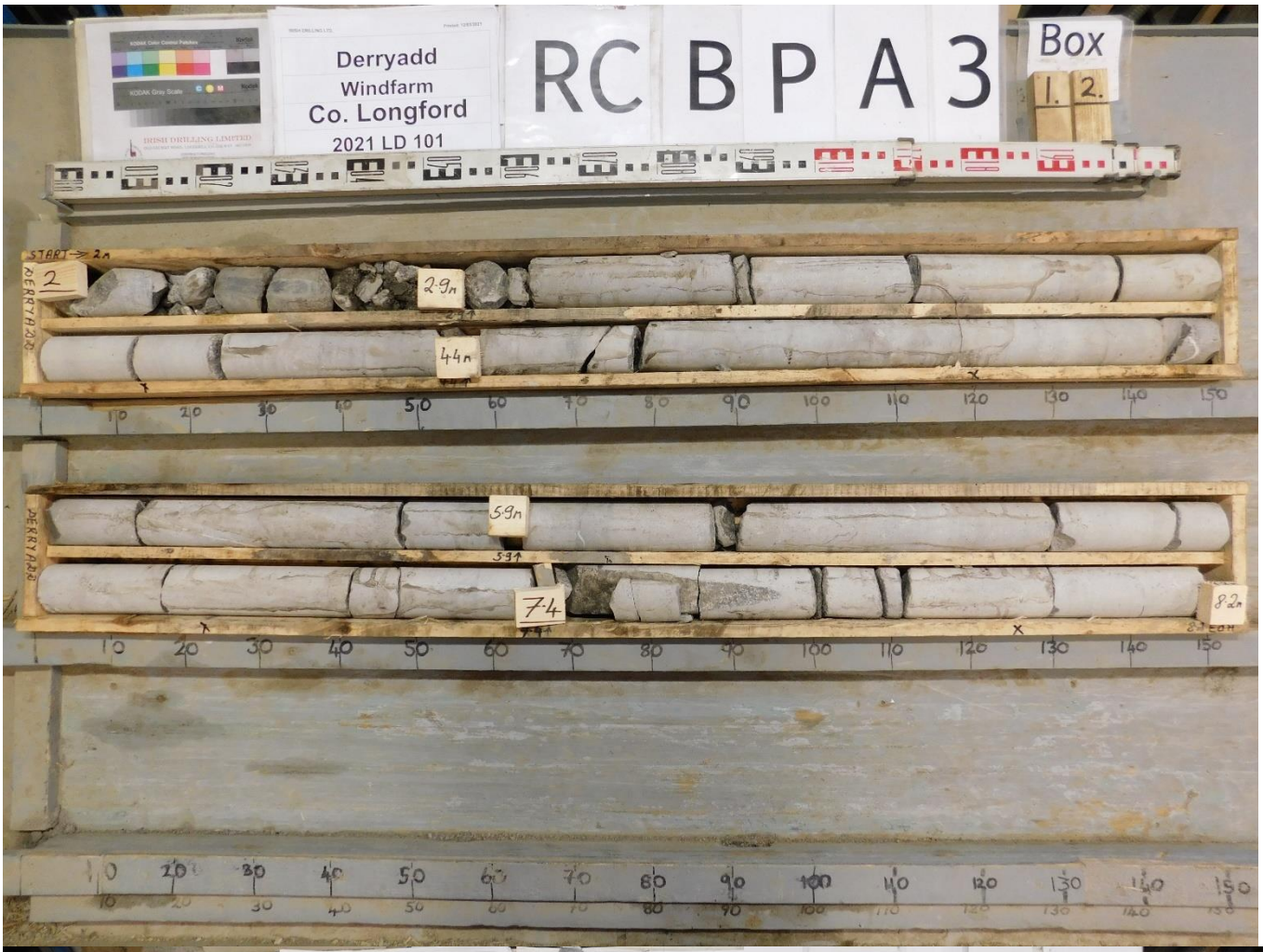

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
2 3 B
Box
4. 5.

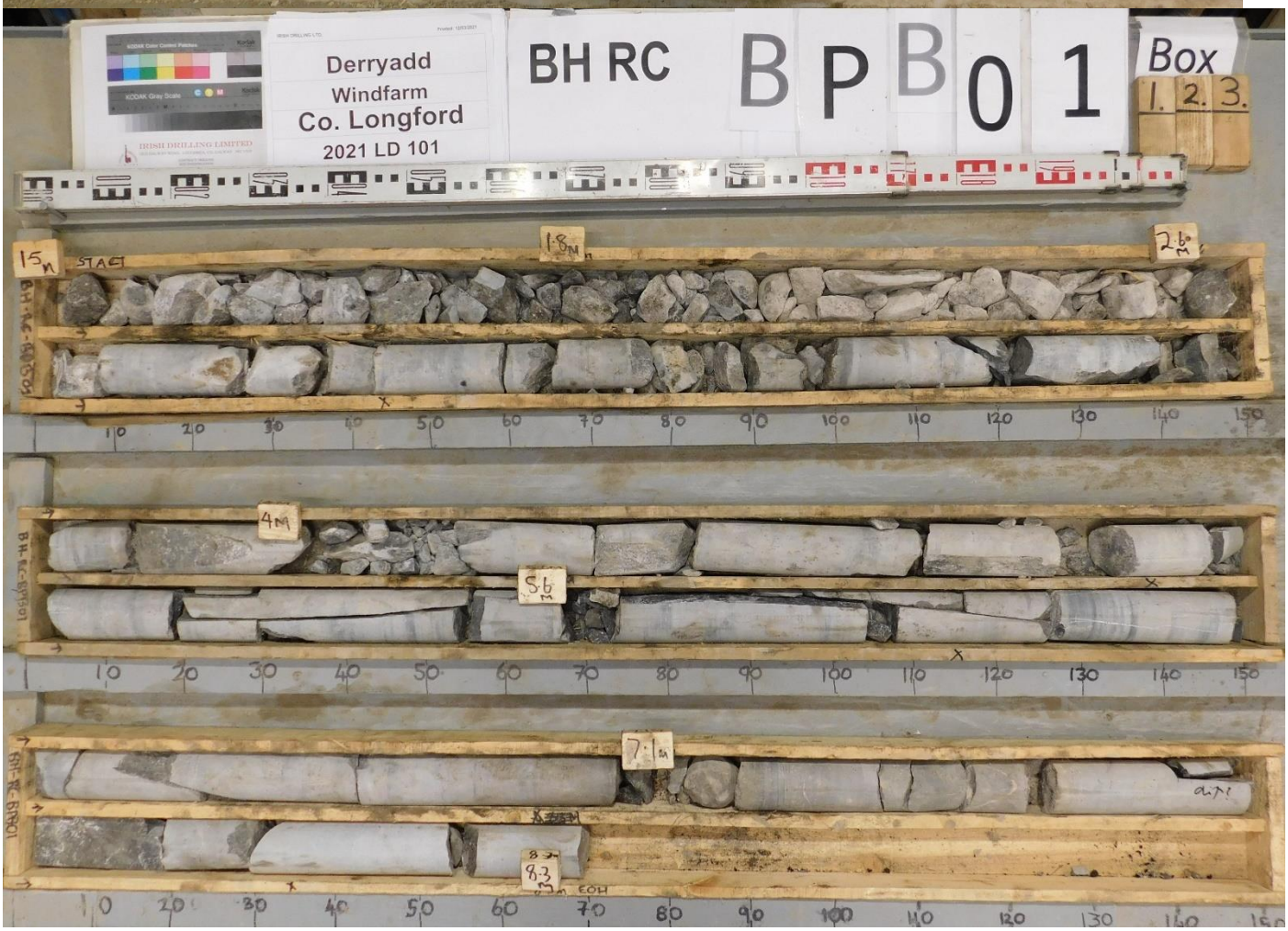

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
24 A
Box
1. 2. 3.
START
3m START
4-5m
6-2m
9-2m
12-2m END

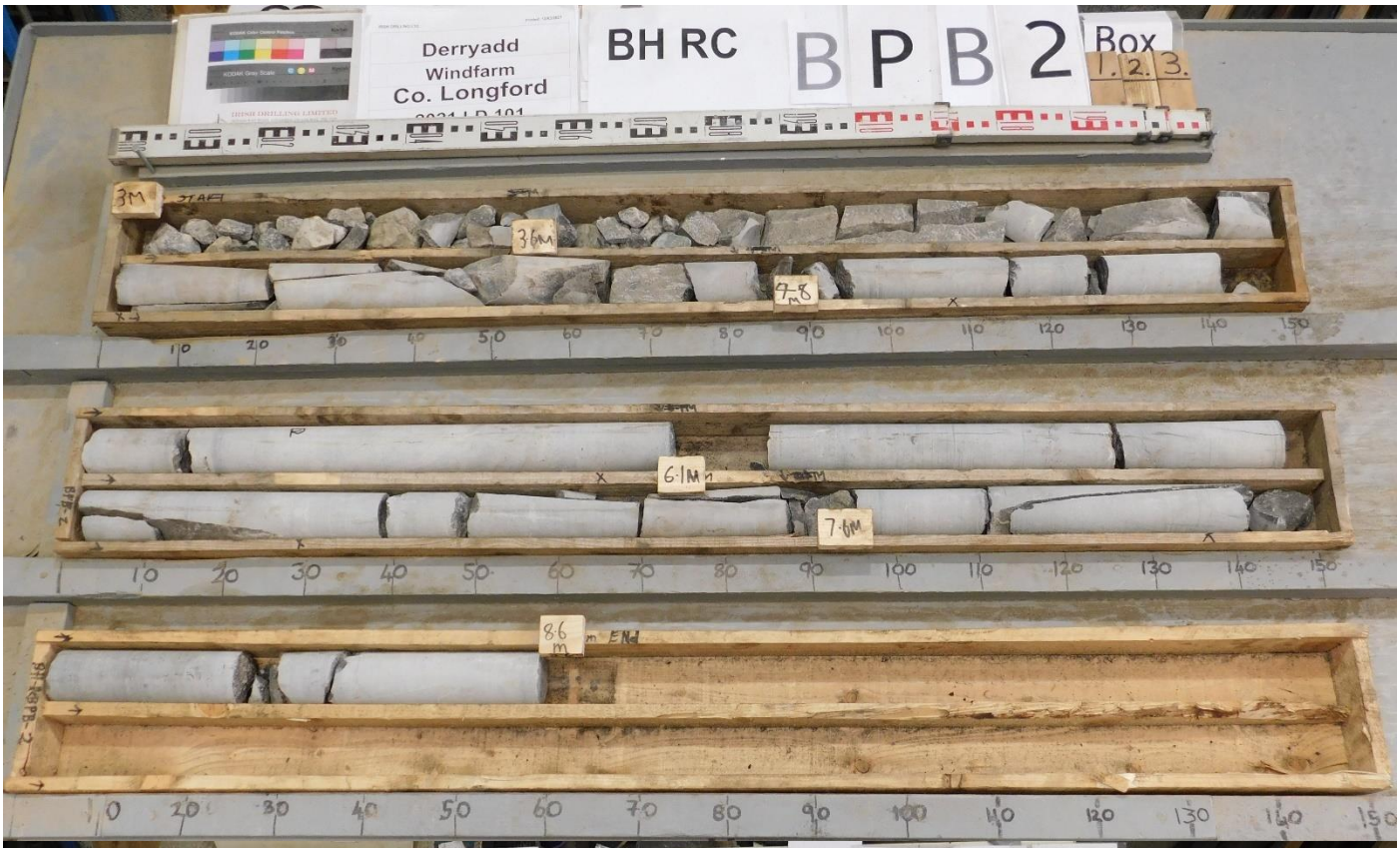

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
24 B
Box
1. 2. 3.
START
4m
5.5m
8.5m

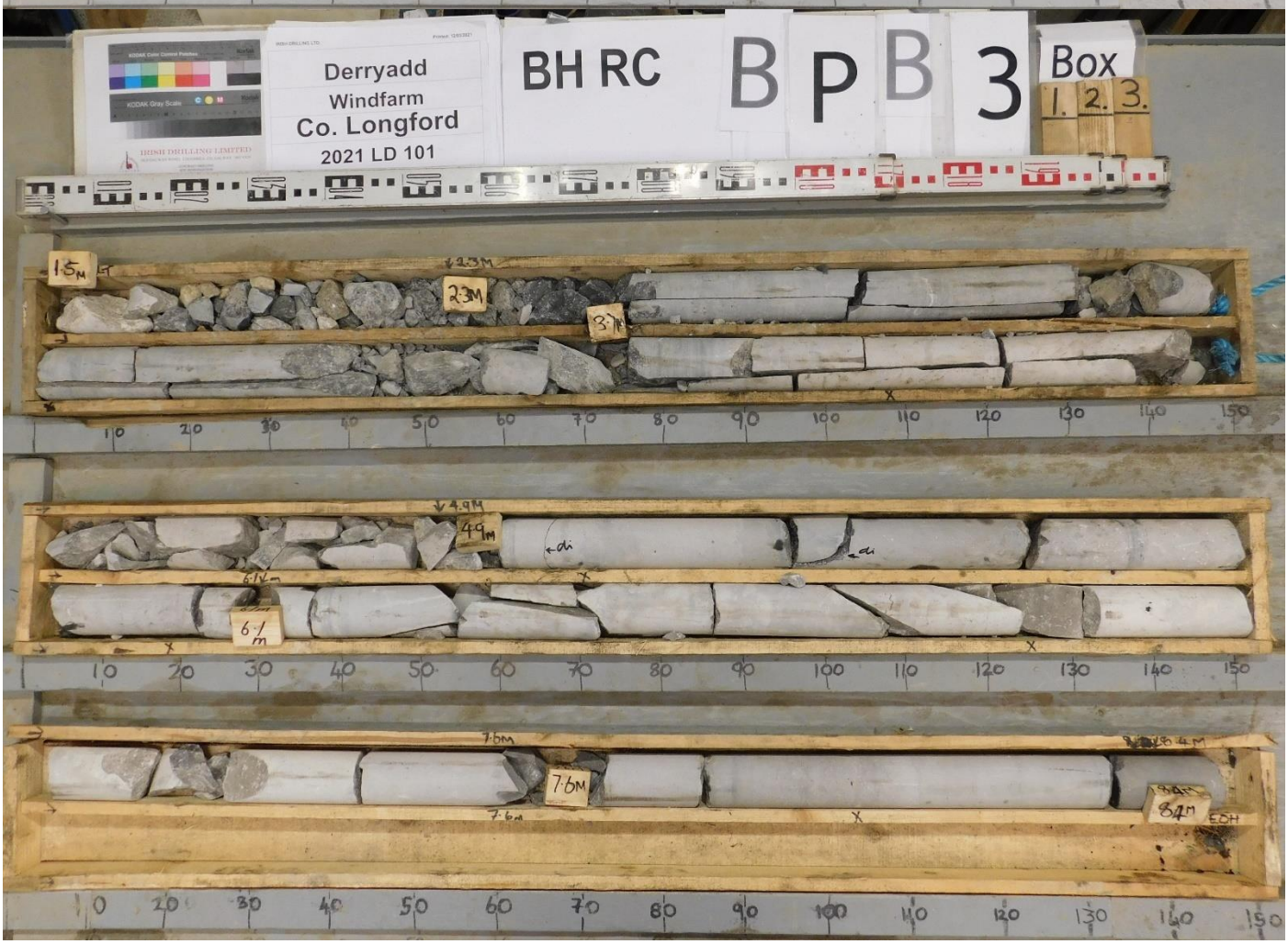

Derryadd
Windfarm
Co. Longford
2021 LD 101
RC BPA 1
Box
1. 2.
START → 3m
3m
4.6m
6.1m
7.4m
8m


Derryadd
Windfarm
Co. Longford
2021 LD 101
RC BPA 2
Box
1. 2.
2m
2.9m
4.5m
5.7m
7.1m
8m

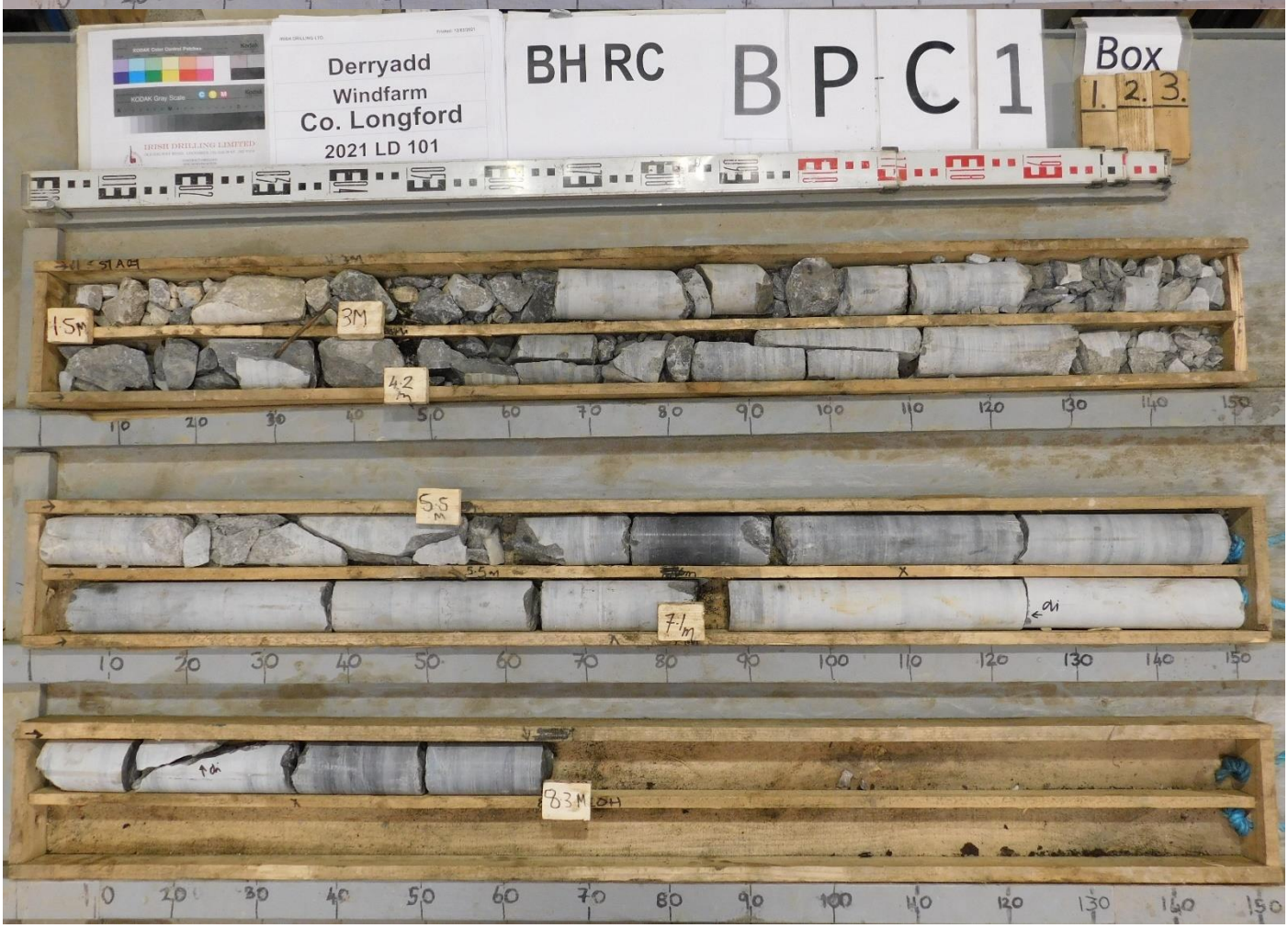

Derryadd
Windfarm
Co. Longford
2021 LD 101
RC B P A 3
Box
1. 2.
START -> 2m
2
2.9m
4.4m
5.9m
7.4
8.2m

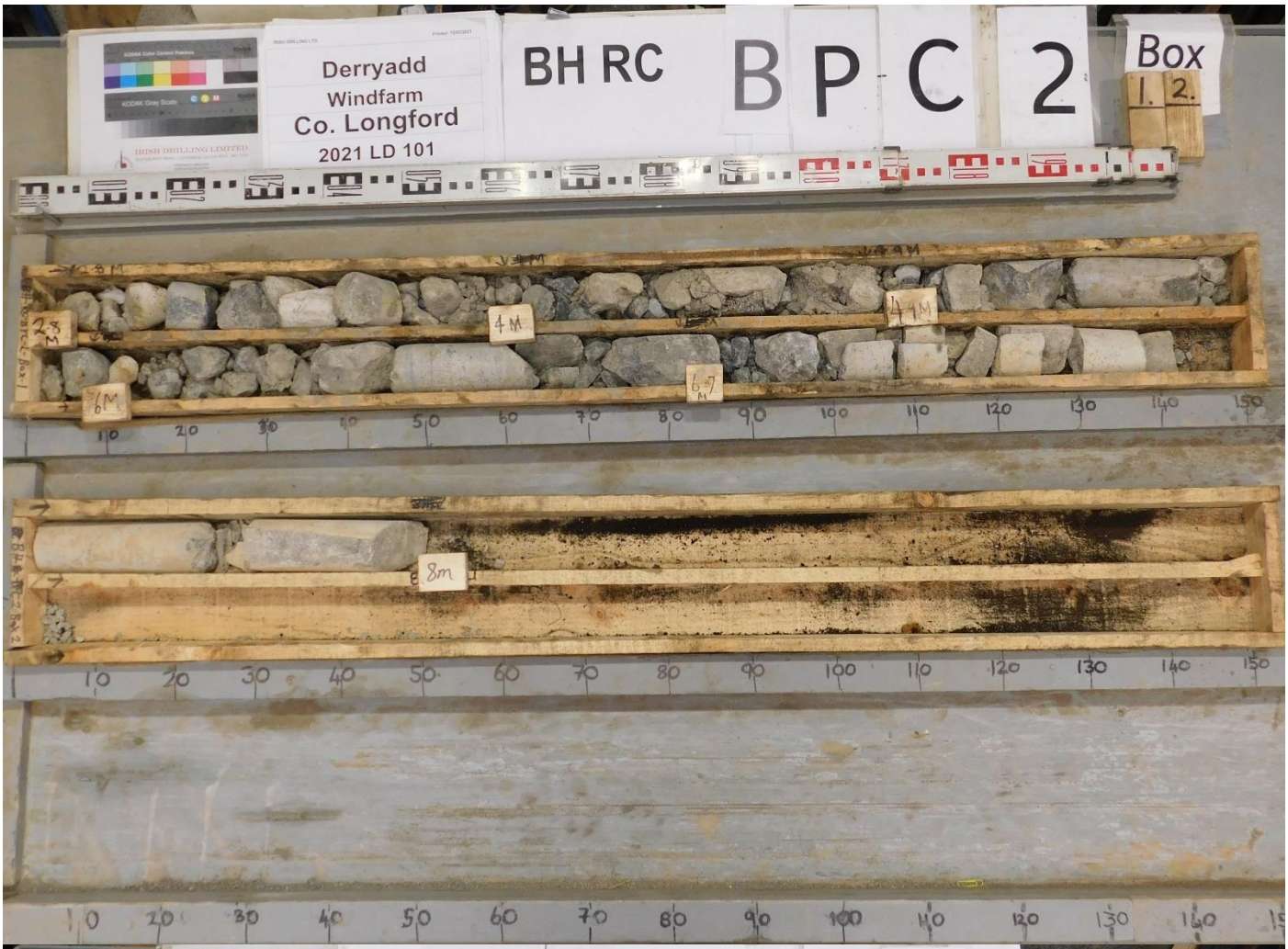

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC B P B 0 1
Box
1. 2. 3.
1.5m
START
1.8m
2.6m
4m
5.6m
7.1m
8.3
EOH


Derryadd
Windfarm
Co. Longford
BH RC
B P B 2
Box
1. 2. 3.
3M
3.6M
7.8
6.1M
7.6M
8.6
END


Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
B P B 3
Box
1. 2. 3.
1.5M
2.3M
3.1M
4.9M
6.1
7.6M
8.4M

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
B P B 4
Box
1.
2.8M
6M
7m
3.8M
5.1M
7.6 m
8.3 m

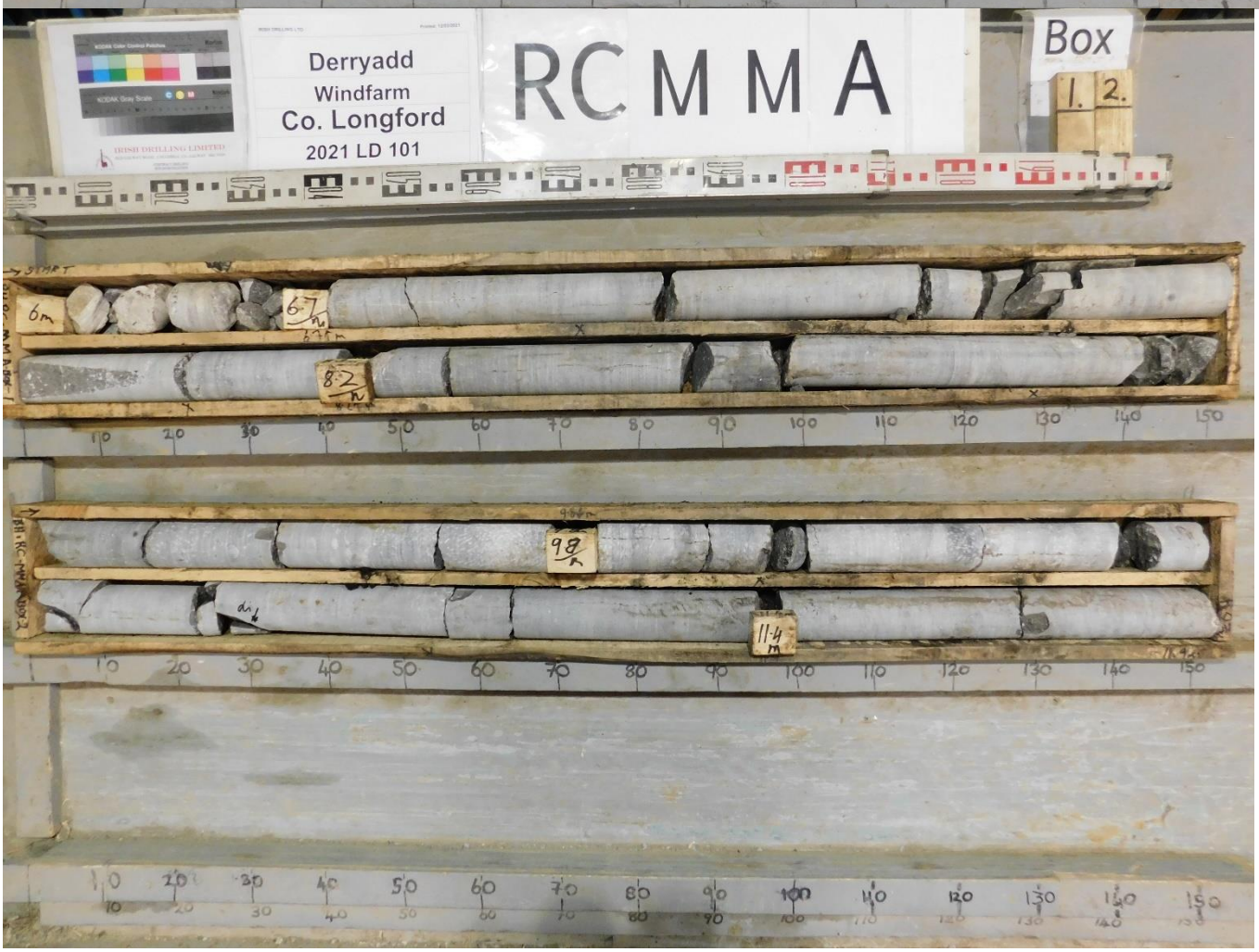

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
B P C 1
Box
1. 2. 3.
1.5M
3M
4.2 m
5.5 M
7.1m
8.3M

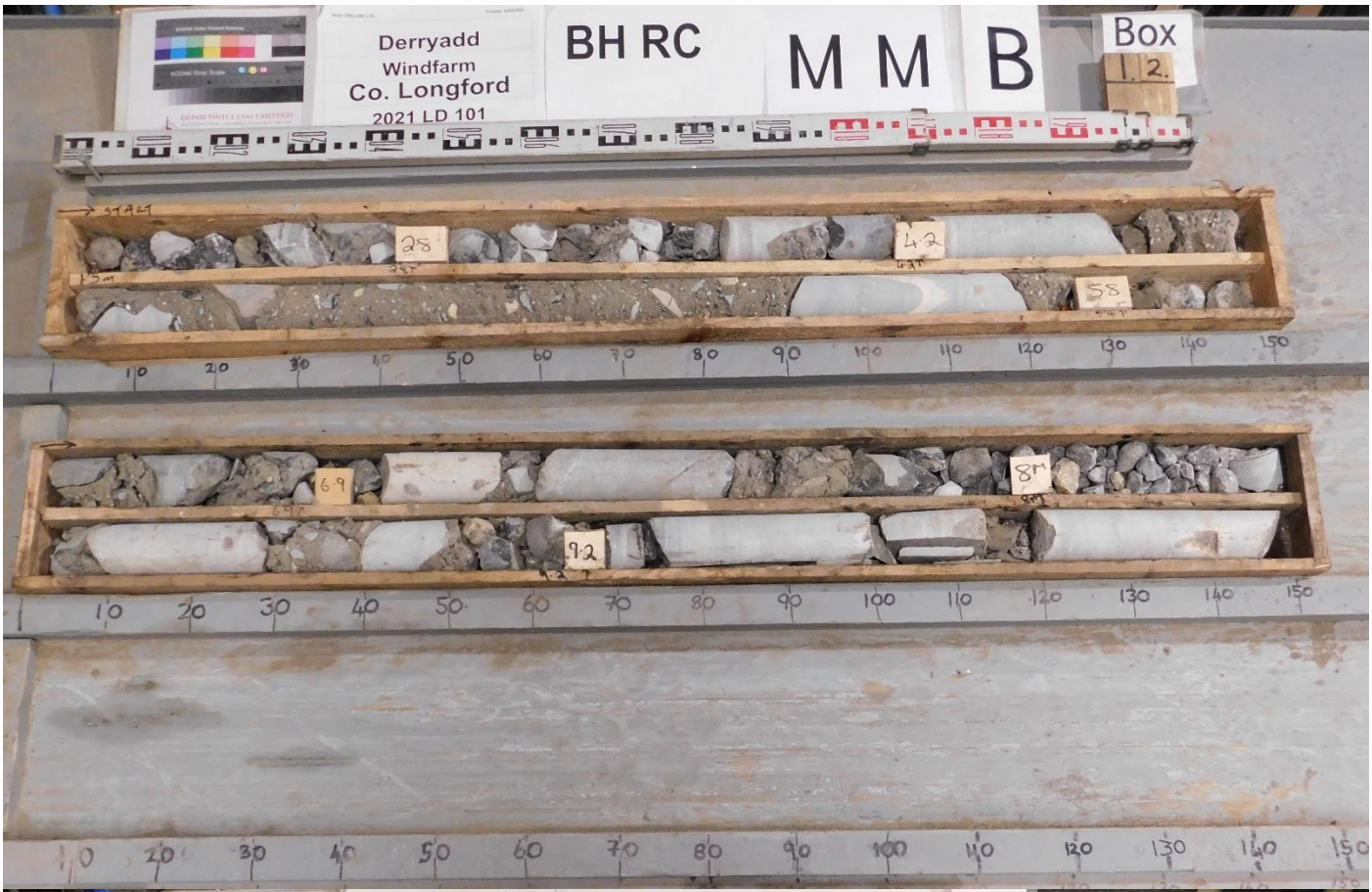

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
BPC 2
Box
1. 2.
4M
6M
8m

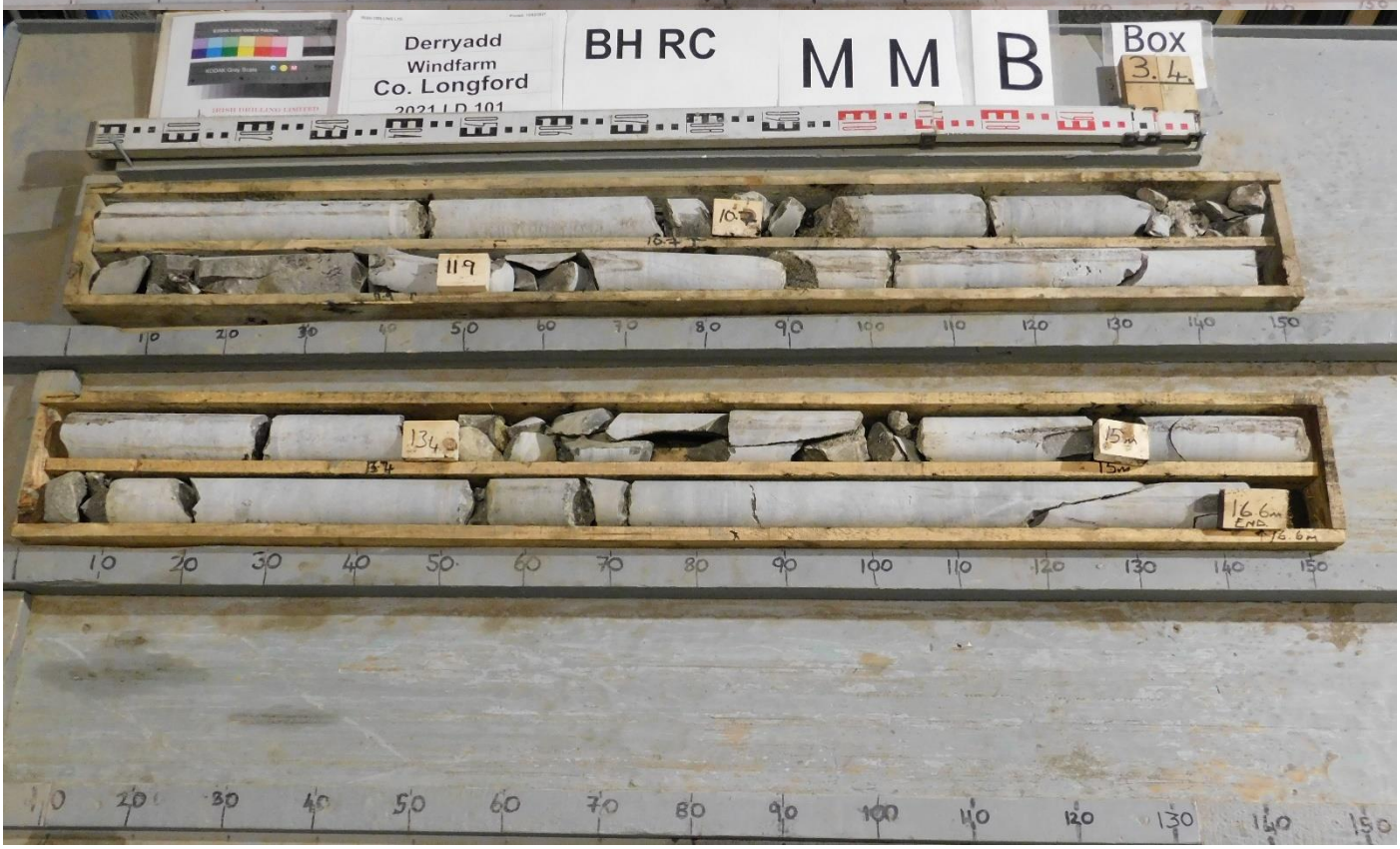
Derryadd
Windfarm
Co. Longford
BH RC
BPD 1
Box
1. 2. 3.
4.3M
5.9M
7.5 M
9M

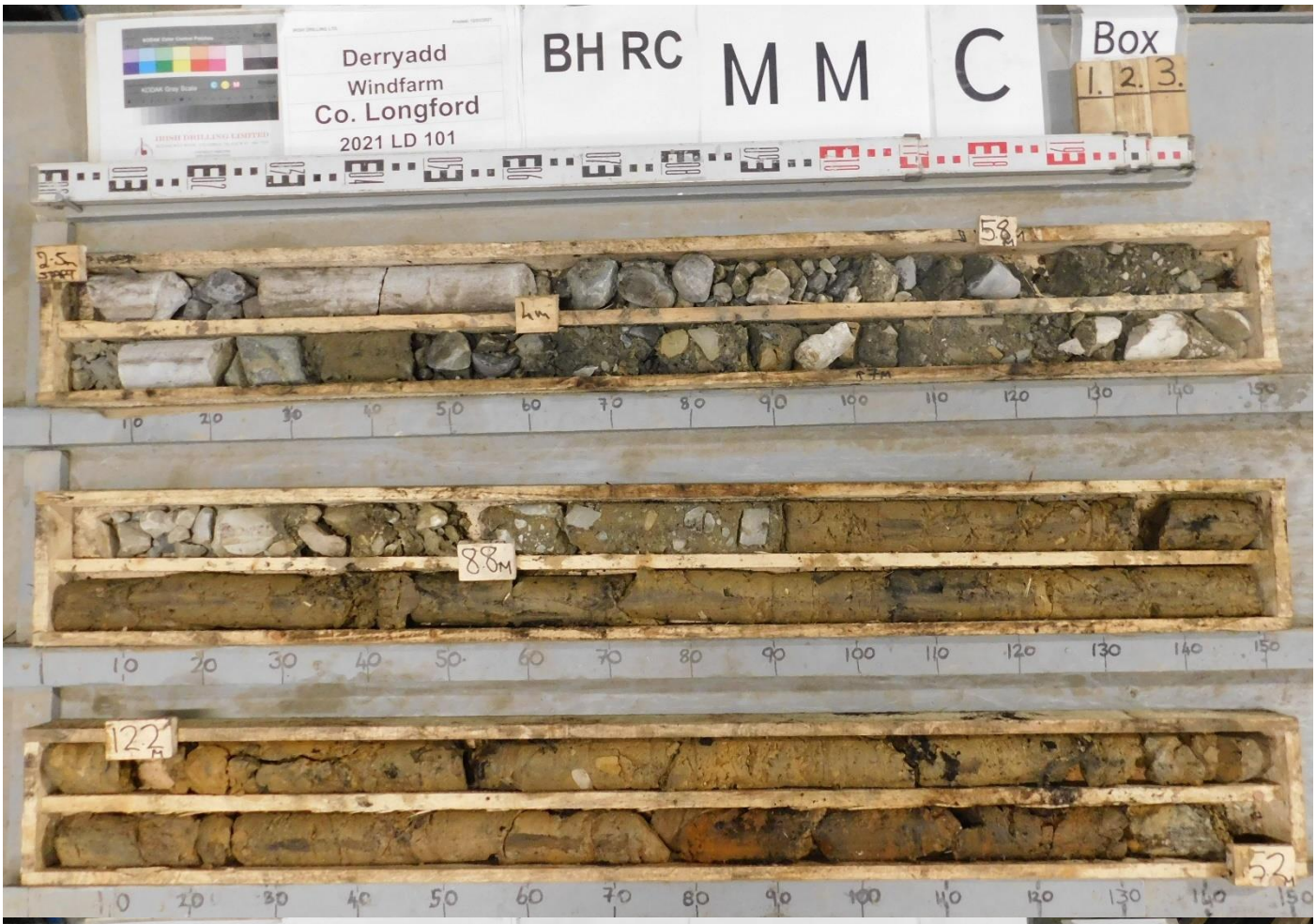
Derryadd
Windfarm
Co. Longford
BH RC
B P D 2
Box
1. 2. 3.
Derryadd
Windfarm
Co. Longford
BH RC
B P E 1
Box
1. 2. 3.

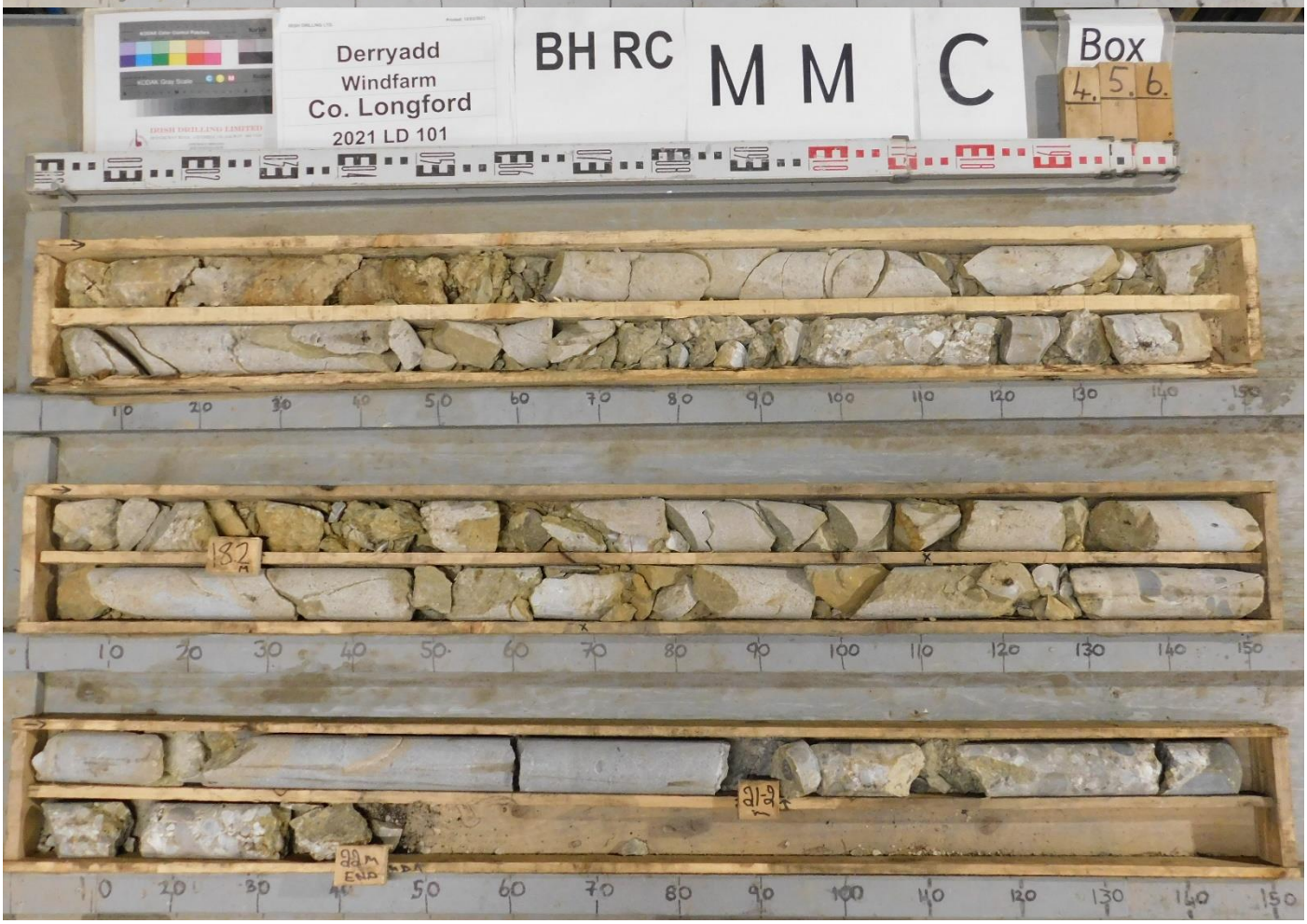
Derryadd
Windfarm
Co. Longford
BH RC
B P E 2
Box
1. 2.
2.7m
3.6m
4.6m
5.8m
6.8m
8.2m EOBH

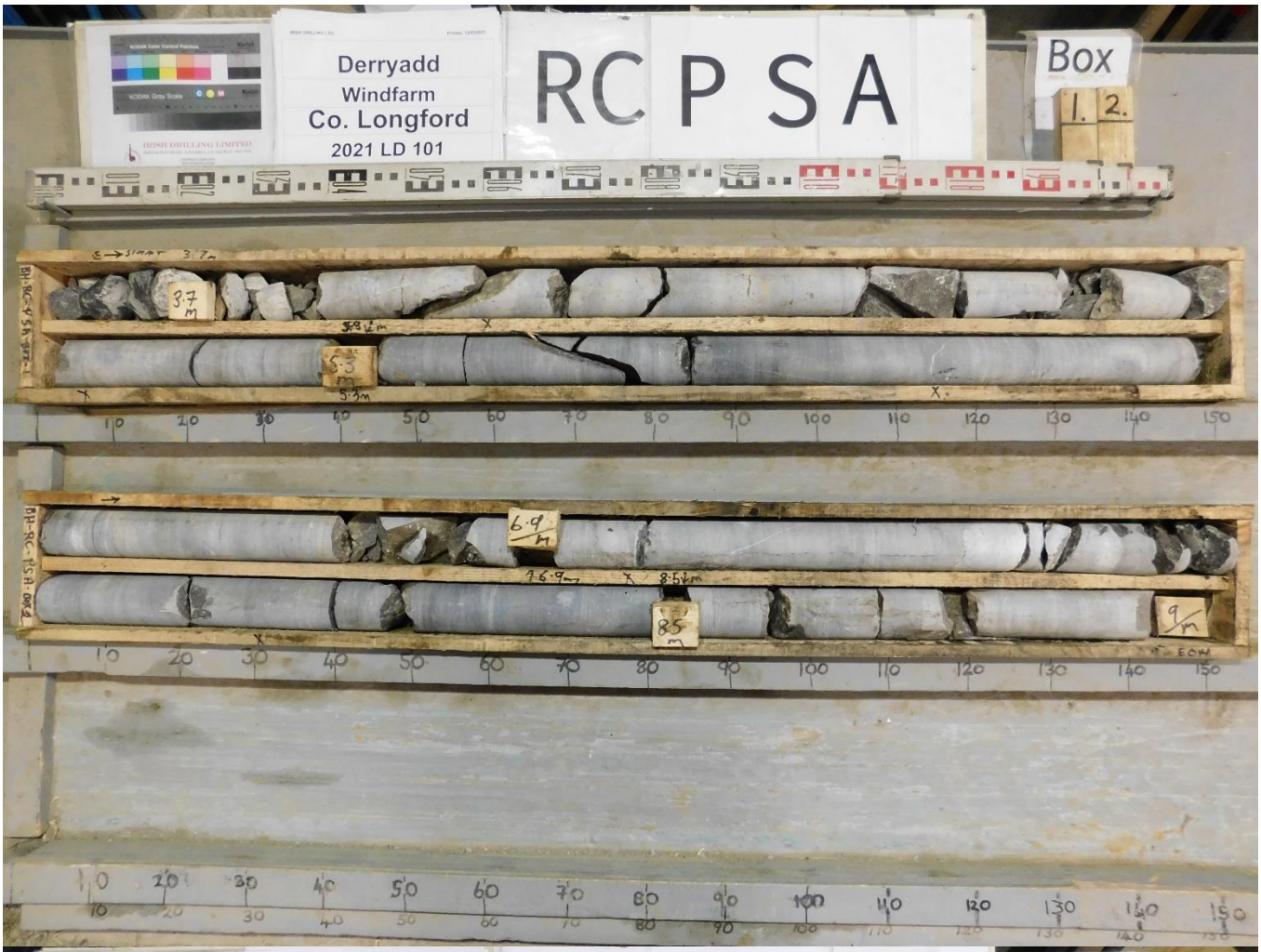

Derryadd
Windfarm
Co. Longford
2021 LD 101
RC M M A
Box
1. 2.
6m
6.7m
8.2m
9.8m
11.4m

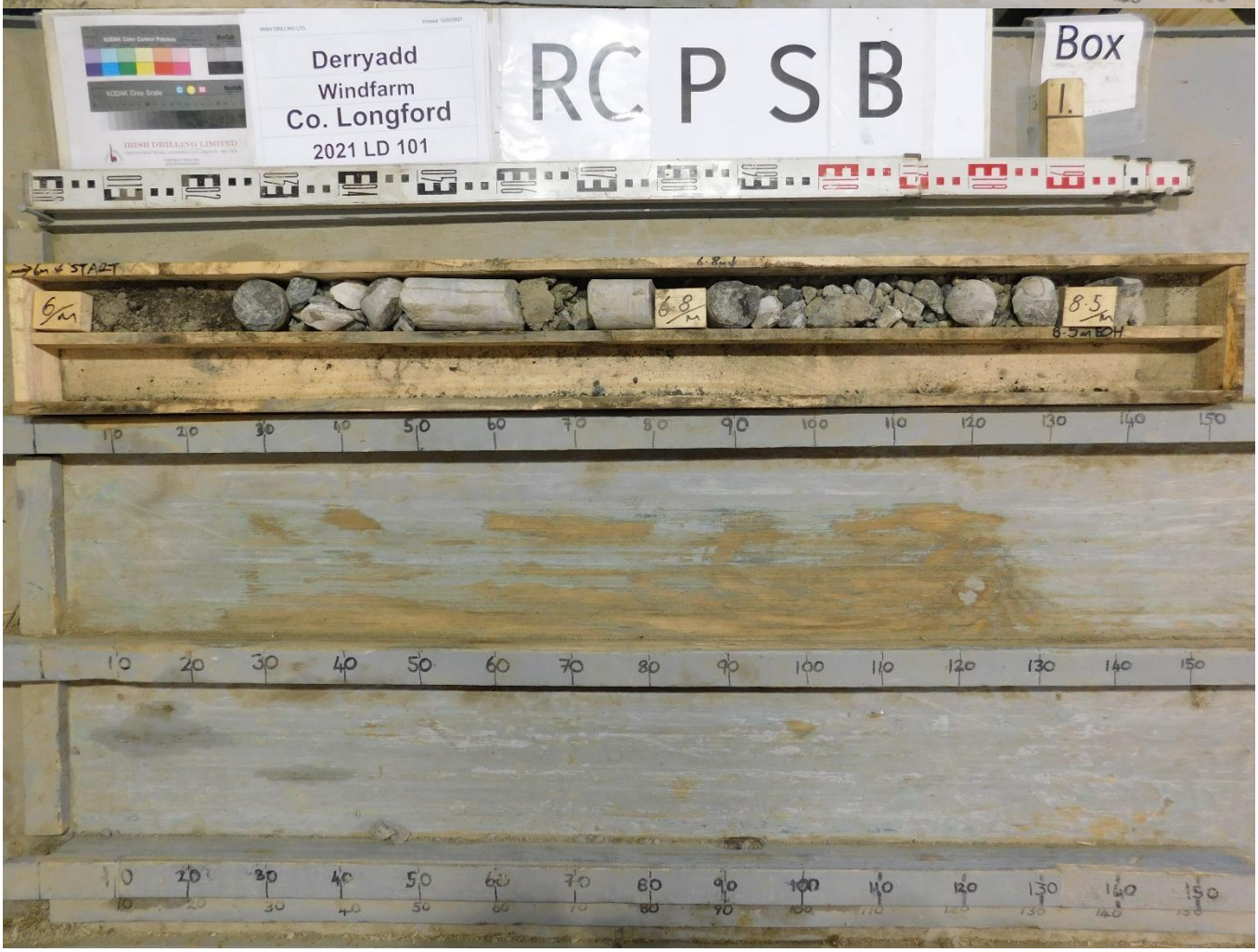

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
M M B
Box
1.2.
28
42
58
69
81
92

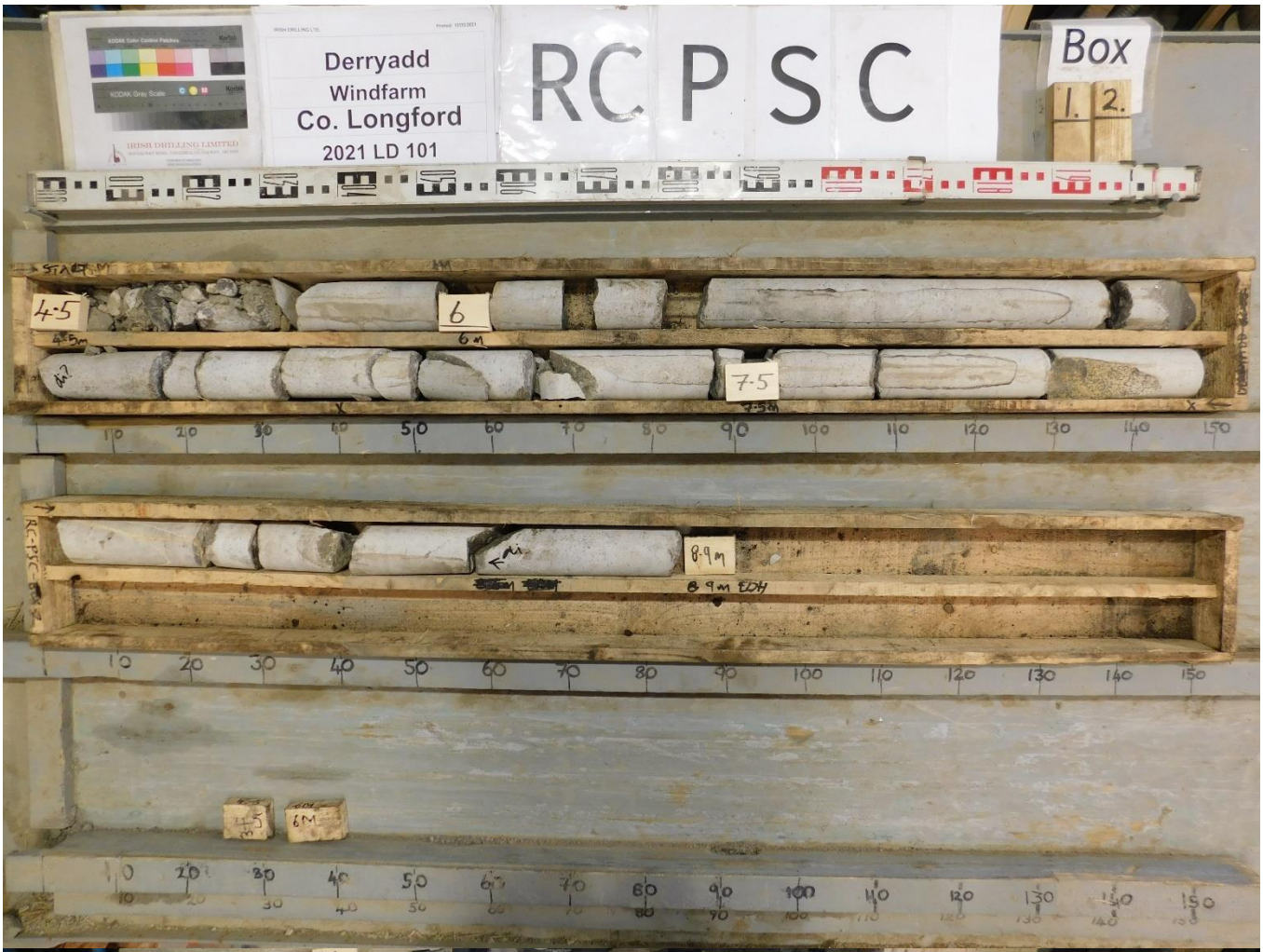

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
M M B
Box
3.4.
107
119
134
15m
16.6m
END

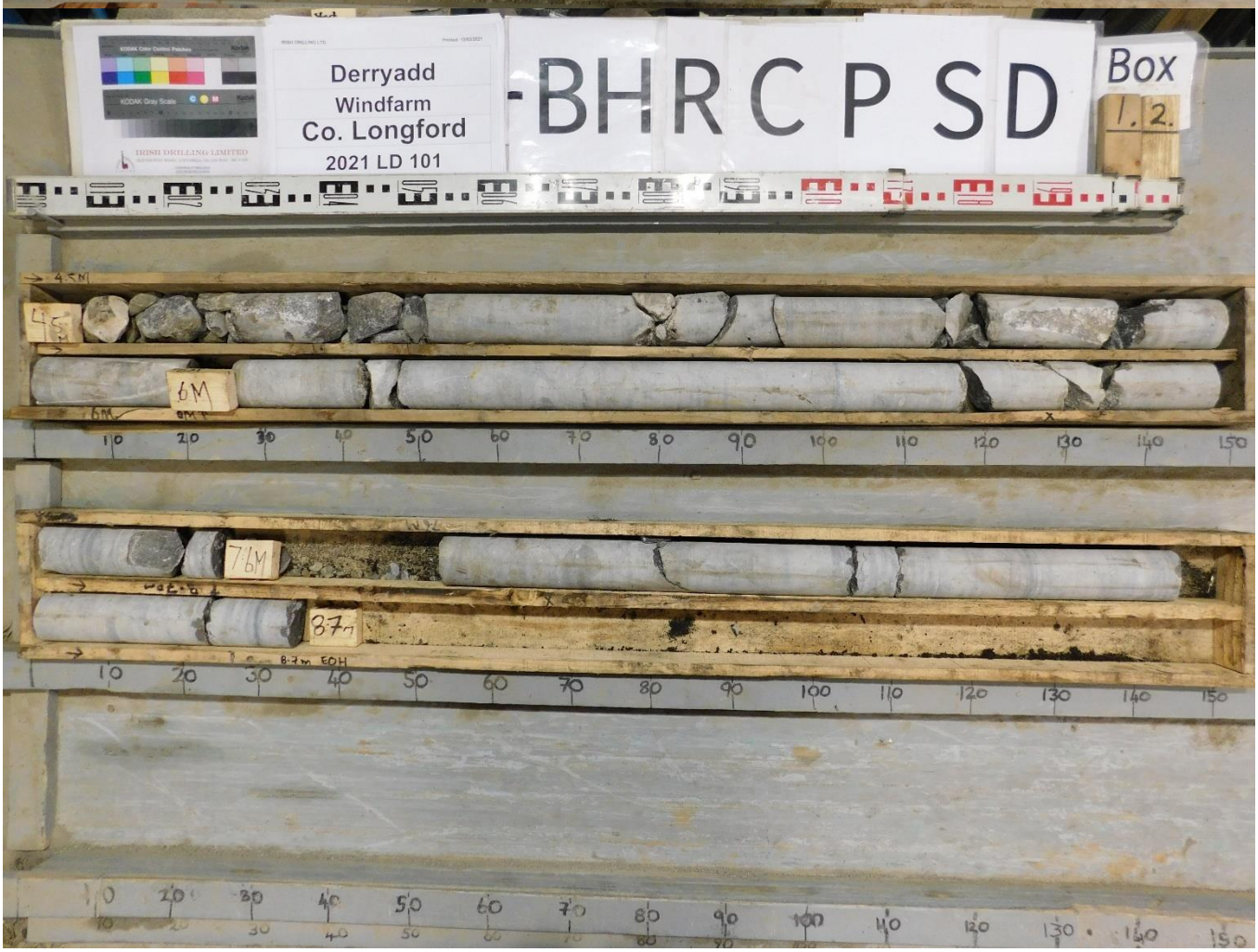

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
M M
C
Box
1. 2. 3.
2.5m START
4m
58m
88m
122m
152m

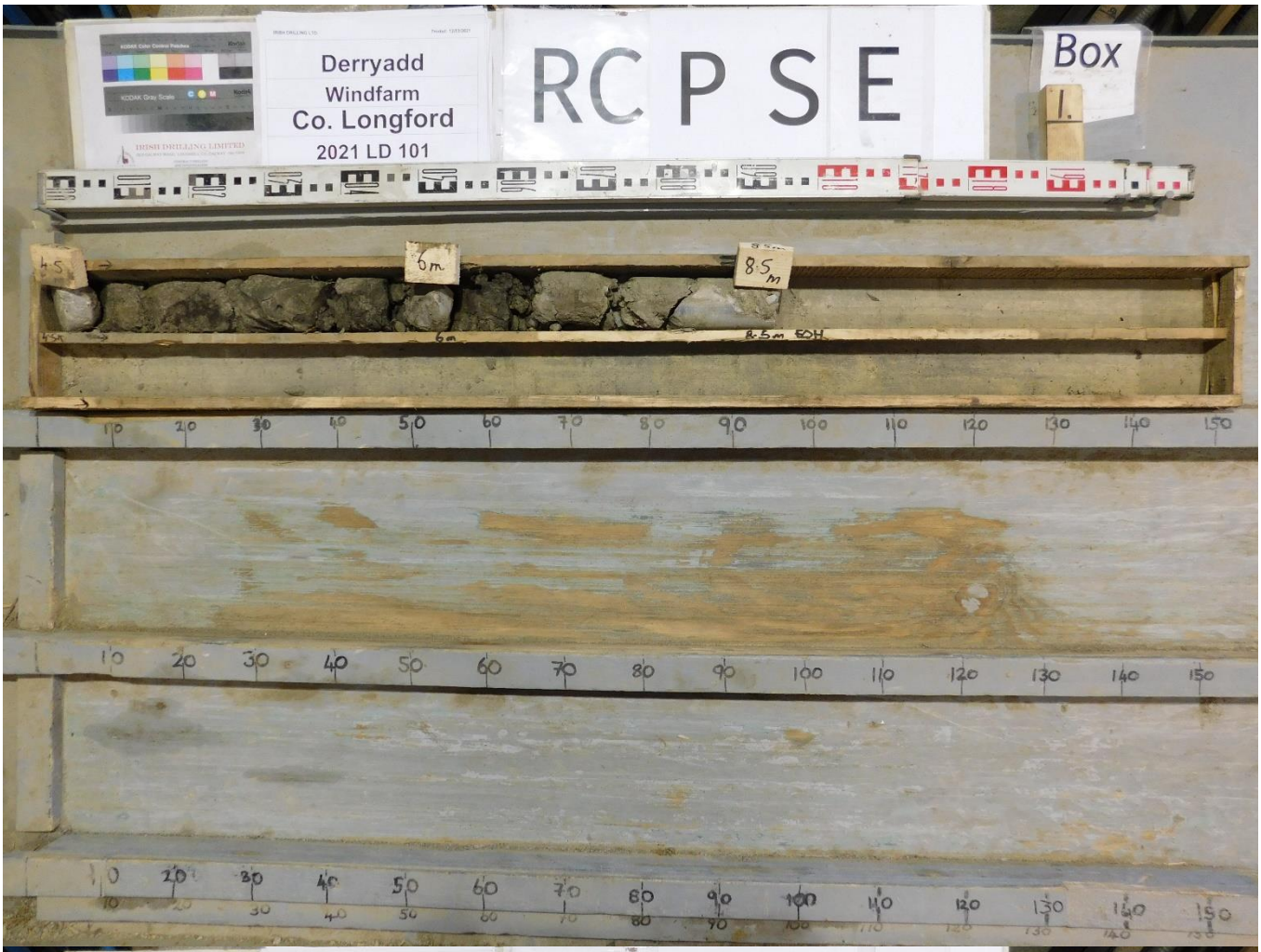

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
M M
C
Box
4. 5. 6.
182m
21.2m
22m END

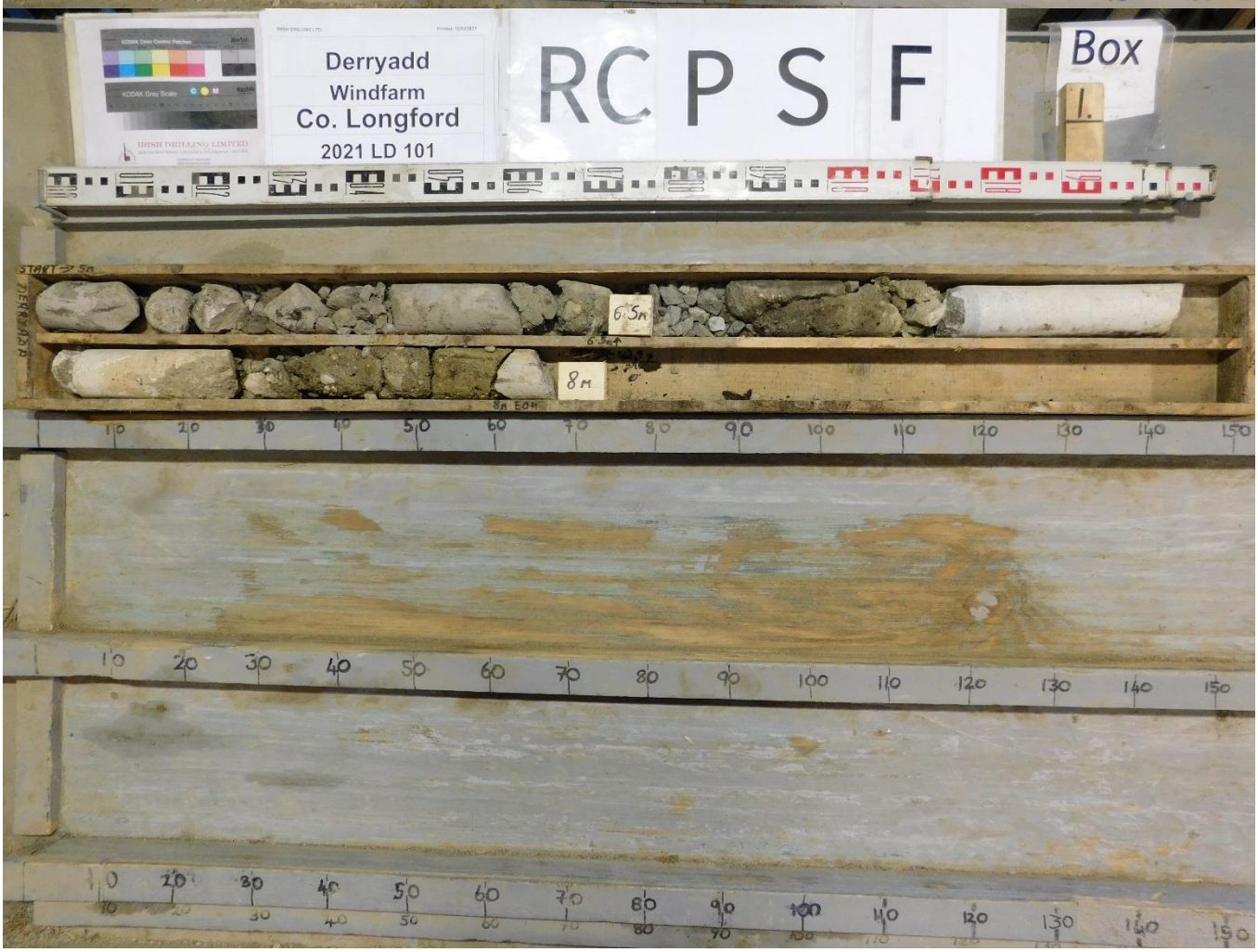

Derryadd
Windfarm
Co. Longford
2021 LD 101
RC P S A
Box
1. 2.


Derryadd
Windfarm
Co. Longford
2021 LD 101
RC P S B
Box
1.


Derryadd
Windfarm
Co. Longford
2021 LD 101
RC P S C
Box
1. 2.
4.5
6
7.5
8.9m
8.9m EOH


Derryadd
Windfarm
Co. Longford
2021 LD 101
-BHR C P SD
Box
1. 2.
4.5
6M
7.6M
8.7m
8.7m EOH


Derryadd
Windfarm
Co. Longford
2021 LD 101
RC P S E
Box
1.
4.5
6m
8.5m
8.5m EOH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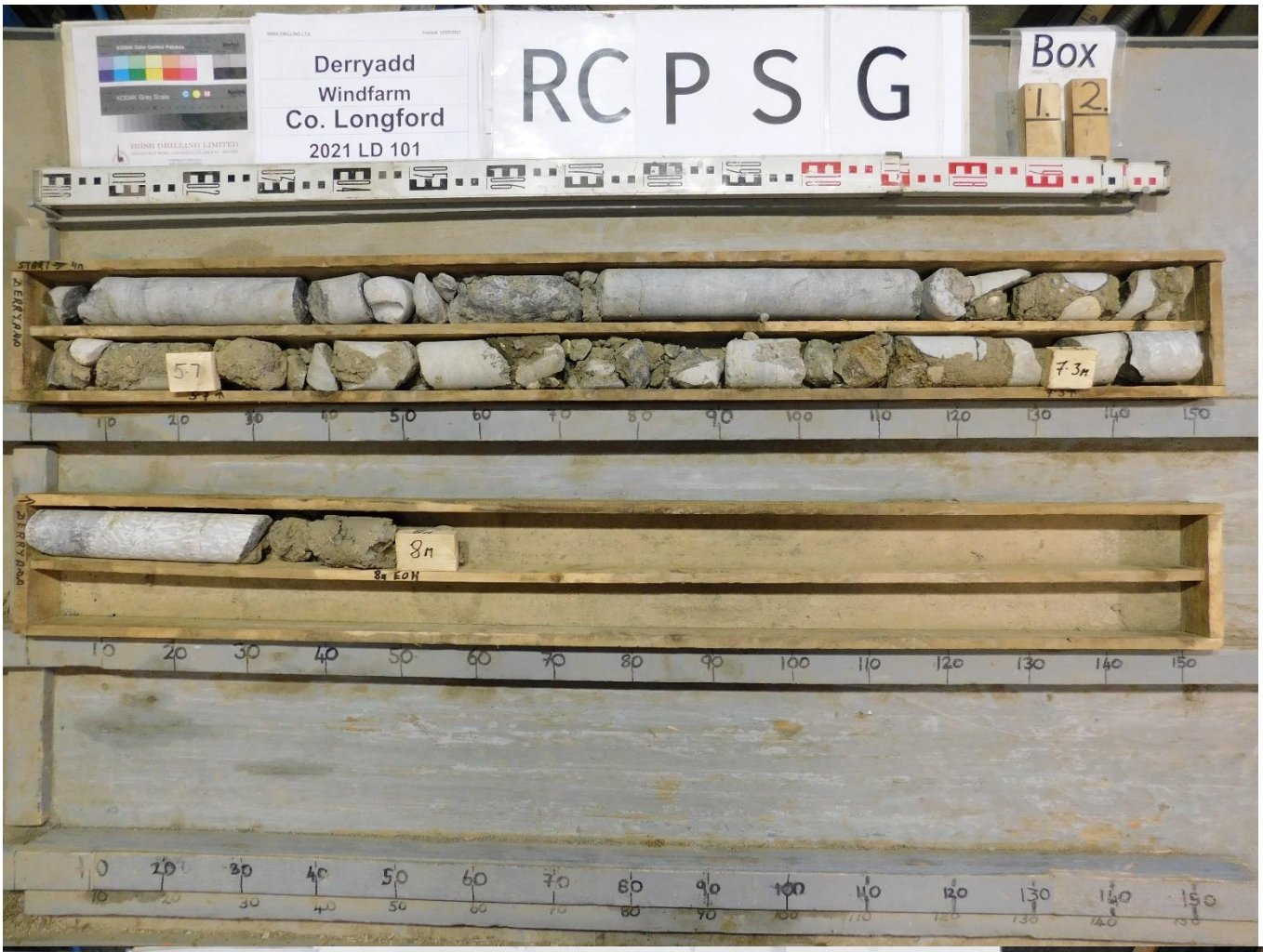
Windfarm
Co. Longford
2021 LD 101
RC P S F
Box
1.
6.5m
8m
8m EOH

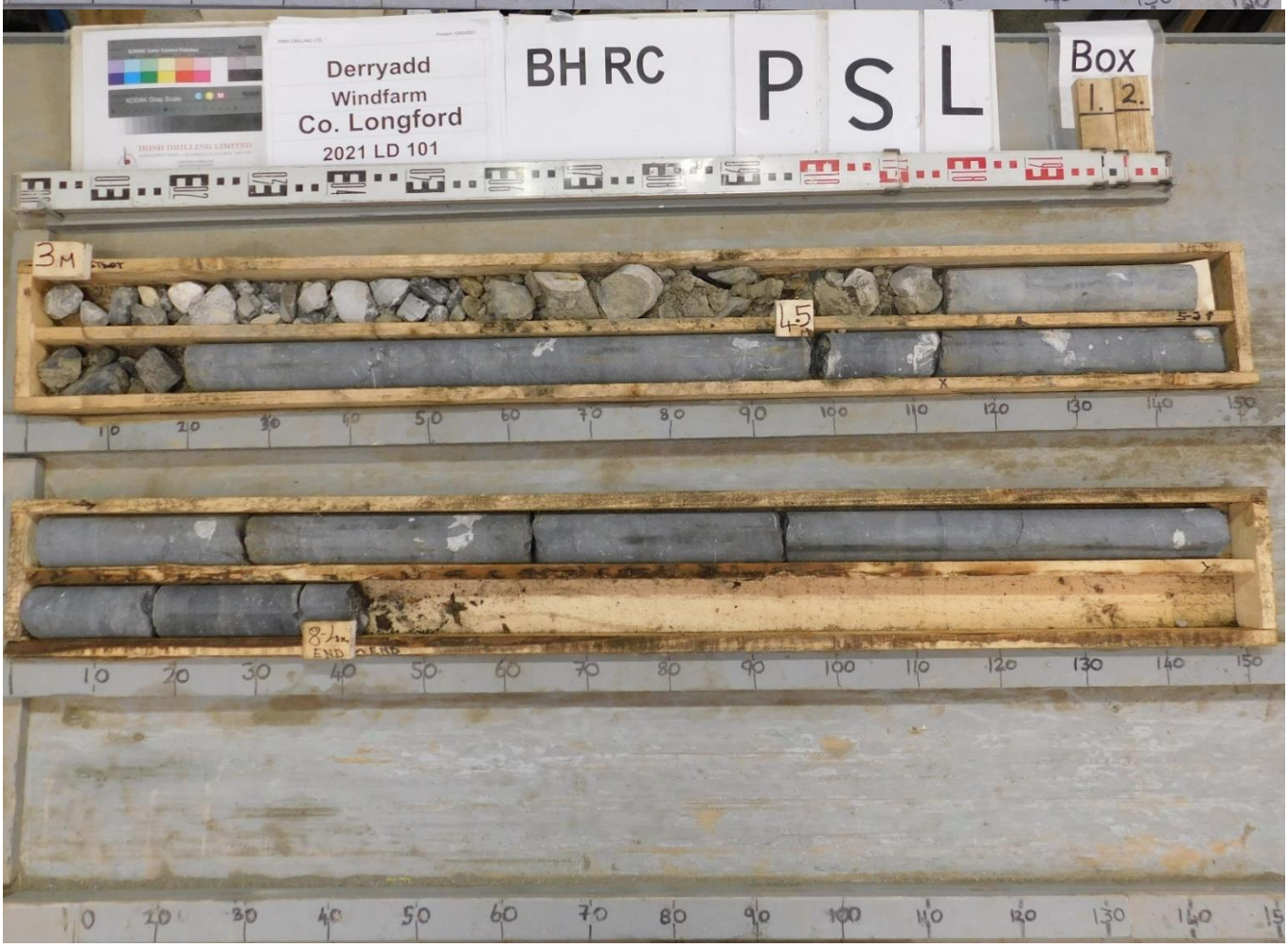

Derryadd
Windfarm
Co. Longford
2021 LD 101
RC P S G
Box
1. 2.
5.7
7.3m
8m
8m EOH

Derryadd
Windfarm
Co. Longford
BH RC P S H
Box
1. 2.
4.5m
3m
5.8m
7.3m
8.1m

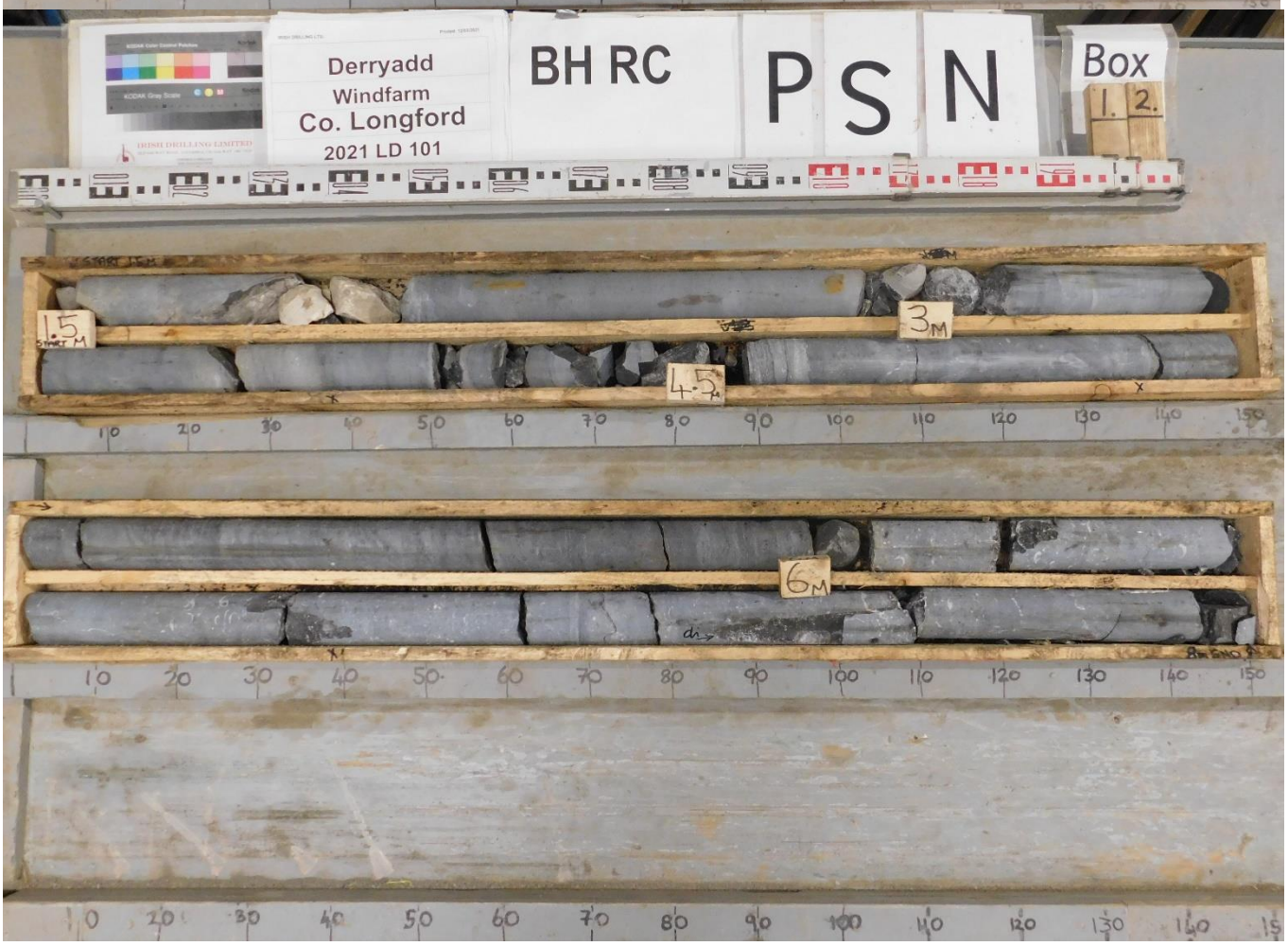
Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
P S I
Box
1. 2.
3M
4.4m
6M
7.5M
8.5
EOH

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
P S J
Box
1.
3M
4.2 m
5.6 m
7M
8.6 m
EOH

Derryadd
Windfarm
Co. Longford
BH RC
P 5 K
Box
1.
7.3m
9m
END


Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
P S L
Box
1. 2.
3M
4.5
8.4m
END

Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
P S M
Box
1.
3.3 M
4.5 M
6M
7.5 M
8.2 M


Derryadd
Windfarm
Co. Longford
2021 LD 101
BH RC
P S N
Box
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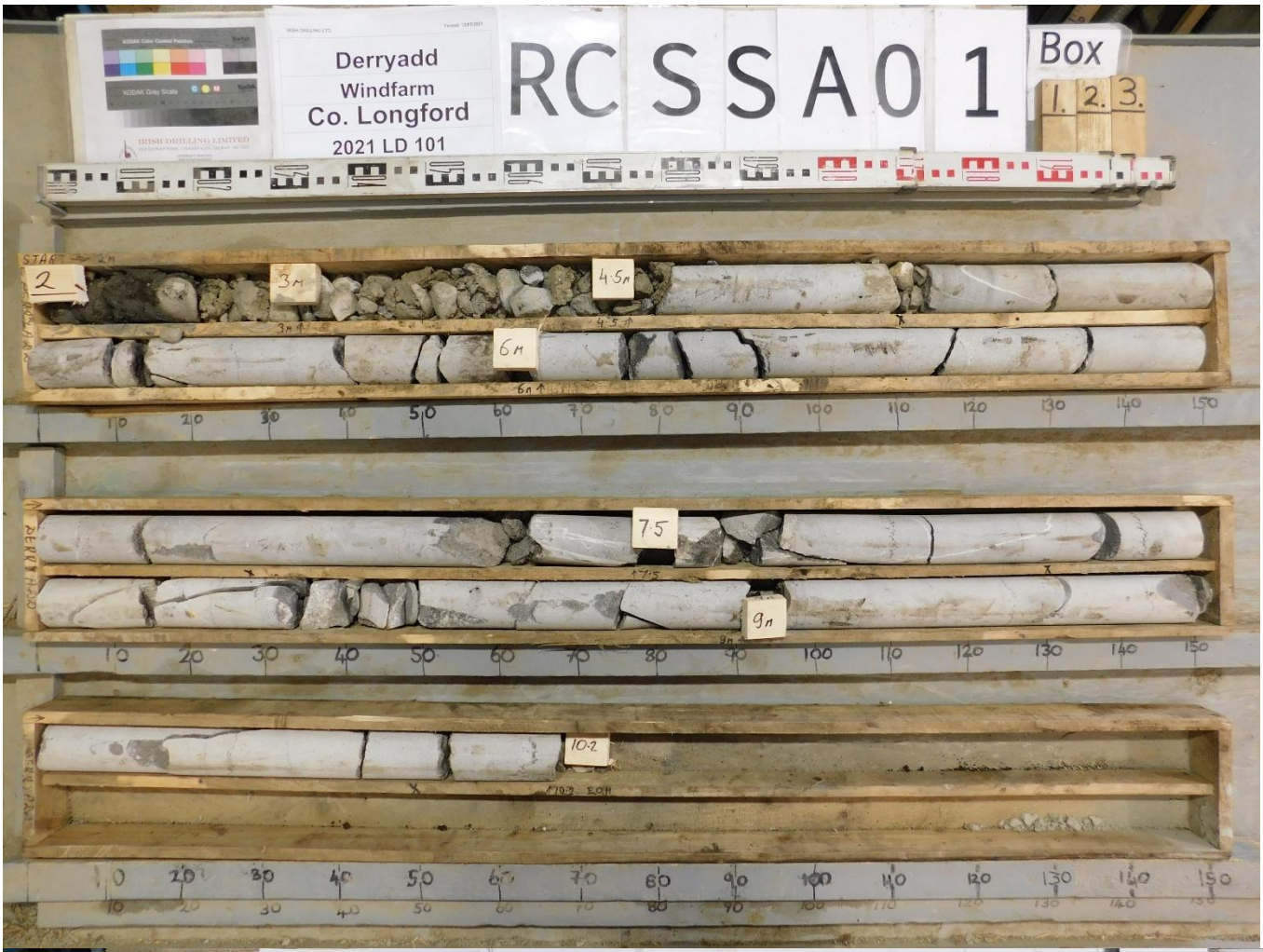
4.5M
6M


Derryadd
Windfarm
Co. Longford
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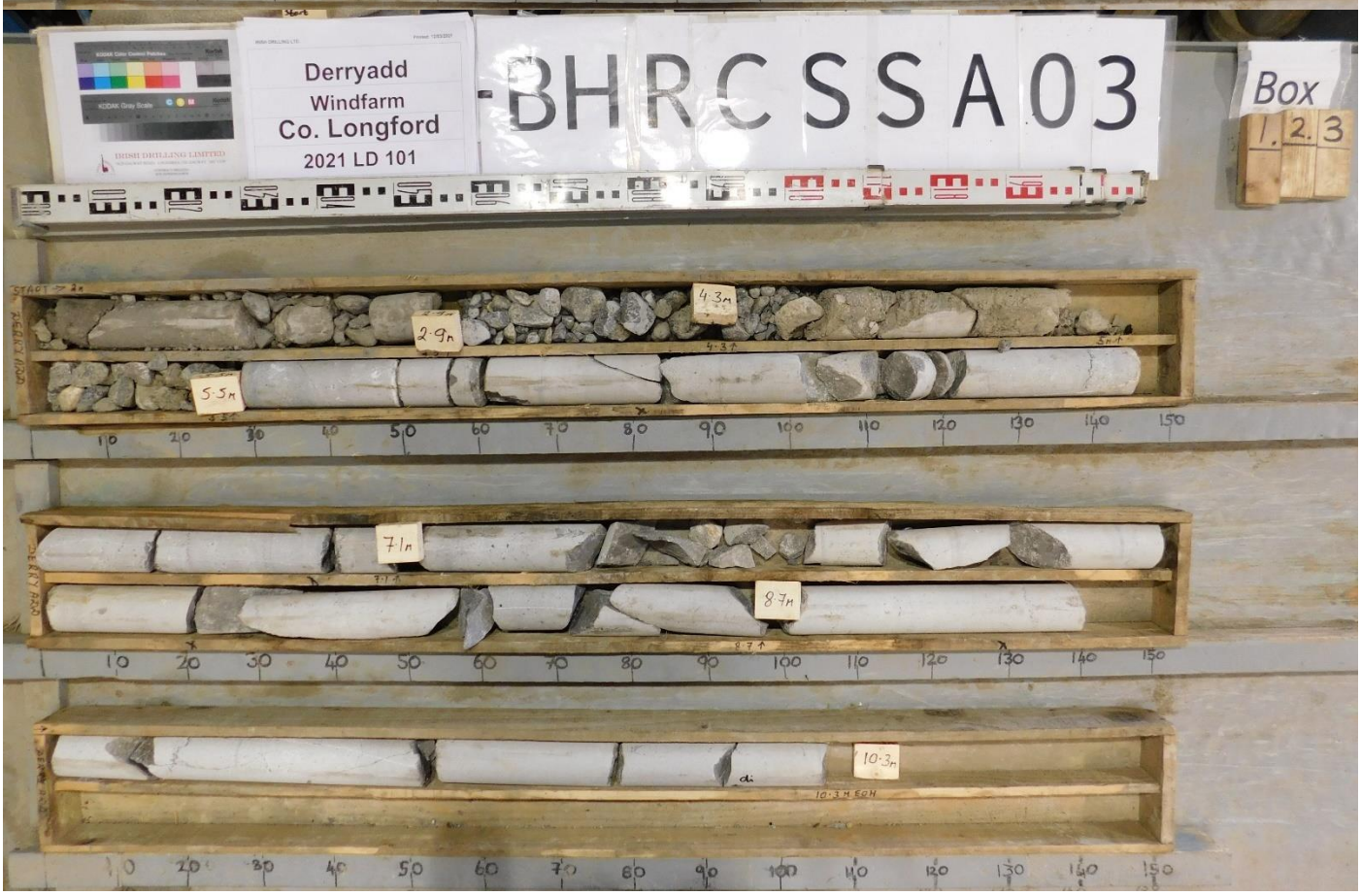
Box
1. 2. 3.
2
3m
4.5m
6m
7.5
9m
10.2

Derryadd
Windfarm
Co. Longford
2021 LD 101
-BHRCSSA02
Box
1. 2.
2.9m
4.4m
5.9m
7.4m

Derryadd
Windfarm
Co. Longford
2021 LD 101
-BHRCSSA02
Box
3.4
8.9m
10.4m
11.9m


Derryadd
Windfarm
Co. Longford
2021 LD 101
-BHRCSSA03
Box
1.2.3
2.9m
4.3m
5.5m
7.1m
8.7m
10.3m

Derryadd
Windfarm
Co. Longford
2021 LD 101
BHRCSSA04
Box
1.2.3
2.9m
5.9m
4.4m
8.9m
10.4m
11.9m

Derryadd
Windfarm
Co. Longford
2021 LD 101
BHRCSSA05
Box
1.2.3
2.9m
4.4m
5.9m
7.4m
8.9m
10.5m

Derryadd
Windfarm
Co. Longford
2021 LD 101
BHRCSSA06
Box
1. 2. 3.
3.1m
4.6m
5.9m
7.2
8.8m
10.4m

Derryadd
Windfarm
Co. Longford
2021 LD 101
BHRCSSA07
Box
1. 2.
7.3m
8.8m
10.3m
11.7m

Derryadd
Windfarm
Co. Longford
2021 LD 101
BHRCSSA08
Box
1. 2.
7.4m
8.8m
10.4m
11.9m

Derryadd
Windfarm
Co. Longford
2021 LD 101
BHRCSSA09
Box
1. 2.
8.6m
10m
11.6m
13.2m
14m

Derryadd
Windfarm
Co. Longford
2021 LD 101
BHRCSSA10
Box
1. 2. 3.
7m
8.5m
10m
11.5m
13m
14.5
15.2m
15.2 EOH

# Appendix 12
# Photographs
# (Trial Pits)

Figure 1 H:\21LD101_DerryaddWF\TP01(1).JPG

Figure 2 H:\21LD101_DerryaddWF\TP01(2).JPG

Figure 3 H:\21LD101_DerryaddWF\TP01(3).JPG

Figure 4 H:\21LD101_DerryaddWF\TP02 (1).JPG

Figure 5 H:\21LD101_DerryaddWF\TP02 (2).JPG

Figure 6 H:\21LD101_DerryaddWF\TP02 (3).JPG

Figure 7 H:\21LD101_DerryaddWF\TP03 (1).JPG

Figure 8 H:\21LD101_DerryaddWF\TP03 (2).JPG

Figure 9 H:\21LD101_DerryaddWF\TP04(1).JPG

Figure 10 H:\21LD101_DerryaddWF\TP04(2).JPG

Figure 11 H:\21LD101_DerryaddWF\TP04(3).JPG

Figure 12 H:\21LD101_DerryaddWF\TP05(1).JPG

Figure 13 H:\21LD101_DerryaddWF\TP05(2).JPG

Figure 14 H:\21LD101_DerryaddWF\TP06(1).JPG

Figure 15 H:\21LD101_DerryaddWF\TP06(2).JPG

Figure 16 H:\21LD101_DerryaddWF\TP07(1).JPG

Figure 17 H:\21LD101_DerryaddWF\TP07(2).JPG

Figure 18 H:\21LD101_DerryaddWF\TP07(3).JPG

Figure 19 H:\21LD101_DerryaddWF\TP08(1).JPG

Figure 20 H:\21LD101_DerryaddWF\TP08(2).JPG

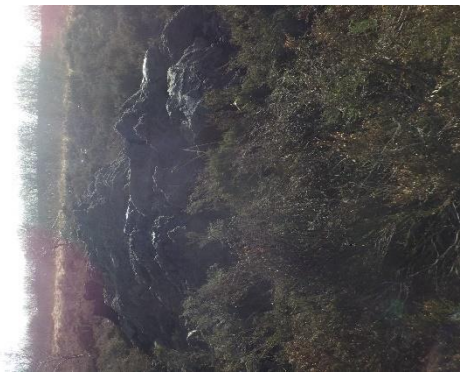


Figure 21 H:\21LD101_DerryaddWF\TP08(3).JPG

Figure 22 H:\21LD101_DerryaddWF\TP09(1).JPG

Figure 23 H:\21LD101_DerryaddWF\TP09(2).JPG

Figure 24 H:\21LD101_DerryaddWF\TP09(3).JPG

Figure 25 H:\21LD101_DerryaddWF\TP100(1).JPG

Figure 26 H:\21LD101_DerryaddWF\TP100(2).JPG

Figure 27 H:\21LD101_DerryaddWF\TP101(1).JPG

Figure 28 H:\21LD101_DerryaddWF\TP101(2).JPG

Figure 29 H:\21LD101_DerryaddWF\TP102(1).JPG

Figure 30 H:\21LD101_DerryaddWF\TP102(2).JPG

Figure 31 H:\21LD101_DerryaddWF\TP103(1).JPG

Figure 32 H:\21LD101_DerryaddWF\TP103(2).JPG

Figure 33 H:\21LD101_DerryaddWF\TP104(1).JPG

Figure 34 H:\21LD101_DerryaddWF\TP104(2).JPG

Figure 35 H:\21LD101_DerryaddWF\TP105(1).JPG

Figure 36 H:\21LD101_DerryaddWF\TP105(2).JPG

Figure 37 H:\21LD101_DerryaddWF\TP106(1).JPG

Figure 38 H:\21LD101_DerryaddWF\TP106(2).JPG

Figure 39 H:\21LD101_DerryaddWF\TP107(1).JPG

Figure 40 H:\21LD101_DerryaddWF\TP107(2).JPG

Figure 41 H:\21LD101_DerryaddWF\TP108(1).JPG

Figure 42 H:\21LD101_DerryaddWF\TP108(2).JPG

Figure 43 H:\21LD101_DerryaddWF\TP109(1).JPG

Figure 44 H:\21LD101_DerryaddWF\TP109(2).JPG

Figure 45 H:\21LD101_DerryaddWF\TP109(3).JPG

Figure 46 H:\21LD101_DerryaddWF\TP11(1).JPG

Figure 47 H:\21LD101_DerryaddWF\TP11(2).JPG

Figure 48 H:\21LD101_DerryaddWF\TP11(3).JPG

Figure 49 H:\21LD101_DerryaddWF\TP110(1).JPG

Figure 50 H:\21LD101_DerryaddWF\TP110(2).JPG

Figure 51 H:\21LD101_DerryaddWF\TP111(1).JPG

Figure 52 H:\21LD101_DerryaddWF\TP111(2).JPG

Figure 53 H:\21LD101_DerryaddWF\TP112(1).JPG

Figure 54 H:\21LD101_DerryaddWF\TP112(2).JPG

Figure 55 H:\21LD101_DerryaddWF\TP113(1).JPG

Figure 56 H:\21LD101_DerryaddWF\TP113(2).JPG

Figure 57 H:\21LD101_DerryaddWF\TP114(1).JPG

Figure 58 H:\21LD101_DerryaddWF\TP114(2).JPG

Figure 59 H:\21LD101_DerryaddWF\TP115(1).JPG

Figure 60 H:\21LD101_DerryaddWF\TP115(2).JPG

Figure 61 H:\21LD101_DerryaddWF\TP116(1).JPG

Figure 62 H:\21LD101_DerryaddWF\TP116(2).JPG

Figure 63 H:\21LD101_DerryaddWF\TP117R(1).JPG

Figure 64 H:\21LD101_DerryaddWF\TP117R(2).JPG

Figure 65 H:\21LD101_DerryaddWF\TP118R(1).JPG

Figure 66 H:\21LD101_DerryaddWF\TP118R(2).JPG

Figure 67 H:\21LD101_DerryaddWF\TP119R(1).JPG

Figure 68 H:\21LD101_DerryaddWF\TP119R(2).JPG

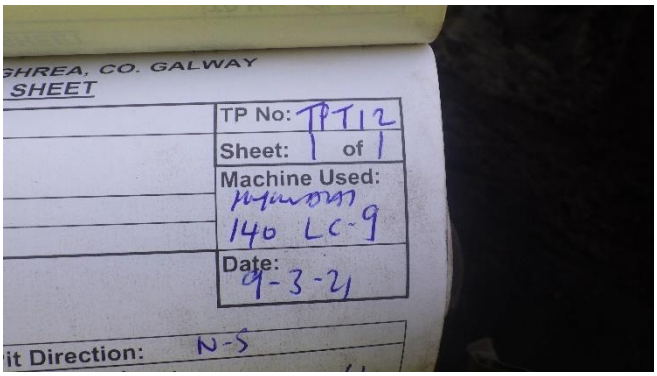



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Figure 71 H:\21LD101_DerryaddWF\TP12(3).JPG

Figure 72 H:\21LD101_DerryaddWF\TP120R(1).JPG

Figure 73 H:\21LD101_DerryaddWF\TP120R(2).JPG

Figure 74 H:\21LD101_DerryaddWF\TP121R(1).JPG

Figure 75 H:\21LD101_DerryaddWF\TP121R(2).JPG

Figure 76 H:\21LD101_DerryaddWF\TP123(1).JPG

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Figure 78 H:\21LD101_DerryaddWF\TP124(1).JPG

Figure 79 H:\21LD101_DerryaddWF\TP124(2).JPG

Figure 80 H:\21LD101_DerryaddWF\TP125(1).JPG

Figure 81 H:\21LD101_DerryaddWF\TP125(2).JPG

Figure 82 H:\21LD101_DerryaddWF\TP126(1).JPG

Figure 83 H:\21LD101_DerryaddWF\TP126(2).JPG

Figure 84 H:\21LD101_DerryaddWF\TP127(1).JPG

Figure 85 H:\21LD101_DerryaddWF\TP127(2).JPG

Figure 86 H:\21LD101_DerryaddWF\TP127(3).JPG

Figure 87 H:\21LD101_DerryaddWF\TP127(4).JPG

Figure 88 H:\21LD101_DerryaddWF\TP128(1).JPG

Figure 89 H:\21LD101_DerryaddWF\TP128(2).JPG

Figure 90 H:\21LD101_DerryaddWF\TP129(1).JPG

Figure 91 H:\21LD101_DerryaddWF\TP129(2).JPG

Figure 92 H:\21LD101_DerryaddWF\TP13(1).JPG

Figure 93 H:\21LD101_DerryaddWF\TP13(2).JPG

Figure 94 H:\21LD101_DerryaddWF\TP130(1).JPG

Figure 95 H:\21LD101_DerryaddWF\TP130(2).JPG

Figure 96 H:\21LD101_DerryaddWF\TP131(1).JPG

Figure 97 H:\21LD101_DerryaddWF\TP131(2).JPG

Figure 98 H:\21LD101_DerryaddWF\TP132(1).JPG

Figure 99 H:\21LD101_DerryaddWF\TP132(2).JPG

Figure 100 H:\21LD101_DerryaddWF\TP134(1).JPG

Figure 101 H:\21LD101_DerryaddWF\TP134(2).JPG

Figure 102 H:\21LD101_DerryaddWF\TP135(1).JPG

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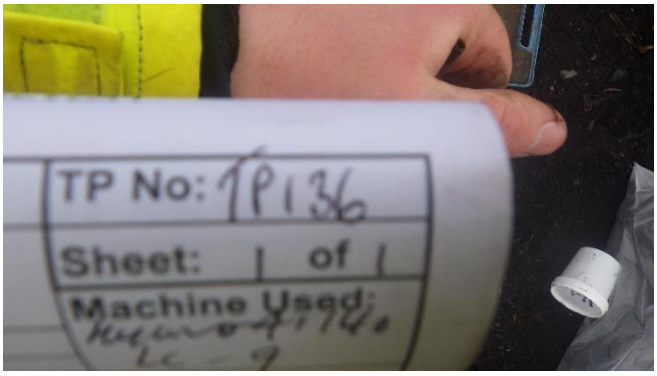


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Figure 107 H:\21LD101_DerryaddWF\TP138(1).JPG

Figure 108 H:\21LD101_DerryaddWF\TP138(2).JPG

Figure 109 H:\21LD101_DerryaddWF\TP138(3).JPG

Figure 110 H:\21LD101_DerryaddWF\TP139(1).JPG

Figure 111 H:\21LD101_DerryaddWF\TP139(2).JPG

Figure 112 H:\21LD101_DerryaddWF\TP14(1).JPG

Figure 113 H:\21LD101_DerryaddWF\TP14(2).JPG

Figure 114 H:\21LD101_DerryaddWF\TP140(1).JPG

Figure 115 H:\21LD101_DerryaddWF\TP140(2).JPG

Figure 116 H:\21LD101_DerryaddWF\TP141(1).JPG

Figure 117 H:\21LD101_DerryaddWF\TP141(2).JPG

Figure 118 H:\21LD101_DerryaddWF\TP142(1).JPG

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Figure 120 H:\21LD101_DerryaddWF\TP143(1).JPG

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Figure 122 H:\21LD101_DerryaddWF\TP144(1).JPG

Figure 123 H:\21LD101_DerryaddWF\TP144(2).JPG

Figure 124 H:\21LD101_DerryaddWF\TP145(1).JPG

Figure 125 H:\21LD101_DerryaddWF\TP145(2).JPG

Figure 126 H:\21LD101_DerryaddWF\TP146(1).JPG

Figure 127 H:\21LD101_DerryaddWF\TP146(2).JPG

Figure 128 H:\21LD101_DerryaddWF\TP147(1).JPG

Figure 129 H:\21LD101_DerryaddWF\TP147(2).JPG

Figure 130 H:\21LD101_DerryaddWF\TP148(1).JPG

Figure 131 H:\21LD101_DerryaddWF\TP148(2).JPG

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Figure 133 H:\21LD101_DerryaddWF\TP149(2).JPG

Figure 134 H:\21LD101_DerryaddWF\TP15(1).JPG

Figure 135 H:\21LD101_DerryaddWF\TP15(2).JPG

Figure 136 H:\21LD101_DerryaddWF\TP150(1).JPG

Figure 137 H:\21LD101_DerryaddWF\TP150(2).JPG

Figure 138 H:\21LD101_DerryaddWF\TP151(1).JPG

Figure 139 H:\21LD101_DerryaddWF\TP151(2).JPG

Figure 140 H:\21LD101_DerryaddWF\TP152(1).JPG

Figure 141 H:\21LD101_DerryaddWF\TP152(2).JPG

Figure 142 H:\21LD101_DerryaddWF\TP153(1).JPG

Figure 143 H:\21LD101_DerryaddWF\TP153(2).JPG

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Figure 145 H:\21LD101_DerryaddWF\TP154(2).JPG

Figure 146 H:\21LD101_DerryaddWF\TP155(1).JPG

Figure 147 H:\21LD101_DerryaddWF\TP155(2).JPG

Figure 148 H:\21LD101_DerryaddWF\TP157(1).JPG

Figure 149 H:\21LD101_DerryaddWF\TP157(2).JPG

Figure 150 H:\21LD101_DerryaddWF\TP158(1).JPG

Figure 151 H:\21LD101_DerryaddWF\TP158(2).JPG

Figure 152 H:\21LD101_DerryaddWF\TP158(3).JPG

Figure 153 H:\21LD101_DerryaddWF\TP158(4).JPG

Figure 154 H:\21LD101_DerryaddWF\TP16(1).JPG

Figure 155 H:\21LD101_DerryaddWF\TP16(2).JPG

Figure 156 H:\21LD101_DerryaddWF\TP160(1).JPG

Figure 157 H:\21LD101_DerryaddWF\TP160(2).JPG

Figure 158 H:\21LD101_DerryaddWF\TP161(1).JPG

Figure 159 H:\21LD101_DerryaddWF\TP161(2).JPG

Figure 160 H:\21LD101_DerryaddWF\TP162(1).JPG

Figure 161 H:\21LD101_DerryaddWF\TP162(2).JPG

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Figure 163 H:\21LD101_DerryaddWF\TP163(2).JPG

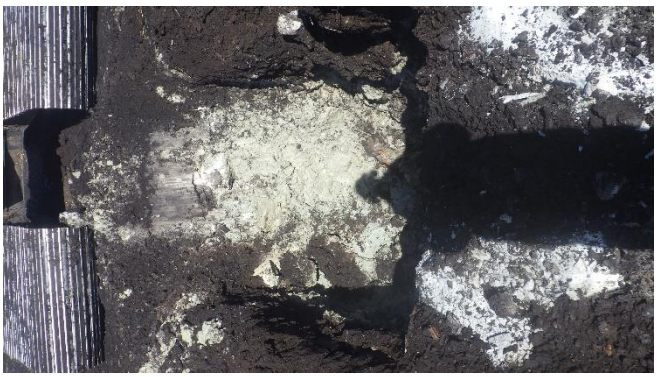

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Figure 168 H:\21LD101_DerryaddWF\TP165(3).JPG

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Figure 171 H:\21LD101_DerryaddWF\TP167(2).JPG

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Figure 174 H:\21LD101_DerryaddWF\TP169(1).JPG

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Figure 176 H:\21LD101_DerryaddWF\TP17(1).JPG

Figure 177 H:\21LD101_DerryaddWF\TP17(2).JPG

Figure 178 H:\21LD101_DerryaddWF\TP170(1).JPG

Figure 179 H:\21LD101_DerryaddWF\TP170(2).JPG

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Figure 270 H:\21LD101_DerryaddWF\TP210(1).JPG

Figure 271 H:\21LD101_DerryaddWF\TP210(2).JPG

Figure 272 H:\21LD101_DerryaddWF\TP211(1).JPG

Figure 273 H:\21LD101_DerryaddWF\TP211(2).JPG

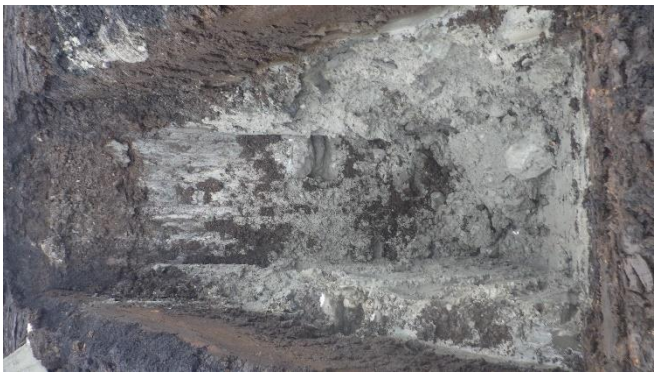

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Figure 275 H:\21LD101_DerryaddWF\TP212(2).JPG

Figure 276 H:\21LD101_DerryaddWF\TP214(1).JPG

Figure 277 H:\21LD101_DerryaddWF\TP214(2).JPG

Figure 278 H:\21LD101_DerryaddWF\TP215(1).JPG

Figure 279 H:\21LD101_DerryaddWF\TP215(2).JPG

Figure 280 H:\21LD101_DerryaddWF\TP216(1).JPG

Figure 281 H:\21LD101_DerryaddWF\TP216(2).JPG

Figure 282 H:\21LD101_DerryaddWF\TP217(1).JPG

Figure 283 H:\21LD101_DerryaddWF\TP217(2).JPG

Figure 284 H:\21LD101_DerryaddWF\TP218(1).JPG

Figure 285 H:\21LD101_DerryaddWF\TP218(2).JPG

Figure 286 H:\21LD101_DerryaddWF\TP218R(1).JPG

Figure 287 H:\21LD101_DerryaddWF\TP218R(2).JPG

Figure 288 H:\21LD101_DerryaddWF\TP219(1).JPG

Figure 289 H:\21LD101_DerryaddWF\TP219(2).JPG

Figure 290 H:\21LD101_DerryaddWF\TP22(1).JPG

Figure 291 H:\21LD101_DerryaddWF\TP22(2).JPG

Figure 292 H:\21LD101_DerryaddWF\TP220(1).JPG

Figure 293 H:\21LD101_DerryaddWF\TP220(2).JPG

Figure 294 H:\21LD101_DerryaddWF\TP221(1).JPG

Figure 295 H:\21LD101_DerryaddWF\TP221(2).JPG

Figure 296 H:\21LD101_DerryaddWF\TP222(1).JPG

Figure 297 H:\21LD101_DerryaddWF\TP222(2).JPG

Figure 298 H:\21LD101_DerryaddWF\TP222(3).JPG

Figure 299 H:\21LD101_DerryaddWF\TP223(1).JPG

Figure 300 H:\21LD101_DerryaddWF\TP223(2).JPG

Figure 301 H:\21LD101_DerryaddWF\TP224(1).JPG

Figure 302 H:\21LD101_DerryaddWF\TP224(2).JPG

Figure 303 H:\21LD101_DerryaddWF\TP225(1).JPG

Figure 304 H:\21LD101_DerryaddWF\TP225(2).JPG

Figure 305 H:\21LD101_DerryaddWF\TP226(1).JPG

Figure 306 H:\21LD101_DerryaddWF\TP226(2).JPG

Figure 307 H:\21LD101_DerryaddWF\TP227(1).JPG

Figure 308 H:\21LD101_DerryaddWF\TP227(2).JPG

Figure 309 H:\21LD101_DerryaddWF\TP229(1).JPG

Figure 310 H:\21LD101_DerryaddWF\TP229(2).JPG

Figure 311 H:\21LD101_DerryaddWF\TP23(1).JPG

Figure 312 H:\21LD101_DerryaddWF\TP23(2).JPG

Figure 313 H:\21LD101_DerryaddWF\TP23(3).JPG

Figure 314 H:\21LD101_DerryaddWF\TP231(1).JPG

Figure 315 H:\21LD101_DerryaddWF\TP231(2).JPG

Figure 316 H:\21LD101_DerryaddWF\TP231(3).JPG

Figure 317 H:\21LD101_DerryaddWF\TP231(4).JPG

Figure 318 H:\21LD101_DerryaddWF\TP233(1).JPG

Figure 319 H:\21LD101_DerryaddWF\TP233(2).JPG

Figure 320 H:\21LD101_DerryaddWF\TP234(1).JPG

Figure 321 H:\21LD101_DerryaddWF\TP234(2).JPG

Figure 322 H:\21LD101_DerryaddWF\TP235(1).JPG

Figure 323 H:\21LD101_DerryaddWF\TP235(2).JPG

Figure 324 H:\21LD101_DerryaddWF\TP236(1).JPG

Figure 325 H:\21LD101_DerryaddWF\TP236(2).JPG

Figure 326 H:\21LD101_DerryaddWF\TP237(1).JPG

Figure 327 H:\21LD101_DerryaddWF\TP237(2).JPG

Figure 328 H:\21LD101_DerryaddWF\TP238(1).JPG

Figure 329 H:\21LD101_DerryaddWF\TP238(2).JPG

Figure 330 H:\21LD101_DerryaddWF\TP239(1).JPG

Figure 331 H:\21LD101_DerryaddWF\TP239(2).JPG

Figure 332 H:\21LD101_DerryaddWF\TP24(1).JPG

Figure 333 H:\21LD101_DerryaddWF\TP24(2).JPG

Figure 334 H:\21LD101_DerryaddWF\TP24(3).JPG

Figure 335 H:\21LD101_DerryaddWF\TP240(1).JPG

Figure 336 H:\21LD101_DerryaddWF\TP240(2).JPG

Figure 337 H:\21LD101_DerryaddWF\TP241(1).JPG

Figure 338 H:\21LD101_DerryaddWF\TP241(2).JPG

Figure 339 H:\21LD101_DerryaddWF\TP242(1).JPG

Figure 340 H:\21LD101_DerryaddWF\TP242(2).JPG

Figure 341 H:\21LD101_DerryaddWF\TP243(1).JPG

Figure 342 H:\21LD101_DerryaddWF\TP243(2).JPG

Figure 343 H:\21LD101_DerryaddWF\TP245(1).JPG

Figure 344 H:\21LD101_DerryaddWF\TP245(2).JPG

Figure 345 H:\21LD101_DerryaddWF\TP246(1).JPG

Figure 346 H:\21LD101_DerryaddWF\TP246(2).JPG

Figure 347 H:\21LD101_DerryaddWF\TP247(1).JPG

Figure 348 H:\21LD101_DerryaddWF\TP247(2).JPG

Figure 349 H:\21LD101_DerryaddWF\TP248(1).JPG

Figure 350 H:\21LD101_DerryaddWF\TP248(2).JPG

Figure 351 H:\21LD101_DerryaddWF\TP249(1).JPG

Figure 352 H:\21LD101_DerryaddWF\TP249(2).JPG

Figure 353 H:\21LD101_DerryaddWF\TP249(3).JPG

Figure 354 H:\21LD101_DerryaddWF\TP250(1).JPG

Figure 355 H:\21LD101_DerryaddWF\TP250(2).JPG

Figure 356 H:\21LD101_DerryaddWF\TP250(3).JPG

Figure 357 H:\21LD101_DerryaddWF\TP251(1).JPG

Figure 358 H:\21LD101_DerryaddWF\TP251(2).JPG

Figure 359 H:\21LD101_DerryaddWF\TP252(1).JPG

Figure 360 H:\21LD101_DerryaddWF\TP252(2).JPG

Figure 361 H:\21LD101_DerryaddWF\TP253(1).JPG

Figure 362 H:\21LD101_DerryaddWF\TP253(2).JPG

Figure 363 H:\21LD101_DerryaddWF\TP254(1).JPG

Figure 364 H:\21LD101_DerryaddWF\TP254(2).JPG

Figure 365 H:\21LD101_DerryaddWF\TP254(3).JPG

Figure 366 H:\21LD101_DerryaddWF\TP255(1).JPG

Figure 367 H:\21LD101_DerryaddWF\TP255(2).JPG

Figure 368 H:\21LD101_DerryaddWF\TP255(3).JPG

Figure 369 H:\21LD101_DerryaddWF\TP256(1).JPG

Figure 370 H:\21LD101_DerryaddWF\TP256(2).JPG

Figure 371 H:\21LD101_DerryaddWF\TP258(1).JPG

Figure 372 H:\21LD101_DerryaddWF\TP258(2).JPG

Figure 373 H:\21LD101_DerryaddWF\TP265(1).JPG

Figure 374 H:\21LD101_DerryaddWF\TP265(2).JPG

Figure 375 H:\21LD101_DerryaddWF\TP266(1).JPG

Figure 376 H:\21LD101_DerryaddWF\TP266(2).JPG

Figure 377 H:\21LD101_DerryaddWF\TP267(1).JPG

Figure 378 H:\21LD101_DerryaddWF\TP267(2).JPG

Figure 379 H:\21LD101_DerryaddWF\TP268(1).JPG

Figure 380 H:\21LD101_DerryaddWF\TP268(2).JPG

Figure 381 H:\21LD101_DerryaddWF\TP269(1).JPG

Figure 382 H:\21LD101_DerryaddWF\TP269(2).JPG

Figure 383 H:\21LD101_DerryaddWF\TP269(3).JPG

Figure 384 H:\21LD101_DerryaddWF\TP270(1).JPG

Figure 385 H:\21LD101_DerryaddWF\TP270(2).JPG

Figure 386 H:\21LD101_DerryaddWF\TP275(1).JPG

Figure 387 H:\21LD101_DerryaddWF\TP275(2).JPG

Figure 388 H:\21LD101_DerryaddWF\TP276(1).JPG

Figure 389 H:\21LD101_DerryaddWF\TP276(2).JPG

Figure 390 H:\21LD101_DerryaddWF\TP277(1).JPG

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Figure 392 H:\21LD101_DerryaddWF\TP278(1).JPG

Figure 393 H:\21LD101_DerryaddWF\TP278(2).JPG

Figure 394 H:\21LD101_DerryaddWF\TP279(1).JPG

Figure 395 H:\21LD101_DerryaddWF\TP279(2).JPG

Figure 396 H:\21LD101_DerryaddWF\TP279R(1).JPG

Figure 397 H:\21LD101_DerryaddWF\TP279R(2).JPG

Figure 398 H:\21LD101_DerryaddWF\TP281(1).JPG

Figure 399 H:\21LD101_DerryaddWF\TP281(2).JPG

Figure 400 H:\21LD101_DerryaddWF\TP282(1).JPG

Figure 401 H:\21LD101_DerryaddWF\TP282(2).JPG

Figure 402 H:\21LD101_DerryaddWF\TP282(3).JPG

Figure 403 H:\21LD101_DerryaddWF\TP282(4).JPG

Figure 404 H:\21LD101_DerryaddWF\TP282(5).JPG

Figure 405 H:\21LD101_DerryaddWF\TP283(1).JPG

Figure 406 H:\21LD101_DerryaddWF\TP283(2).JPG

Figure 407 H:\21LD101_DerryaddWF\TP284(1).JPG

Figure 408 H:\21LD101_DerryaddWF\TP284(2).JPG

Figure 409 H:\21LD101_DerryaddWF\TP284(3).JPG

Figure 410 H:\21LD101_DerryaddWF\TP285(1).JPG

Figure 411 H:\21LD101_DerryaddWF\TP285(2).JPG

Figure 412 H:\21LD101_DerryaddWF\TP286(1).JPG

Figure 413 H:\21LD101_DerryaddWF\TP286(2).JPG

Figure 414 H:\21LD101_DerryaddWF\TP287(1).JPG

Figure 415 H:\21LD101_DerryaddWF\TP287(2).JPG

Figure 416 H:\21LD101_DerryaddWF\TP288(1).JPG

Figure 417 H:\21LD101_DerryaddWF\TP288(2).JPG

Figure 418 H:\21LD101_DerryaddWF\TP288(3).JPG

Figure 419 H:\21LD101_DerryaddWF\TP289(1).JPG

Figure 420 H:\21LD101_DerryaddWF\TP289(2).JPG

Figure 421 H:\21LD101_DerryaddWF\TP289(3).JPG

Figure 422 H:\21LD101_DerryaddWF\TP290(1).JPG

Figure 423 H:\21LD101_DerryaddWF\TP290(2).JPG

Figure 424 H:\21LD101_DerryaddWF\TP290(3).JPG

Figure 425 H:\21LD101_DerryaddWF\TP291(1).JPG

Figure 426 H:\21LD101_DerryaddWF\TP291(2).JPG

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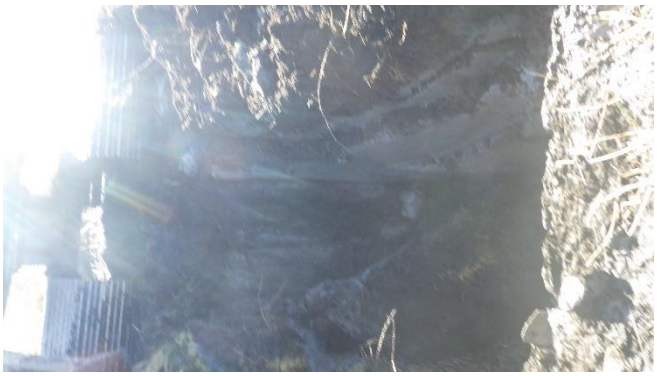

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Figure 431 H:\21LD101_DerryaddWF\TP293(3).JPG

Figure 432 H:\21LD101_DerryaddWF\TP294(1).JPG

Figure 433 H:\21LD101_DerryaddWF\TP294(2).JPG

Figure 434 H:\21LD101_DerryaddWF\TP294(3).JPG

Figure 435 H:\21LD101_DerryaddWF\TP295(1).JPG

Figure 436 H:\21LD101_DerryaddWF\TP295(2).JPG

Figure 437 H:\21LD101_DerryaddWF\TP297(1).JPG

Figure 438 H:\21LD101_DerryaddWF\TP297(2).JPG

Figure 439 H:\21LD101_DerryaddWF\TP297(3).JPG

Figure 440 H:\21LD101_DerryaddWF\TP298(1).JPG

Figure 441 H:\21LD101_DerryaddWF\TP298(2).JPG

Figure 442 H:\21LD101_DerryaddWF\TP298(3).JPG

Figure 443 H:\21LD101_DerryaddWF\TP299(1).JPG

Figure 444 H:\21LD101_DerryaddWF\TP299(2).JPG

Figure 445 H:\21LD101_DerryaddWF\TP301(1).JPG

Figure 446 H:\21LD101_DerryaddWF\TP301(2).JPG

Figure 447 H:\21LD101_DerryaddWF\TP302(1).JPG

Figure 448 H:\21LD101_DerryaddWF\TP302(2).JPG

Figure 449 H:\21LD101_DerryaddWF\TP303(1).JPG

Figure 450 H:\21LD101_DerryaddWF\TP303(2).JPG

Figure 451 H:\21LD101_DerryaddWF\TP304(1).JPG

Figure 452 H:\21LD101_DerryaddWF\TP304(2).JPG

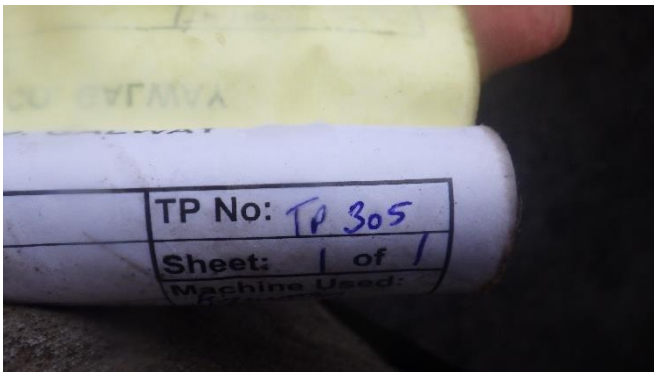


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Figure 454 H:\21LD101_DerryaddWF\TP305(2).JPG

Figure 455 H:\21LD101_DerryaddWF\TP305(3).JPG

Figure 456 H:\21LD101_DerryaddWF\TP306(1).JPG

Figure 457 H:\21LD101_DerryaddWF\TP306(2).JPG

Figure 458 H:\21LD101_DerryaddWF\TP308(1).JPG

Figure 459 H:\21LD101_DerryaddWF\TP308(2).JPG

Figure 460 H:\21LD101_DerryaddWF\TP310(1).JPG

Figure 461 H:\21LD101_DerryaddWF\TP310(2).JPG

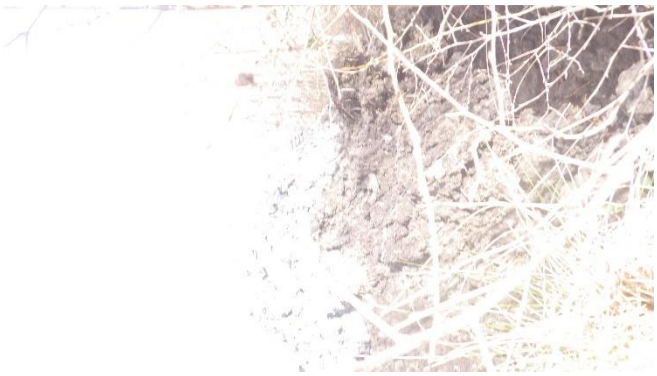

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Figure 463 H:\21LD101_DerryaddWF\TP311(1).JPG

Figure 464 H:\21LD101_DerryaddWF\TP311(2).JPG

Figure 465 H:\21LD101_DerryaddWF\TP313(1).JPG

Figure 466 H:\21LD101_DerryaddWF\TP313(2).JPG

Figure 467 H:\21LD101_DerryaddWF\TP314(1).JPG

Figure 468 H:\21LD101_DerryaddWF\TP314(2).JPG

Figure 469 H:\21LD101_DerryaddWF\TP315(1).JPG

Figure 470 H:\21LD101_DerryaddWF\TP315(2).JPG

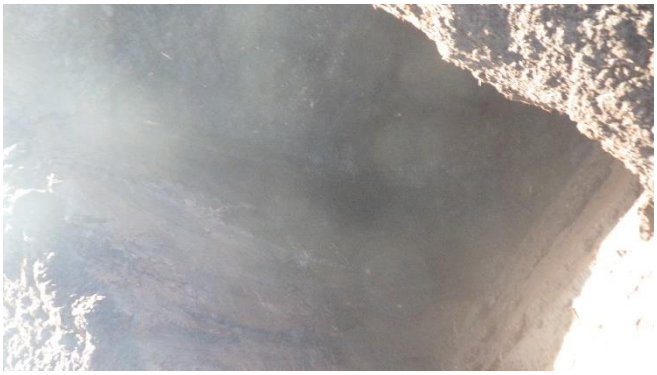

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Figure 472 H:\21LD101_DerryaddWF\TP317(2).JPG

Figure 473 H:\21LD101_DerryaddWF\TP317(3).JPG

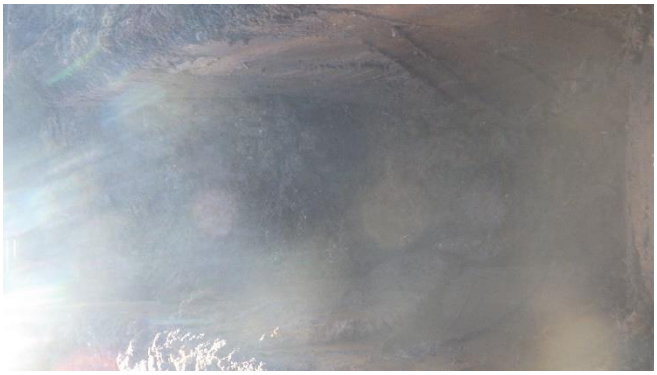

Figure 474 H:\21LD101_DerryaddWF\TP318(1).JPG

Figure 475 H:\21LD101_DerryaddWF\TP318(2).JPG

Figure 476 H:\21LD101_DerryaddWF\TP319(1).JPG

Figure 477 H:\21LD101_DerryaddWF\TP319(2).JPG

Figure 478 H:\21LD101_DerryaddWF\TP320(1).JPG

Figure 479 H:\21LD101_DerryaddWF\TP320(2).JPG

Figure 480 H:\21LD101_DerryaddWF\TP321(1).JPG

Figure 481 H:\21LD101_DerryaddWF\TP321(2).JPG

Figure 482 H:\21LD101_DerryaddWF\TP322(1).JPG

Figure 483 H:\21LD101_DerryaddWF\TP322(2).JPG

Figure 484 H:\21LD101_DerryaddWF\TP326(1).JPG

Figure 485 H:\21LD101_DerryaddWF\TP326(2).JPG

Figure 486 H:\21LD101_DerryaddWF\TP327(1).JPG

Figure 487 H:\21LD101_DerryaddWF\TP327(2).JPG

Figure 488 H:\21LD101_DerryaddWF\TP329(1).JPG

Figure 489 H:\21LD101_DerryaddWF\TP329(2).JPG

Figure 490 H:\21LD101_DerryaddWF\TP330(1).JPG

Figure 491 H:\21LD101_DerryaddWF\TP330(2).JPG

Figure 492 H:\21LD101_DerryaddWF\TP331(1).JPG

Figure 493 H:\21LD101_DerryaddWF\TP331(2).JPG

Figure 494 H:\21LD101_DerryaddWF\TP331(3).JPG

Figure 495 H:\21LD101_DerryaddWF\TP332(1).JPG

Figure 496 H:\21LD101_DerryaddWF\TP332(2).JPG

Figure 497 H:\21LD101_DerryaddWF\TP332(3).JPG

Figure 498 H:\21LD101_DerryaddWF\TP334(1).JPG

Figure 499 H:\21LD101_DerryaddWF\TP334(2).JPG

Figure 500 H:\21LD101_DerryaddWF\TP334(3).JPG

Figure 501 H:\21LD101_DerryaddWF\TP335(1).JPG

Figure 502 H:\21LD101_DerryaddWF\TP335(2).JPG

Figure 503 H:\21LD101_DerryaddWF\TP335(3).JPG

Figure 504 H:\21LD101_DerryaddWF\TP336(1).JPG

Figure 505 H:\21LD101_DerryaddWF\TP336(2).JPG

Figure 506 H:\21LD101_DerryaddWF\TP337(1).JPG

Figure 507 H:\21LD101_DerryaddWF\TP337(2).JPG

Figure 508 H:\21LD101_DerryaddWF\TP337(3).JPG

Figure 509 H:\21LD101_DerryaddWF\TP338(1).JPG

Figure 510 H:\21LD101_DerryaddWF\TP338(2).JPG

Figure 511 H:\21LD101_DerryaddWF\TP338(3).JPG

Figure 512 H:\21LD101_DerryaddWF\TP339(1).JPG

Figure 513 H:\21LD101_DerryaddWF\TP339(2).JPG

Figure 514 H:\21LD101_DerryaddWF\TP339(3).JPG

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Figure 517 H:\21LD101_DerryaddWF\TP342(1).JPG

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Figure 519 H:\21LD101_DerryaddWF\TP343(1).JPG

Figure 520 H:\21LD101_DerryaddWF\TP343(2).JPG

Figure 521 H:\21LD101_DerryaddWF\TP344(1).JPG

Figure 522 H:\21LD101_DerryaddWF\TP344(2).JPG

Figure 523 H:\21LD101_DerryaddWF\TP344(3).JPG

Figure 524 H:\21LD101_DerryaddWF\TP345(1).JPG

Figure 525 H:\21LD101_DerryaddWF\TP345(2).JPG

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Figure 527 H:\21LD101_DerryaddWF\TP346(1).JPG

Figure 528 H:\21LD101_DerryaddWF\TP346(2).JPG

Figure 529 H:\21LD101_DerryaddWF\TP347(1).JPG

Figure 530 H:\21LD101_DerryaddWF\TP347(2).JPG

Figure 531 H:\21LD101_DerryaddWF\TP347(3).JPG

Figure 532 H:\21LD101_DerryaddWF\TP348(1).JPG

Figure 533 H:\21LD101_DerryaddWF\TP348(2).JPG

Figure 534 H:\21LD101_DerryaddWF\TP348(3).JPG

Figure 535 H:\21LD101_DerryaddWF\TP349(1).JPG

Figure 536 H:\21LD101_DerryaddWF\TP349(2).JPG

Figure 537 H:\21LD101_DerryaddWF\TP351(1).JPG

Figure 538 H:\21LD101_DerryaddWF\TP351(2).JPG

Figure 539 H:\21LD101_DerryaddWF\TP351(3).JPG

Figure 540 H:\21LD101_DerryaddWF\TP352(1).JPG

Figure 541 H:\21LD101_DerryaddWF\TP352(2).JPG

Figure 542 H:\21LD101_DerryaddWF\TP352(3).JPG

Figure 543 H:\21LD101_DerryaddWF\TP352(4).JPG

Figure 544 H:\21LD101_DerryaddWF\TP353(1).JPG

Figure 545 H:\21LD101_DerryaddWF\TP353(2).JPG

Figure 546 H:\21LD101_DerryaddWF\TP353(3).JPG

Figure 547 H:\21LD101_DerryaddWF\TP354(1).JPG

Figure 548 H:\21LD101_DerryaddWF\TP354(2).JPG

Figure 549 H:\21LD101_DerryaddWF\TP354(3).JPG

Figure 550 H:\21LD101_DerryaddWF\TP356(1).JPG

Figure 551 H:\21LD101_DerryaddWF\TP356(2).JPG

Figure 552 H:\21LD101_DerryaddWF\TP357(1).JPG

Figure 553 H:\21LD101_DerryaddWF\TP357(2).JPG

Figure 554 H:\21LD101_DerryaddWF\TP358(1).JPG

Figure 555 H:\21LD101_DerryaddWF\TP358(2).JPG

Figure 556 H:\21LD101_DerryaddWF\TP358(3).JPG

Figure 557 H:\21LD101_DerryaddWF\TP361(1).JPG

Figure 558 H:\21LD101_DerryaddWF\TP361(2).JPG

Figure 559 H:\21LD101_DerryaddWF\TP361(3).JPG

Figure 560 H:\21LD101_DerryaddWF\TP362(1).JPG

Figure 561 H:\21LD101_DerryaddWF\TP362(2).JPG

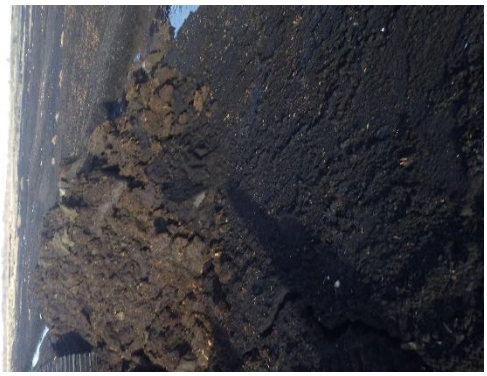

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Figure 563 H:\21LD101_DerryaddWF\TP363(1).JPG

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Figure 566 H:\21LD101_DerryaddWF\TP364(1).JPG

Figure 567 H:\21LD101_DerryaddWF\TP364(2).JPG

Figure 568 H:\21LD101_DerryaddWF\TP365(1).JPG

Figure 569 H:\21LD101_DerryaddWF\TP365(2).JPG

Figure 570 H:\21LD101_DerryaddWF\TP365(3).JPG

Figure 571 H:\21LD101_DerryaddWF\TP366(1).JPG

Figure 572 H:\21LD101_DerryaddWF\TP366(2).JPG

Figure 573 H:\21LD101_DerryaddWF\TP366(3).JPG

Figure 574 H:\21LD101_DerryaddWF\TP367(1).JPG

Figure 575 H:\21LD101_DerryaddWF\TP367(2).JPG

Figure 576 H:\21LD101_DerryaddWF\TP367(3).JPG

Figure 577 H:\21LD101_DerryaddWF\TP368(1).JPG

Figure 578 H:\21LD101_DerryaddWF\TP368(2).JPG

Figure 579 H:\21LD101_DerryaddWF\TP368(3).JPG

Figure 580 H:\21LD101_DerryaddWF\TP369(1).JPG

Figure 581 H:\21LD101_DerryaddWF\TP369(2).JPG

Figure 582 H:\21LD101_DerryaddWF\TP369(3).JPG

Figure 583 H:\21LD101_DerryaddWF\TP370(1).JPG

Figure 584 H:\21LD101_DerryaddWF\TP370(2).JPG

Figure 585 H:\21LD101_DerryaddWF\TP371(1).JPG

Figure 586 H:\21LD101_DerryaddWF\TP371(2).JPG

Figure 587 H:\21LD101_DerryaddWF\TP372(1).JPG

Figure 588 H:\21LD101_DerryaddWF\TP372(2).JPG

Figure 589 H:\21LD101_DerryaddWF\TP ACPA(1).JPG

Figure 590 H:\21LD101_DerryaddWF\TP ACPA(2).JPG

Figure 591 H:\21LD101_DerryaddWF\TP ACPB(1).JPG

Figure 592 H:\21LD101_DerryaddWF\TP ACPB(2).JPG

Figure 593 H:\21LD101_DerryaddWF\TP ACPC(1).JPG

Figure 594 H:\21LD101_DerryaddWF\TP ACPC(2).JPG

Figure 595 H:\21LD101_DerryaddWF\TP AE17(1).JPG

Figure 596 H:\21LD101_DerryaddWF\TP AE17(2).JPG

Figure 597 H:\21LD101_DerryaddWF\TP AE17(3).JPG

Figure 598 H:\21LD101_DerryaddWF\TP AR 01(1).JPG

Figure 599 H:\21LD101_DerryaddWF\TP AR 01(2).JPG

Figure 600 H:\21LD101_DerryaddWF\TP AR 02(1).JPG

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Figure 602 H:\21LD101_DerryaddWF\TP AR 02(3).JPG

Figure 603 H:\21LD101_DerryaddWF\TP AR 03(1).JPG

Figure 604 H:\21LD101_DerryaddWF\TP AR 03(2).JPG

Figure 605 H:\21LD101_DerryaddWF\TP AR 03(3).JPG

Figure 606 H:\21LD101_DerryaddWF\TP AR 04(1).JPG

Figure 607 H:\21LD101_DerryaddWF\TP AR 04(2).JPG

Figure 608 H:\21LD101_DerryaddWF\TP AR 10(1).JPG

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Figure 610 H:\21LD101_DerryaddWF\TP AR 10(3).JPG

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Figure 613 H:\21LD101_DerryaddWF\TP AR 11(3).JPG

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Figure 616 H:\21LD101_DerryaddWF\TP AR 12(3).JPG

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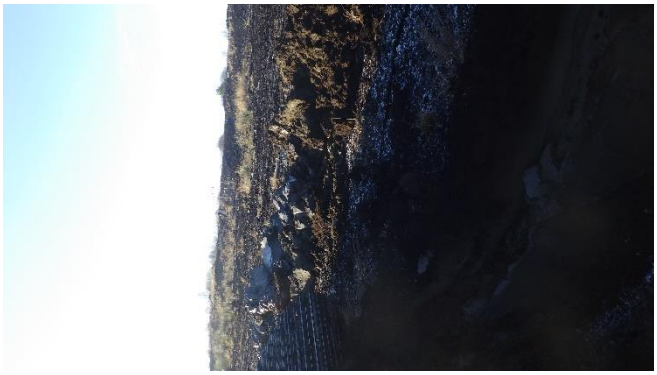

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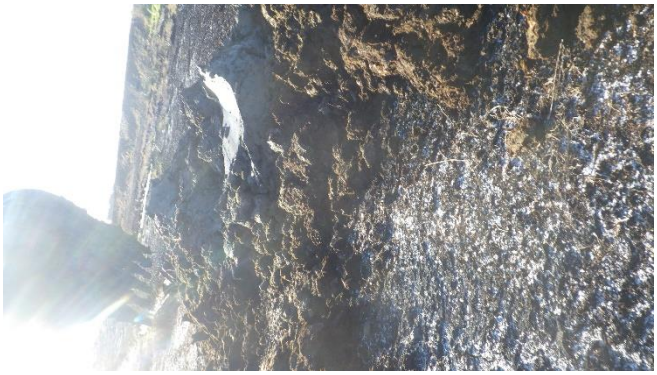

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Figure 634 H:\21LD101_DerryaddWF\TP BPA01(1).JPG

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Figure 643 H:\21LD101_DerryaddWF\TP BPB01(2).JPG

Figure 644 H:\21LD101_DerryaddWF\TP BPB02(1).JPG

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Figure 648 H:\21LD101_DerryaddWF\TP BPB04(1).JPG

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Figure 669 H:\21LD101_DerryaddWF\TP MMC 01(1).JPG

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Figure 676 H:\21LD101_DerryaddWF\TP PSA02(1).JPG

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Figure 679 H:\21LD101_DerryaddWF\TP PSA03(1).JPG

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Figure 717 H:\21LD101_DerryaddWF\TP PSI 01(2).JPG

Figure 718 H:\21LD101_DerryaddWF\TP PSI 02(1).JPG

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Figure 723 H:\21LD101_DerryaddWF\TP PSI 04(2).JPG

Figure 724 H:\21LD101_DerryaddWF\TP PSI 05(1).JPG

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Figure 741 H:\21LD101_DerryaddWF\TP SSA03(2).JPG

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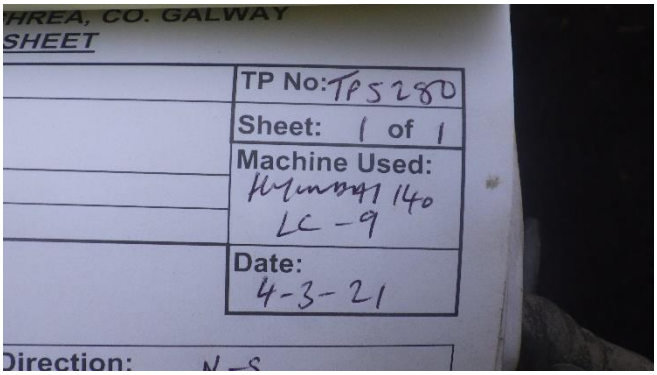


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Figure 759 H:\21LD101_DerryaddWF\TP TCCD2 (2).JPG

Figure 760 H:\21LD101_DerryaddWF\TP TCCE(1).JPG

Figure 761 H:\21LD101_DerryaddWF\TP TCCE(2).JPG

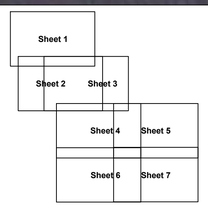
# Appendix 13
# ‘As-Built’ Drawings

DERRYAROGE BOG

PUMP 8

PUMP 11

T2 T3 T4 T6 T7 T8




**NOTES**

1. Trial holes required specific to hardstand, met mast and substation areas, each with plate bearing test to provide CBR values.
2. Trial holes typically at 100m c/c along roads as shown. Plate Bearing Tests (PBT) to be carried out at min 10% of these trial holes. Dynamic Probing required at 50% of these locations (with overlap with PBT). Shear Vane Tests at 50% of trial holes. Locations of other such tests as per specification.
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8. Contractor to forward site specific method statement and risk assessments to account for all hazards present.
9. All levels related to Malin Head Datum
10. Site boundary outlined in red

**LEGEND:**

| | | | |
|---|---|---|---|
| Trial Holes (Existing SI in Yellow Text) | TP 265 | Production Fields | |
| Boreholes (with Follow-on Rotary) | BH/RC 17B | Internal Bord na Móna Overhead Line | |
| Turbine & Hardstand Locations | | 10kV/20kV Overhead Line | |
| Site Boundary | | 38kV Overhead Line | |
| Wind Farm Roads | | 110kV Overhead Line | |
| Drainage | | Industrial Narrow Gauge Railway | |
| Swale | | Pump Station | |
| Deep Water | | Site Access Point | |
| Heavy Vegetation | | Existing Drainage Trenches | |

| | REVISION | By | Date | Chk'd |
|---|---|---|---|---|
| 01 | I.D.L(AS BUILT) | MM | 20/05/21 | RK |

Project: Derryadd Wind Farm

Title: I.D.L Site Investigation Layout 1 of 7

Dimensions in. mm

Scale. 1:5000 @ A1

Drawn By. MM 20/05/21

Checked By.

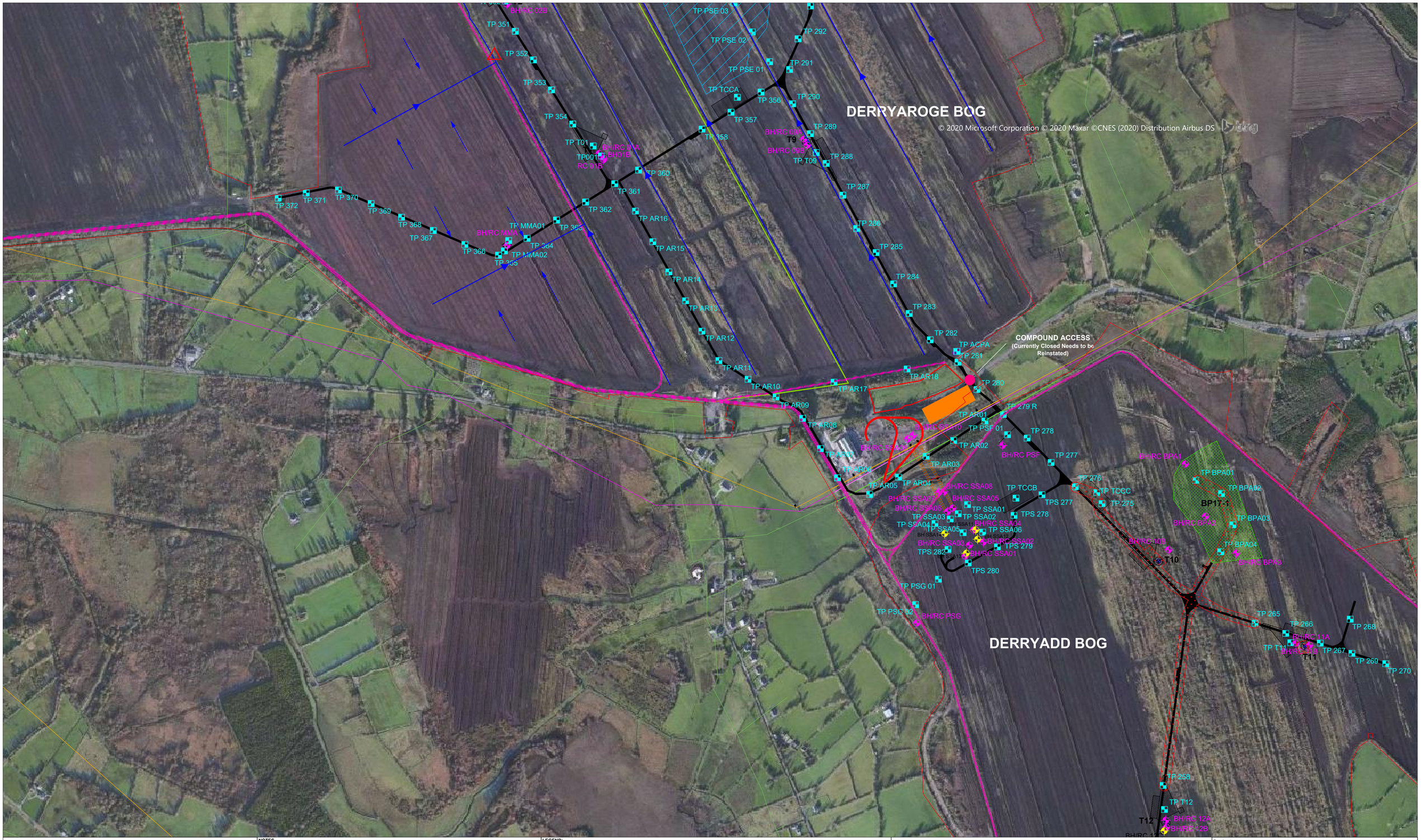
Approved By.

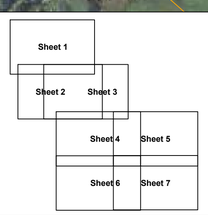
Loughrea, Co. Galway
Tel. (091) 841274

Drawing No. I.D.L-2001

Revision. 01

Sheet 1 of 1

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9. All levels related to Malin Head Datum
10. Site boundary outlined in red

**LEGEND:**

| | | | |
|---|---|---|---|
| Trial Holes (Existing SI in Yellow Text) | TP 265 | Production Fields | |
| Boreholes (with Follow-on Rotary) | BH/RC 17B | Internal Bord na Móna Overhead Line | |
| Turbine & Hardstand Locations | | 10kV/20kV Overhead Line | |
| Site Boundary | | 38kV Overhead Line | |
| Wind Farm Roads | | 110kV Overhead Line | |
| Drainage | | Industrial Narrow Gauge Railway | |
| Swale | | Pump Station | |
| Deep Water | | Site Access Point | |
| Heavy Vegetation | | Existing Drainage Trenches | |

| | REVISION | By | Date | Chk'd |
|---|---|---|---|---|
| 01 | I.D.L (AS BUILT) | MM | 20/05/21 | RK |

Project: Derryadd Wind Farm

Title: I.D.L Site Investigation Layout 2 of 7

Dimensions in. mm

Scale. 1:5000 @ A1

Drawn By. MM 20/05/21

Checked By.

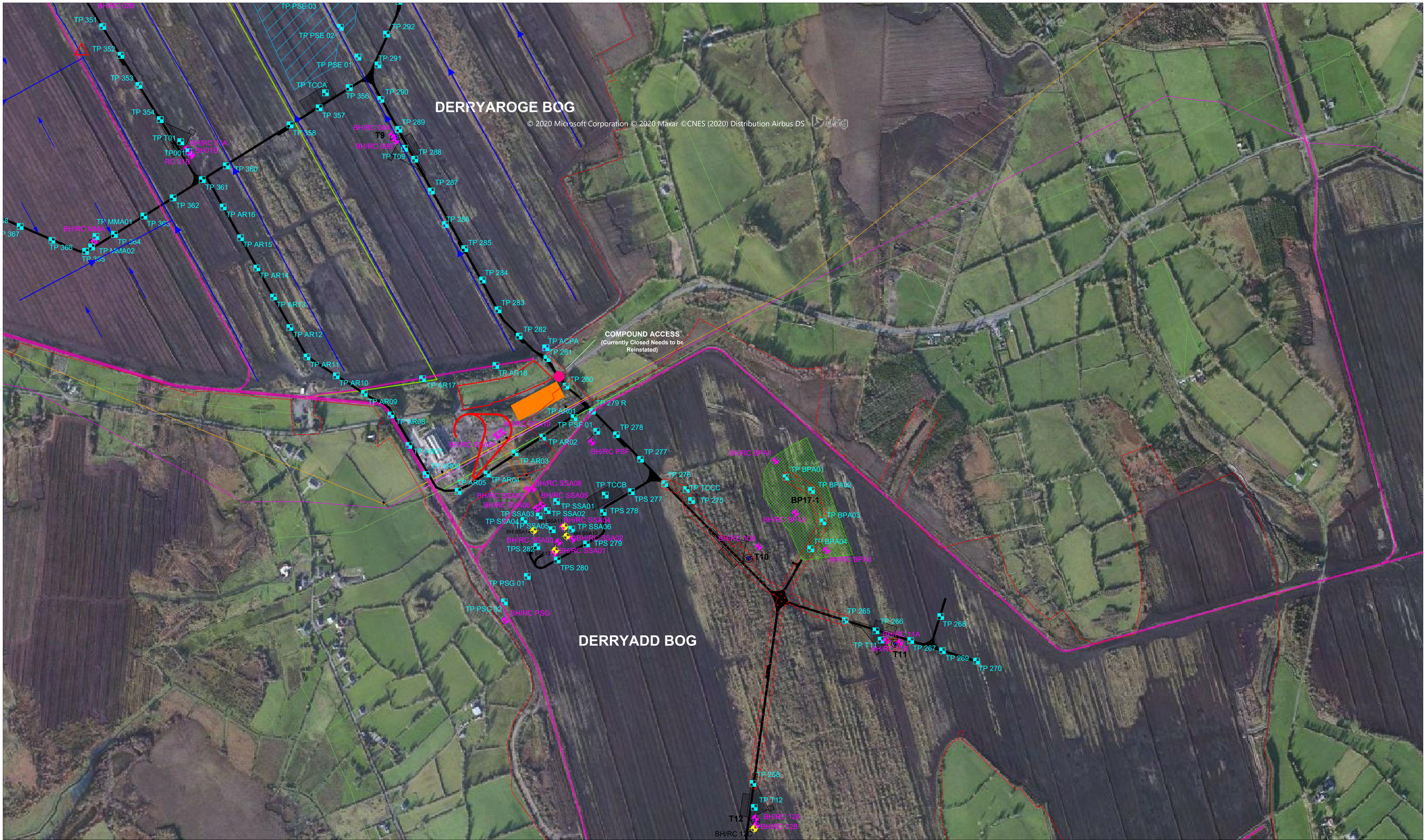
Approved By.

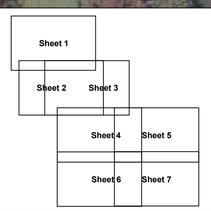
Loughrea, Co. Galway
Tel. (091) 841274

Drawing No. IDL--2002

Revision. 01

Sheet 1 of 1

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**LEGEND:**

| | | | |
|---|---|---|---|
| Trial Holes (Existing SI in Yellow Text) | TP 265 | Production Fields | |
| Boreholes (with Follow-on Rotary) | BH/RC 17B | Internal Bord na Móna Overhead Line | |
| Turbine & Hardstand Locations | | 10kV/20kV Overhead Line | |
| Site Boundary | | 38kV Overhead Line | |
| Wind Farm Roads | | 110kV Overhead Line | |
| Drainage | | Industrial Narrow Gauge Railway | |
| Swale | | Pump Station | |
| Deep Water | | Site Access Point | |
| Heavy Vegetation | | Existing Drainage Trenches | |

| | REVISION | By | Date | Chk'd |
|---|---|---|---|---|
| 01 | I.D.L(AS BUILT) | MM | 20/05/21 | RK |

Project: Derryadd Wind Farm

Title: I.D.L Site Investigation Layout 3 of 7

Dimensions in. mm

Scale. 1:5000 @ A1

Drawn By. MM 20/05/21

Checked By.

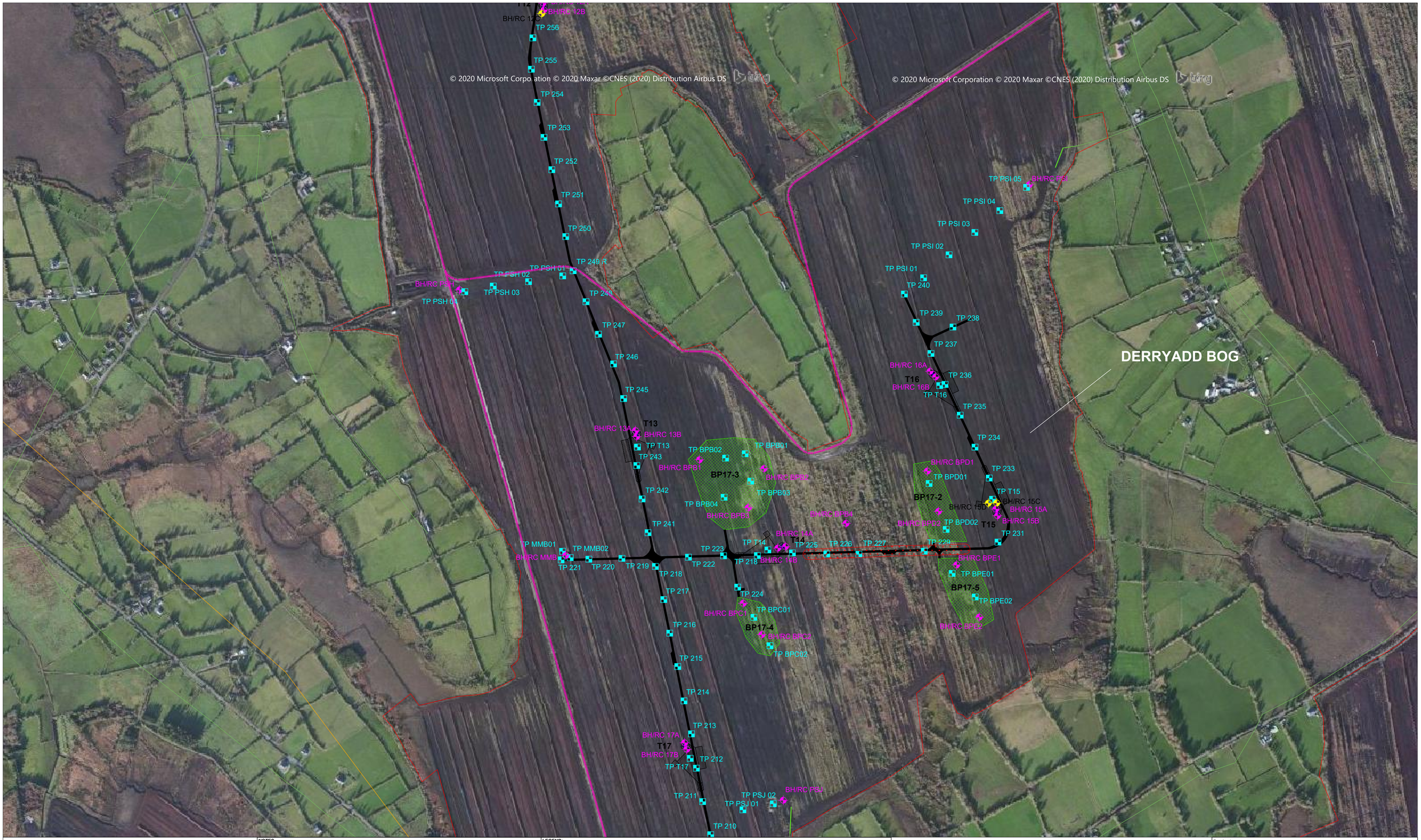
Approved By.

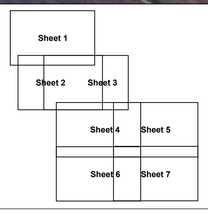
Loughrea, Co. Galway
Tel. (091) 841274

Drawing No. I.D.L–2003

Revision. 01

Sheet 1 of 1

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9. All levels related to Malin Head Datum
10. Site boundary outlined in red

**LEGEND:**

| | | | |
|---|---|---|---|
| Trial Holes (Existing SI in Yellow Text) | TP 265 | Production Fields | |
| Boreholes (with Follow-on Rotary) | BH/RC 17B | Internal Bord na Móna Overhead Line | |
| Turbine & Hardstand Locations | | 10kV/20kV Overhead Line | |
| Site Boundary | | 38kV Overhead Line | |
| Wind Farm Roads | | 110kV Overhead Line | |
| Drainage | | Industrial Narrow Gauge Railway | |
| Swale | | Pump Station | |
| Deep Water | | Site Access Point | |
| Heavy Vegetation | | Existing Drainage Trenches | |

| | REVISION | By | Date | Chk'd |
|---|---|---|---|---|
| 01 | I.D.L( AS BUILT) | MM | 20/05/21 | RK |

Project: Derryadd Wind Farm

Title: I.D.L Site Investigation Layout 4 of 7

Dimensions in. mm

Scale. 1:5000 @ A1

Drawn By. MM 20/05/21

Checked By.

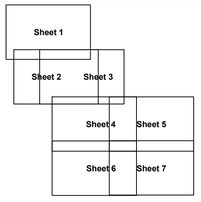
Approved By.

Loughrea, Co. Galway
Tel. (091) 841274

Drawing No. I.D.L-2004

Revision. 01

Sheet 1 of 1




**NOTES**

1. Trial holes required specific to hardstand, met mast and substation areas, each with plate bearing test to provide CBR values.
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8. Contractor to forward site specific method statement and risk assessments to account for all hazards present.
9. All levels related to Malin Head Datum
10. Site boundary outlined in red

**LEGEND:**

| | | | |
|---|---|---|---|
| Trial Holes (Existing SI in Yellow Text) | TP 265 | Production Fields | |
| Boreholes (with Follow-on Rotary) | BH/RC 17B | Internal Bord na Móna Overhead Line | |
| Turbine & Hardstand Locations | | 10kV/20kV Overhead Line | |
| Site Boundary | | 38kV Overhead Line | |
| Wind Farm Roads | | 110kV Overhead Line | |
| Drainage | | Industrial Narrow Gauge Railway | |
| Swale | | Pump Station | |
| Deep Water | | Site Access Point | |
| Heavy Vegetation | | Existing Drainage Trenches | |

| | REVISION | By | Date | Chk'd |
|---|---|---|---|---|
| 01 | I.D.L (AS BUILT) | SM | 20/05/21 | HB |

Project: Derryadd Wind Farm

Title: I.D.L Site Investigation Layout 5 of 7

Dimensions in. mm

Scale. 1:5000 @ A1

Drawn By. MM 20/05/21

Checked By.

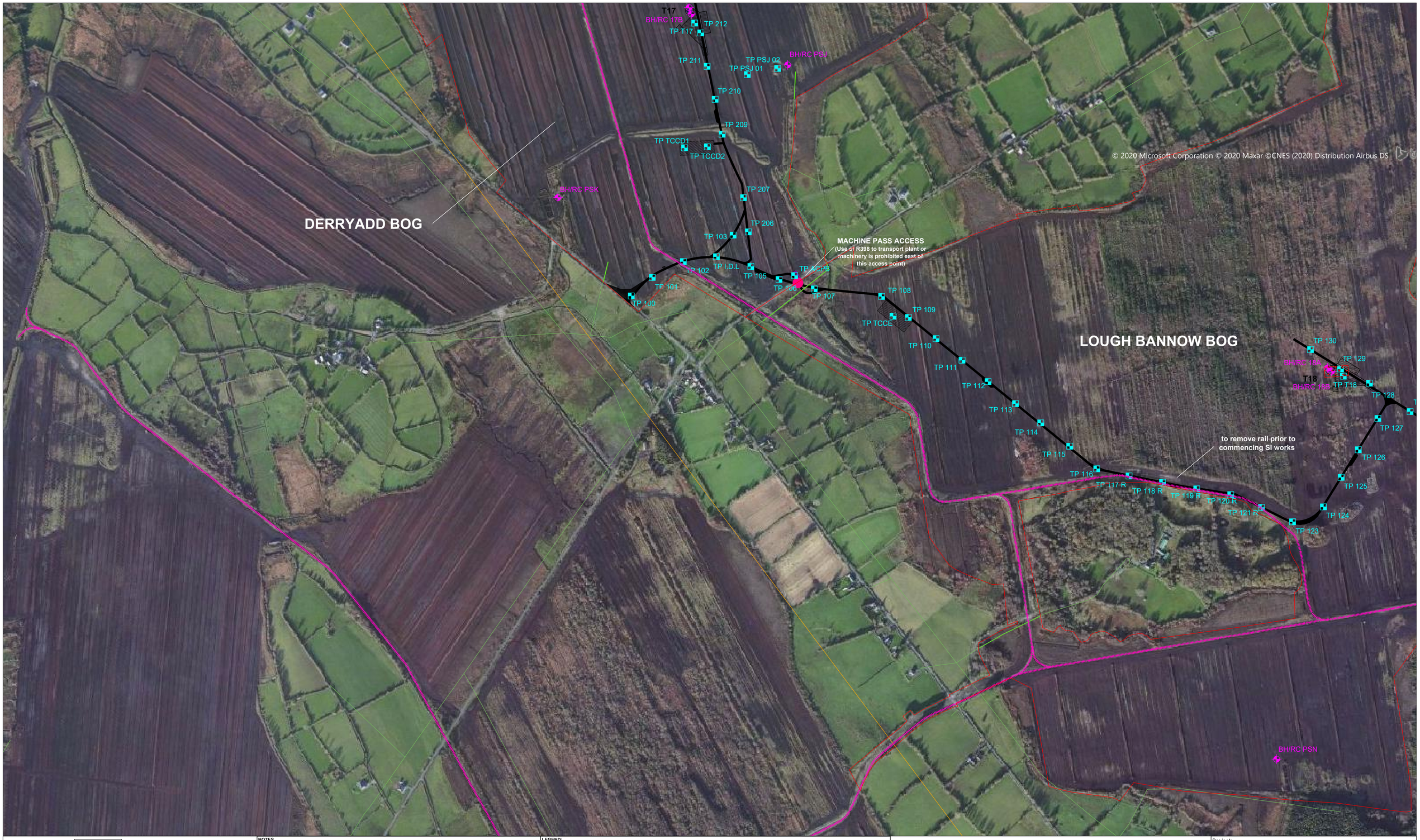
Approved By.

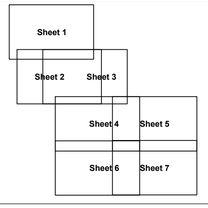
Loughrea, Co. Galway
Tel. (091) 841274

Drawing No. I.D.L-2005

Revision. 01

Sheet 1 of 1

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**LEGEND:**

| | | | |
|---|---|---|---|
| Trial Holes (Existing SI in Yellow Text) | TP 265 | Production Fields | |
| Boreholes (with Follow-on Rotary) | BH/RC 17B | Internal Bord na Móna Overhead Line | |
| Turbine & Hardstand Locations | | 10kV/20kV Overhead Line | |
| Site Boundary | | 38kV Overhead Line | |
| Wind Farm Roads | | 110kV Overhead Line | |
| Drainage | | Industrial Narrow Gauge Railway | |
| Swale | | Pump Station | |
| Deep Water | | Site Access Point | |
| Heavy Vegetation | | Existing Drainage Trenches | |

| | REVISION | By | Date | Chk'd |
|---|---|---|---|---|
| 01 | I.D.L (AS BUILT) | MM | 20/05/21 | RK |

Project: Derryadd Wind Farm

Title: I.D.L Site Investigation Layout 6 of 7

Dimensions in. mm

Scale. 1:5000 @ A1

Drawn By. MM 20/05/21

Checked By.

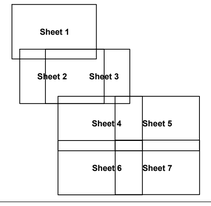
Approved By.

Loughrea, Co. Galway
Tel. (091) 841274

Drawing No. I.D.L-2006

Revision. 01

Sheet 1 of 1

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**LEGEND:**

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| Site Boundary | | 38kV Overhead Line | |
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| Drainage | | Industrial Narrow Gauge Railway | |
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| | REVISION | By | Date | Chk'd |
|---|---|---|---|---|
| 01 | I.D.L( AS BUILT) | MM | 20/05/21 | RK |

Project: Derryadd Wind Farm

Title: I.D.L Site Investigation Layout 7 of 7

Dimensions in. mm

Scale. 1:5000 @ A1

Drawn By. MM 20/05/21

Checked By.

Approved By.

Loughrea, Co. Galway
Tel. (091) 841274

Drawing No. I.D.L-2007

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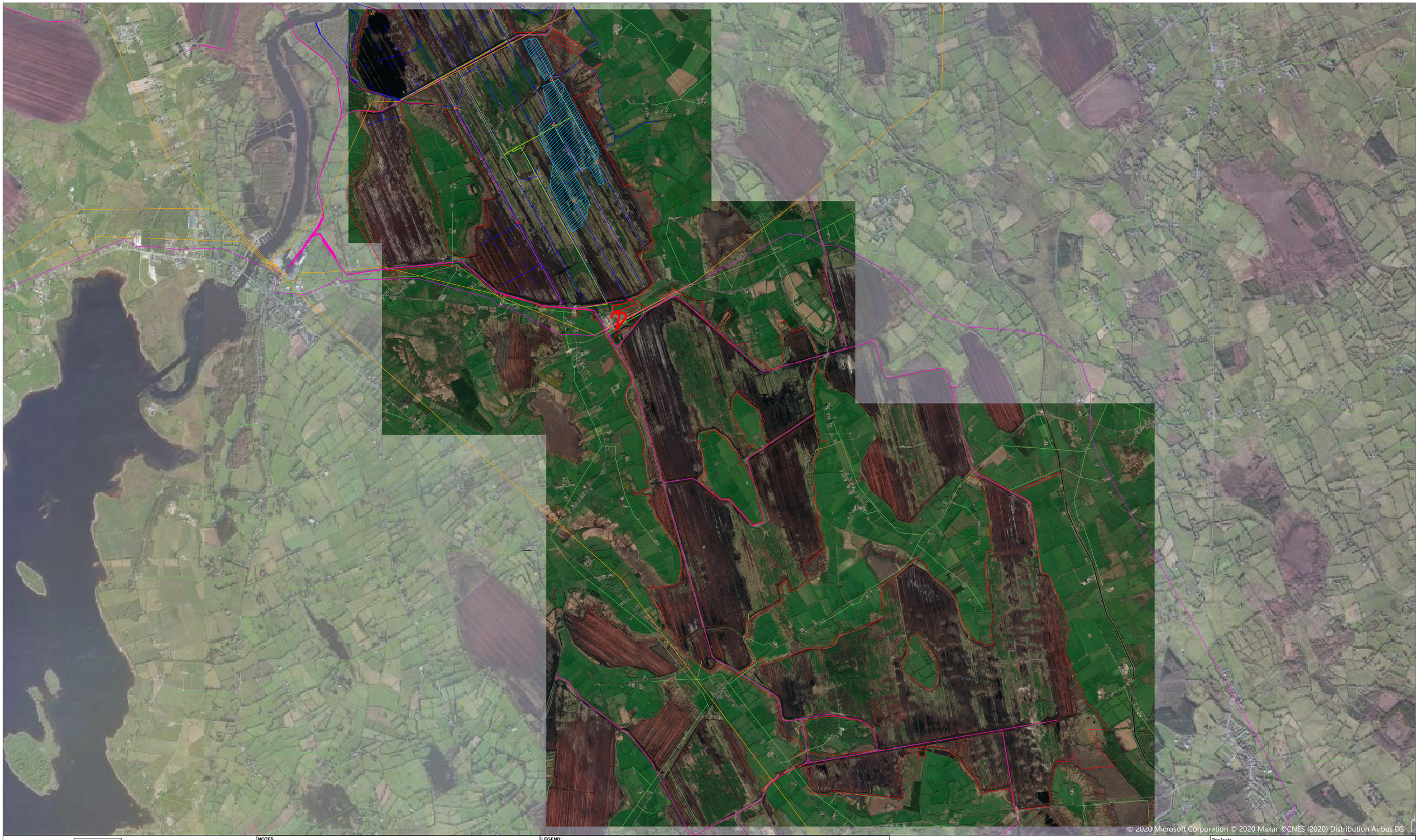
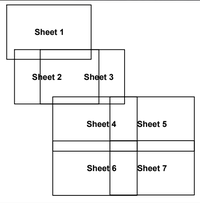
Sheet 1 of 1

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|---|---|---|---|
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| Turbine & Hardstand Locations | | 10kV/20kV Overhead Line | |
| Site Boundary | | 38kV Overhead Line | |
| Wind Farm Roads | | 110kV Overhead Line | |
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| | REVISION | By | Date | Chk'd |
|---|---|---|---|---|
| 01 | I.D.L( AS BUILT) | MM | 04/01/21 | RK |

Project: Derryadd Wind Farm

Title: Existing Site Layout

Dimensions in. mm

Scale. 1:20000 @ A1

Drawn By. MM 20/05/21

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Approved By.

Loughrea, Co. Galway
Tel. (091) 841274

Drawing No. I.D.L-2010

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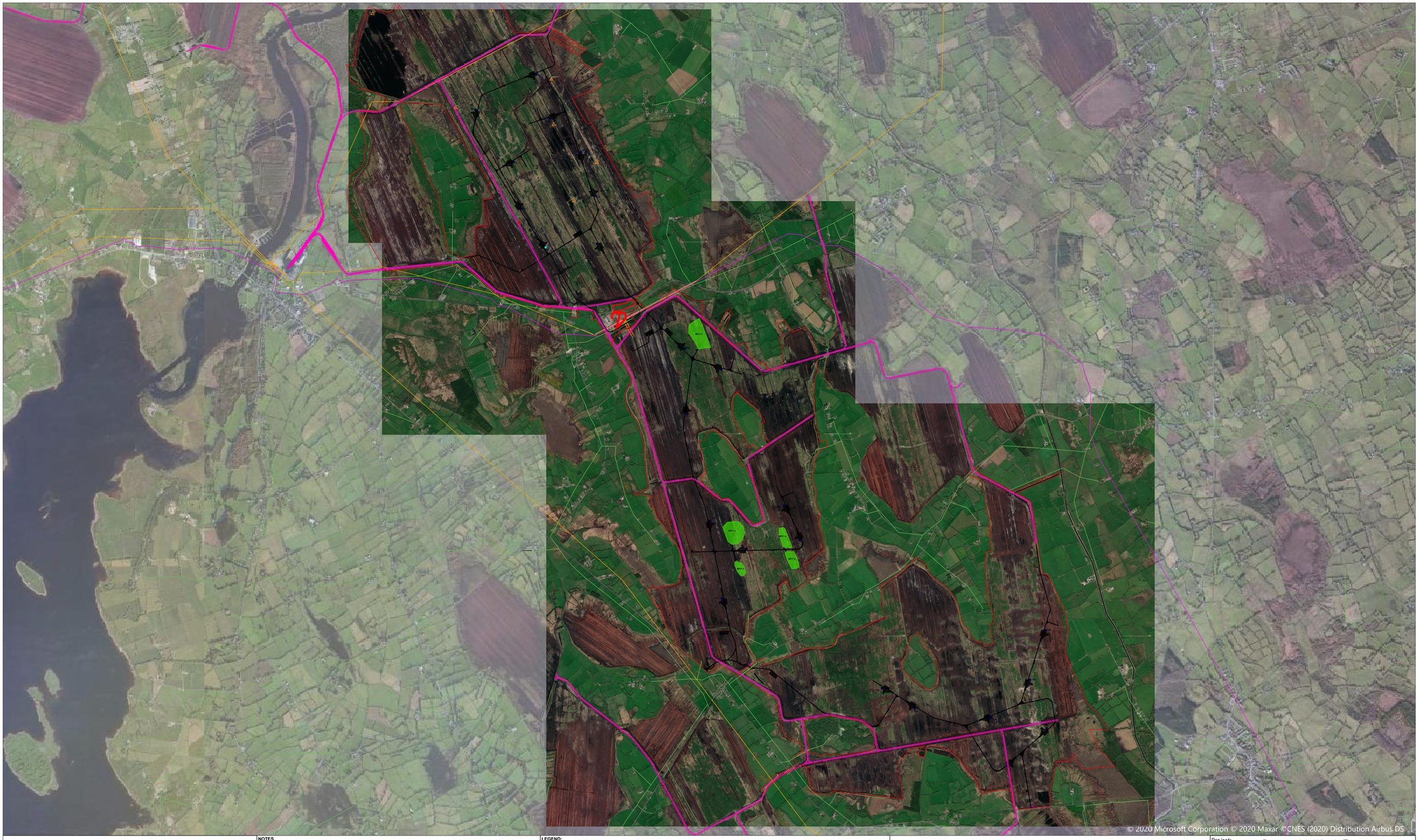
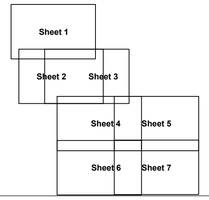
Sheet 1 of 1

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| 01 | I.D.L( AS BUILT) | MM | 20/05/21 | RK |

Project: Derryadd Wind Farm

Title: Site Layout

Dimensions in. mm

Scale. 1:20000 @ A1

Drawn By. SM 20/05/21

Checked By.

Approved By.

Loughrea, Co. Galway
Tel. (091) 841274

Drawing No. I.D.L-2020

Revision. 01

Sheet 1 of 1

# Appendix 14
# Digital Data

# Appendix 9-1.9.2- Minerex Geophysical Survey

Derryadd Wind Farm

County Longford

# Geophysical Survey

Report Status: Final2

*MGX Project Number: 6540*

*MGX File Ref: 6540f-005.doc*

30th August 2022

**Confidential Report To:**

**Irish Drilling Ltd.**
Old Galway Rd
Pollroebuck
Loughrea
Co. Galway


**Report submitted by:**
**Minerex Geophysics Limited**

Unit F4, Maynooth Business Campus
Maynooth, Co. Kildare, W23X7Y5
Ireland
Tel.: 01-6510030
Email: info@mgx.ie

**Issued by:**

Author: John Connaughton (Geophysicist)

Reviewer: Hartmut Krahn (Senior Geophysicist)


Minerex
Geophysics Limited

Subsurface Geophysical Investigations

# EXECUTIVE SUMMARY

1. Minerex Geophysics Ltd. (MGX) carried out a geophysical survey consisting of 2D-Resistivity, seismic refraction (p-wave), MASW (s-wave) and Wenner testing methods for the ground investigation of the proposed development of Derryadd Wind Farm, County Longford.
2. The main objectives of the survey were to determine ground conditions under the site, for suitability of shallow foundations; to determine the depth to rock and the overburden thickness in order to estimate the strength or stiffness or compaction of overburden and the rock quality; map the extent of soft ground layers; establish the presence of faults and fracture zones, and to detect possible karstified rock.
3. The overburden geology typically consists of peat over predominantly clay and silt overburden with some areas having greater sand and gravel content that others.
4. The bedrock is described in this report as clean limestone at the substation, borrow pits and turbines T1 – T20 and shale or argillaceous limestone or sandstone at T21 – T24. There may be a fault zone between these rock types running close to T18 and T19 but this may also be an increase in shale or argillaceous limestone or sandstone at these locations.
5. Rock was interpreted at all locations surveyed with the exception of T23 while the shallowest rock was located at T11. Shallow rock was also noted at T1, T2 and T16 turbine locations. Under the hard standing areas, T4, T14 and T15 some shallow rock is also indicated.
6. Many turbines did not have deep soft peat, clay or silt layers but at some points along the lines surveyed at T6, T8, T12, T13, T14 and T22, this layer is 3m or greater in thickness. At T6 there is consistently over 3m of soft peat, clay or silt across the lines surveyed.
7. Anomalous or karstified limestone was identified at T7, T12, T13, T15 and T16 and are discussed in chapter 4 and in the conclusions.
8. It was possible to acquire useful MASW results at 14 of the 24 turbine locations. The results for these turbines are shown on Table 3 and Appendix 1.
9. At the borrow pits, the depth to rock varied across the locations. The average depth to rock at BP17-1 is 6m, at PB17-2, BP17-3 and BP17-4, the average depth to rock is 2 – 3m while at BP17-5 it is 4m. There is possible anomalous or karstified rock to the south of BP17-2.
10. At the substation, there is some weathered rock near the top of rock and there is some more deeper weathering indicated to the NE of the proposed location.
11. This final version 2 of the report was printed to show the Derryadd Layout 1 compared to the Derryadd Layout 2 design for the turbines..

# CONTENTS

1. INTRODUCTION ..... 1

1.1 Background ..... 1
1.2 Objectives ..... 1
1.3 Site Description ..... 2
1.4 Geology ..... 2
1.5 Report ..... 2

2. GEOPHYSICAL SURVEY ..... 4

2.1 Methodology ..... 4
2.2 2D-Resistivity (ERT) ..... 5
2.3 Seismic Refraction ..... 5
2.4 1D-MASW (Multichannel Analysis of Surface Waves) ..... 6
2.5 Site Work ..... 6

3. RESULTS AND INTERPRETATION ..... 7

3.1 2D-Resistivity (ERT) ..... 7
3.2 Seismic Refraction ..... 8
3.3 Interpretation of Resistivity and Seismic Refraction at Turbines ..... 9
3.4 Interpretation of Seismic Refraction at Borrow Pits ..... 10
3.5 1D-MASW (Multichannel Analysis of Surface Waves) ..... 11

4. GEOPHYSICAL RESULTS BY LOCATION ..... 13

5. CONCLUSIONS AND RECOMMENDATIONS ..... 19

6. REFERENCES ..... 21

## List of Tables, Maps and Figures:


| Title | Pages | Document Reference |
|---|---|---|
| Table 1: Geophysical Survey Locations and Acquisition Parameters | 3 x A4 | 6540f_Tab1.xls |
| Table 2a: Summary of Interpretation for Turbines | In text | In text |
| Table 2b: Summary of Interpretation for Borrow Pits | In text | In text |
| Table 3: MASW Shear Wave Velocity and Elastic Constants | 5 x A4 | 6540f_Tab3.xls |
| Table 4: Shear Wave Velocity to Stiffness Relationship | In text | In text |
| | | |
| Appendix 1: Graphs of MASW Results | 7 x A4 | 6540f_App1.xls |
| | | |
| Map 1: Geophysical Survey Location Map | 1 x A3 | 6540f_MapsFigs.dwg |
| | | |
| Figure 1a: Models of Geophysical Survey, Turbine 1 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1b: Models of Geophysical Survey, Turbine 2 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1c: Models of Geophysical Survey, Turbine 3 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1d: Models of Geophysical Survey, Turbine 4 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1e: Models of Geophysical Survey, Turbine 5 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1f: Models of Geophysical Survey, Turbine 6 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1g: Models of Geophysical Survey, Turbine 7 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1h: Models of Geophysical Survey, Turbine 8 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1i: Models of Geophysical Survey, Turbine 9 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1j: Models of Geophysical Survey, Turbine 10 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1k: Models of Geophysical Survey, Turbine 11 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1l: Models of Geophysical Survey, Turbine 12 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1m: Models of Geophysical Survey, Turbine 13 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1n: Models of Geophysical Survey, Turbine 14 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1o: Models of Geophysical Survey, Turbine 15 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1p: Models of Geophysical Survey, Turbine 16 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1q: Models of Geophysical Survey, Turbine 17 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1r: Models of Geophysical Survey, Turbine 18 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1s: Models of Geophysical Survey, Turbine 19 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1t: Models of Geophysical Survey, Turbine 20 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1u: Models of Geophysical Survey, Turbine 21 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1v: Models of Geophysical Survey, Turbine 22 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1w: Models of Geophysical Survey, Turbine 23 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1x: Models of Geophysical Survey, Turbine 24 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1y: Models of Geophysical Survey, Substation | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 1z: Models of Geophysical Survey, Substation | 1 x A3 | 6540f_MapsFigs.dwg |

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|---|---|---|
| Figure 2a: Interpretation of Geophysical Survey, Turbine 1 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2b: Interpretation of Geophysical Survey, Turbine 2 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2c: Interpretation of Geophysical Survey, Turbine 3 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2d: Interpretation of Geophysical Survey, Turbine 4 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2e: Interpretation of Geophysical Survey, Turbine 5 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2f: Interpretation of Geophysical Survey, Turbine 6 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2g: Interpretation of Geophysical Survey, Turbine 7 | 1 x A3 | 6540f_MapsFigs.dwg |
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| Figure 2i: Interpretation of Geophysical Survey, Turbine 9 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2j: Interpretation of Geophysical Survey, Turbine 10 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2k: Interpretation of Geophysical Survey, Turbine 11 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2l: Interpretation of Geophysical Survey, Turbine 12 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2m: Interpretation of Geophysical Survey, Turbine 13 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2n: Interpretation of Geophysical Survey, Turbine 14 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2o: Interpretation of Geophysical Survey, Turbine 15 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2p: Interpretation of Geophysical Survey, Turbine 16 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2q: Interpretation of Geophysical Survey, Turbine 17 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2r: Interpretation of Geophysical Survey, Turbine 18 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2s: Interpretation of Geophysical Survey, Turbine 19 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2t: Interpretation of Geophysical Survey, Turbine 20 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2u: Interpretation of Geophysical Survey, Turbine 21 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2v: Interpretation of Geophysical Survey, Turbine 22 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2w: Interpretation of Geophysical Survey, Turbine 23 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2x: Interpretation of Geophysical Survey, Turbine 24 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2y: Interpretation of Geophysical Survey, Substation | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 2z: Interpretation of Geophysical Survey, Substation | 1 x A3 | 6540f_MapsFigs.dwg |
| | | |
| Figure 3a: Models of Geophysical Survey, Borrow Pit 17-1 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 3b: Models of Geophysical Survey, Borrow Pit 17-2 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 3c: Models of Geophysical Survey, Borrow Pit 17-3 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 3d: Models of Geophysical Survey, Borrow Pit 17-4 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 3e: Models of Geophysical Survey, Borrow Pit 17-5 | 1 x A3 | 6540f_MapsFigs.dwg |
| | | |
| Figure 4a: Interpretation of Geophysical Survey, Borrow Pit 17-1 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 4b: Interpretation of Geophysical Survey, Borrow Pit 17-2 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 4c: Interpretation of Geophysical Survey, Borrow Pit 17-3 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 4d: Interpretation of Geophysical Survey, Borrow Pit 17-4 | 1 x A3 | 6540f_MapsFigs.dwg |
| Figure 4e: Interpretation of Geophysical Survey, Borrow Pit 17-5 | 1 x A3 | 6540f_MapsFigs.dwg |

# 1. INTRODUCTION

## 1.1 Background

Minerex Geophysics Ltd. (MGX) carried out a geophysical survey consisting of 2D-Resistivity (ERT), seismic refraction (p-wave), MASW (s-wave) and Wenner VES measurements for the ground investigation of the proposed Bord Na Mona development of Derryadd Windfarm, County Longford.

The proposed development is a wind farm consisting of 24 wind turbines, 5 borrow pits, one substation and roads. The survey was aimed both at investigating the ground stability and to estimate the geological conditions under the site. The role of geophysics as a non-destructive fast method is to provide a geological interpretation at selected locations on the site.

This survey utilized various complimentary geophysical methods at 24 turbine, 5 borrow pit locations and the substation which will complement direct ground investigations. The direct ground investigation results can be used to improve the initial geophysical results and interpretation.

This report discusses the results and interpretations from the seismic refraction survey carried out at the turbine, borrow pit and substation locations and the 2D-Resistivity and MASW surveys carried out at the turbine and substation locations.

The Wenner VES electrical resistivity measurements that were carried out at the 24 turbines and the substation are displayed in a separate report. Those measurements are used for the design of the earthing system and they do not require interpretation.

## 1.2 Objectives

The main objectives of the geophysical survey were:

- To determine the ground conditions under the site
- To determine the type of overburden and rock
- To determine the depth to rock and the overburden thickness
- To estimate the strength or stiffness or compaction of overburden materials and the rock quality
- To estimate the excavatability of the bedrock
- To detect lateral changes within the geological layers
- To determine the presence of possible faults and fracture zones
- To detect possible karstified zones within the rock and karst features
- To determine the s-wave velocity and to calculate the small strain shear modulus $G_{max}$

## 1.3 Site Description

The site is located across the Derryaroge, Derryadd and Lough Bannow bogs to the east of Lanesborough. The proposed windfarm spans an area of 1908Ha of bogland. Elevations varied from 36 mOD near the middle of the site to 59 mOD in the south. At some turbines there were sharp elevation changes due to peat banks and cut drains. The site was accessible from various points from the public roads and a six wheeled ATV was used to transport equipment across the site.

## 1.4 Geology

Previous geotechnical surveys carried out in 2016 – 2018 describe the geology as generally consisting of peat underlain by silt and clay. There are some areas where sand and gravel were encountered, usually below the clay/silt layer. The rotary cores describe a limestone bedrock. No rotary core information was available for the southern area where the geology changes according to the Geological Survey of Ireland as described below.

The online bedrock geological map of Ireland (GSI, 2021) indicates that Turbine locations 1 – 17 and the substation are underlain by Visean Limestone, described as undifferentiated limestone, Turbines 18 – 23 are underlain by the Moathill Formation, described as limestone, calcareous sandstone and shale while turbine 24 is underlain by the Ballysteen Formation, described as dark muddy limestone and shale.

Between the Visean Limestone in the north and the Moathill Formation to the south is an area of argillaceous limestone described as dark limestone and shale but there are no turbines located in this bedrock.

There is a fault running roughly SW – NE close to turbines 18 and 24.

The subsoils are generally described as cut over raised peat with some till derived from limestone associated with drumlins on the site.

There are numerous karst features located to the NE and SW of the site associated with the Visean limestone formation but there are no karst features noted within the site.

## 1.5 Report

This report includes the results and interpretation of the geophysical survey. Maps, figures and tables are included to illustrate the results of the survey. More detailed descriptions of geophysical methods and measurements can be found in GSEG (2002), Milsom (1989) and Reynolds (1997).

The description of soil, rock and the use of geotechnical terms (soft, stiff, dense etc) follows Eurocode (2007) and BSI (2015) standards. The terms are defined in the standards and the physical parameters are related

form experience. This geophysical survey has been acquired, processed, interpreted and reported in accordance with these guidelines.

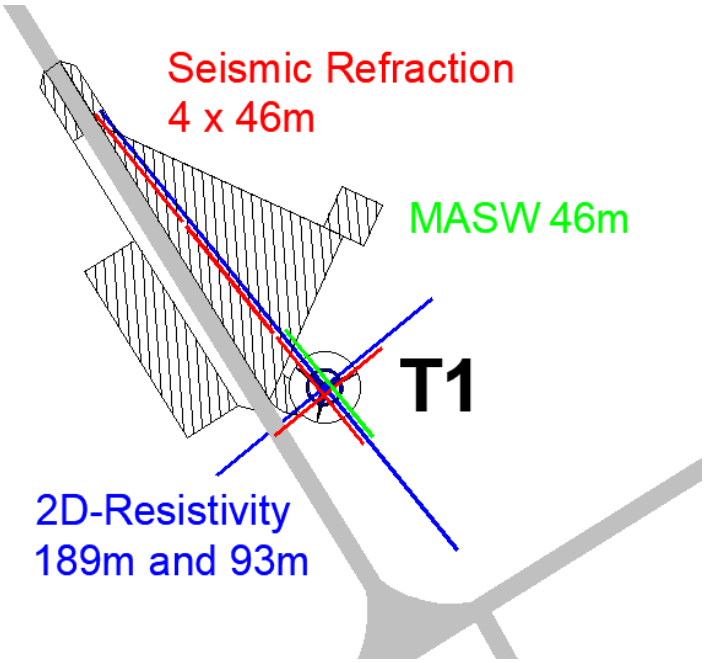
The client provided maps of the site and the digital version was used as the background map in this report. Elevations were surveyed on site and are used in the vertical sections.

The interpretative nature and the non-invasive survey methods must be taken into account when considering the results of this survey and Minerex Geophysics Limited, while using appropriate practice to execute, interpret and present the data, give no guarantees in relation to the existing subsurface.

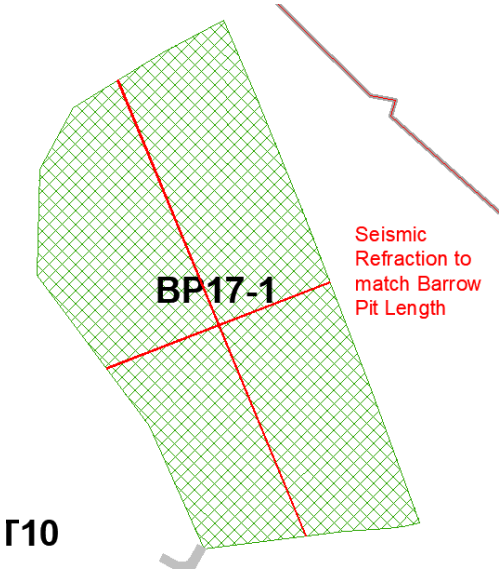
# 2. GEOPHYSICAL SURVEY

## 2.1 Methodology

The methodology was outlined in the tender documents and consisted of 2D-Resistivity surveying, Seismic Refraction surveying and MASW surveying at each turbine location. Two perpendicular lines crossing at each turbine location were carried out the longer one line extending into the future hardstanding area. The design of the lines at the turbine locations are shown below. Any deviations from this design are mentioned in Chapter 4. Two perpendicular lines were also carried out crossing the substation location.




At borrow pit locations, two perpendicular seismic refraction lines are carried out across the extent of the pit.

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The survey locations are indicated on Map 1 as well as each figure for individual turbines, borrow pits and substation. The lines, locations and parameters are tabulated in Table 1 attached at the end of this report.

## 2.2 2D-Resistivity (ERT)

2D-Resistivity lines were surveyed with electrode spacing of 3m, up to 64 electrodes per set-up and a maximum length of 189m per set-up. The readings were taken with a Tigre Resistivity Meter, Imager Cables, stainless steel electrodes and a laptop with ImagerPro acquisition software.

At each turbine locations, two lines were carried out intersecting at the turbine location. Where space was available, one 93m line was carried out, centred on the turbine locations while a second 189m line extended into the hard standing area. The target depth was 15m for the shorter line and 30m for the longer line. At the substation, two 189m long lines were carried out intersecting at the proposed location.

During 2D-Resistivity surveying, data is acquired in the form of linear arrays using a suite of metal electrodes. A current is induced into the ground via a pair of electrodes whilst a potential difference is measured across a second pair of electrodes. This allows for the recording of the apparent resistivity in a two-dimensional arrangement below the line. The data is inverted after the survey to obtain a model of subsurface resistivities. The generated model resistivity values and their spatial distribution can then be related to typical values for different geological materials.

The penetration depth of a resistivity set-up increases towards the centre where it reaches an approx. value of 1/6$^{th}$ of the array length. 2D-Resistivity has previously proven zones of anomalous or karstified rock with lateral extents of 5m and more.

## 2.3 Seismic Refraction

Seismic refraction lines were surveyed with geophone spacing of 2m and 24 geophones per set-up resulting in a 46m length per set-up. The recording equipment consisted of a 24 Channel GEOMETRICS ES-3000 engineering seismograph with 4.5Hz vertical geophones. The seismic energy source consisted of a hammer and plate and a seismograph gun in soft ground areas. A zero-delay trigger was used to start the recording. Normally 7 shot points per p-wave set-up were used.

Two set ups were centred perpendicular to each other on the turbine location while 2 further set ups were carried out into the hard standing area. Along this line, the set-ups were acquired in a longer continuous line using common shot points between set-ups and concatenating into longer lines at the processing stage. At the substation, the lines were 142 m and 120m long and centred on the proposed location

The seismic refraction survey method focuses on propagating p-waves travelling through the subsurface, which are generated by hitting a hammer on a plate or other source. As the wave propagates through the subsurface, its velocity varies as it travels through overburden, rock with different elastic properties, and

along geological boundaries. Velocity data is recorded via the surveying equipment, which is then processed, allowing geological layer thicknesses and boundaries to be established.

Seismic Refraction generally determines the depth to horizontal or near horizontal layers where the compaction or strength or rock quality changes with an accuracy of 10 – 20% of depth to that layer. Where low velocity layers or shadow zones are present (e.g., below solid ground surface) or where layers dip with more than 20 degree angle the accuracy becomes much less.

The seismic refraction set-ups with 46m individual length have a reasonable penetration depth of around 10m which is also the target depth given in the tender documents. The depth penetration varies according to the velocity structure of the subsurface. While some models show layers at a depth deeper than 10m, the accuracy of the seismic models at these depths are significantly reduced.

## 2.4 1D-MASW (Multichannel Analysis of Surface Waves)

The seismic shear wave velocity was determined by active 1D-MASW surveying. MASW determines the bulk seismic shear wave velocity versus depth. The velocities are used to determine the small strain shear modulus and to compute other geotechnical parameters. As the seismic p-wave velocities are measured along some of the same lines the density can be estimated and other elastic parameters like Poisson's ratio and young's modulus can be computed.

The MASW method was acquired along with one line from the seismic refraction survey at each turbine and at the substation, though the shots were done separately with a larger time window. The MASW used 24 geophones with 2m spacing and a length of 46m per set-up. The recording equipment consisted of a 24 Channel GEOMETRICS ES-3000 engineering seismograph with 4.5Hz vertical geophones. The seismic energy source consisted of a hammer and plate or a seismograph gun in soft ground areas. A zero-delay trigger was used to start the recording. The shot points were located 8m off the ends of the set-ups.

Many constraints exist for the MASW method and the main factors on this site that affect the methods are shallow rock, sudden velocity jumps with depth and changing geology across the lines at some turbines.

## 2.5 Site Work

The data acquisition was carried out between the 8$^{th}$ of February and 7$^{th}$ of May 2021. The weather conditions were fair to good throughout the acquisition period. On days with poor weather the survey was postponed in order to obtain good data quality. Health and safety standards were adhered to at all times. The locations and elevations were surveyed with a Carlson NR3 RTK-GPS to accuracy < 0.05m.

# 3. RESULTS AND INTERPRETATION

The interpretation of geophysical data was executed utilizing the known response of geophysical measurements, typical physical parameters for subsurface features that may underlay the site, and the experience of the authors.

The interpretation is based on the methods carried out at each area. At turbine locations and the substation, 2D-Resistivity, seismic refraction and MASW surveys were carried out while at borrow pit locations the interpretation is based solely on seismic refraction as this was the only method undertaken there.

Some ground investigation results were available before the survey and the abbreviated borehole and trial pit logs are indicated on the sections. Further logs were provided long after the survey and these have been incorporated into the drawings. The rock was generally divided into strong fresh limestone and weathered limestone based on the RQD value of more or less than 60%. This can be done only to a certain extend as the rock is very variable, RQD values and fracture index often changes rapidly with depth and the small size of a borehole only represents a very small volume of ground. The geophysical survey on the other end of the scale averages over a large volume of ground.

## 3.1 2D-Resistivity (ERT)

The 2D-Resistivity data was positioned and inverted with the RES2DINV inversion package. The programme uses a smoothness constrained least-squares inversion method to produce a 2D model of the subsurface resistivities from the recorded apparent resistivity values. Three variations of the least squares method are available and for this project the Jacobian Matrix was recalculated for the first three iterations, then a Quasi-Newton approximation was used for subsequent iterations. Each dataset was inverted using seven iterations resulting in a typical RMS error of <3.0%. The resulting models were colour contoured with the same resistivity scale for all lines and they are displayed as cross sections for each Turbine location and the substation (Figures 1a – 1z).

Resistivities are characteristic for certain overburden and rock types. If there is peat or a high content of clay minerals (which are electrically conductive) then the overburden resistivity will be lower than if there is a high content of clastic grains like sand or gravel. The purer the clay and the lower the sand and gravel content, the lower the resistivity. Water content in overburden layers can influence the resistivities, but generally clay content has a more dominating effect.

Within bedrock types like clean limestone, high resistivities indicate a fresh, strong, unweathered rock. As the weathering in the rock increases the resistivity gets lower because of weathering products, remineralisation of rock and infill of cracks, faults and voids with clay and water. Weathering within rock is typically indicated by lower resistivity values in the cross sections.

In limestone areas, karstified rock is defined in this report as a formerly intact clean limestone rock, liable to karstification, that has been partially dissolved by water over long geological time scales and where the cavities and voids have either remained empty (filled by air) or became filled by overburden sediment (clay, silt, sand), weathering product of the broken rock itself or water. This process would lead to a reduction of the resistivity of the overall rock and therefore karstified rock has a lower resistivity than intact clean limestone rock. This is generally indicated by lower resistivities embedded within high resistivity at depth.

The resistivities cover a range typical for materials from clay rich overburden or peat (low resistivities) to fresh strong unweathered bedrock (high resistivities). The ranges have been taken into the consideration for the interpretation. Low resistivity values (<200 Ohmm) typically indicate peat and overburden with high clay and silt content. Medium values (200 to 1000 Ohmm) show sand and gravel in the overburden and weathered, karstified or anomalous bedrock. High resistivities (>1000 Ohmm) indicate bedrock types like clean limestone. At Turbines 21 – 24, the rock appears to be different and medium resistivities within the rock layers at these turbines likely indicates a shale or argillaceous limestone or sandstone bedrock.

## 3.2 Seismic Refraction

The seismic refraction data was positioned and processed with the SEISIMAGER software package to give a layered model of the subsurface. The number of layers has been determined by analysing the seismic traces and between 4 layers were used in the models. All seismic lines were subject to a standardised processing sequence which consisted of a topographic correction which was based on integrated elevation data, first break picking, tomographic inversion, travel-time computation via ray-tracing and velocity modelling. Residual deviations of typically 0.4 to 1.8 msec RMS have been obtained for each line. Following each processing stage QC procedures were adhered to. The resulting layer boundaries are shown as thick lines overlaid on the 2D-Resistivity cross sections at the Turbine and substation locations (Figures 1a – 1z) and on their own at the Borrow Pit locations (Figures 3a – 3e). The average seismic velocities obtained within the layers are annotated on the sections as bold black or yellow numbers.

The p-wave seismic velocity is closely linked to the density of subsurface materials and to parameters like compaction, stiffness, strength and rock quality. The higher the density of the subsurface materials the higher the seismic velocity. More compacted, stiffer, denser and stronger material will have a higher seismic velocity. For rock, the seismic velocity is higher when the rock is stronger, less weathered and has a higher quality. If the rock is more weathered, broken, fractured, fissured or karstified then the seismic velocity will be reduced compared to that of intact fresh rock.

Because of the above relationship, the seismic refraction method and seismic velocities are suitable to investigate ground where the layers get denser, more compacted and stronger with depth. A disadvantage is that some materials may have the same seismic velocity: Very stiff or very dense highly consolidated overburden and a weathered rock can have the same seismic velocity range (as is the case in the layer 3 below).

The modelled seismic data has created the following layered ground model:

Layer 1 has seismic velocities of 100 - 400m/s. This overburden would be peat and soil with a soft stiffness or compaction.

Layer 2 was modelled with a velocity range of 600 - 1400m/s. The velocity indicates overburden material with firm strength or compaction.

Layer 3 velocities of 1600 - 2400m/s indicate predominantly overburden with stiff to very stiff or dense to very dense strength or compaction or a highly weathered rock with poor rock quality.

Good to very good rock is indicated by seismic velocities of 3000 - 4500m/s.

### 3.3 Interpretation of Resistivity and Seismic Refraction at Turbines

Table 2a summarises the interpretation at the 24 turbines and the substation. The stiffness or compaction and the rock strength or quality have been estimated from the seismic velocity. The estimation of the excavatability for the bedrock has been made according to the caterpillar chart published in Reynolds (1997). The geotechnical assessment for rippability will have to take factors like rock type and jointing into account and the estimation in this report is solely based on the seismic velocities.

Interpreted cross sections are shown in Figure 2a – 2z. The interpretation has been made from all available information. For overburden layers and the top of the rock the seismic refraction data has been used as seismic refraction is the best method to delineate layer boundaries. The resistivity models have been used to delineate two generalised types of rock. Resistivity data is better suited to show rock types and features within the rock while seismic refraction velocities are indicating the change of compaction, stiffness or rock quality with depth. Along short sections where only one data type is available, an interpolation for the interpreted layers was made.

Table 2a: Summary of Interpretation at Turbines

| **Layer** | **General Seismic Velocity Range (m/sec)** | **General Resistivity Range (Ohmm)** | **Stiffness or Compaction or Rock Quality** | **Interpretation** | **Estimated Excavation Method** |
|---|---|---|---|---|---|
| 1 | 100 - 400 | <250 | Soft | Peat or Clay or Silt | Diggable |
| 2 | 600 - 1400 | <250 | Firm | Clay or Silt | Diggable |

| | | | | | |
|---|---|---|---|---|---|
| 3a | 1600 - 2400 | <250 | Stiff to Very stiff | Sandy Gravelly Clay and Silt | Diggable |
| 3b | 1600 - 2400 | >250 | Dense to very dense or poor rock | Clayey silty sand and gravel or highly weathered Rock (derived from limestone or shale) | Diggable or rippable to marginal rippable |
| 4a | 3000 – 4500 | <1000 (T1 – T20) | Fair to good rock | Weathered or Karstified Limestone | Breaking & Blasting |
| 4b | 3000 - 4500 | >1000 (T1 – T20) | Good to very good rock | Fresh Clean Limestone | Breaking & Blasting |
| 4c | 3000 - 4500 | <1000 (T21 – T24) | Good to very good rock | Shale or argillaceous Limestone or sandstone | Breaking & Blasting |

### 3.4 Interpretation of Seismic Refraction at Borrow Pits

Table 2b summarises the interpretation at the five borrow pits. The stiffness or compaction and the rock strength or quality have been estimated from the seismic velocity. The estimation of the excavatability for the bedrock has been made according to the caterpillar chart published in Reynolds (1997). The geotechnical assessment for rippability will have to take factors like rock type and jointing into account and the estimation in this report is solely based on the seismic velocities.

Interpreted cross sections are shown in Figures 4a – 4e. The interpretation has been made from the seismic refraction velocities.

Table 2b: Summary of Interpretation at Borrow Pits

| **Layer** | **General Seismic Velocity Range (m/sec)** | **Stiffness or Compaction or Rock Quality** | **Interpretation** | **Estimated Excavation Method** |
|---|---|---|---|---|
| 1 | 100 - 400 | Soft | Peat or Clay or Silt | Diggable |
| 2 | 600 - 1400 | Firm | Clay or Silt | Diggable |
| 3 | 1600 - 2400 | Stiff to very stiff or dense to very dense or poor rock | Overburden or highly weathered Limestone | Diggable or rippable to marginal rippable |
| 4 | 3000 - 4500 | Fair to very good rock | Limestone | Breaking & Blasting |

### 3.5 1D-MASW (Multichannel Analysis of Surface Waves)

The MASW lines were positioned, processed, analysed and modelled with the SEISIMAGER/SW software packages. The objective is to obtain a model of shear wave velocity versus depth and to calculate the small strain shear modulus Gmax from the shear wave velocities. Two opposed shot points from one array set-up at each turbine and the substation were acquired and are analysed. One model was subsequently produced for all turbines where surface waves were encountered.

Following processing steps are done to achieve this:

1. Edit the shot point geometry and display the shot points for each array
2. Edit traces and/or apply filters to improve the shot record for the next step
3. A dispersion curve (phase velocity versus frequency plot or dispersion image) is computed
4. Select an optimum dispersion curve for each turbine location
5. For each shot the maximum amplitude at each frequency of the dispersion image is selected and the picks for the dispersion curve are truncated (frequency gate), smoothed and brought forward into the modelling process
6. An initial model of shear-wave velocity, $V_s$, versus depth is computed
7. An inversion is carried out to create the final $V_s$ curve (Shear wave versus depth). The valid depth range is noted and the data saved in a file
8. The small strain shear modulus (also named $G_{max}$) for each shot point and depth is computed by using a density calculated from the P-Wave results.

   (Eq. 1) $G = V_s^2 * \rho * 10^{-6}$

   where G = Shear Modulus (MPa)

   $V_s$ = Seismic Shear Wave Velocity (m/s)

   $\rho$ = Density (kg/m$^3$)
9. The p-wave velocity is added at each depth interval from the p-wave seismic refraction model
10. Using the s-wave and p-wave velocities and a calculated density, the Poisson Ratio, Bulk Modulus and Young's Modulus are computed and listed in Table 3.
11. Graphs displaying the S-Wave velocity and small shear strain modulus $G_{max}$ for each turbine location where dispersion curves were present are displayed in Appendix 1.

Intensive efforts have been made to extract the best dispersion curves by time gating, selecting and test processing various source versus receiver trace distances and trace ranges and by directional selection of

traces. At some locations (T7 - T12, T16, T19, T21, T24 and the substation) the ground is not suitable for the generation of surface waves. The main constraints are the rapid increase of the shear wave velocity with depth (creating high velocity gradients) and the change in layer thickness across lines.

After analysing all data, it can be stated that the seismic refraction method has worked much better on this site than the MASW method.

The tender document proposed the calculation of various elastic constants from the geophysical results. In order to calculate the elastic constants, assumed densities are first computed using the seismic refraction results. As the seismic refraction results assume a layered ground model with constant velocities within the layers, the calculated densities do not increase gradually with depth in the same way the S-Wave velocities increase. While there are reasonably small errors within the geophysical results, combining these results with other assumptions leads to significantly larger and unavoidable errors within the calculations of the elastic constants.

Table 4: Shear Wave Velocity to Stiffness Relationship

| **Shear Wave Velocity Vs Range in m/s** | **Material Stiffness** |
|---|---|
| < 150 | Soft |
| 150 to 300 | Firm |
| 300 to 500 | Stiff |
| > 500 m/s | Very Stiff |

# 4. GEOPHYSICAL RESULTS BY LOCATION

This chapter gives a brief interpretation for each survey location starting with the Turbine location in numerical order, then the substation and then through the borrow pit locations. The interpretations are based on all the geophysical data available at each location.

**Turbine 1**

Layers 1 and 2 are thin, reaching a depth of approx. 1.5m. This is underlain by a 1 – 3.5m thick layer of stiff to very stiff sandy gravelly clay and silt. The top of rock is between 3 – 5m below ground level (bgl). The rock is primarily fresh unweathered limestone but there is some weathering in the east of the area which is visible along Line 1 up to 80m and along Line 2 from 55m to the end of the line. This weathering is not interpreted as significant but moving the turbine 40m to the NW would place it above less weathered limestone.

**Turbine 2**

The survey at Turbine 2 shows a thin layer of soft peat, silt or clay and a layer of firm clay or silt to a depth of 1 – 1.5m bgl. There is a 1.5 – 3m thick layer of stiff to very stiff sandy gravelly clay and silt. The rock is between 2.5 and 5m bgl and is primarily fresh unweathered limestone. The 2D-Resistivity indicates some weathering at the top of this layer, particularly towards the southwest along lines 4 but also close to the Turbine location along Line 3.

**Turbine 3**

Turbine 3 shows very thin layers 1 and 2 underlain by 4 – 6m of very stiff sandy gravelly clay and silt. The top of the rock layer is between 5 – 7m bgl and consists of approx. 2 – 5m of weathered limestone over fresh clean limestone. R10 is 165m long due to a deep ditch at the SW end of the line.

**Turbine 4**

Line R12 is shorted than lines at other turbines due to a deep ditch at the east end of the line. The survey shows a 0.5 – 1.5m thick layer of soft silt, clay or peat under a layer of firm clay and silt to a depth of 1.5 – 4m bgl. There is a 1 – 5m thick layer of stiff to very stiff sandy gravelly clay and silt and dense to very dense clayey silty sand and gravel. This layer may also contain some very poor highly weathered limestone and is thickest under the turbine location and towards the north and becomes thinner towards the south. The rock layer is 3 – 7.5m bgl and consists of fresh unweathered limestone. This layer is deepest to the north and is shallower to the south.

**Turbine 5**

There is a 0.5 – 1.5m layer of soft silt, clay or peat and a 0.5 – 3.5m layer of firm clay or silt. The stiff to very stiff sandy gravelly clay and silt layer has a thickness of 6 – 10m. The rock layer begins at a depth of 9 – 13m bgl and consists of 6.5 – 11m of weathered limestone underlain by fresh unweathered limestone.

**Turbine 6**

There is at least 3m of peat underlying the areas surveyed at Turbine 6 with up to 4.5m in some areas. This is the deepest soft layer identified throughout the surveyed areas. The seismic refraction lines running towards the hard standing area were split due to high peat banks over which seismic refraction data could not be acquired. Similarly, the perpendicular line is marginally offset from the turbine location to avoid running on top of the peat bank.

Underlying the peat is a 0.5 – 2.5m thick layer of firm clay and silt. From 2.5 – 6m bgl there is a layer consisting of stiff to very stiff sandy gravelly clay and silt and dense to very dense clayey silty sand and gravel. This layer may also contain some very poor highly weathered limestone. The top of the good to very good limestone is at a depth of 7.5 – 10m bgl.

**Turbine 7**

The soft peat, clay or silt layer is up to 1.5m thick but generally has a 1m thickness. This is underlain by 2 – 3m of firm clay or silt. Layer 3, described as stiff to very stiff sandy gravelly clay or silt has a general thickness of 4 – 6m. This becomes significantly thicker towards the southeast, ~50m away from the turbine location. The top of the rock layer is 7 – 9m bgl but becomes significantly deeper to the southeast again. The area to the southeast likely indicates karstified or anomalous rock. There may also be highly weathered infilled rock within layer 3.

**Turbine 8**

The 2D-Resistivity profile R15 was shorter than at other turbines due to a deep ditch to the northeast and water to the southwest. At this turbine location, there is a 1 – 3m thick layer of soft peat, clay or silt, underlain by firm clay and silt to a depth of 1 – 4m bgl. There is a 5 – 9m thick layer of stiff to very stiff sandy gravelly clay and silt. Fair to very good rock is identified at a depth of 7 – 12m bgl which includes a layer of 4 – 7m of weathered rock.

**Turbine 9**

There is a 0.5 – 2.5m layer of soft peat, clay or silt and firm clay or silt to a depth of 1 – 4.5m bgl and approx. 2m bgl at the turbine. There is a 3 – 4m thick layer of stiff to very stiff sandy gravelly clay and silt. The top of the limestone layer is at a depth of 5.5 – 10m. There is some fair weathered limestone at the top of this layer which becomes thicker under the turbine location and very thin to the southeast. The variation in weathering below the turbine location across both lines indicates that the weathering occurs to the north of the turbine and so is not visible on line R6.

**Turbine 10**

Layer 1 is very thin and layer 2 extends to a depth of 1 – 5m bgl. Layer 3, which consists of stiff to very stiff sandy gravelly clay and silt and dense to very dense clayey silty sand and gravel has a thickness of 1.5 – 5.5m and may also contain some highly weathered limestone, particularly near its base. The top of the good to very good limestone is at a depth of 3.5 – 10m bgl and is ~5m deep at the turbine location.

**Turbine 11**

The fair to very good limestone layer is very shallow at this location. The rock is between 0.5 and 1m bgl and consists of 1 – 2m of fair weathered limestone over good to very good limestone. This location contains the shallowest rock surveyed on the site.

**Turbine 12**

There is a large anomalous zone under the hard standing area between 90 and 160m along line 19 and up to 50m along line 20. Outside this zone, the rock is between 1 and 5m deep but becomes significantly deeper within the anomalous zone. Within the overburden, there is up to 4m of peat to the west of the turbine location. It is recommended to move the turbine to the southeast to avoid this anomalous area and deep peat, and construct the hardstanding to the south rather than the north.

**Turbine 13**

There is up to 3m of peat at this location. The top of rock is 5.5 – 7m bgl along line 25 but becomes significantly deeper in the middle of line 26. The resistivities within the rock at this location indicates the whole area may be underlain by anomalous or karstified rock.

**Turbine 14**

There is 1 – 3m of soft peat at this location underlain by 1 – 3.5m of firm to very stiff sandy gravelly clay and silt. Good to very good limestone is present from 2 – 6m bgl.

**Turbine 15**

Layers 1 and 2 have a combined thickness of 2 – 3m. The thickness of layer 3 varies significantly from 0.5 – 2.5m to the north of the turbine location to ~7m at the turbine and to the east and west. There is a deep anomalous or karstified rock zone evident along line 27 and along line 28 to 85m. It is recommended to move the turbine to the north to where the rock is shallower and not anomalous.

**Turbine 16**

There is up to 2m of soft peat at this location and the overburden layers have a combined total thickness of 2 – 6m. Within the rock layer there is an anomalous zone to the southeast of the turbine location into the hard standing area. This is visible from 130m along lines 30

**Turbine 17**

There is 1 – 2.5m of soft peat, clay or silt underlain by a firm clay and silt layer with a thickness of up to 2.5m and 2 – 4.5m of stiff to very stiff sandy gravelly clay and silt and dense to very dense clayey silty sand and gravel. This layer may also contain some highly weathered limestone. The fair to very good rock layer is found at a depth of 4 – 8.5m, shallowest towards the south. There is some weathered limestone at the top of the layer but is generally good to very good clean fresh limestone.

**Turbine 18**

Layers 1 and 2 have a combined thickness of 0.5 – 4m. Layer 3 is primarily dense to very dense clayey silty sand and gravel and has a thickness of up to 7m but is very thin in some places. The top of the rock layer varied between 2 and 12m bgl and is approx. 7m bgl at the turbine location. The rock is deeper towards the southeast and shows some deeper weathering at the end of line R37 but it is not significant. The slightly lower resistivities within the rock layer compared to other turbines may indicate a fault zone in this area or a larger content of argillaceous or shaly limestone.

**Turbine 19**

Layers 1 and 2 have a combined thickness of 1 – 4m. The thickness of layer 3 varied from 1 – 8m and consists of stiff to very stiff sandy gravelly clay and silt and dense to very dense clayey silty sand and gravel. The rock layer, which is primarily fresh clean limestone with some thin weathering on top is found at a depth of 3.5 – 9.5 bgl and is 4.5m bgl at the turbine location. Lower resistivities at this location, similar to those at Turbine 18 may indicate a fault zone or a higher content of argillaceous or shaly limestone.

**Turbine 20**

Layers 1 and 2 reach a depth of 1.5 – 3.5m bgl. Layer 3 is a combination of stiff to very stiff sandy gravelly clay and silt and dense to very dense clayey silty sand and gravel and has a thickness of between 4 to over 10m. This layer becomes thicker at both ends of line R42. The top of the rock layer is found at a depth of 7m to over 10m. There appears to be deeper weathering to the north along line R41 which may indicate anomalous rock. The top of rock also becomes deeper to the west and east along line R42 but this may be a change in the top of rockhead rather than anomalous rock.

**Turbine 21**

Turbine 21 – 24 appear to be underlain by a different rock type which may be shale or argillaceous limestone or sandstone. At T21, layers 1 and 2 reach a depth of 1 – 5m bgl with a 2 – 8m thick layer of primarily stiff sandy gravelly clay and silt and some dense to very dense clayey silty sand and gravel or highly weathered rock below it. The depth to rock ranges from 3.5 – 10.5m bgl and is interpreted as good to very good shale or argillaceous limestone or sandstone.

**Turbine 22**

There is a soft peat, clay or silt layer which is up to 3m thick but is generally thinner along both lines. This is underlain by a firm clay and silt layer to a depth of 2.5 – 6 bgl. There is a 5 – 10m thick layer which consists of stiff sandy gravelly clay and silt and some dense to very dense clayey silty sand and gravel and may also contain some highly weathered rock. The top of the good to very good shale or argillaceous limestone or sandstone layer is deeper than 7m bgl and over 10m in some areas.

**Turbine 23**

There is a very thin layer of soft peat, clay or silt underlain by a 1.5 – 3m thick layer of firm clay and silt. The top of the stiff sandy gravelly clay and silt layer is 1.5 – 3.5m bgl and extends to depths of over 10m bgl. At a

depth of over 15m along line R43, the resistivities increase which may indicate the top of rock or a change to clayey silty sand and gravel overburden.

**Turbine 24**

There is 1 – 2m of soft peat underlain by 1 – 5m of firm clay and silt. This layer becomes over 9 m thick between 100 and 120m along line R47. Layer 3 is described primarily as dense to very dense clayey silty sand and gravel. Along all of line R48 and up to 95m along line R47. The top of the good to very good shale or argillaceous limestone or sandstone layer is between 5 and 9.5m bgl but becomes very deep after 95m along lines R47. This area may indicate anomalous rock or possibly a fault zone.

**Substation**

There is between 0.8 – 1.6m of soft peat underlain by 0.4 – 2.5m of firm clay and silt. Layer 3is primarily stiff to very stiff sandy gravelly clay and silt, containing more sand and gravel at depth. The top of the limestone layer is between 4 – 10m bgl. There is some weathering at the top of this layer, especially to the SW and NE of the substation location.

**Borrow Pit 17-1**

The soft and firm layers reach a depth of 0.5 – 3.5m bgl. Layer 3, which is described as stiff to very stiff or dense to very dense overburden or poor weathered rock has a thickness ranging from 1 – 9m. The top of the fair to very good limestone layer is between 1 and 12m bgl.

**Borrow Pit 17-2**

The seismic refraction models show shallow rock across the borrow pit with the top of the fair to very good limestone layer generally from 1.5 – 3m bgl. This layer becomes deeper at the start of line S107 & S108 to the south and to the west along S109. A rotary core at the start of line S107 & S108 shows deep sand with rock at a depth of over 20m in contradiction to the seismic refraction models. The reason for this difference may be related to the change in rock depth shown on the models indicating an anomalous or karstified rock zone.

**Borrow Pit 17-3**

The top of the fair to very good rock layer is generally between 1 – 5.5m bgl with the overburden above being primarily stiff to very stiff or dense to very dense overburden or poor weathered rock.

**Borrow Pit 17-4**

There are thin layers of soft and firm overburden underlain by 1.5 – 6m of stiff to very stiff or dense to very dense overburden or poor weathered rock. The top of the fair to very good limestone layer is between 2.5 and 9m and is shallower in the northwest and deepest in the southeast.

**Borrow Pit 17-5**

The overburden gradually increases from soft to stiff to very stiff or dense to very dense overburden. The top of the fair to very good limestone layer is generally between 2.5 – 5m bgl but is as deep as 8m in some places.

## 5. CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are made:

- The geophysical surveys carried out at selected locations across the Derryadd Wind Farm site show that the subsurface geology generally consists of peat, underlain by clay and silt and limestone bedrock with anomalous rock in some places. The specific geology varies significantly between each location surveyed.
- There is a significant change in rock type from clean limestone at the substation, five borrow pits and turbines T1 – T20 to shale or argillaceous limestone or sandstone at turbines T21 – T24. This will have to be confirmed against the rock cores.
- Lower resistivities at turbines T18 and T19 compared to T1 – T17 and T20 may indicate a fault zone in this area, or an increase in the content of the shaley or argillaceous limestone.
- The shallowest rock at the turbine locations is at T11 where rock is approx. 1m bgl. At locations T1, T2 and T16 rock is 4m or shallower bgl under the turbines.
- At locations T1, T2, T4, T14, T15 and T16 there is also shallow rock noted under the proposed hard standing areas.
- The deepest soft peat, clay and silt layer is found at turbine T6 where the average thickness is around 3.25m.
- At a number of turbine locations there are significant changes across the lines which may indicate anomalous rock or karstified limestone. The most significant of these are at T7, T12, T13, T15 and T16.
- At T7 there is a significant drop in the depth to the top of rock and the rock quality to the southeast of the turbine location
- At T12, the turbine location is close to a drop in the rockhead to the northwest
- At T13, there is deep weathering of the rock throughout the area surveyed.
- At T15, the hard standing area is underlain by fresh unweathered limestone while the turbine location and towards the south there is a significant anomalous rock zone.
- At T16, the anomalous rock is found to the southeast of the turbine location within the hard standing area.
- At the substation, there is some weathered rock near the top of rock and there is some more deeper weathering indicated to the NE of the proposed location.

- MASW results are displayed in Table 3 and Appendix 1. The MASW method was not ideal for this site and dispersion curves were not found at 10 turbine locations (T7 - T12, T16, T19, T21, T24) or at the substation. The highest S-Wave velocities were found at T17.
- At BP17-1, the rock is an average of 6m bgl but is shallower than 2m at some places.
- At borrow pits BP17-2, BP17-3 and BP17-4, the top of rock is generally around 2 – 3 m bgl but varied throughout.
- At BP17-2, deep rock within a rotary core and a change in the depth to rock within the seismic refraction model may indicate anomalous or karstified rock to the south.
- At BP17-5, the rock is found at an average of 4m bgl.
- Direct ground investigation data generally ties in well with the geophysical interpretation.
- This final 2 version of the report was done to show the overlay of Derryadd Layout 1 and Layout 2 and to allow Bord na Mona to compare the ground information between the schemes.

# 6. REFERENCES

1. **BSI, 2015.** BS5930, Code of Practice for Ground Investigations, British Standards Institute 2015.

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4. **GSI, 2021.** Online Bedrock Geological Map of Ireland. Geological Survey of Ireland 2021.

5. **Milsom, 1989.** Field Geophysics. John Wiley and Sons.

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7. **Weaver, 1975.** Geological Factors significant in the Assessment of Rippability.

# Table 1: Geophysical Survey Locations and Acquisition Parameters

| 2D-Resistivity Survey | | | | | |
|---|---|---|---|---|---|
| **Site** | **Line** | **Electrode Spacing (m)** | **Length (m)** | **Display direction** | **Comment** |
| Turbine 1 | R1 | 3 | 189 | SE-NW | |
| Turbine 1 | R2 | 3 | 93 | SW-NE | |
| Turbine 2 | R3 | 3 | 189 | SE-NW | |
| Turbine 2 | R4 | 3 | 93 | NE-SW | |
| Turbine 3 | R9 | 3 | 93 | SE-NW | |
| Turbine 3 | R10 | 3 | 168 | SW-NE | Deep Ditch SW |
| Turbine 4 | R11 | 3 | 189 | S-N | |
| Turbine 4 | R12 | 3 | 75 | W-E | Deep Ditch E |
| Turbine 5 | R7 | 3 | 189 | E-W | |
| Turbine 5 | R8 | 3 | 93 | S-N | |
| Turbine 6 | R17 | 3 | 189 | SW-NE | 2 Banks with 1 deep ditch |
| Turbine 6 | R18 | 3 | 93 | SE-NW | |
| Turbine 7 | R13 | 3 | 189 | NW-SE | |
| Turbine 7 | R14 | 3 | 93 | SW-NE | |
| Turbine 8 | R15 | 3 | 57 | NE-SW | Deep ditch NE, water SW |
| Turbine 8 | R16 | 3 | 189 | SE-NW | |
| Turbine 9 | R5 | 3 | 189 | NW-SE | |
| Turbine 9 | R6 | 3 | 93 | NE-SW | Deep Ditch NE |
| Turbine 10 | R31 | 3 | 189 | SE-NW | |
| Turbine 10 | R32 | 3 | 93 | SW-NE | |
| Turbine 11 | R33 | 3 | 189 | SE-NW | |
| Turbine 11 | R34 | 3 | 93 | NE-SW | |
| Turbine 12 | R19 | 3 | 189 | S-N | |
| Turbine 12 | R20 | 3 | 93 | W-E | |
| Turbine 13 | R25 | 3 | 93 | W-E | |
| Turbine 13 | R26 | 3 | 189 | N-S | |
| Turbine 14 | R23 | 3 | 93 | S-N | |
| Turbine 14 | R24 | 3 | 189 | E-W | |
| Turbine 15 | R27 | 3 | 93 | E-W | |
| Turbine 15 | R28 | 3 | 189 | S-N | |
| Turbine 16 | R29 | 3 | 93 | SW-NE | |
| Turbine 16 | R30 | 3 | 189 | NW-SE | |
| Turbine 17 | R21 | 3 | 189 | N-S | |
| Turbine 17 | R22 | 3 | 93 | E-W | |
| Turbine 18 | R37 | 3 | 189 | NW-SE | |
| Turbine 18 | R38 | 3 | 93 | NE-SW | |
| Turbine 19 | R35 | 3 | 189 | SE-NW | |
| Turbine 19 | R36 | 3 | 93 | NE-SW | |
| Turbine 20 | R41 | 3 | 93 | N-S | |
| Turbine 20 | R42 | 3 | 189 | E-W | |
| Turbine 21 | R39 | 3 | 93 | SW-NE | |
| Turbine 21 | R40 | 3 | 189 | NW-SE | |
| Turbine 22 | R45 | 3 | 189 | NE-SW | |
| Turbine 22 | R46 | 3 | 93 | SE-NW | |
| Turbine 23 | R43 | 3 | 189 | NE-SW | |
| Turbine 23 | R44 | 3 | 93 | SE-NW | |
| Turbine 24 | R47 | 3 | 189 | NE-SW | |

# Table 1: Geophysical Survey Locations and Acquisition Parameters

| | | | | | |
|---|---|---|---|---|---|
| Turbine 24 | R48 | 3 | 93 | NW-SE | |
| Substation | R49 | 3 | 189 | SW-NE | |
| Substation | R50 | 3 | 189 | NE-SW | |
| | | **SUM** | **7071** | | |
| | | | | | |
| **Seismic Refraction Survey** | | | | | |
| **Site** | **Line** | **Geophone Spacing (m)** | **Length (m)** | **Display direction** | **Comment** |
| Turbine 1 | S1 | 2 | 142 | SE-NW | |
| Turbine 1 | S2 | 2 | 46 | SW-NE | |
| Turbine 2 | S3 | 2 | 142 | SE-NW | |
| Turbine 2 | S4 | 2 | 46 | NE-SW | |
| Turbine 3 | S9 | 2 | 46 | SE-NW | |
| Turbine 3 | S10 | 2 | 94 | SW-NE | |
| Turbine 4 | S11 | 2 | 142 | S-N | |
| Turbine 4 | S12 | 2 | 46 | W-E | |
| Turbine 5 | S7 | 2 | 142 | E-W | |
| Turbine 5 | S8 | 2 | 46 | S-N | |
| Turbine 6 | S17A | 2 | 46 | SW-NE | 2x separate 46m profiles |
| Turbine 6 | S17B | 2 | 46 | SW-NE | 2x separate 46m profiles |
| Turbine 6 | S18 | 2 | 46 | SE-NW | |
| Turbine 7 | S13 | 2 | 142 | NW-SE | |
| Turbine 7 | S14 | 2 | 46 | SW-NE | |
| Turbine 8 | S15 | 2 | 46 | NE-SW | |
| Turbine 8 | S16 | 2 | 142 | SE-NW | |
| Turbine 9 | S5 | 2 | 142 | NW-SE | |
| Turbine 9 | S6 | 2 | 46 | NE-SW | |
| Turbine 10 | S31 | 2 | 142 | SE-NW | |
| Turbine 10 | S32 | 2 | 46 | SW-NE | |
| Turbine 11 | S33 | 2 | 142 | SE-NW | |
| Turbine 11 | S34 | 2 | 46 | NE-SW | |
| Turbine 12 | S19 | 2 | 142 | S-N | |
| Turbine 12 | S20 | 2 | 46 | W-E | |
| Turbine 13 | S25 | 2 | 46 | W-E | |
| Turbine 13 | S26 | 2 | 142 | N-S | |
| Turbine 14 | S23 | 2 | 46 | S-N | |
| Turbine 14 | S24 | 2 | 142 | E-W | |
| Turbine 15 | S27 | 2 | 46 | E-W | |
| Turbine 15 | S28 | 2 | 142 | S-N | |
| Turbine 16 | S29 | 2 | 46 | SW-NE | |
| Turbine 16 | S30 | 2 | 142 | NW-SE | |
| Turbine 17 | S21 | 2 | 142 | N-S | |
| Turbine 17 | S22 | 2 | 46 | E-W | |
| Turbine 18 | S36 | 2 | 142 | NW-SE | |
| Turbine 18 | S35 | 2 | 46 | NE-SW | |
| Turbine 19 | S38 | 2 | 142 | SE-NW | |
| Turbine 19 | S37 | 2 | 46 | NE-SW | |
| Turbine 20 | S43 | 2 | 142 | E-W | |
| Turbine 20 | S44 | 2 | 46 | N-S | |
| Turbine 21 | S39 | 2 | 46 | SW-NE | |

# Table 1: Geophysical Survey Locations and Acquisition Parameters

| | | | | | |
|---|---|---|---|---|---|
| Turbine 21 | S40 | 2 | 94 | SW-NE | |
| Turbine 21 | S41 | 2 | 46 | NW-SE | |
| Turbine 21 | S42 | 2 | 46 | NW-SE | |
| Turbine 22 | S45 | 2 | 142 | NE-SW | |
| Turbine 22 | S46 | 2 | 46 | SE-NW | |
| Turbine 23 | S47 | 2 | 46 | SE-NW | |
| Turbine 23 | S48 | 2 | 142 | NE-SW | |
| Turbine 24 | S49 | 2 | 46 | NW-SE | |
| Turbine 24 | S50 | 2 | 142 | NE-SW | |
| BP17-1 | S113 | 2 | 162 | W-E | |
| BP17-1 | S114 | 2 | 142 | N-S | |
| BP17-1 | S115 | 2 | 190 | N-S | |
| BP17-2 | S107 | 2 | 142 | S-N | |
| BP17-2 | S108 | 2 | 94 | S-N | |
| BP17-2 | S109 | 2 | 94 | W-E | |
| BP17-3 | S103 | 2 | 142 | S-N | |
| BP17-3 | S104 | 2 | 118 | S-N | |
| BP17-3 | S105 | 2 | 134 | W-E | Water W |
| BP17-3 | S106 | 2 | 46 | W-E | Water W |
| BP17-4 | S101 | 2 | 190 | SE-NW | |
| BP17-4 | S102 | 2 | 94 | SW-NE | |
| BP17-5 | S110 | 2 | 118 | S-N | |
| BP17-5 | S111 | 2 | 142 | S-N | |
| BP17-5 | S112 | 2 | 82 | W-E | |
| Substation | S52 | 2 | 120 | SW-NE | |
| Substation | S53 | 2 | 142 | SE-NW | |
| | | **SUM** | **6610** | | |
| | | | | | |
| | | | **MASW Survey** | | |
| **Site** | **Line** | **Geophone Spacing (m)** | **Length (m)** | **Display direction** | **Comment** |
| Turbine 1 | M1 | 2 | 46 | SE-NW | |
| Turbine 2 | M3 | 2 | 46 | SE-NW | |
| Turbine 3 | M9 | 2 | 46 | SE-NW | |
| Turbine 4 | M11 | 2 | 46 | S-N | |
| Turbine 5 | M7 | 2 | 46 | E-W | |
| Turbine 6 | M18 | 2 | 46 | SE-NW | |
| Turbine 7 | M13 | 2 | 46 | SW-NE | |
| Turbine 8 | M16 | 2 | 46 | SW-NE | |
| Turbine 9 | M3 | 2 | 46 | NW-SE | |
| Turbine 10 | M32 | 2 | 46 | SW-NE | |
| Turbine 11 | M34 | 2 | 46 | NE-SW | |
| Turbine 12 | M19 | 2 | 46 | S-N | |
| Turbine 13 | M26 | 2 | 46 | N-S | |
| Turbine 14 | M23 | 2 | 46 | S-N | |
| Turbine 15 | M28 | 2 | 46 | S-N | |
| Turbine 16 | M30 | 2 | 46 | NW-SE | |
| Turbine 17 | M21 | 2 | 46 | N-S | |
| Turbine 18 | M35 | 2 | 46 | NE-SW | |
| Turbine 19 | M37 | 2 | 46 | NE-SW | |

# Table 1: Geophysical Survey Locations and Acquisition Parameters

| | | | | | |
|---|---|---|---|---|---|
| Turbine 20 | M43 | 2 | 46 | E-W | |
| Turbine 21 | M40 | 2 | 46 | SW-NE | |
| Turbine 22 | M45 | 2 | 46 | NE-SW | |
| Turbine 23 | M47 | 2 | 46 | SE-NW | |
| Turbine 24 | M50 | 2 | 46 | NE-SW | |
| Substation | M52 | 2 | 46 | SW-NE | |
| | | **SUM** | **1150** | | |

Table 3: MASW S-Wave Velocity and Elastic Constants

| Turbine Name | Depth (m) | S-Wave Velocity (m/s) | Gmax - Shear Modulus in MPa | P-wave velocity (m/s) from Seismic Refraction | Density in Kg/m$^3$ (comp. from P-wave vel) | Poisson Ratio | K - Bulk Modulus in MPa | E - Young's Modulus in MPa |
|---|---|---|---|---|---|---|---|---|
| **T1** | | | | | | | | |
| | **1.0** | 291 | 135 | **700** | 1595 | 0.40 | 601 | 377 |
| | **1.5** | 339 | 183 | **700** | 1595 | 0.35 | 537 | 494 |
| | **2.0** | 457 | 409 | **1600** | 1961 | 0.46 | 4473 | 1192 |
| | **2.5** | 557 | 608 | **1600** | 1961 | 0.43 | 4208 | 1741 |
| | **3.0** | 662 | 859 | **1600** | 1961 | 0.40 | 3874 | 2400 |
| | **3.5** | 762 | 1138 | **1600** | 1961 | 0.35 | 3502 | 3081 |
| | **4.0** | 796 | 1242 | **1600** | 1961 | 0.34 | 3363 | 3318 |
| **T2** | | | | | | | | |
| | **3.0** | 383 | 296 | **1800** | 2019 | 0.48 | 6147 | 875 |
| | **3.5** | 430 | 373 | **1800** | 2019 | 0.47 | 6045 | 1097 |
| | **4.0** | 477 | 459 | **1800** | 2019 | 0.46 | 5930 | 1344 |
| | **4.5** | 514 | 533 | 1800 | 2019 | 0.46 | 5831 | 1553 |
| **T3** | | | | | | | | |
| | **2.0** | 344 | 242 | 1900 | 2047 | 0.48 | 7066 | 718 |
| | **2.5** | 410 | 344 | 1900 | 2047 | 0.48 | 6930 | 1015 |
| | **3.0** | 474 | 460 | 1900 | 2047 | 0.47 | 6776 | 1349 |
| | **3.5** | 545 | 608 | 1900 | 2047 | 0.46 | 6578 | 1769 |
| | **4.0** | 621 | 789 | 1900 | 2047 | 0.44 | 6336 | 2273 |
| | **4.5** | 690 | 974 | 1900 | 2047 | 0.42 | 6090 | 2775 |
| | **5.0** | 771 | 1217 | 1900 | 2047 | 0.40 | 5767 | 3410 |
| **T4** | | | | | | | | |
| | **1.5** | 288 | 145 | 1000 | 1743 | 0.45 | 1551 | 421 |
| | **2.0** | 308 | 165 | 1000 | 1743 | 0.45 | 1523 | 479 |
| | **2.5** | 340 | 202 | 1000 | 1743 | 0.43 | 1475 | 578 |
| | **3.0** | 374 | 244 | 1000 | 1743 | 0.42 | 1418 | 692 |
| | **3.5** | 414 | 299 | 1000 | 1743 | 0.40 | 1345 | 835 |
| | **4.0** | 446 | 422 | 2200 | 2123 | 0.48 | 9713 | 1249 |
| | **4.5** | 484 | 497 | 2200 | 2123 | 0.47 | 9613 | 1467 |
| | **5.0** | 525 | 585 | 2200 | 2123 | 0.47 | 9496 | 1720 |
| | **5.5** | 555 | 654 | 2200 | 2123 | 0.47 | 9404 | 1917 |
| | **6.0** | 587 | 732 | 2200 | 2123 | 0.46 | 9301 | 2139 |
| | **6.5** | 622 | 821 | 2200 | 2123 | 0.46 | 9181 | 2393 |
| **T5** | | | | | | | | |
| | **1.5** | 412 | 296 | 1000 | 1743 | 0.40 | 1349 | 827 |

Table 3: MASW S-Wave Velocity and Elastic Constants

| Turbine Name | Depth (m) | S-Wave Velocity (m/s) | Gmax - Shear Modulus in MPa | P-wave velocity (m/s) from Seismic Refraction | Density in Kg/m$^3$ (comp. from P-wave vel) | Poisson Ratio | K - Bulk Modulus in MPa | E - Young's Modulus in MPa |
|---|---|---|---|---|---|---|---|---|
| | **2.0** | 415 | 300 | 1000 | 1743 | 0.40 | 1343 | 838 |
| | **2.5** | 435 | 330 | 1000 | 1743 | 0.38 | 1304 | 913 |
| | **3.0** | 465 | 469 | 2400 | 2170 | 0.48 | 11873 | 1389 |
| | **3.5** | 486 | 512 | 2400 | 2170 | 0.48 | 11815 | 1516 |
| | **4.0** | 531 | 612 | 2400 | 2170 | 0.47 | 11682 | 1804 |
| | **4.5** | 552 | 661 | 2400 | 2170 | 0.47 | 11617 | 1946 |
| | **5.0** | 583 | 737 | 2400 | 2170 | 0.47 | 11515 | 2166 |
| | **5.5** | 623 | 842 | 2400 | 2170 | 0.46 | 11375 | 2466 |
| | **6.0** | 661 | 948 | 2400 | 2170 | 0.46 | 11234 | 2766 |
| | **6.5** | 700 | 1063 | 2400 | 2170 | 0.45 | 11081 | 3091 |
| | **7.0** | 728 | 1150 | 2400 | 2170 | 0.45 | 10965 | 3333 |
| **T6** | | | | | | | | |
| | **4.0** | 399 | 278 | 1000 | 1743 | 0.41 | 1373 | 780 |
| | **4.5** | 405 | 286 | 1000 | 1743 | 0.40 | 1362 | 802 |
| | **5.0** | 428 | 319 | 1000 | 1743 | 0.39 | 1318 | 886 |
| | **5.5** | 458 | 366 | 1000 | 1743 | 0.37 | 1256 | 1000 |
| | **6.0** | 486 | 501 | 2200 | 2123 | 0.47 | 9607 | 1479 |
| | **6.5** | 522 | 579 | 2200 | 2123 | 0.47 | 9505 | 1701 |
| | **7.0** | 531 | 599 | 2200 | 2123 | 0.47 | 9478 | 1759 |
| | **7.5** | 582 | 719 | 2200 | 2123 | 0.46 | 9317 | 2103 |
| | **8.0** | 597 | 757 | 2200 | 2123 | 0.46 | 9267 | 2210 |
| **T7** | Poor Data due to geological changes across line | | | | | | | |
| **T8** | Poor Data | | | | | | | |
| **T9** | Poor Data due to geological changes across line | | | | | | | |
| **T10** | Poor Data | | | | | | | |
| **T11** | Poor Data due to shallow rock | | | | | | | |
| **T12** | Poor Data due to geological changes across line | | | | | | | |
| **T13** | | | | | | | | |
| | **2.5** | 716 | 1025 | 2000 | 2073 | 0.43 | 6876 | 3032 |
| | **3.0** | 706 | 997 | 2000 | 2073 | 0.43 | 6915 | 2953 |
| | **3.5** | 693 | 960 | 2000 | 2073 | 0.43 | 6965 | 2851 |
| | **4.0** | 677 | 917 | 2000 | 2073 | 0.44 | 7026 | 2728 |
| | **4.5** | 660 | 871 | 2000 | 2073 | 0.44 | 7089 | 2599 |
| | **5.0** | 645 | 832 | 2000 | 2073 | 0.44 | 7143 | 2487 |
| | **5.5** | 637 | 812 | 2000 | 2073 | 0.44 | 7171 | 2429 |

Table 3: MASW S-Wave Velocity and Elastic Constants

| Turbine Name | Depth (m) | S-Wave Velocity (m/s) | Gmax - Shear Modulus in MPa | P-wave velocity (m/s) from Seismic Refraction | Density in Kg/m$^3$ (comp. from P-wave vel) | Poisson Ratio | K - Bulk Modulus in MPa | E - Young's Modulus in MPa |
|---|---|---|---|---|---|---|---|---|
| | **6.0** | 639 | 817 | 2000 | 2073 | 0.44 | 7164 | 2443 |
| **T14** | | | | | | | | |
| | **3.5** | 455 | 414 | 1000 | 1743 | 0.37 | 1262 | 988 |
| | **4.0** | 517 | 535 | 1800 | 2019 | 0.46 | 5823 | 1571 |
| | **4.5** | 581 | 675 | 1800 | 2019 | 0.44 | 5634 | 1966 |
| | **5.0** | 641 | 822 | 1800 | 2019 | 0.43 | 5436 | 2368 |
| | **5.5** | 704 | 991 | 1800 | 2019 | 0.41 | 5208 | 2822 |
| **T15** | | | | | | | | |
| | **1.5** | 468 | 438 | 900 | 1698 | 0.31 | 880 | 978 |
| | **2.0** | 482 | 465 | 900 | 1698 | 0.30 | 849 | 1025 |
| | **2.5** | 496 | 492 | 1900 | 2047 | 0.46 | 6717 | 1474 |
| | **3.0** | 505 | 510 | 1900 | 2047 | 0.46 | 6693 | 1526 |
| | **3.5** | 507 | 514 | 1900 | 2047 | 0.46 | 6687 | 1538 |
| | **4.0** | 505 | 510 | 1900 | 2047 | 0.46 | 6693 | 1526 |
| | **4.5** | 503 | 506 | 1900 | 2047 | 0.46 | 6698 | 1514 |
| | **5.0** | 502 | 504 | 1900 | 2047 | 0.46 | 6701 | 1509 |
| | **5.5** | 506 | 512 | 1900 | 2047 | 0.46 | 6690 | 1532 |
| | **6.0** | 516 | 533 | 1900 | 2047 | 0.46 | 6662 | 1591 |
| | **6.5** | 538 | 579 | 1900 | 2047 | 0.46 | 6599 | 1726 |
| | **7.0** | 563 | 634 | 1900 | 2047 | 0.45 | 6524 | 1884 |
| | **7.5** | 596 | 710 | 1900 | 2047 | 0.45 | 6419 | 2102 |
| | **8.0** | 608 | 739 | 1900 | 2047 | 0.44 | 6380 | 2183 |
| | **8.5** | 652 | 850 | 1900 | 2047 | 0.43 | 6229 | 2494 |
| | **9.0** | 695 | 966 | 1900 | 2047 | 0.42 | 6071 | 2813 |
| **T16** | Poor Data due to shallow rock | | | | | | | |
| **T17** | | | | | | | | |
| | **2.0** | 494 | 488 | 1000 | 1743 | 0.34 | 1176 | 1139 |
| | **2.5** | 570 | 650 | 1000 | 1743 | 0.26 | 988 | 1427 |
| | **3.0** | 654 | 855 | 2000 | 2073 | 0.44 | 7110 | 2554 |
| | **3.5** | 753 | 1134 | 2000 | 2073 | 0.42 | 6725 | 3332 |
| | **4.0** | 837 | 1401 | 2000 | 2073 | 0.39 | 6356 | 4049 |
| | **4.5** | 904 | 1634 | 2000 | 2073 | 0.37 | 6034 | 4648 |
| | **5.0** | 981 | 1925 | 2000 | 2073 | 0.34 | 5633 | 5353 |
| | **5.5** | 1054 | 2222 | 2000 | 2073 | 0.31 | 5222 | 6024 |
| | **6.0** | 1100 | 2420 | 2000 | 2073 | 0.28 | 4949 | 6437 |

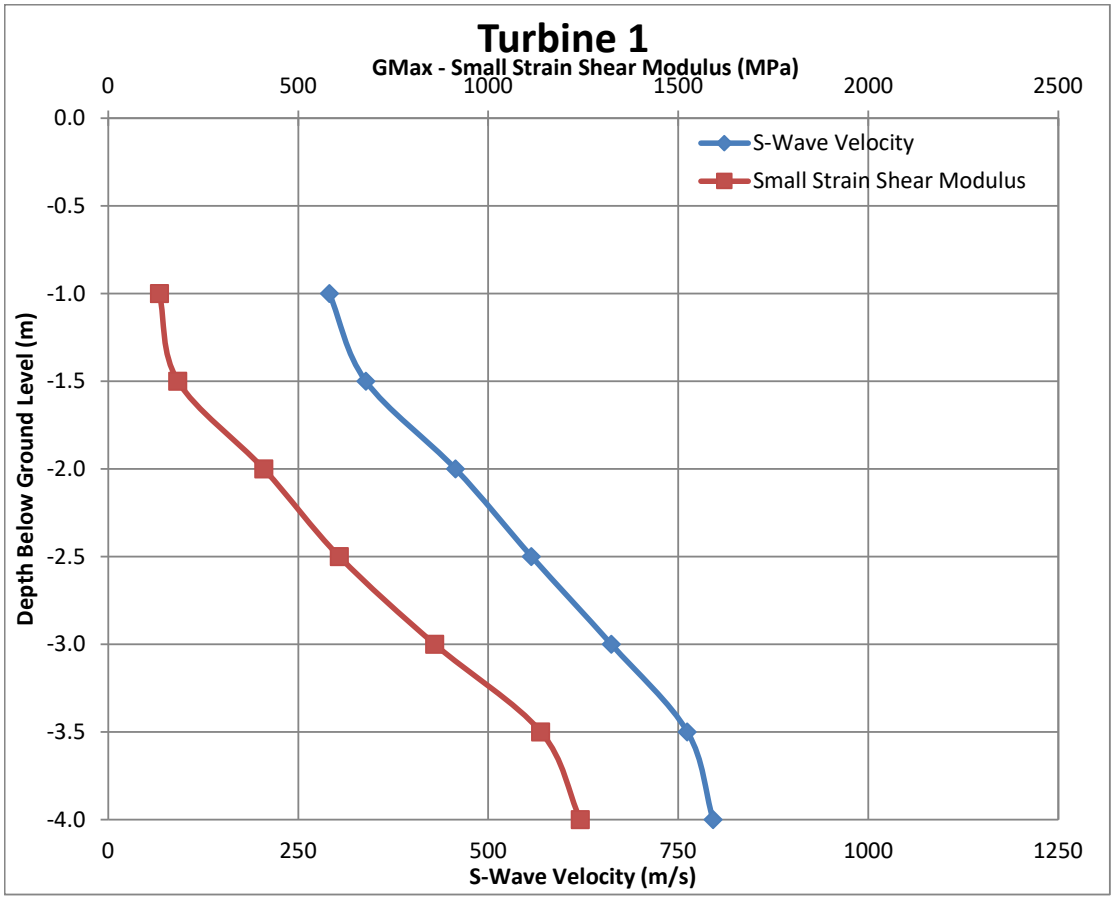
Table 3: MASW S-Wave Velocity and Elastic Constants

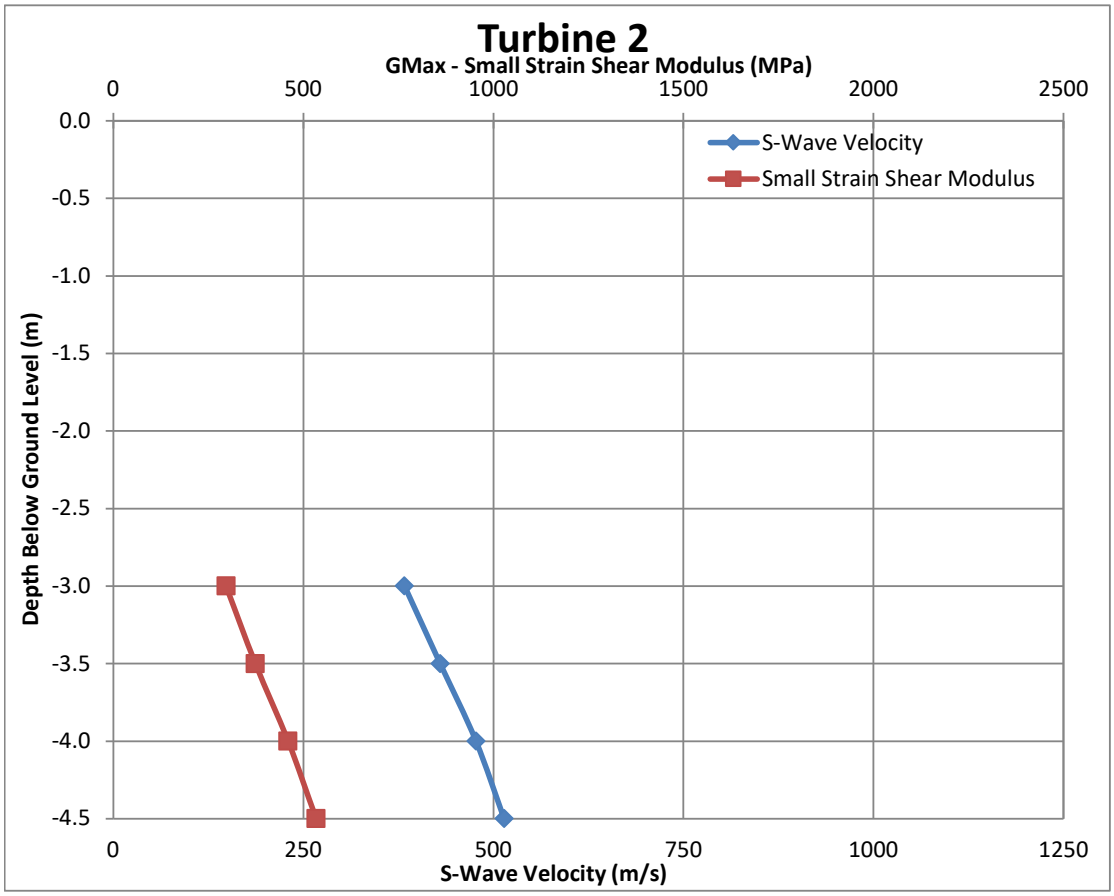
| Turbine Name | Depth (m) | S-Wave Velocity (m/s) | Gmax - Shear Modulus in MPa | P-wave velocity (m/s) from Seismic Refraction | Density in Kg/m$^3$ (comp. from P-wave vel) | Poisson Ratio | K - Bulk Modulus in MPa | E - Young's Modulus in MPa |
|---|---|---|---|---|---|---|---|---|
| **T18** | | | | | | | | |
| | **1.5** | 401 | 322 | 1000 | 1743 | 0.40 | 1370 | 787 |
| | **2.0** | 433 | 375 | 1000 | 1743 | 0.38 | 1308 | 905 |
| | **2.5** | 477 | 455 | 1000 | 1743 | 0.35 | 1215 | 1073 |
| | **3.0** | 529 | 560 | 2000 | 2073 | 0.46 | 7519 | 1697 |
| | **3.5** | 548 | 601 | 2000 | 2073 | 0.46 | 7463 | 1817 |
| **T19** | Poor Data | | | | | | | |
| **T20** | | | | | | | | |
| | **3.0** | 701 | 983 | 2400 | 2170 | 0.45 | 11077 | 3099 |
| | **3.5** | 761 | 1158 | 2400 | 2170 | 0.44 | 10823 | 3629 |
| | **4.0** | 815 | 1328 | 2400 | 2170 | 0.43 | 10577 | 4136 |
| | **4.5** | 869 | 1510 | 2400 | 2170 | 0.42 | 10314 | 4668 |
| | **5.0** | 926 | 1715 | 2400 | 2170 | 0.41 | 10018 | 5256 |
| | **5.5** | 969 | 1878 | 2400 | 2170 | 0.40 | 9782 | 5715 |
| | **6.0** | 987 | 1948 | 2400 | 2170 | 0.40 | 9680 | 5911 |
| | **6.5** | 1005 | 2020 | 2400 | 2170 | 0.39 | 9577 | 6109 |
| **T21** | Poor Data due to homogeneous seismic layer | | | | | | | |
| **T22** | | | | | | | | |
| | **3.0** | 440 | 387 | 1000 | 1743 | 0.38 | 1293 | 931 |
| | **3.5** | 454 | 412 | 1000 | 1743 | 0.37 | 1264 | 985 |
| | **4.0** | 489 | 478 | 1000 | 1743 | 0.34 | 1188 | 1120 |
| | **4.5** | 524 | 549 | 1000 | 1743 | 0.31 | 1105 | 1255 |
| | **5.0** | 565 | 638 | 1000 | 1743 | 0.27 | 1001 | 1409 |
| | **5.5** | 615 | 756 | 2300 | 2147 | 0.46 | 10274 | 2373 |
| | **6.0** | 654 | 855 | 2300 | 2147 | 0.46 | 10133 | 2674 |
| | **6.5** | 696 | 969 | 2300 | 2147 | 0.45 | 9970 | 3015 |
| | **7.0** | 742 | 1101 | 2300 | 2147 | 0.44 | 9781 | 3409 |
| | **7.5** | 793 | 1258 | 2300 | 2147 | 0.43 | 9557 | 3868 |
| | **8.0** | 849 | 1442 | 2300 | 2147 | 0.42 | 9294 | 4398 |
| | **8.5** | 867 | 1503 | 2300 | 2147 | 0.42 | 9206 | 4574 |
| | **9.0** | 929 | 1726 | 2300 | 2147 | 0.40 | 8887 | 5197 |
| | **9.5** | 969 | 1878 | 2300 | 2147 | 0.39 | 8670 | 5612 |
| **T23** | | | | | | | | |
| | **1.5** | 325 | 211 | 1000 | 1743 | 0.44 | 1498 | 531 |
| | **2.0** | 388 | 301 | 1000 | 1743 | 0.41 | 1393 | 741 |

Table 3: MASW S-Wave Velocity and Elastic Constants

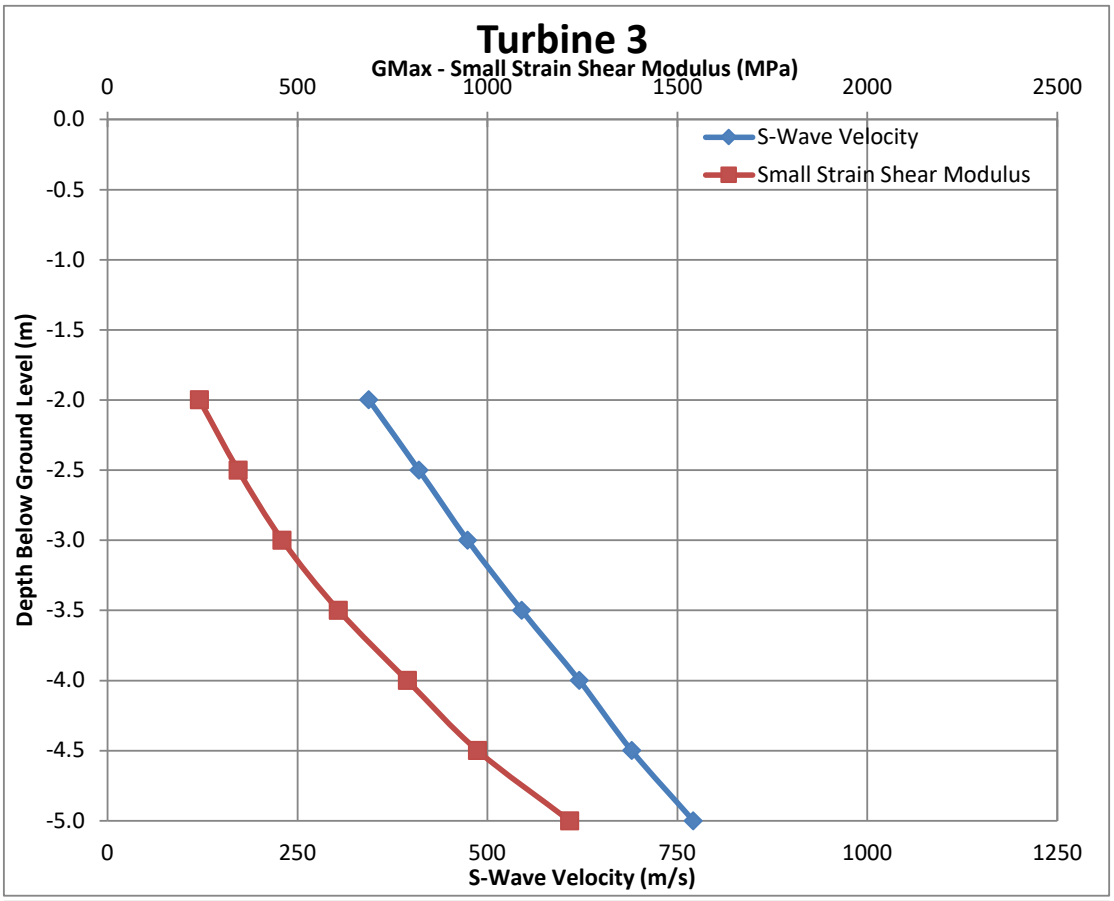
| Turbine Name | Depth (m) | S-Wave Velocity (m/s) | Gmax - Shear Modulus in MPa | P-wave velocity (m/s) from Seismic Refraction | Density in Kg/m$^3$ (comp. from P-wave vel) | Poisson Ratio | K - Bulk Modulus in MPa | E - Young's Modulus in MPa |
|---|---|---|---|---|---|---|---|---|
| | **2.5** | 446 | 398 | 1000 | 1743 | 0.38 | 1281 | 954 |
| | **3.0** | 496 | 492 | 2400 | 2170 | 0.48 | 11786 | 1578 |
| | **3.5** | 539 | 581 | 2400 | 2170 | 0.47 | 11658 | 1858 |
| | **4.0** | 585 | 684 | 2400 | 2170 | 0.47 | 11508 | 2181 |
| | **4.5** | 636 | 809 | 2400 | 2170 | 0.46 | 11328 | 2567 |
| | **5.0** | 661 | 874 | 2400 | 2170 | 0.46 | 11234 | 2766 |
| | **5.5** | 670 | 898 | 2400 | 2170 | 0.46 | 11200 | 2840 |
| | **6.0** | 679 | 922 | 2400 | 2170 | 0.46 | 11164 | 2914 |
| **T24** | Poor Data due to changing geology across line | | | | | | | |
| **Substation** | Poor Data due to shallow rock | | | | | | | |

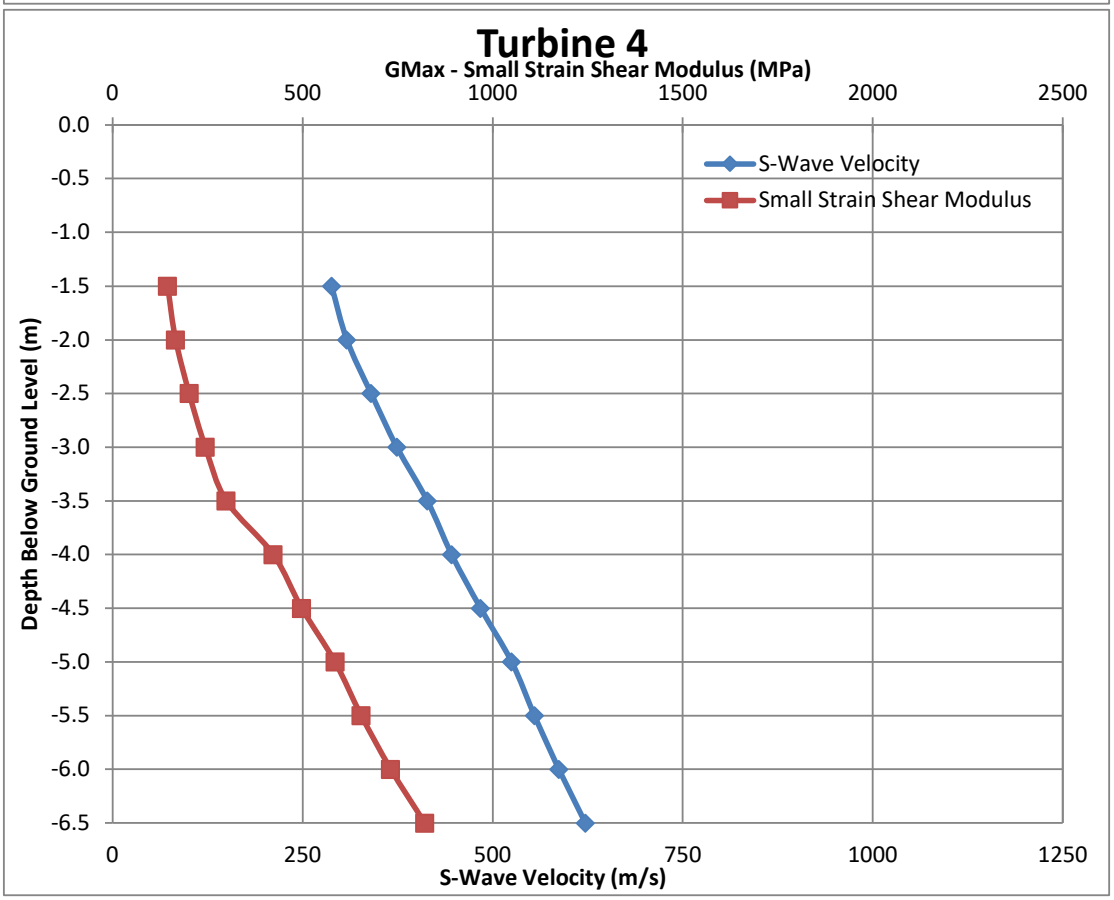
## Appendix 1: Graphs of MASW Results



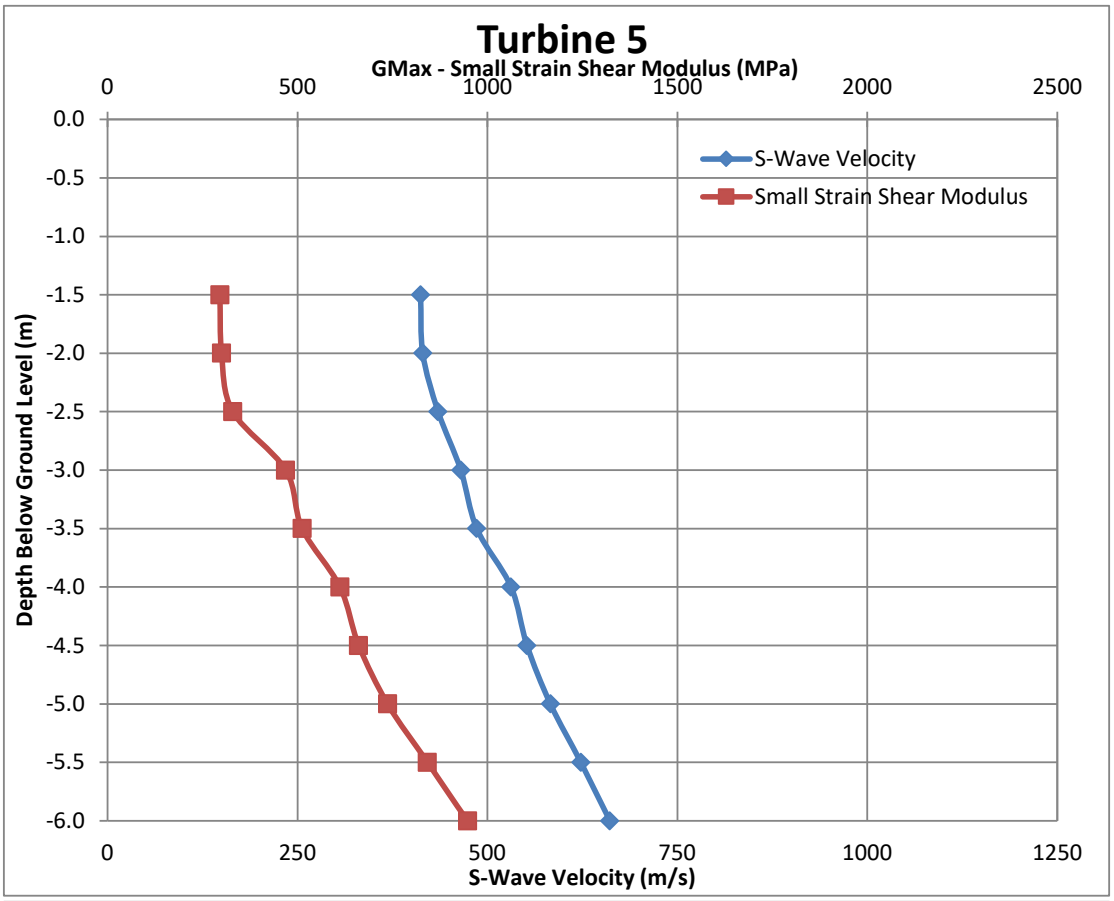



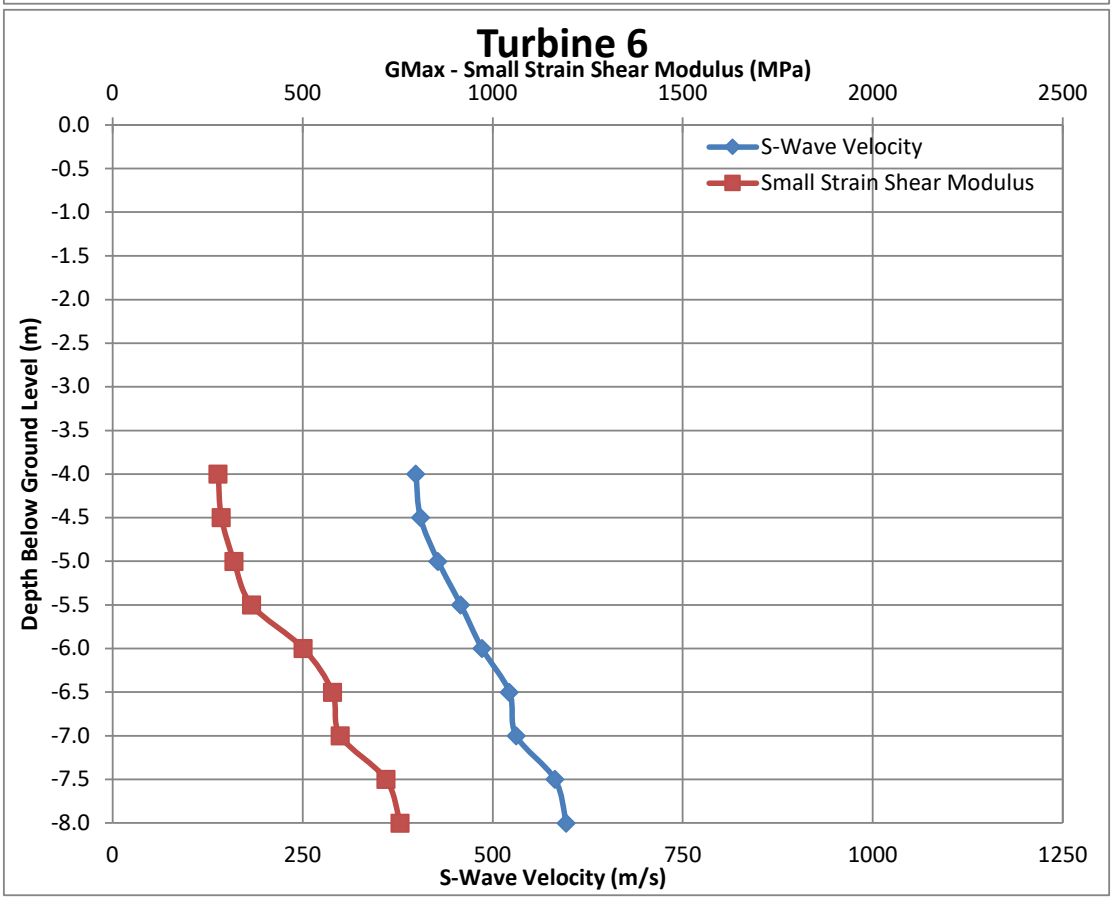
**Appendix 1: Graphs of MASW Results**



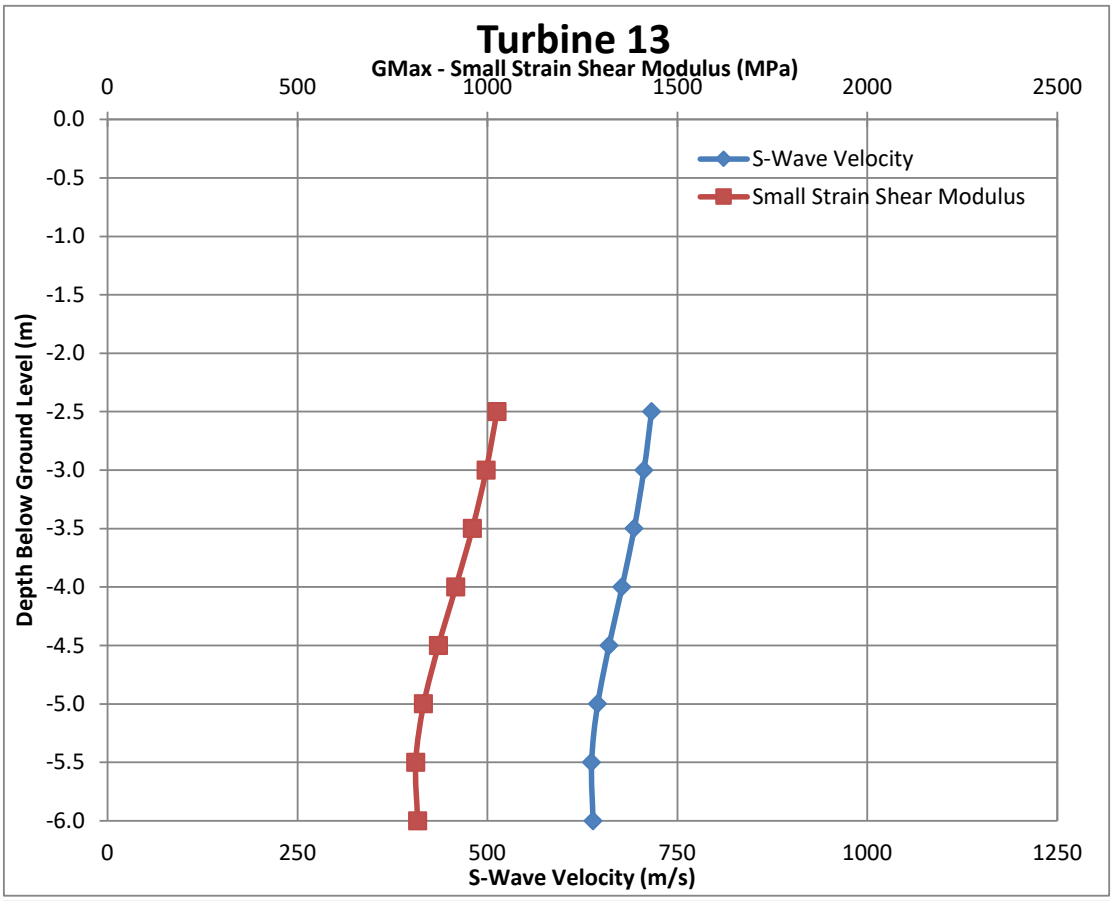



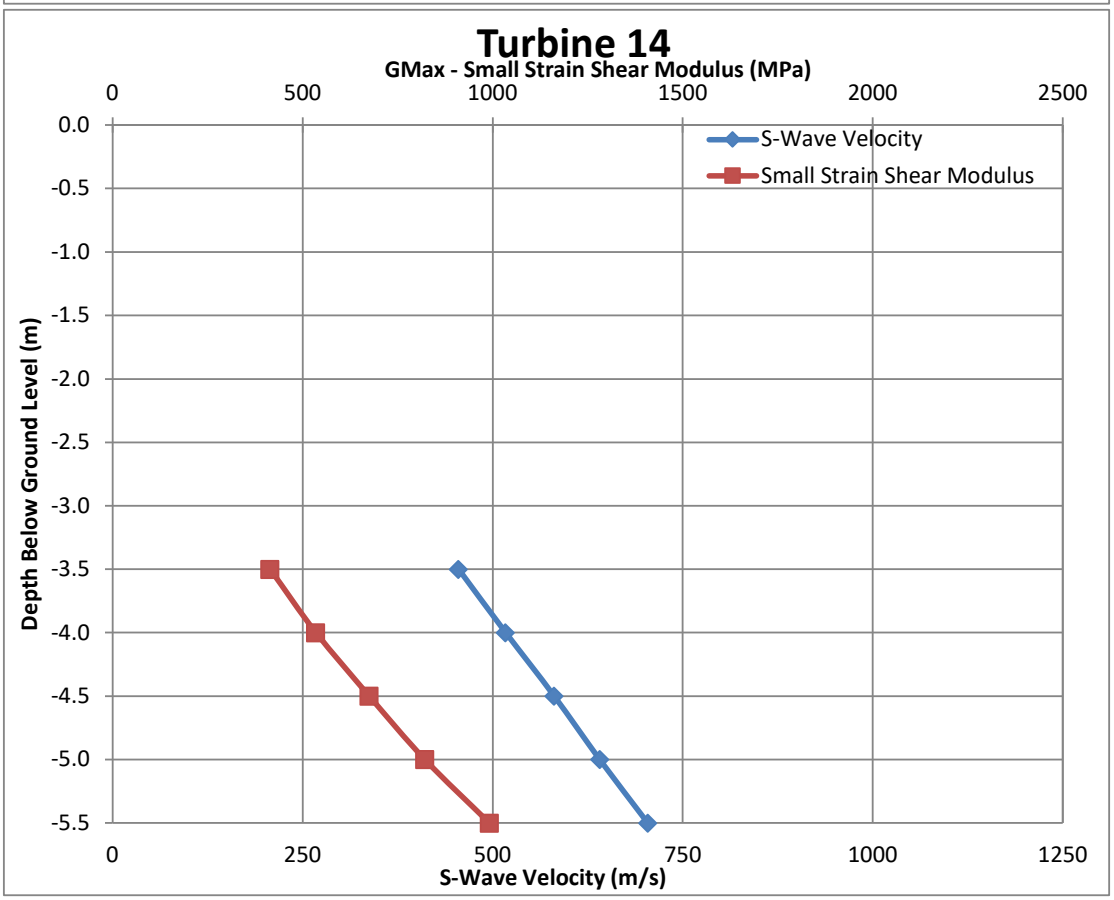
**Appendix 1: Graphs of MASW Results**



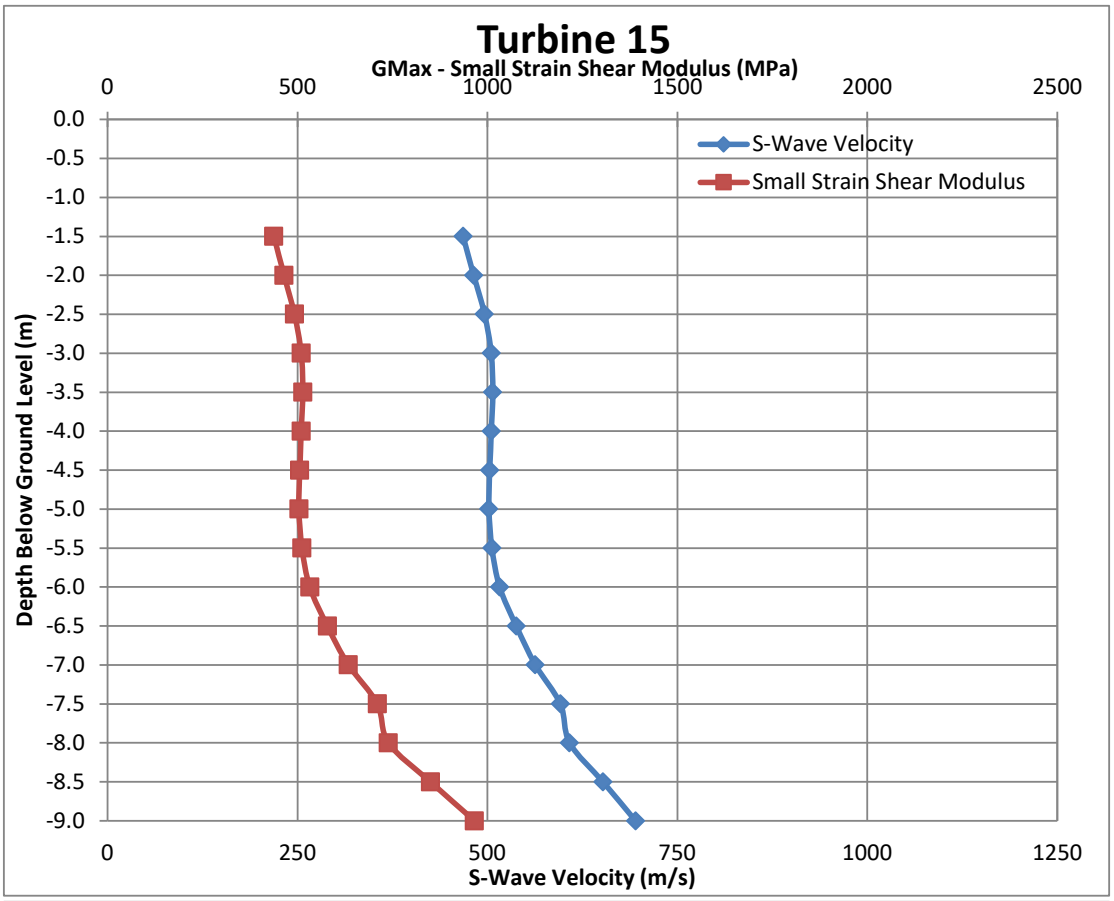



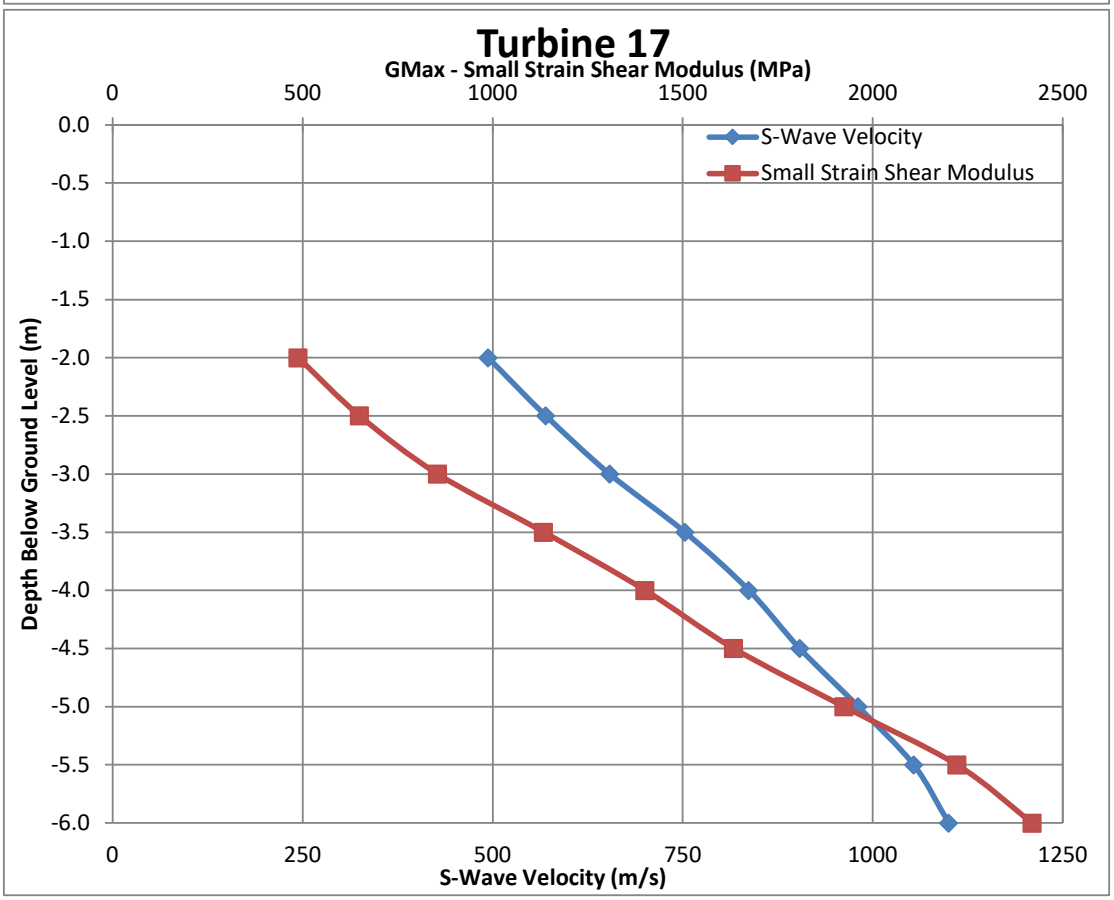
**Appendix 1: Graphs of MASW Results**



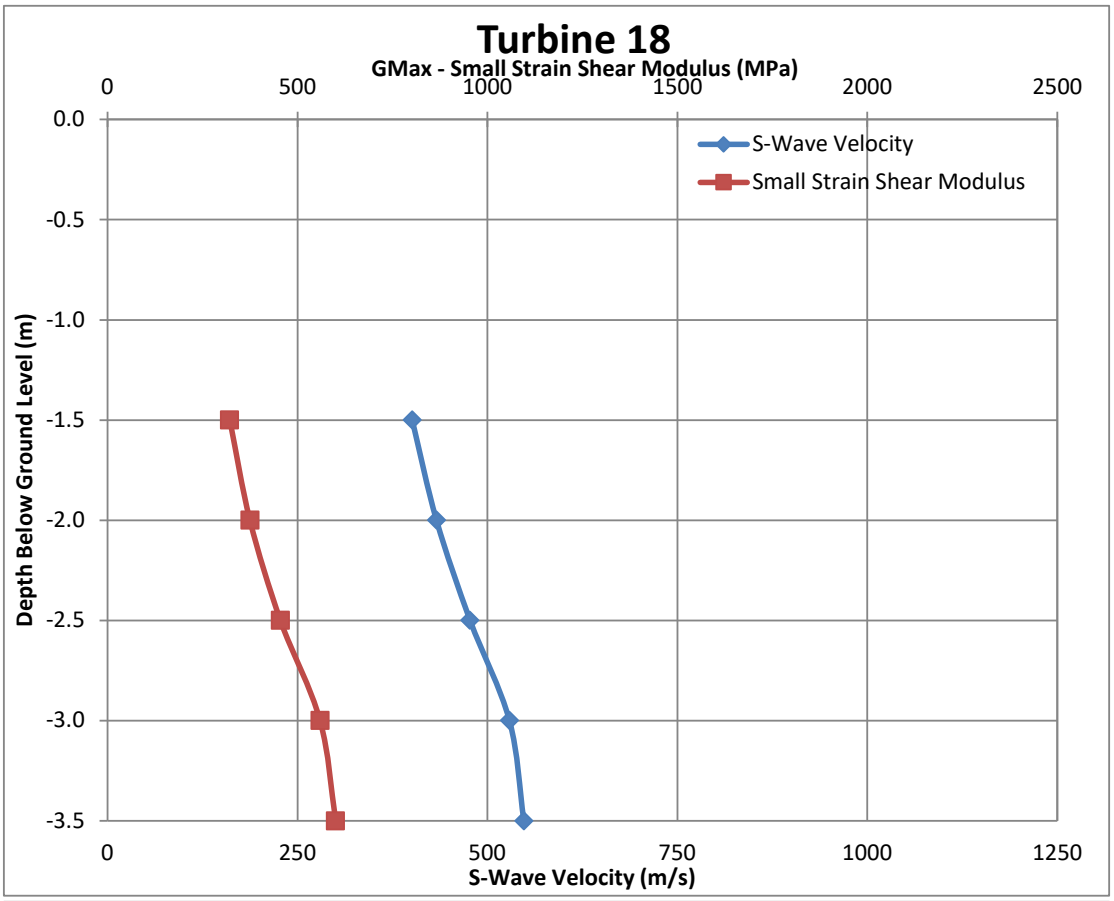



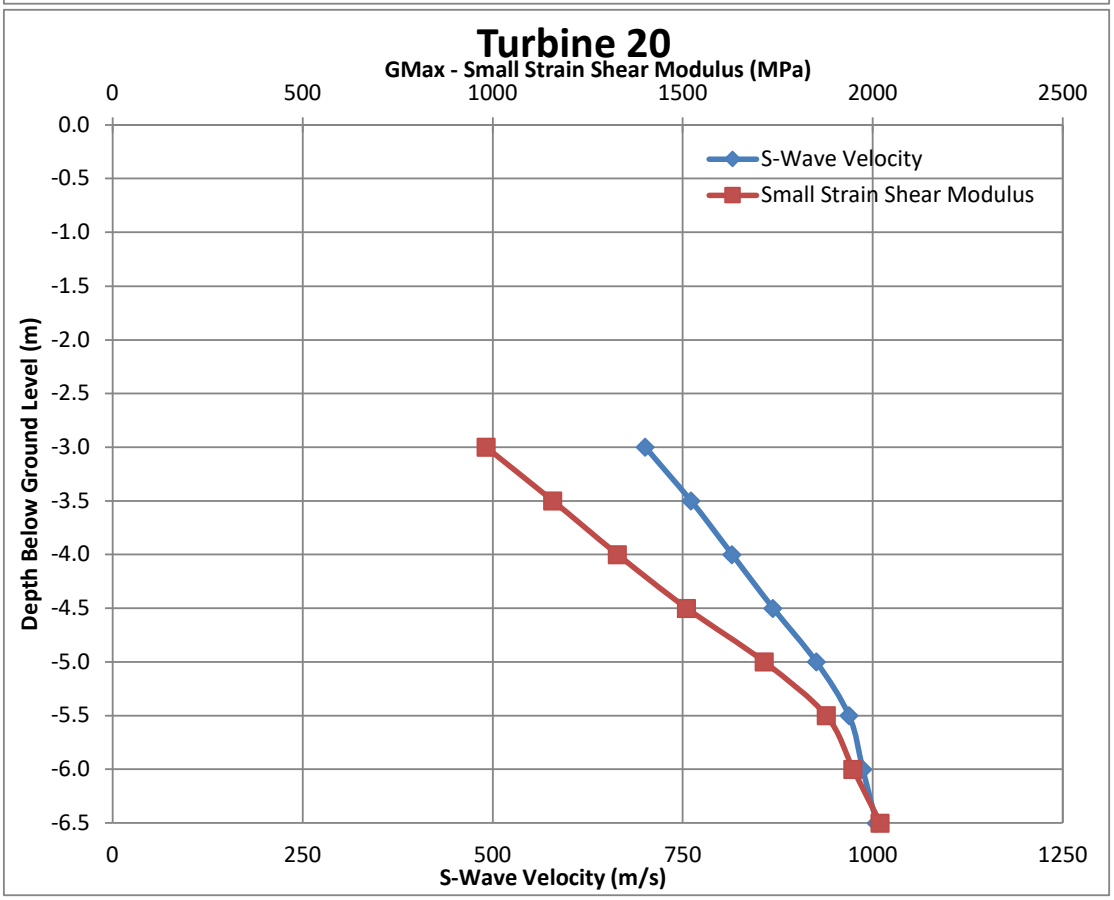
**Appendix 1: Graphs of MASW Results**



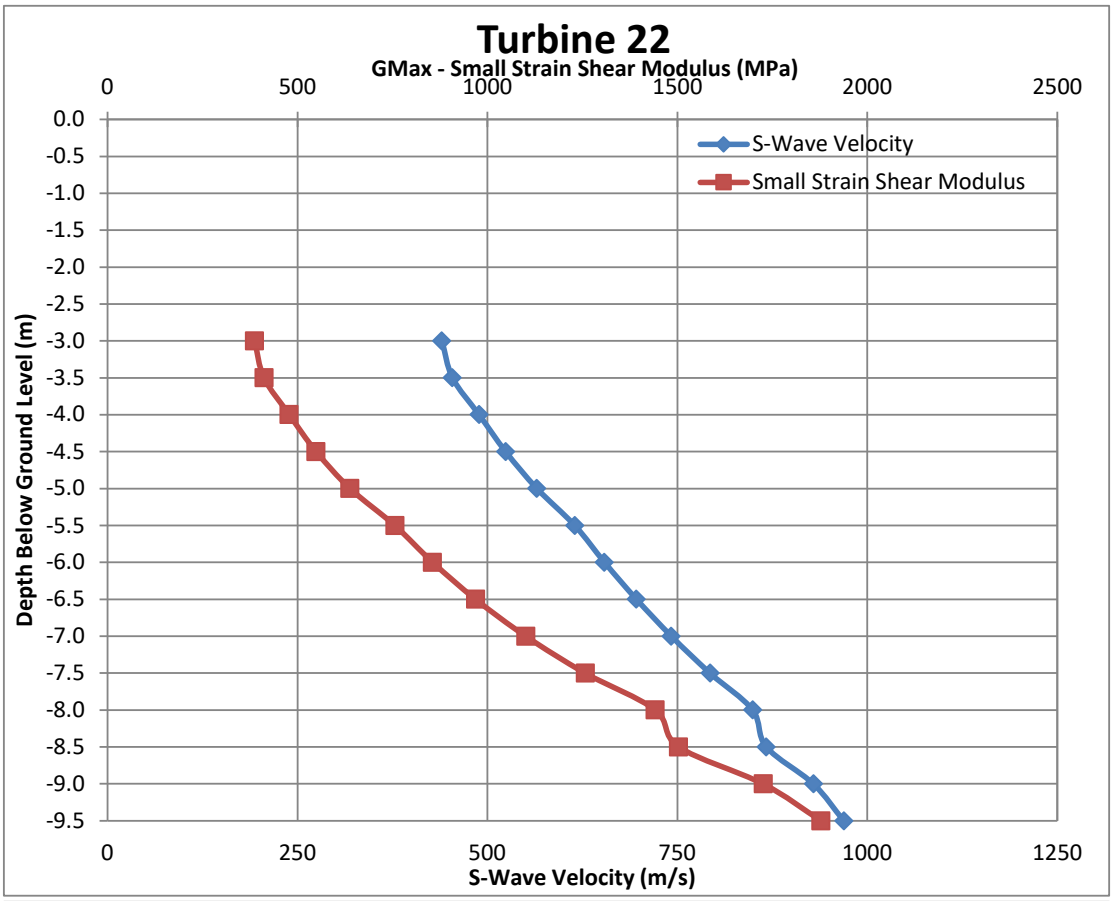



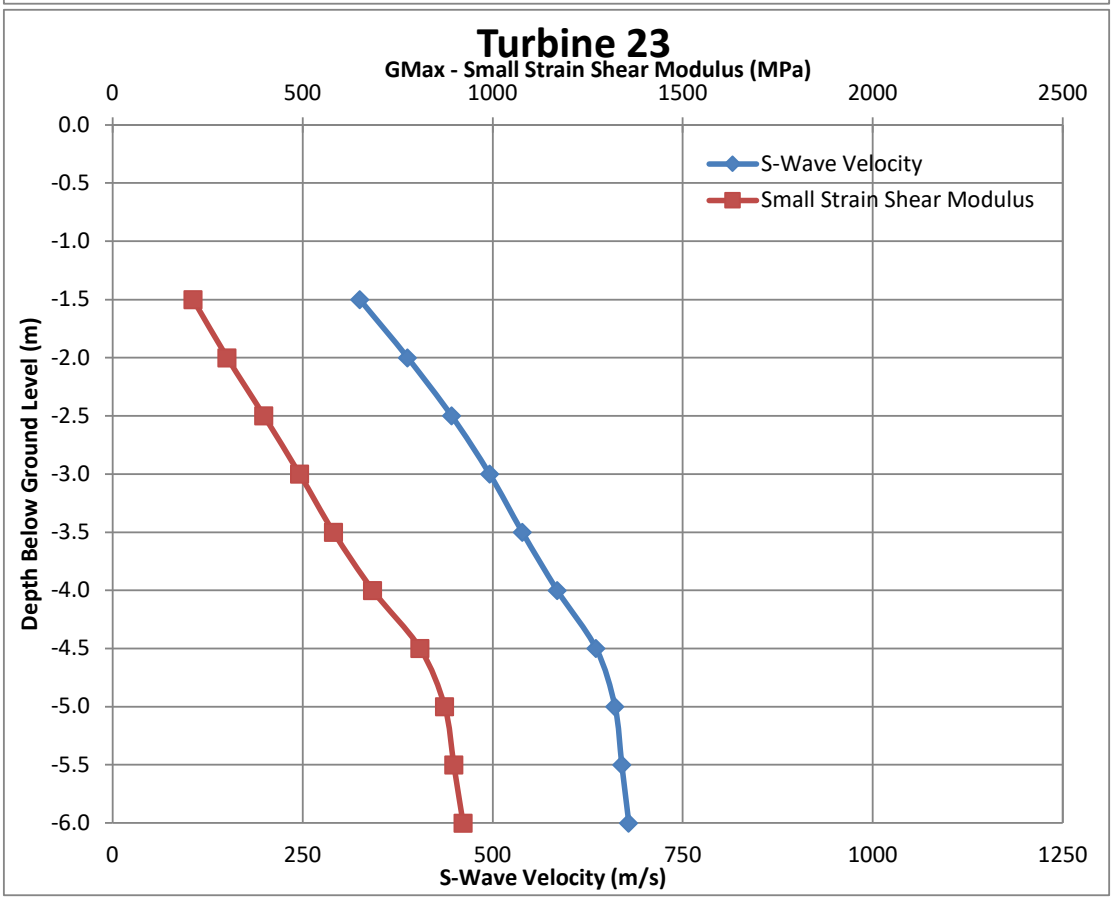
**Appendix 1: Graphs of MASW Results**

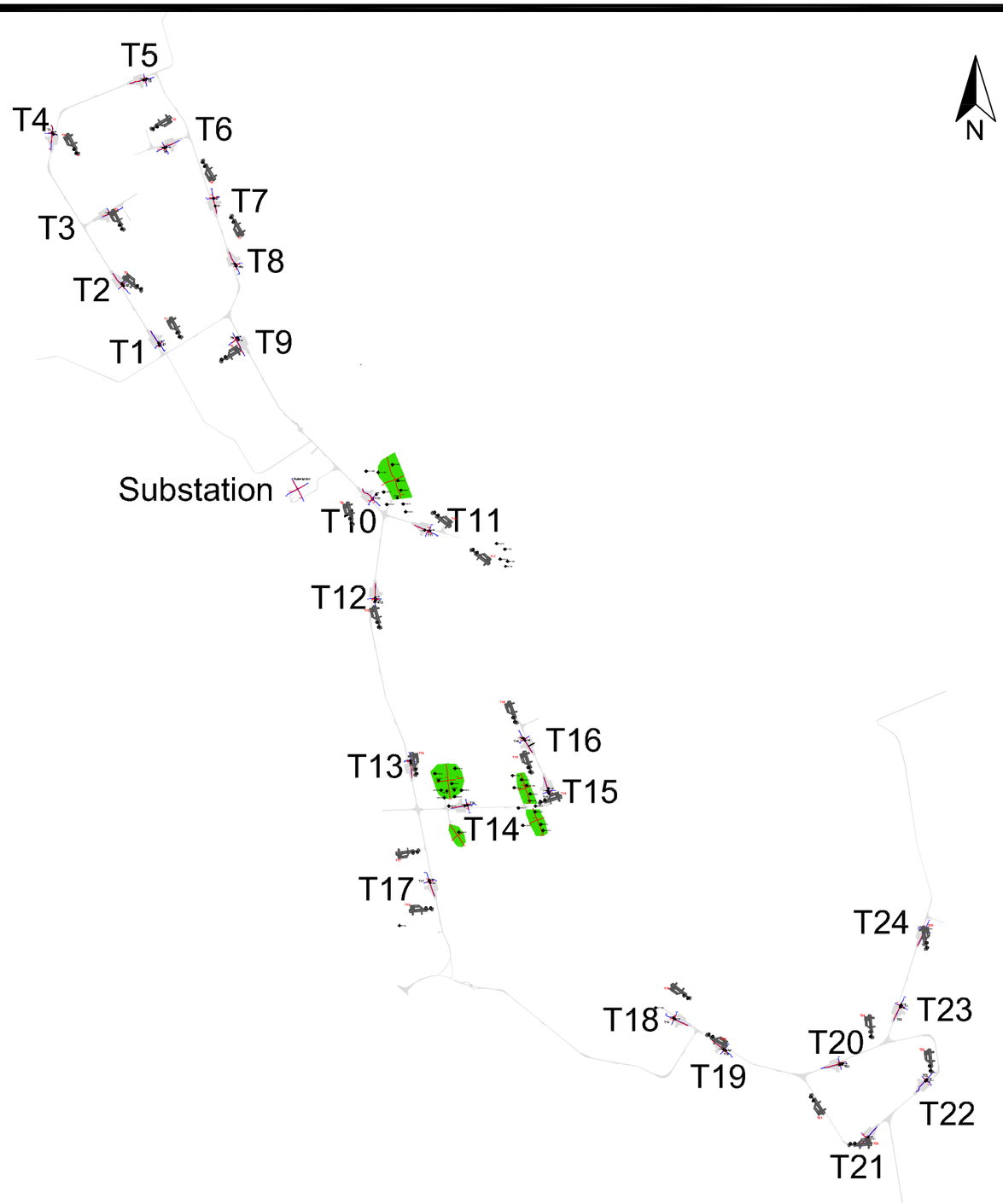


**Appendix 1: Graphs of MASW Results**



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Web: www.mgx.ie

| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Map 1: Geophysical Survey<br>Location Map |

| | |
|---|---|
| SCALE: | 1:40000 @ A3 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

Geophysical Survey Locations:

R2 — 2D-Resistivity Line

S1 — Seismic Refraction Line

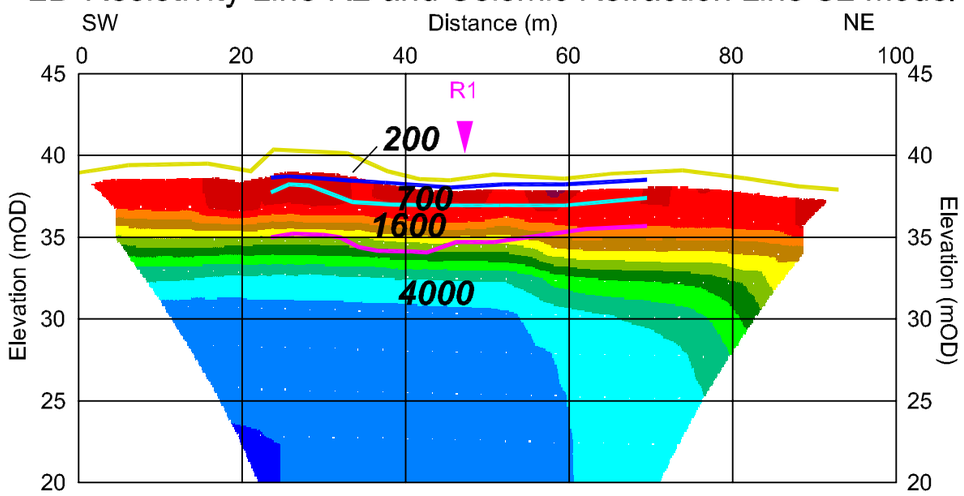
Direct Ground Investigation Locations:

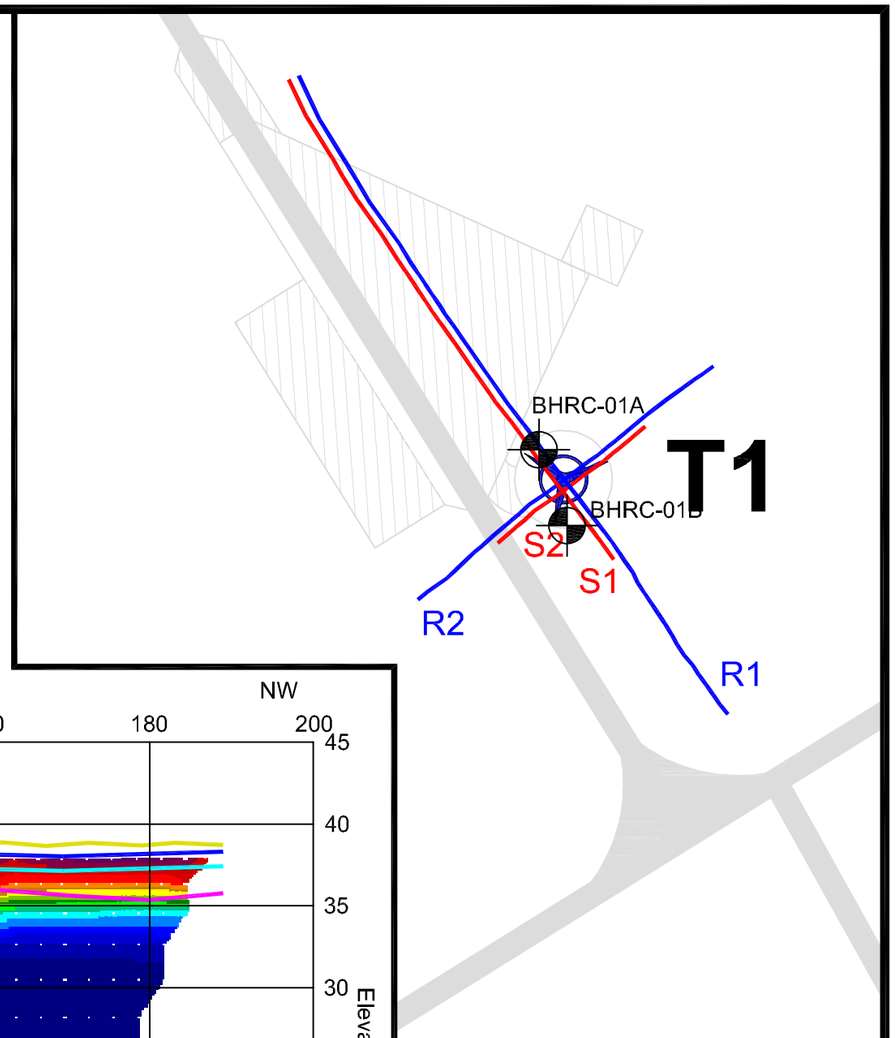
BHRC-11A — Bore Hole

TP1 — Trial Pit

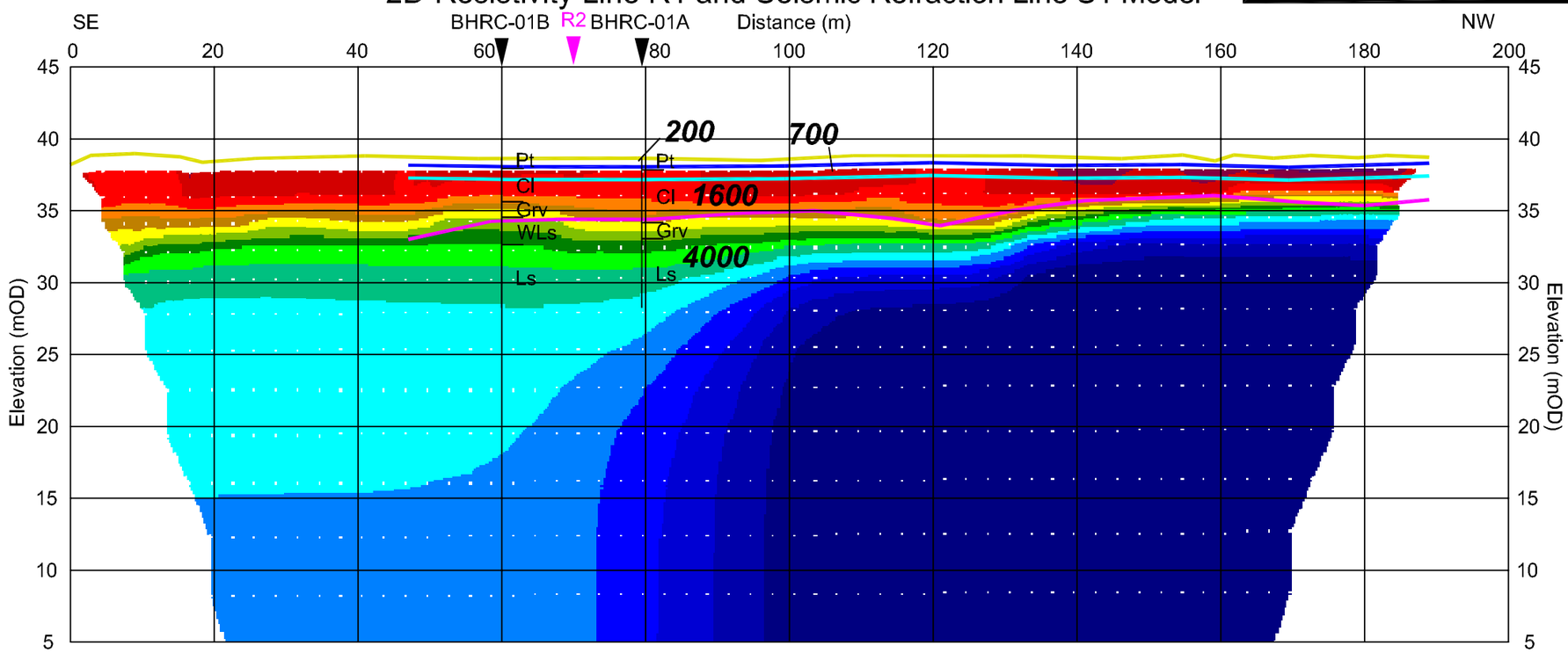
# T1

## 2D-Resistivity Line R2 and Seismic Refraction Line S2 Model




## 2D-Resistivity Line R1 and Seismic Refraction Line S1 Model





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Web: www.mgx.ie


| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1a: Models of Geophysical Survey, Turbine 1 |

| | |
|---|---|
| SCALE: | Model:1:750, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

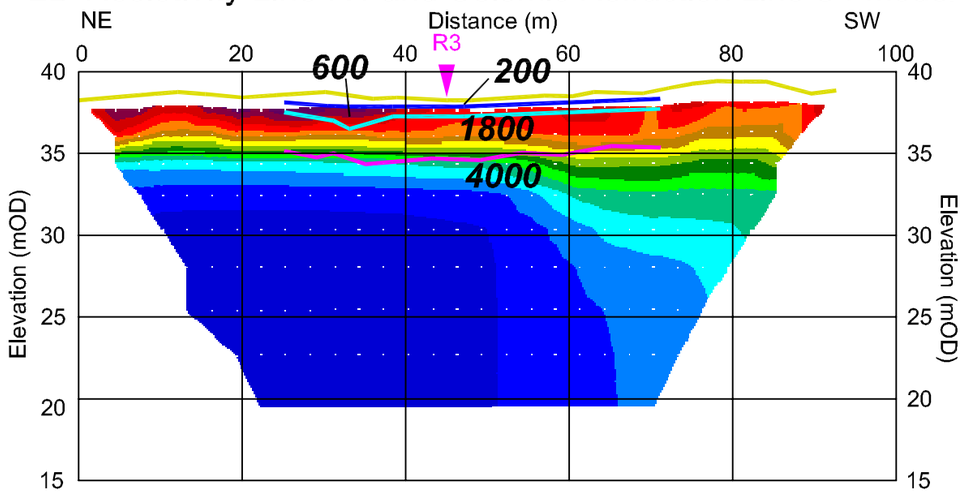
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

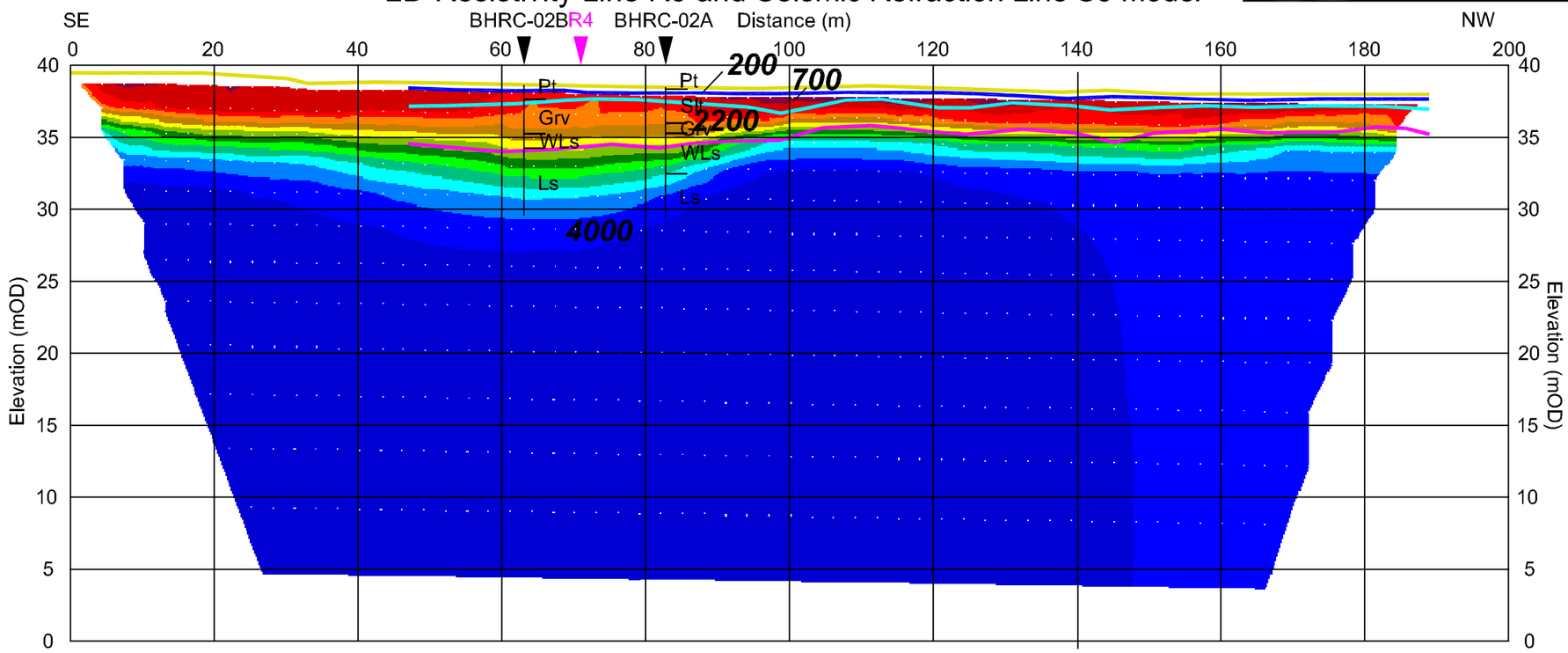
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

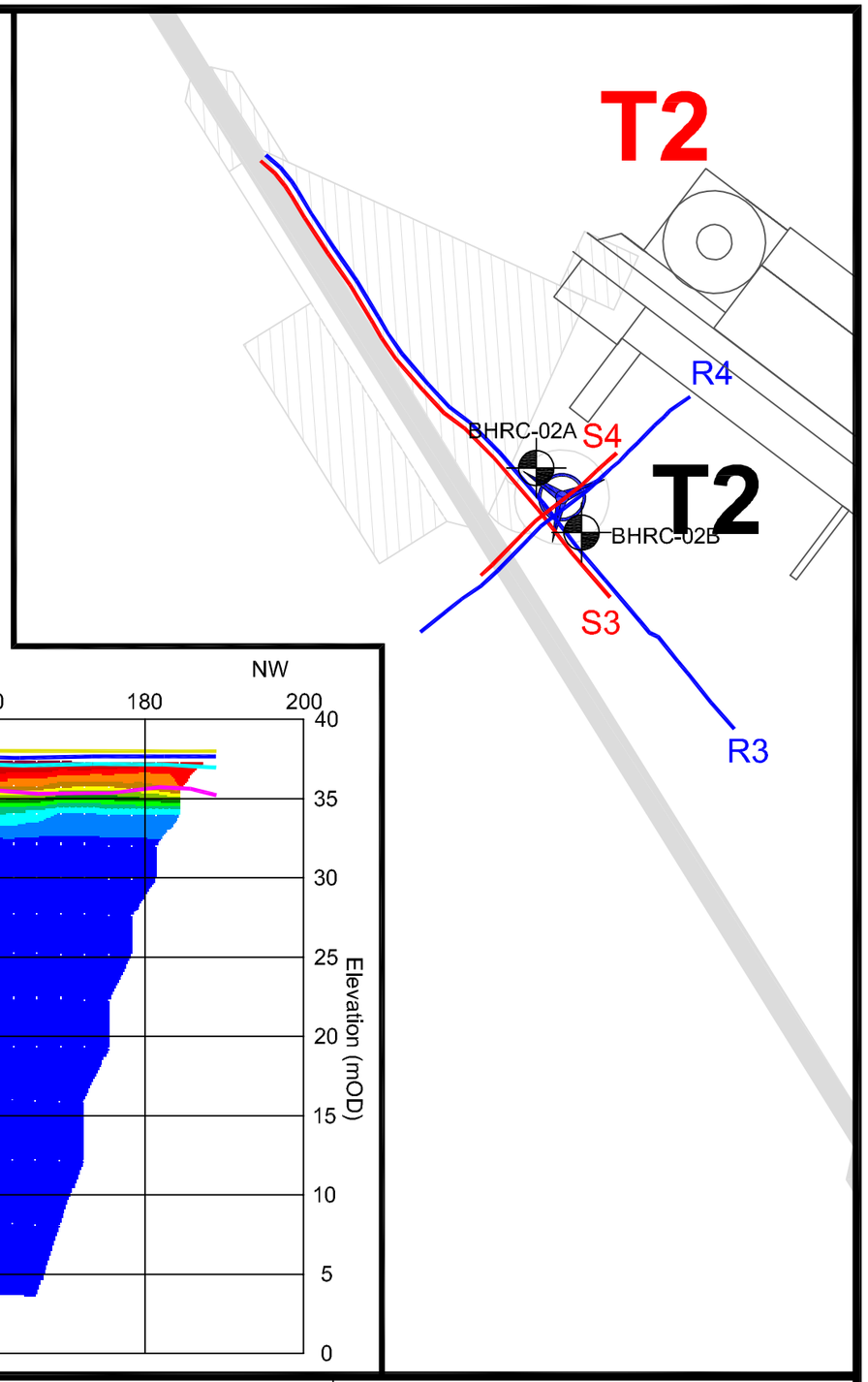
# T2

## 2D-Resistivity Line R4 and Seismic Refraction Line S4 Model




## 2D-Resistivity Line R3 and Seismic Refraction Line S3 Model





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd. Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford Geophysical Survey |
| TITLE | Figure 1b: Models of Geophysical Survey, Turbine 2 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

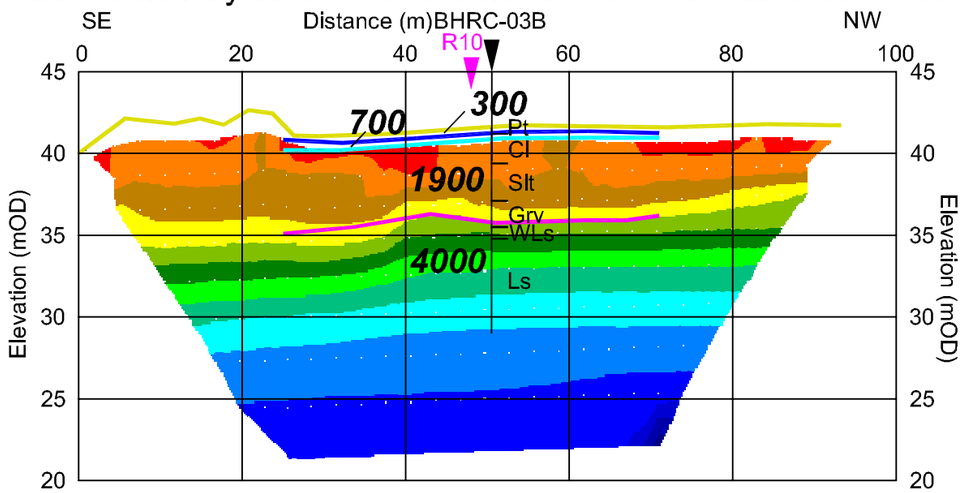
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

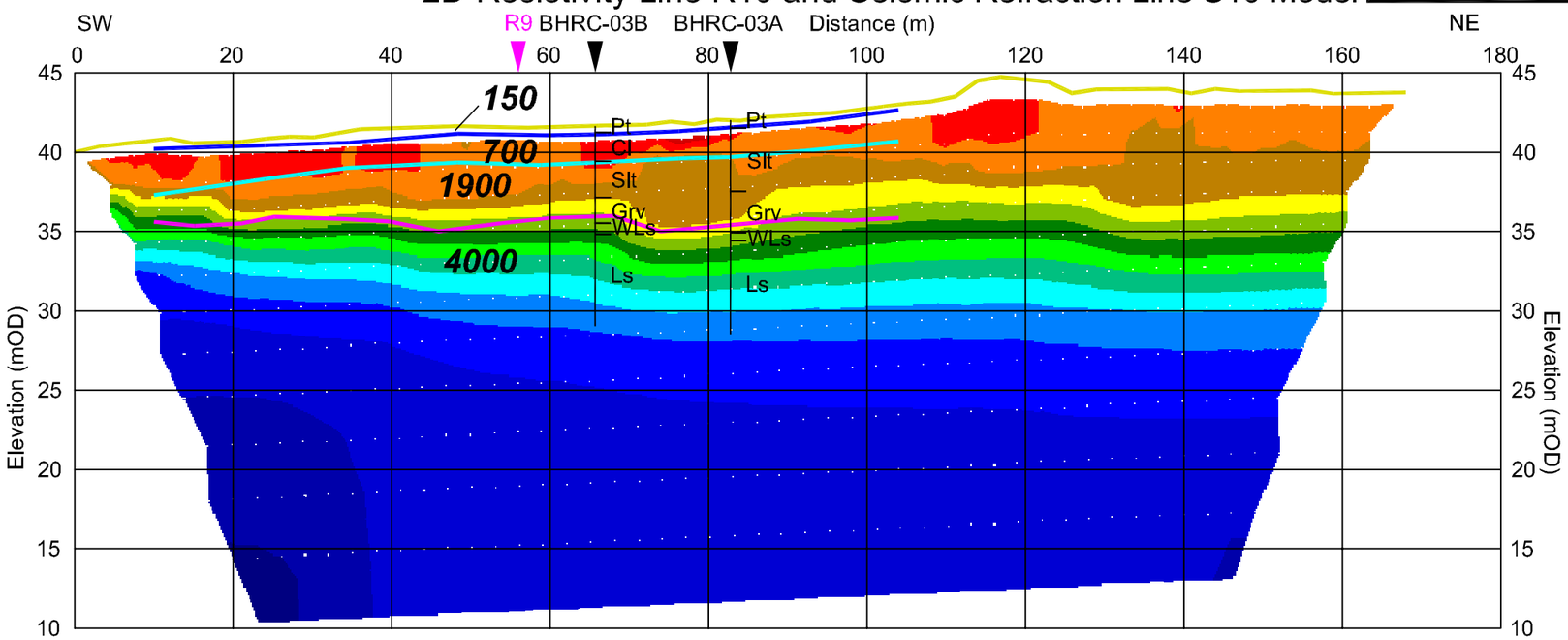
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

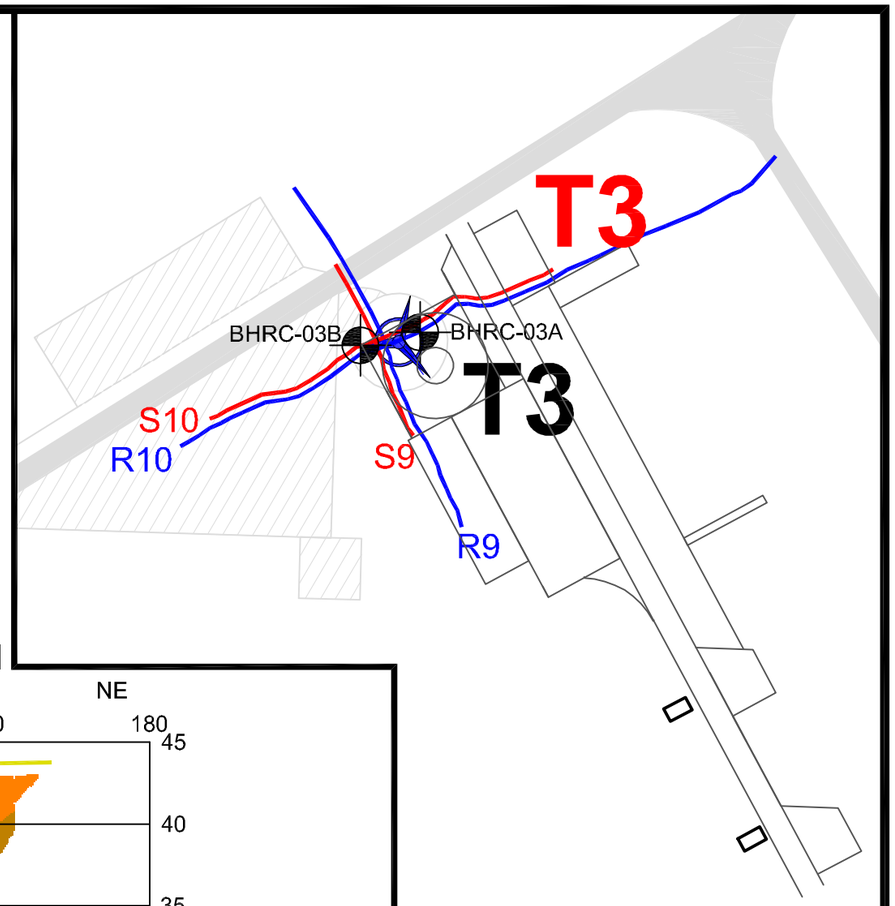
# T3

## 2D-Resistivity Line R9 and Seismic Refraction Line S9 Model




## 2D-Resistivity Line R10 and Seismic Refraction Line S10 Model





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Web: www.mgx.ie


| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1c: Models of Geophysical Survey, Turbine 3 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

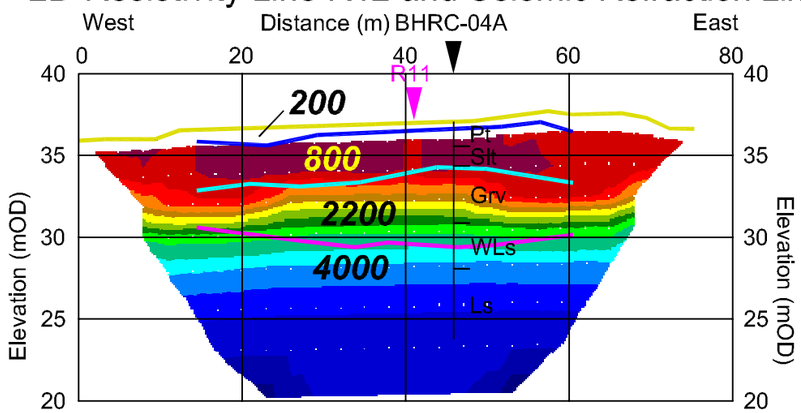
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

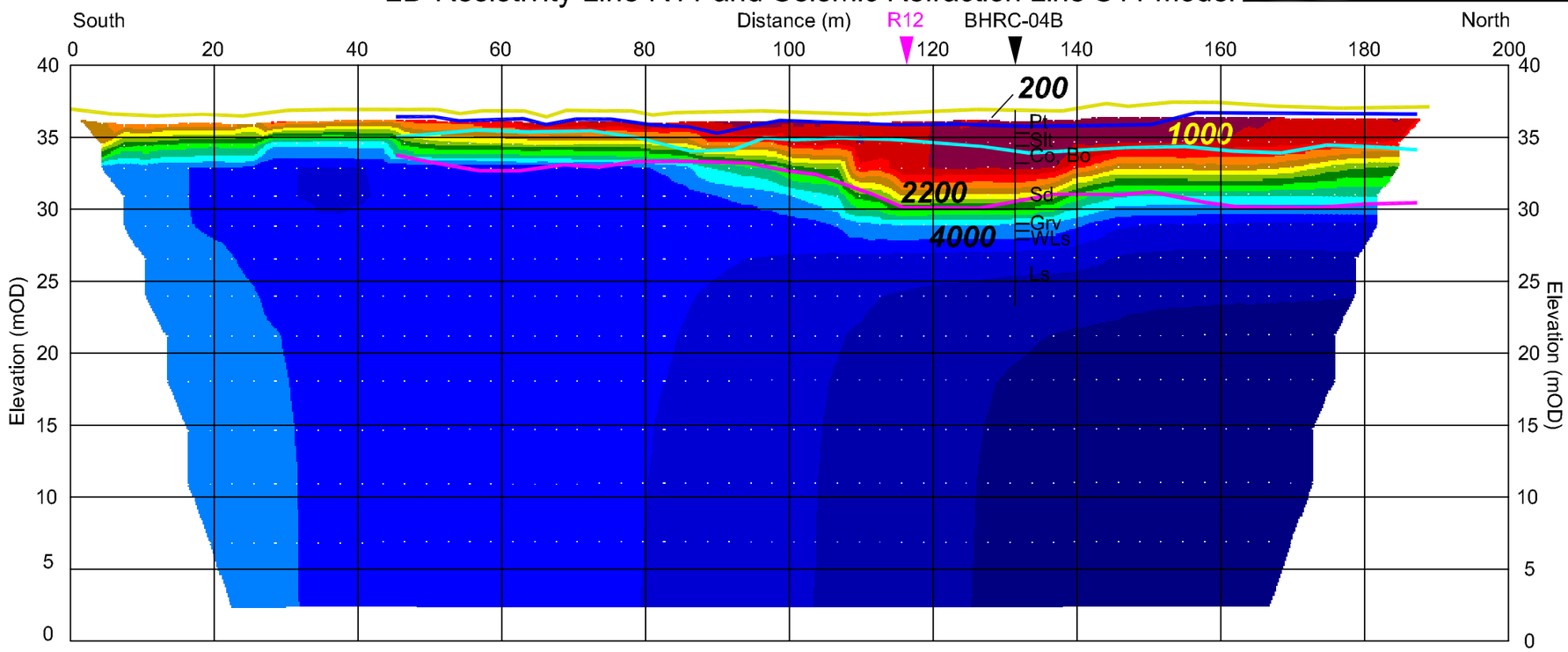
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

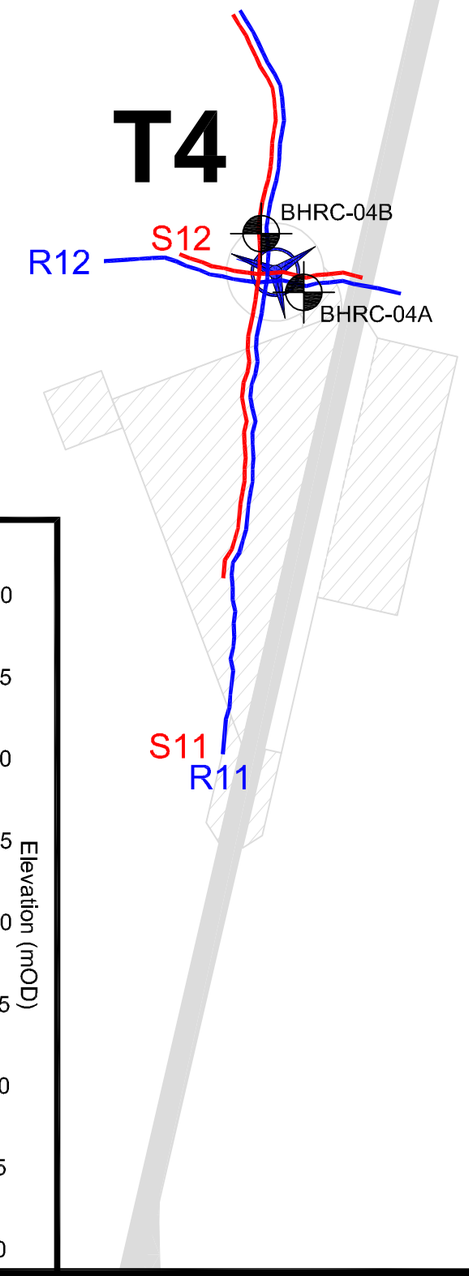
# T4

## 2D-Resistivity Line R12 and Seismic Refraction Line S12 Model




## 2D-Resistivity Line R11 and Seismic Refraction Line S11 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1d: Models of Geophysical Survey, Turbine 4 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

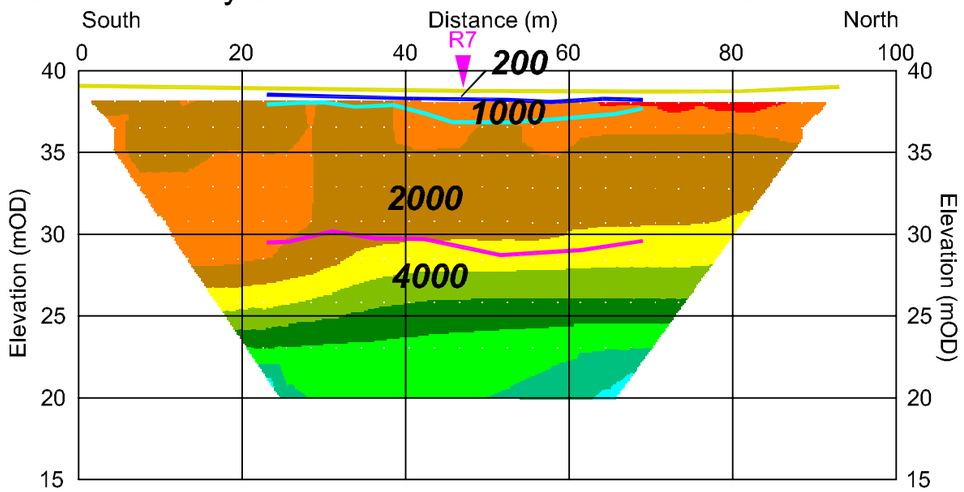
31.3 62.5 125 250 500 1000 2000 4000

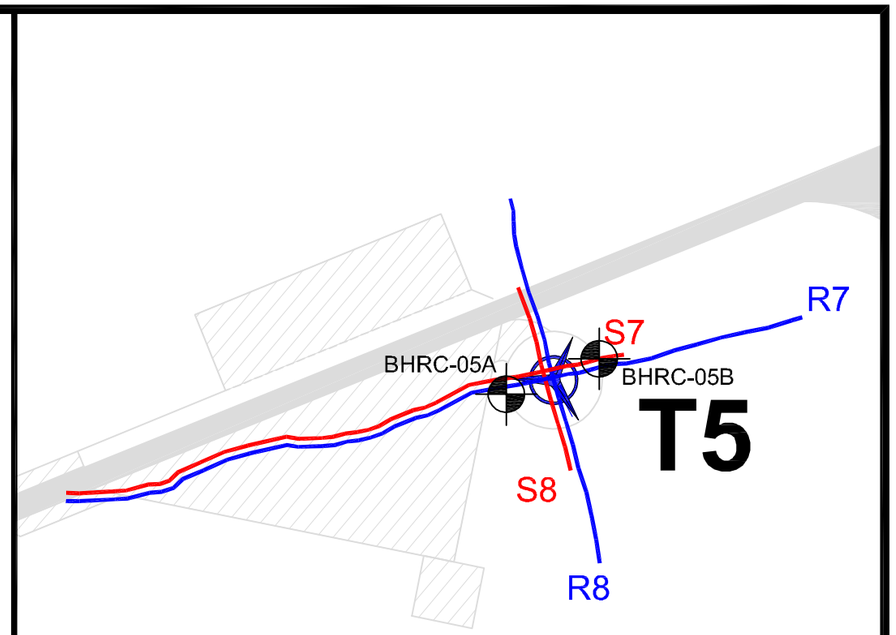
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

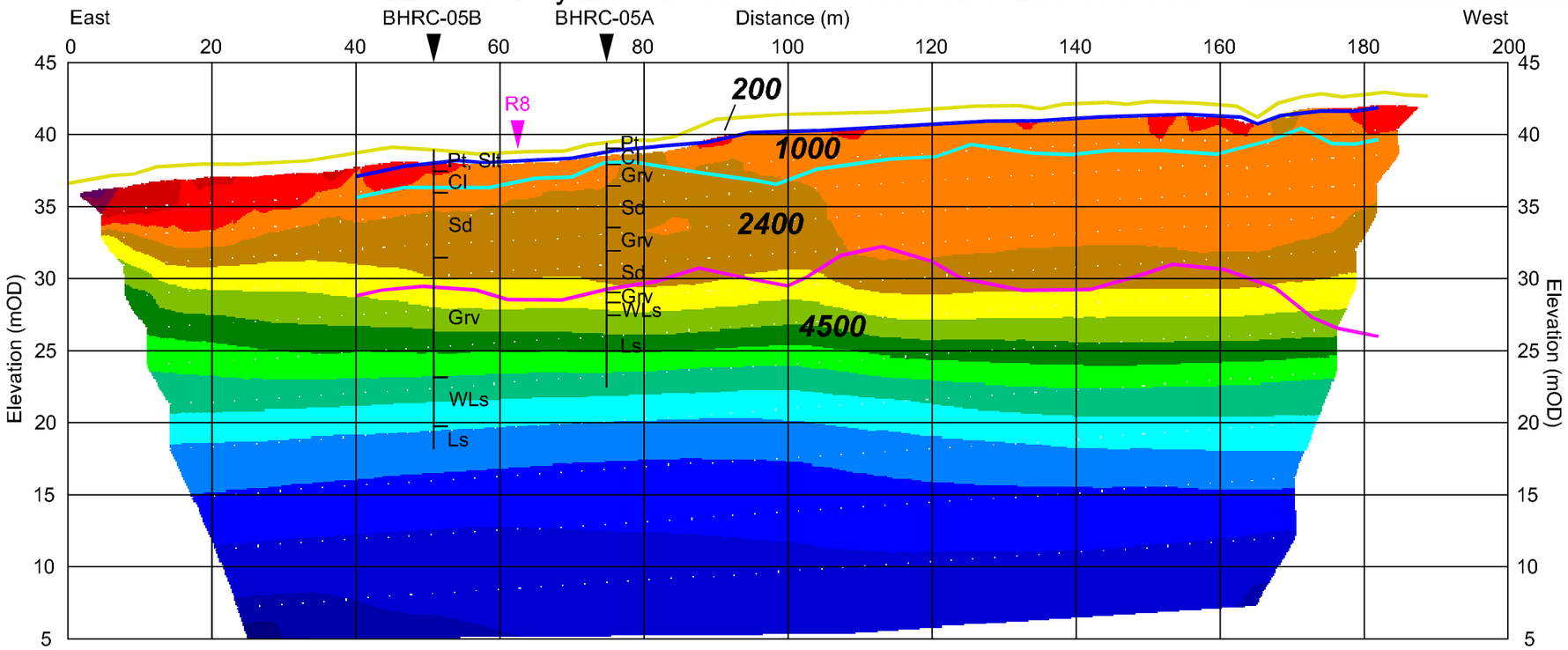
# T5

## 2D-Resistivity Line R8 and Seismic Refraction Line S8 Model




## 2D-Resistivity Line R7 and Seismic Refraction Line S7 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1e: Models of Geophysical Survey, Turbine 5 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

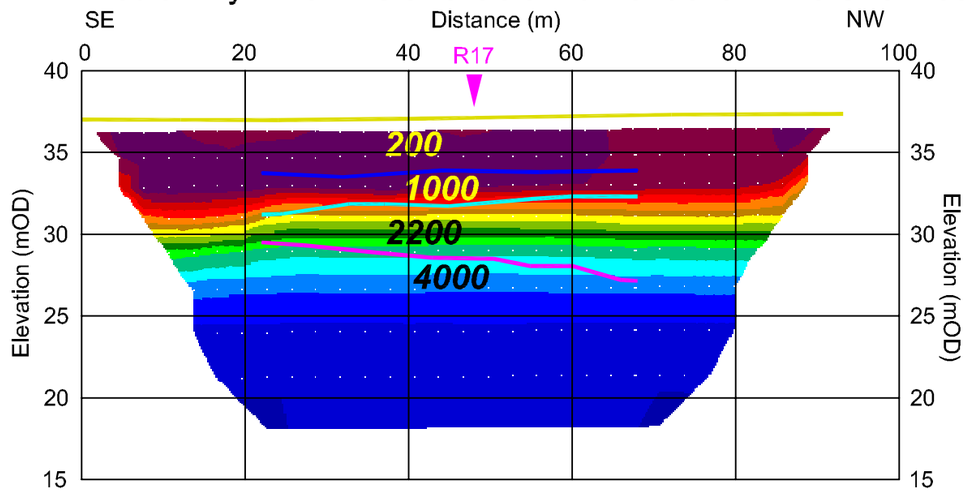
31.3 62.5 125 250 500 1000 2000 4000

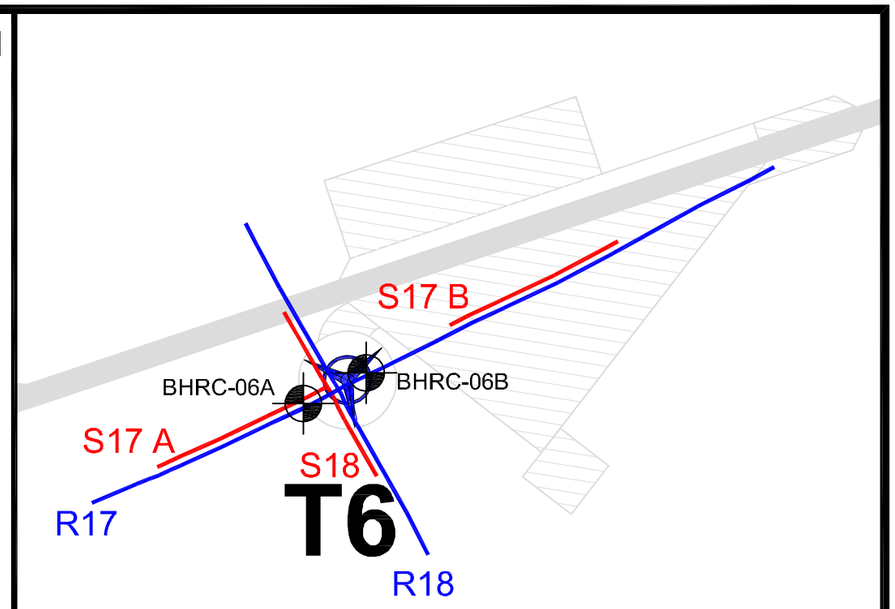
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

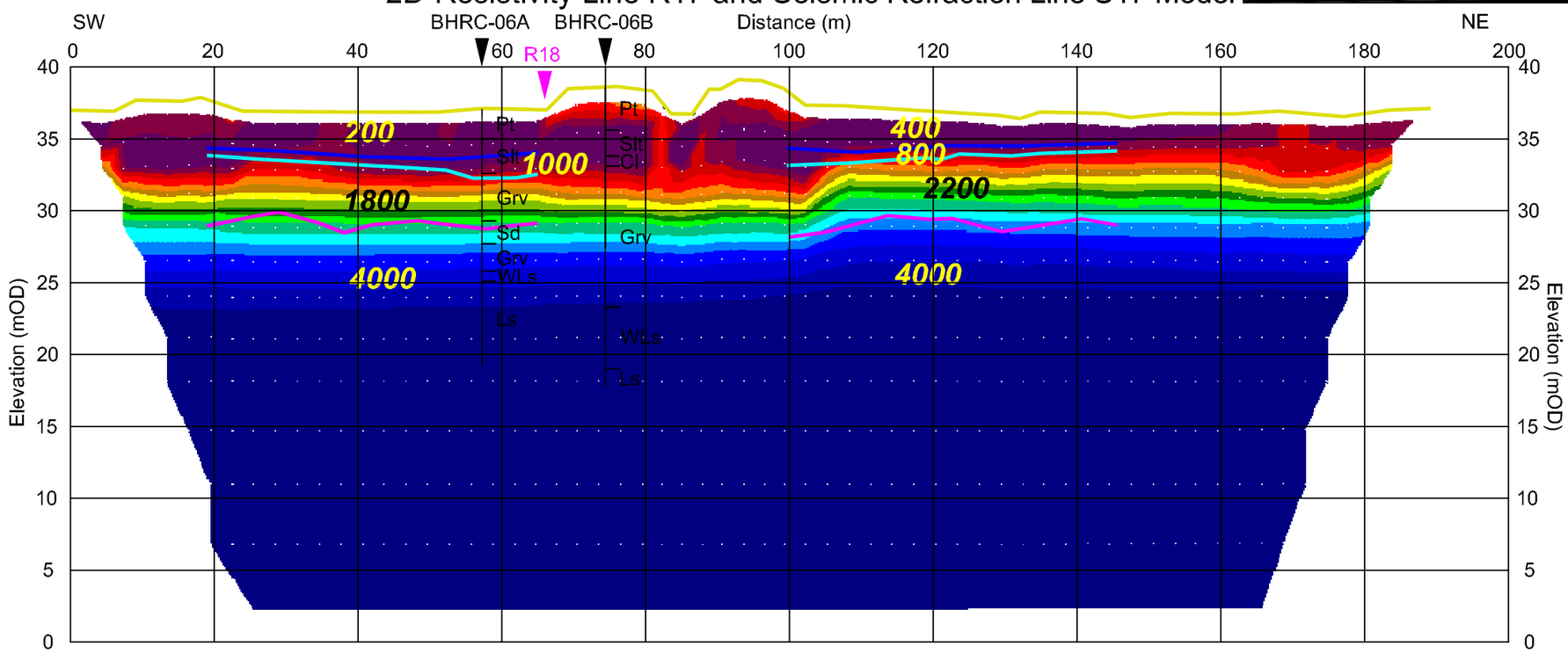
# T6

## 2D-Resistivity Line R18 and Seismic Refraction Line S18 Model




## 2D-Resistivity Line R17 and Seismic Refraction Line S17 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1f: Models of Geophysical Survey, Turbine 6 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

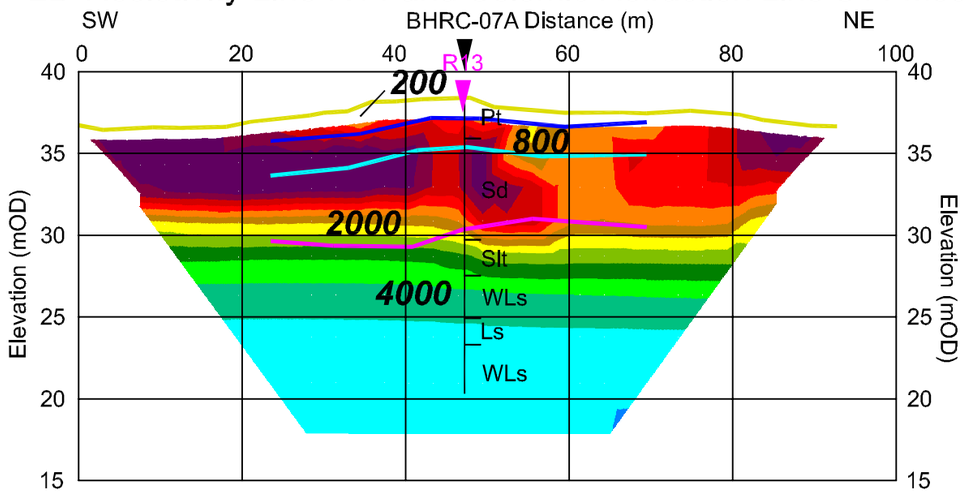
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

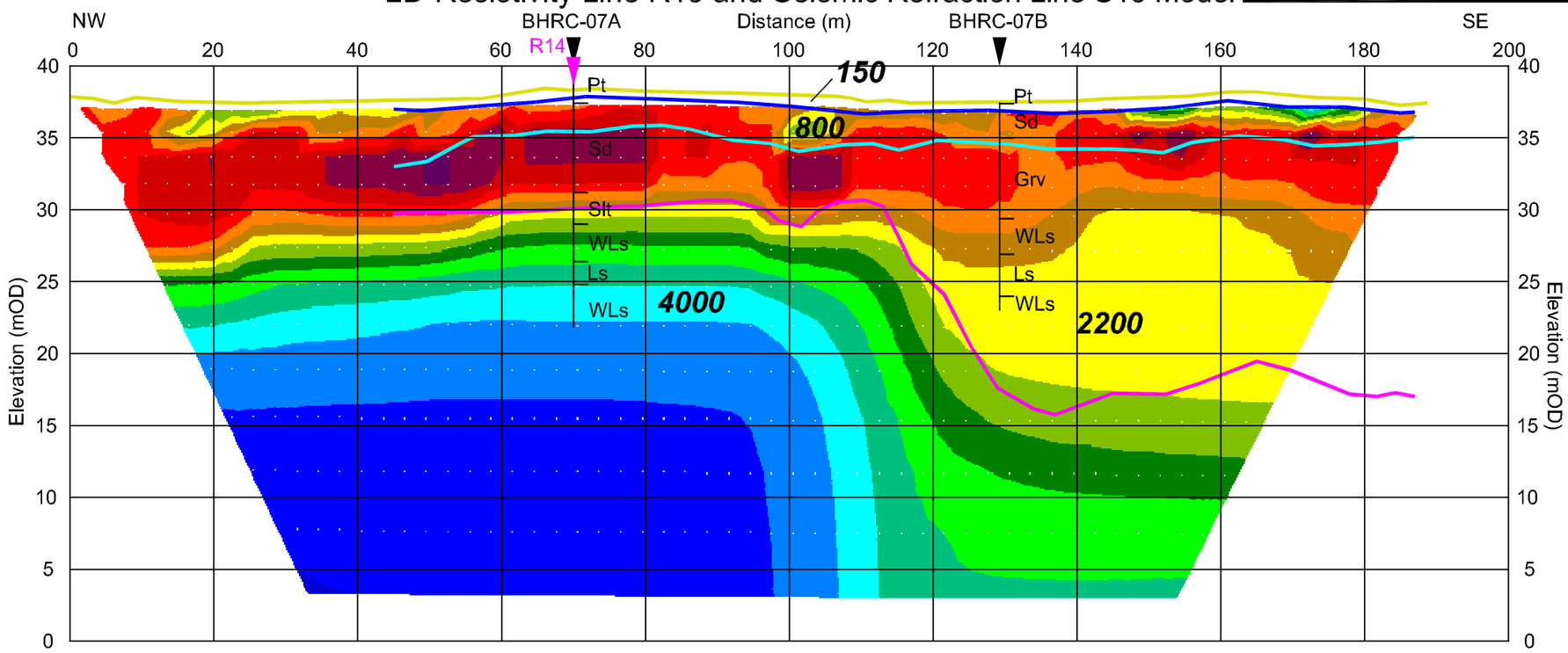
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

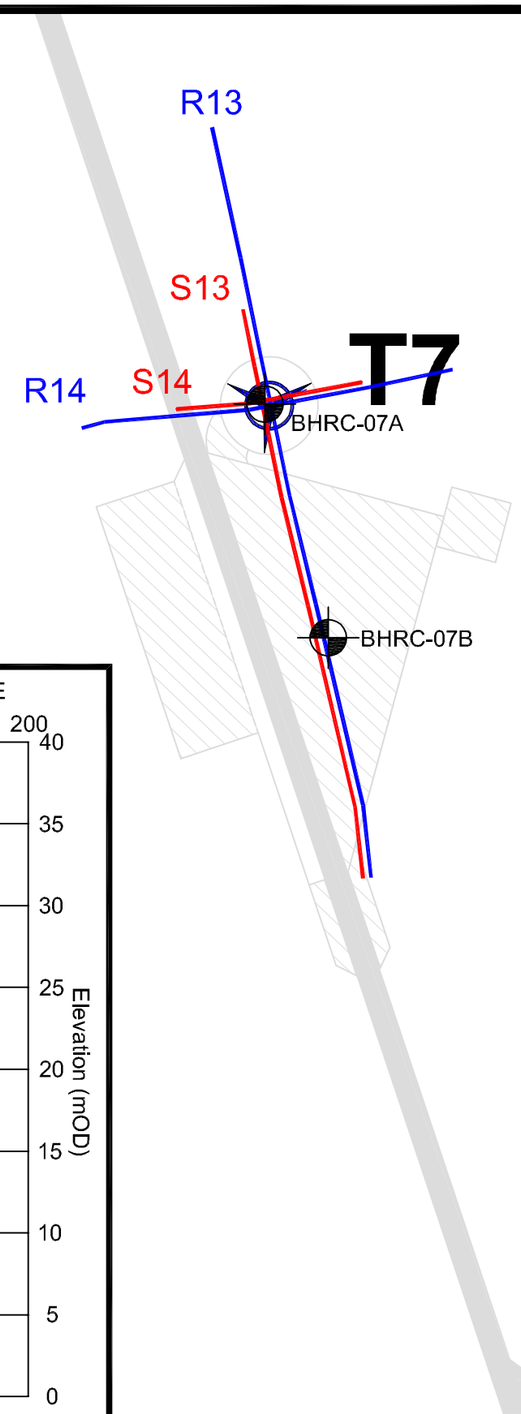
# T7

## 2D-Resistivity Line R14 and Seismic Refraction Line S14 Model




## 2D-Resistivity Line R13 and Seismic Refraction Line S13 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1g: Models of Geophysical Survey, Turbine 7 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

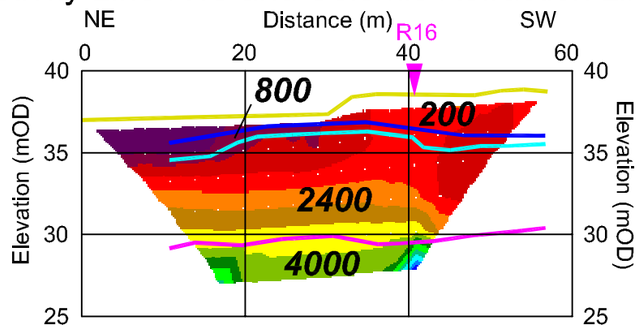
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

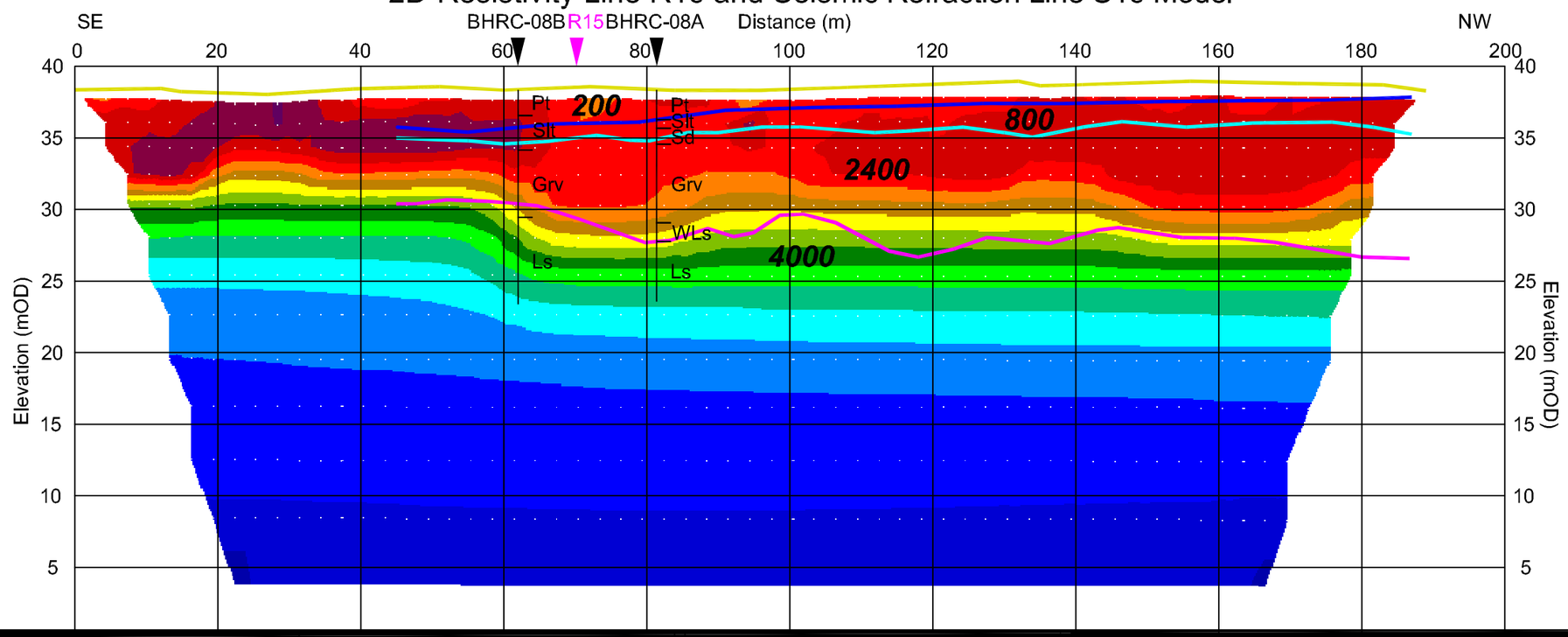
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

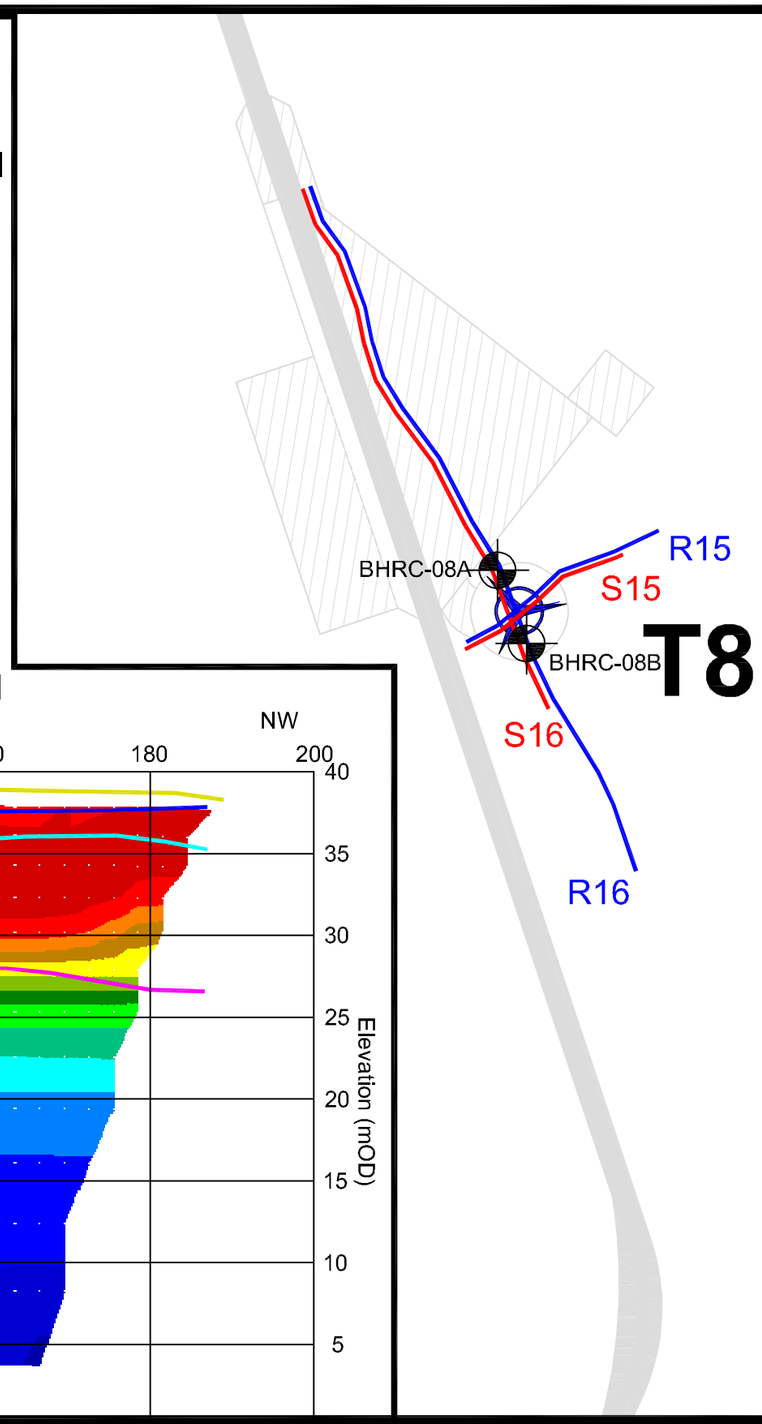
# T8

## 2D-Resistivity Line R15 and Seismic Refraction Line S15 Model




## 2D-Resistivity Line R16 and Seismic Refraction Line S16 Model





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| TITLE | Figure 2h: Model of Geophysical Survey, Turbine 8 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

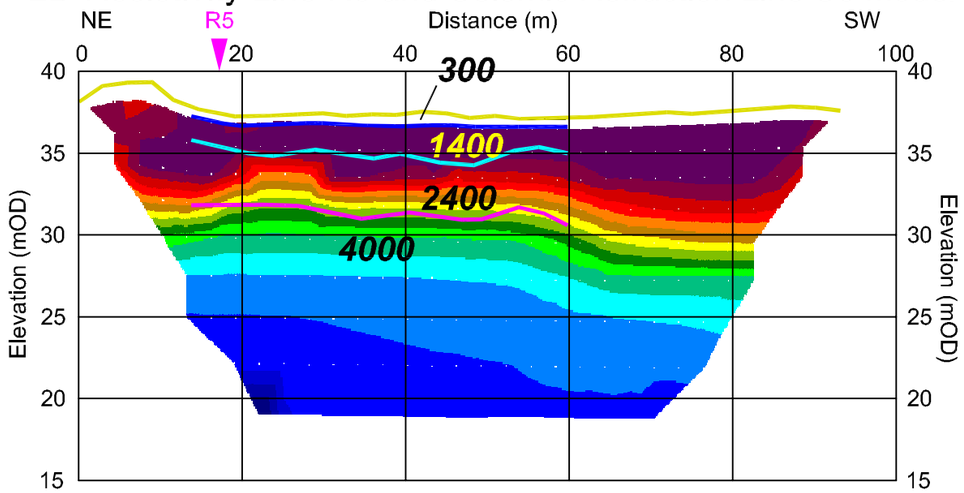
31.3 62.5 125 250 500 1000 2000 4000

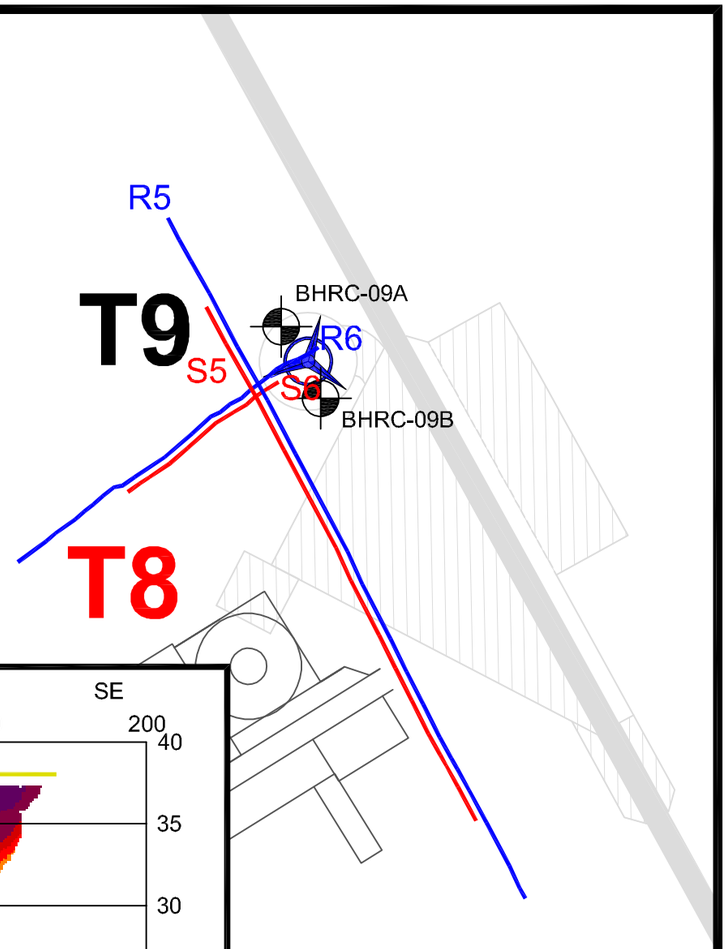
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

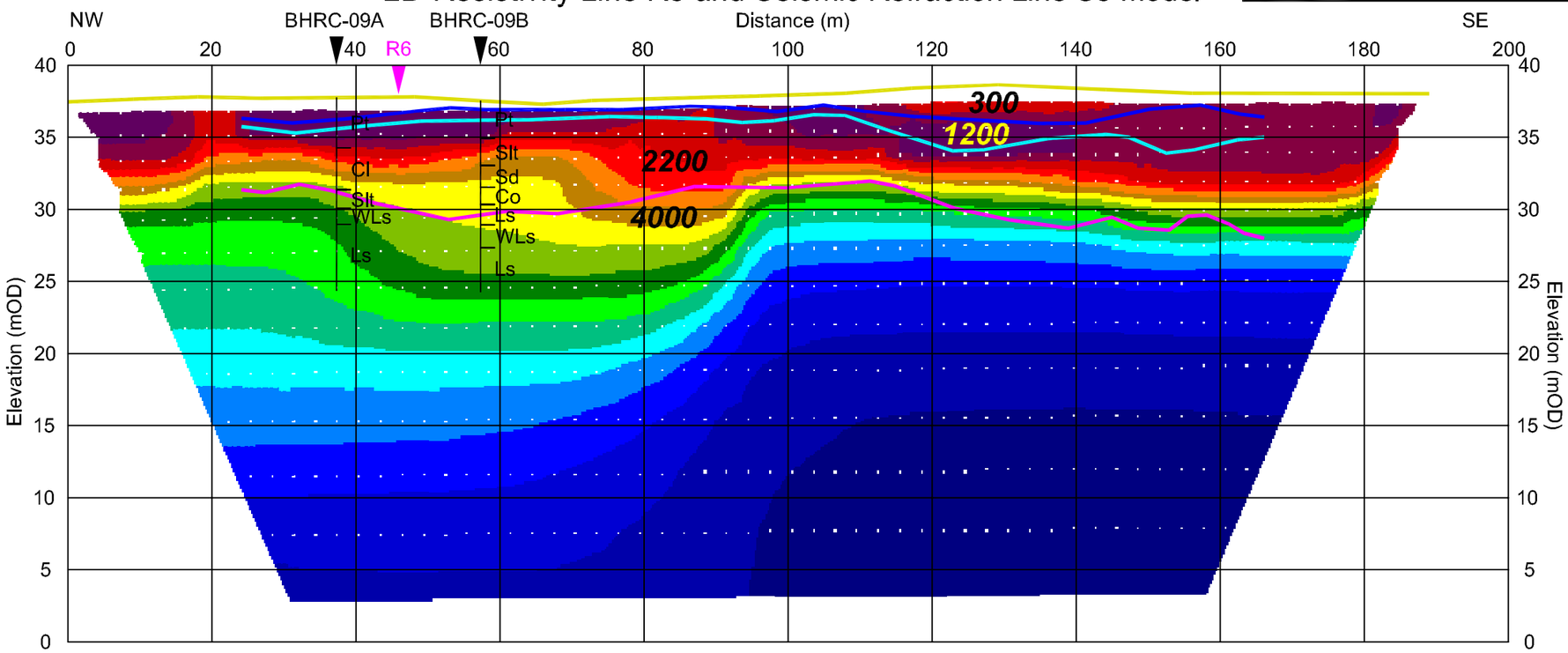
# T9

## 2D-Resistivity Line R6 and Seismic Refraction Line S6 Model




## 2D-Resistivity Line R5 and Seismic Refraction Line S5 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1i: Models of Geophysical Survey, Turbine 9 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

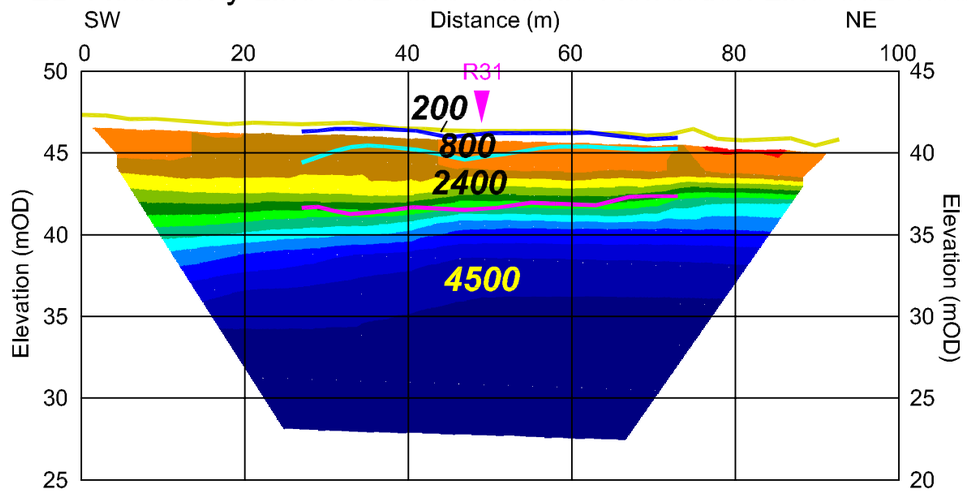
31.3 62.5 125 250 500 1000 2000 4000

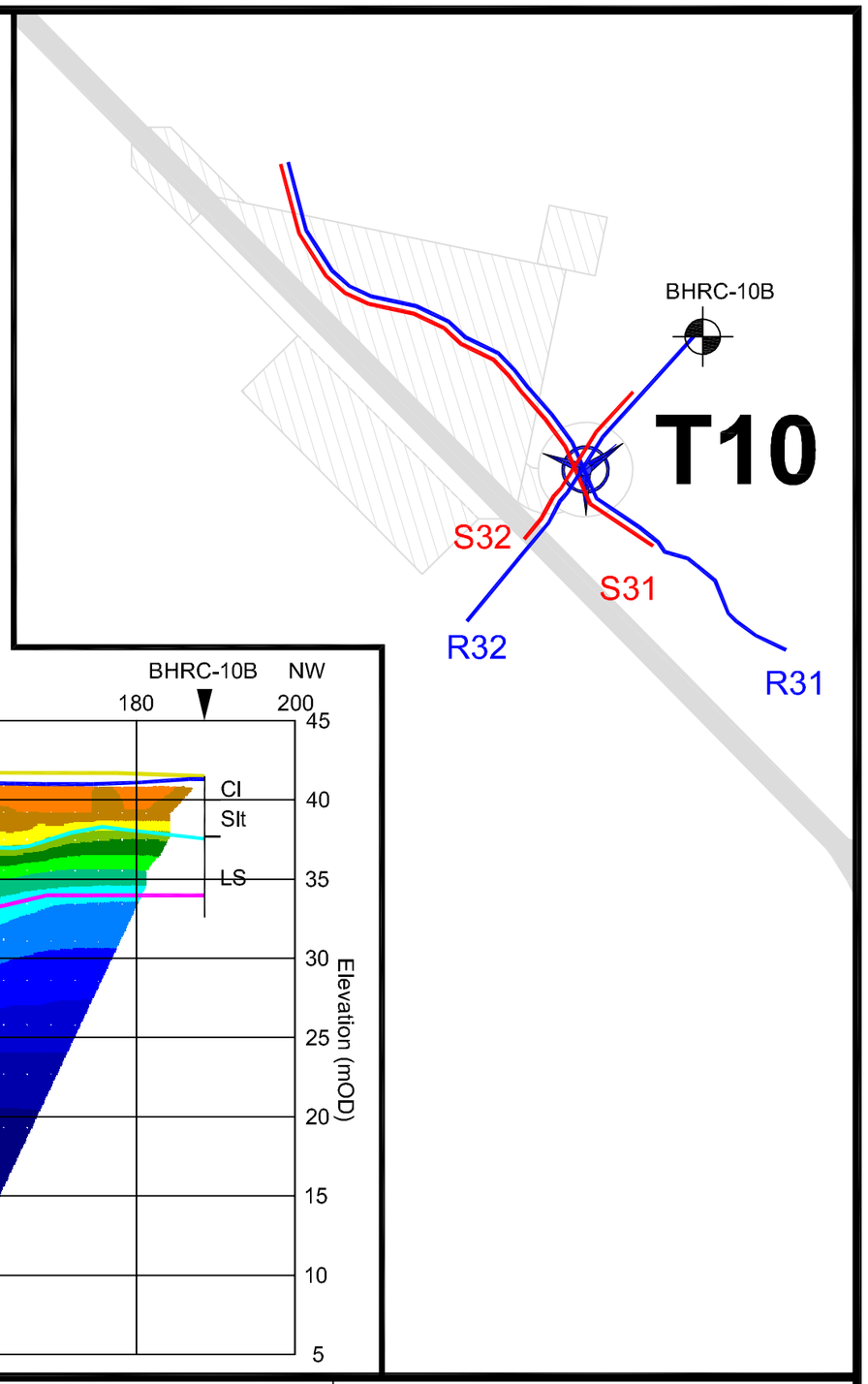
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

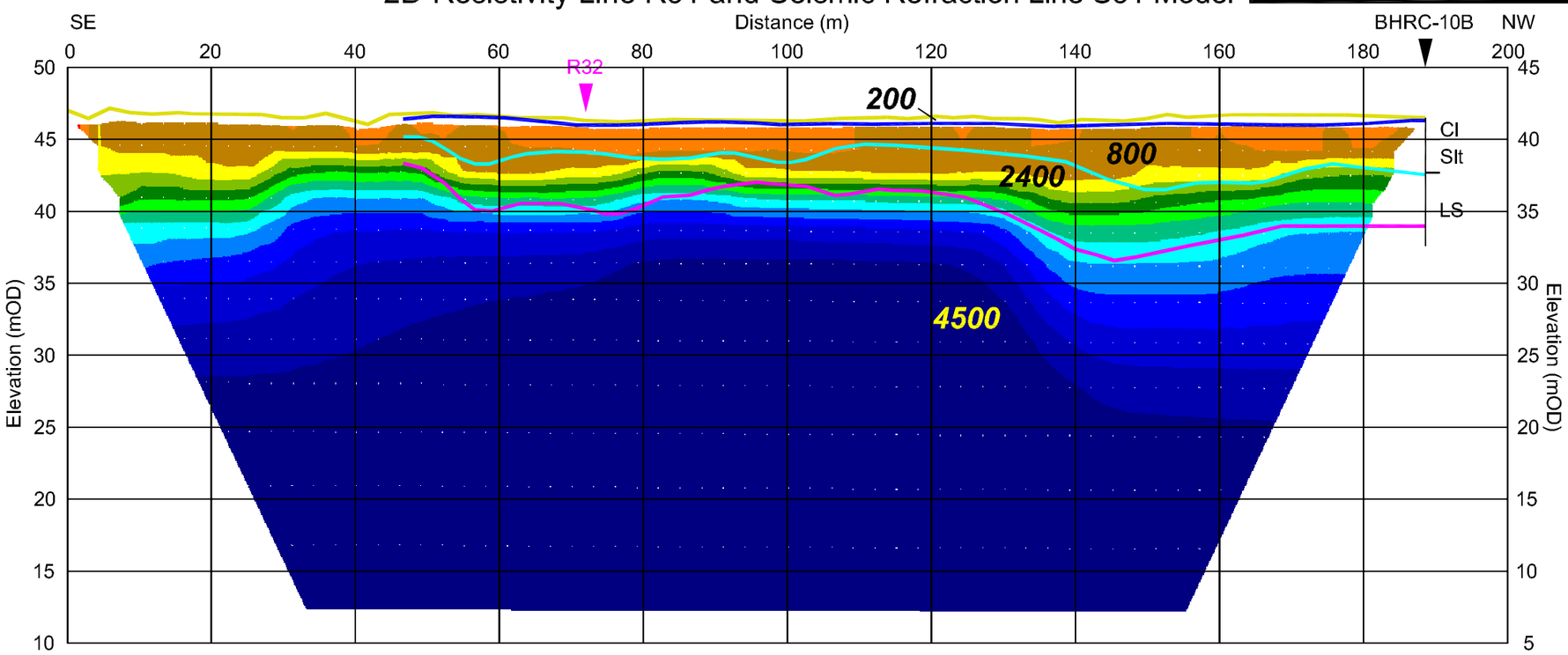
# T10

## 2D-Resistivity Line R32 and Seismic Refraction Line S32 Model




## 2D-Resistivity Line R31 and Seismic Refraction Line S31 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1j: Models of Geophysical Survey, Turbine 10 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

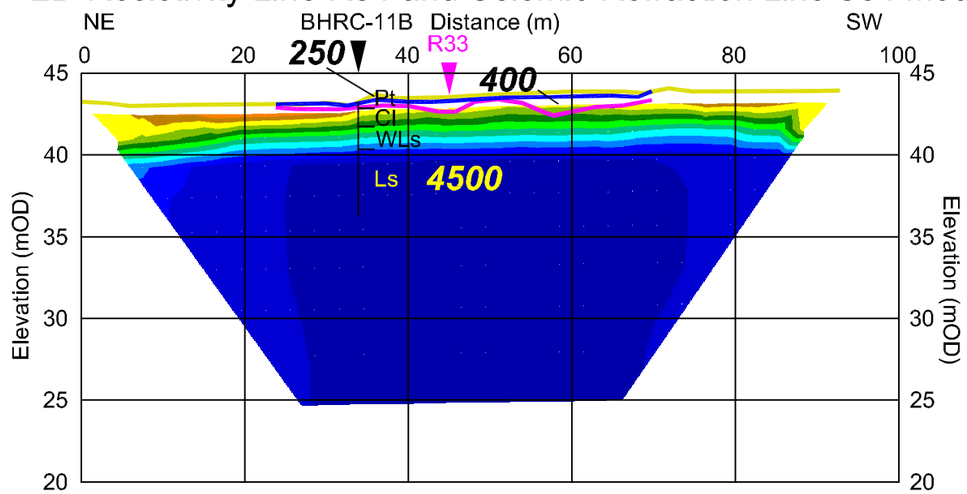
31.3 62.5 125 250 500 1000 2000 4000

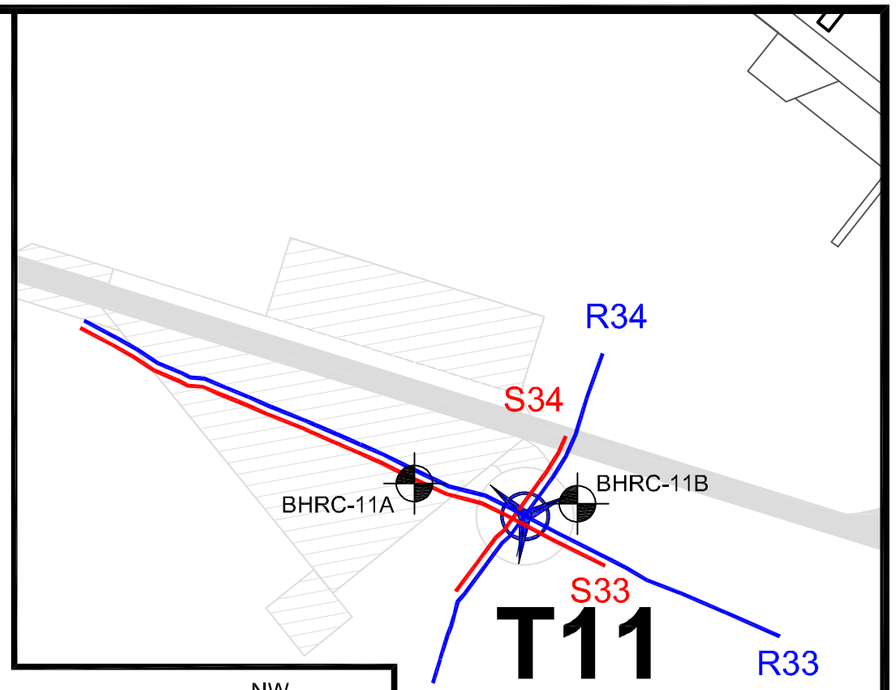
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

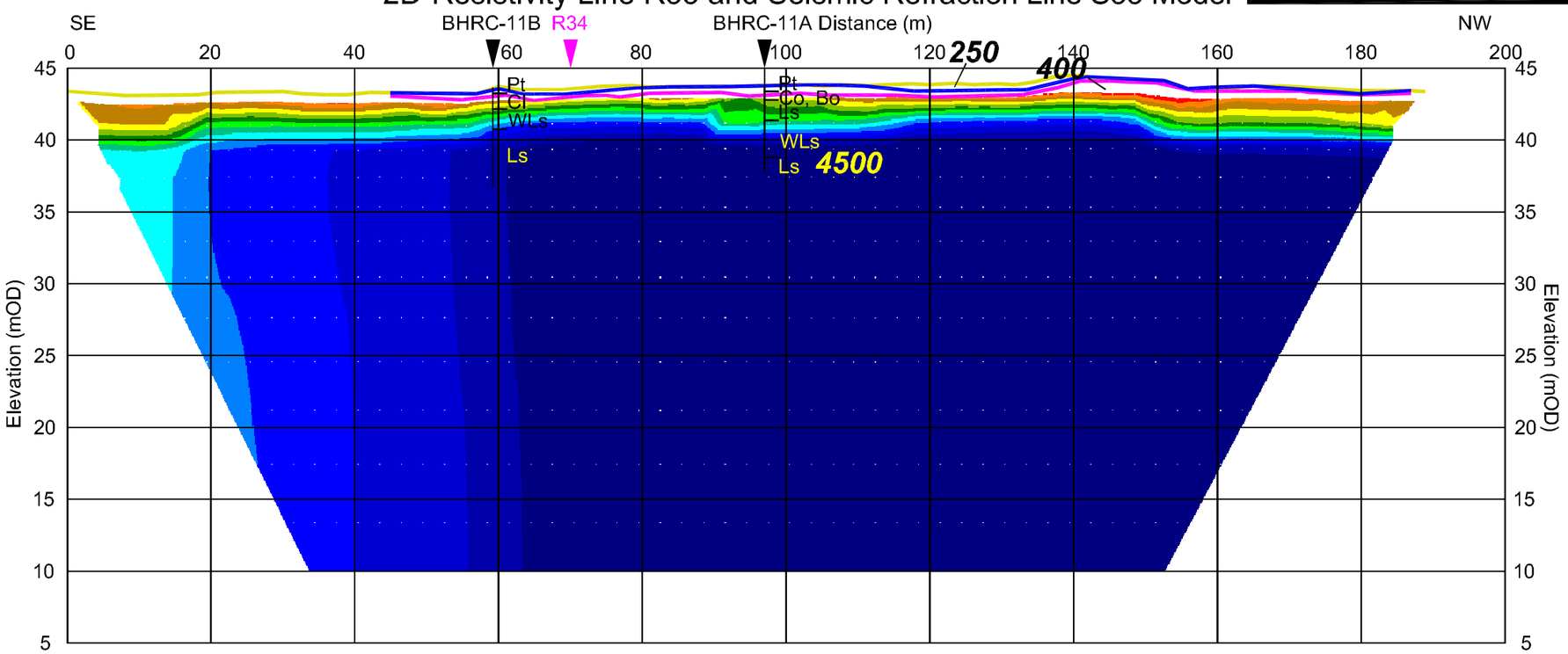
# T11

## 2D-Resistivity Line R34 and Seismic Refraction Line S34 Model




## 2D-Resistivity Line R33 and Seismic Refraction Line S33 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1k: Models of Geophysical Survey, Turbine 11 |

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|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

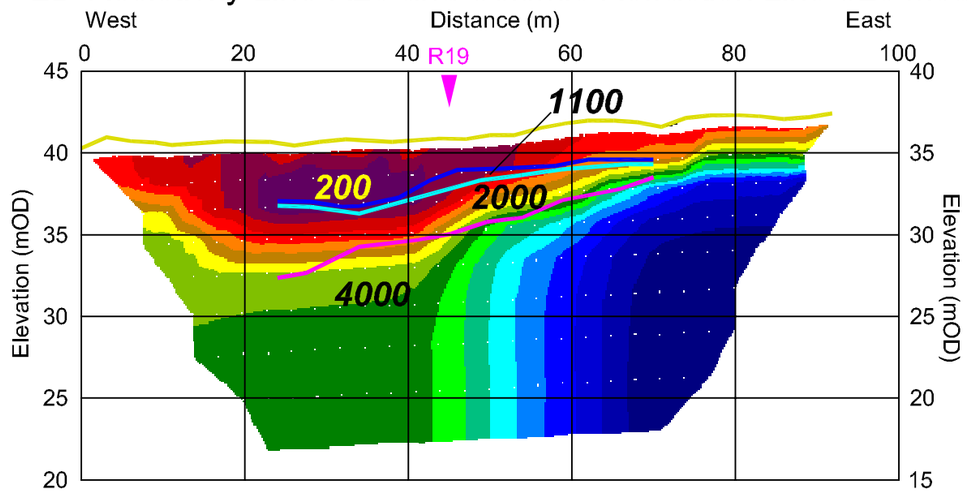
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

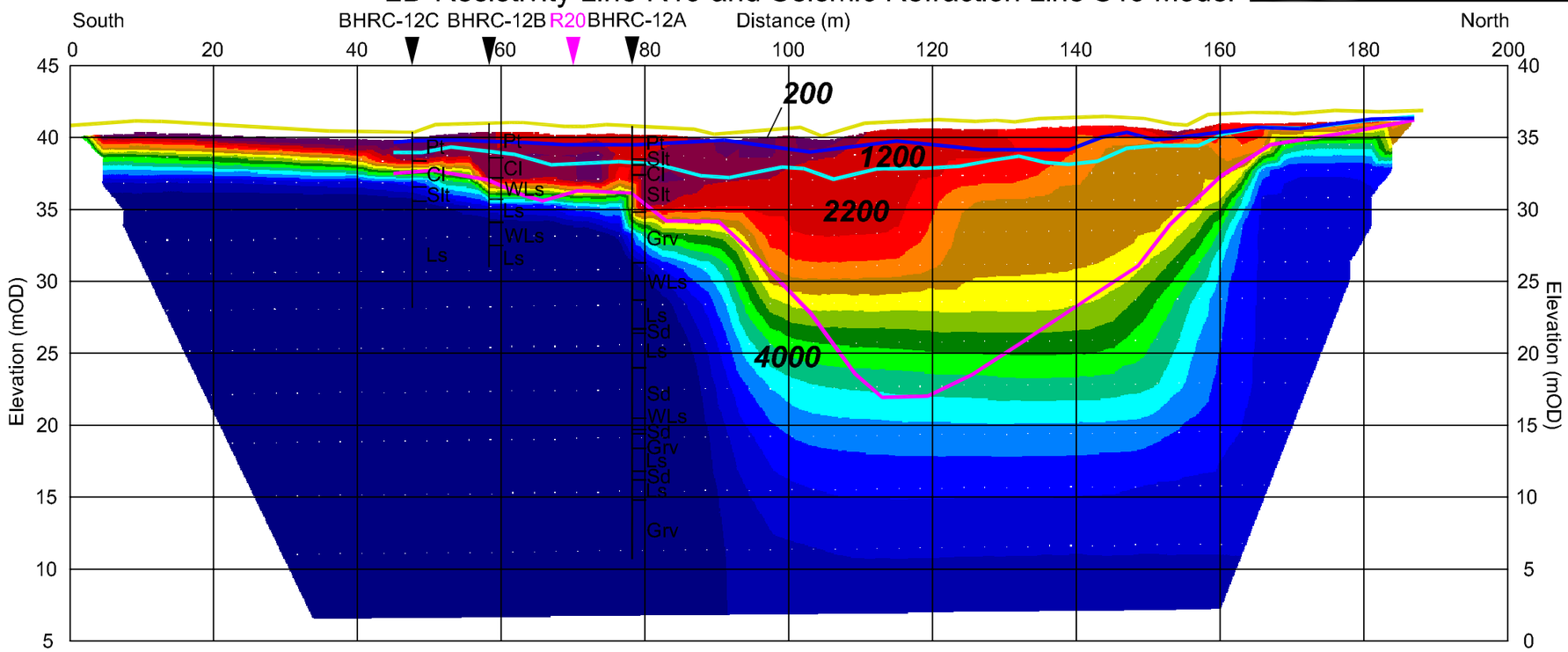
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

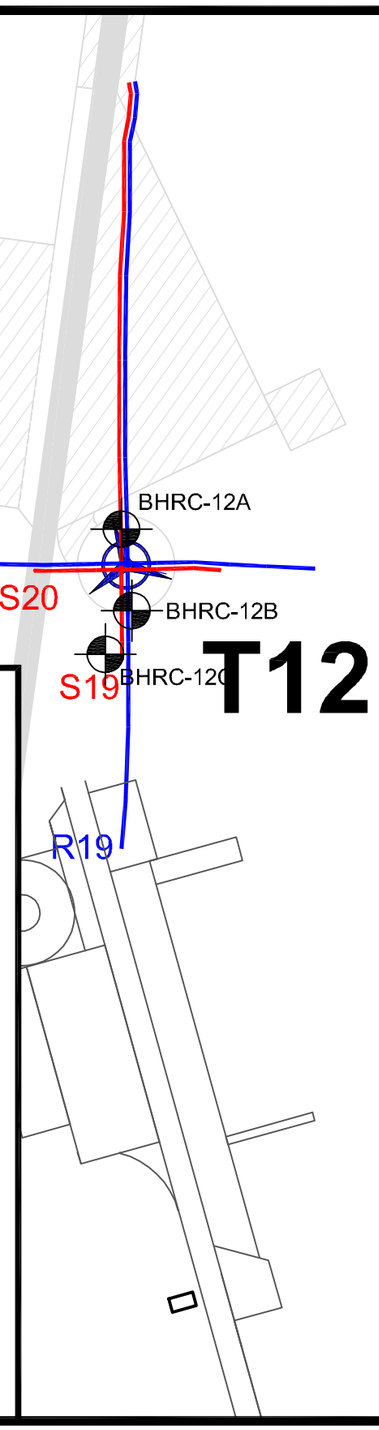
# T12

## 2D-Resistivity Line R20 and Seismic Refraction Line S20 Model




## 2D-Resistivity Line R19 and Seismic Refraction Line S19 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford Geophysical Survey |
| TITLE | Figure 11: Models of Geophysical Survey, Turbine 12 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

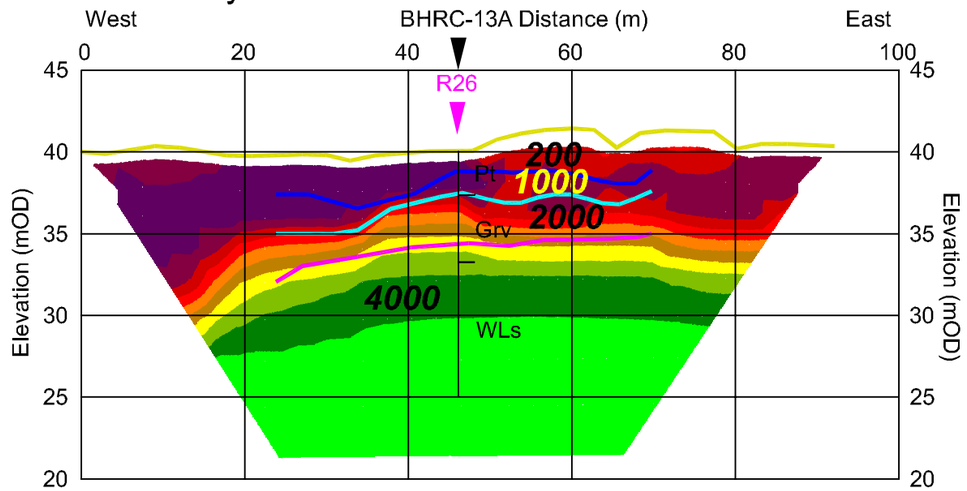
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

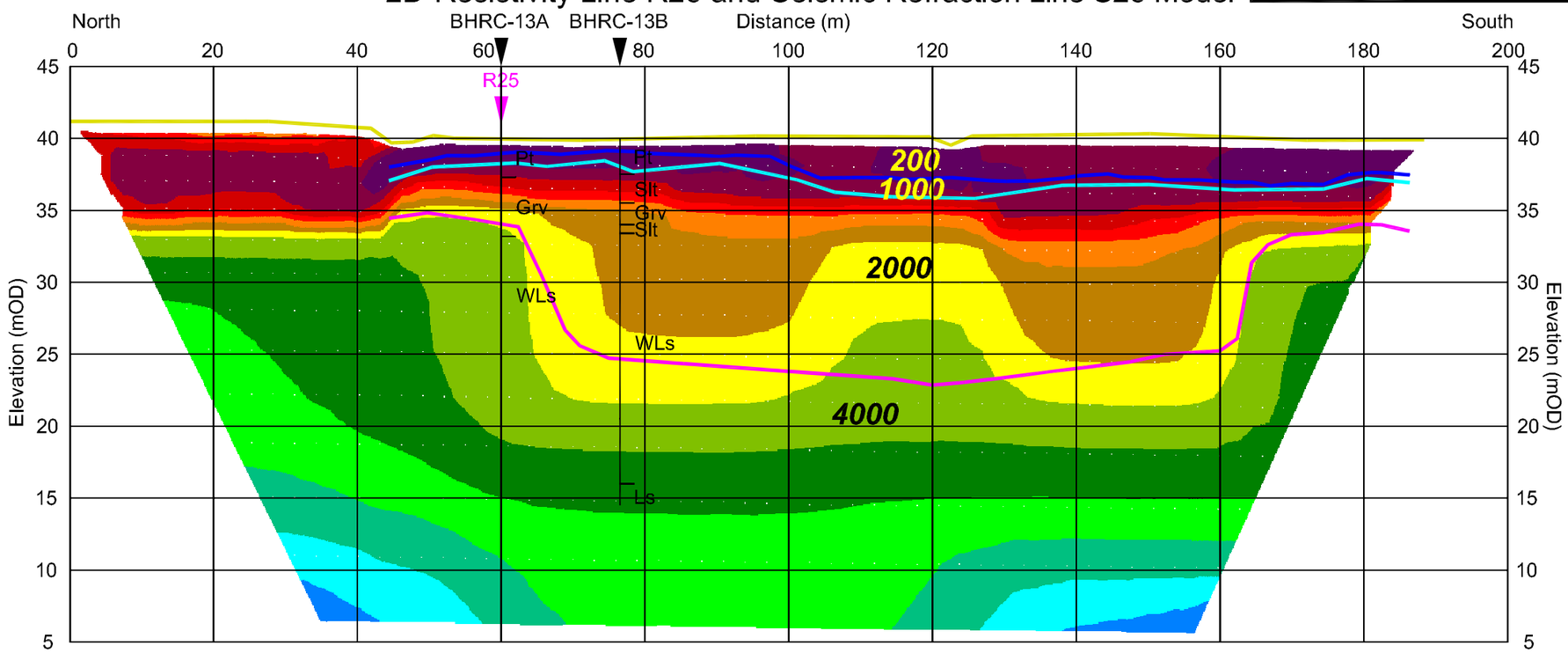
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

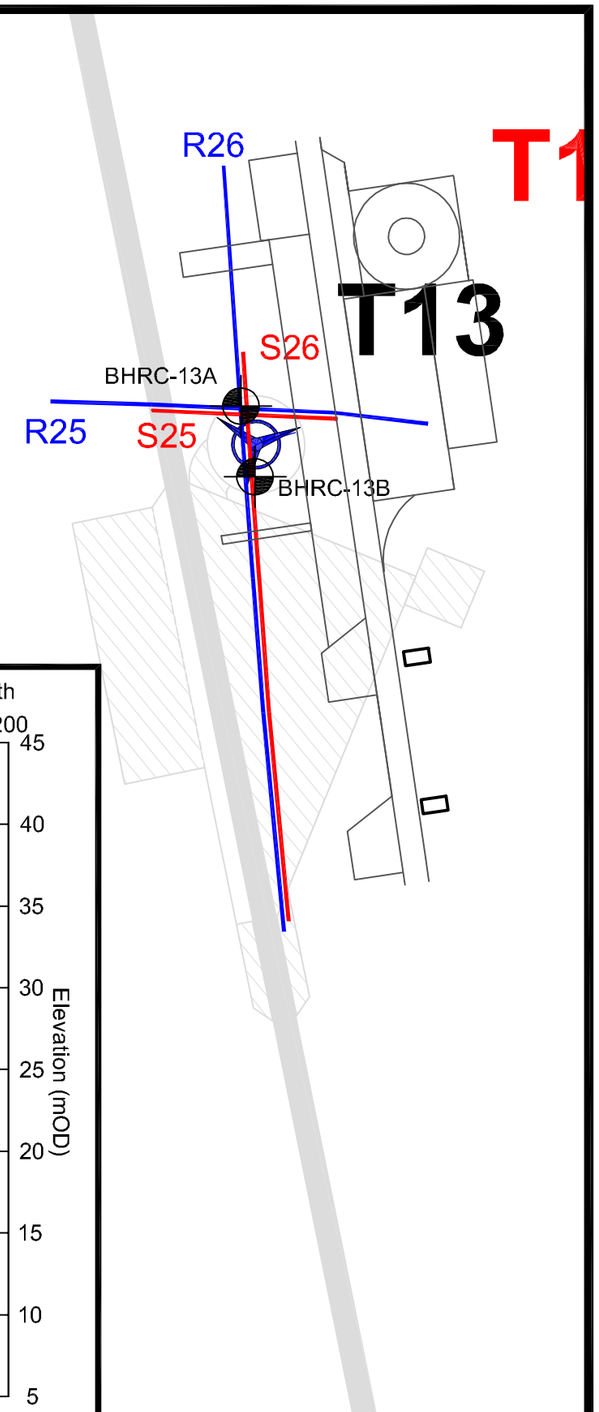
# T13

## 2D-Resistivity Line R25 and Seismic Refraction Line S25 Model




## 2D-Resistivity Line R26 and Seismic Refraction Line S26 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1m: Models of Geophysical Survey, Turbine 13 |

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|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

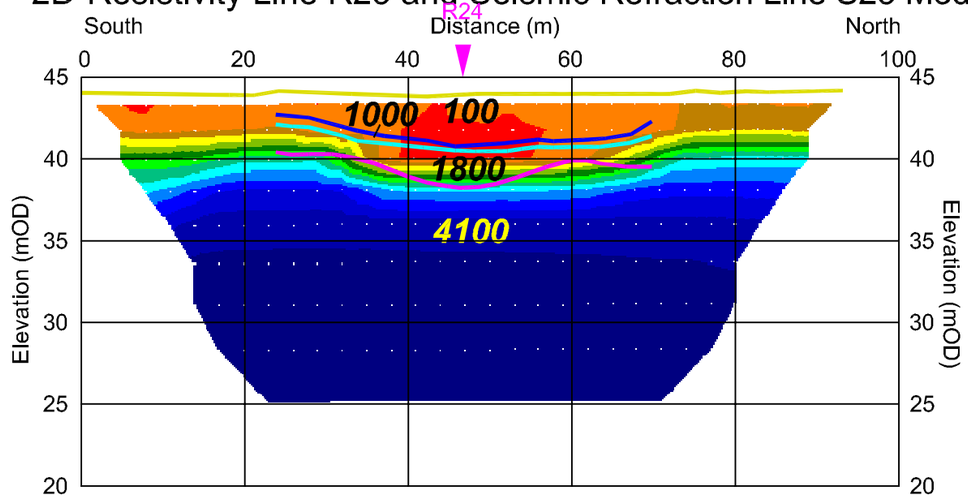
31.3 62.5 125 250 500 1000 2000 4000

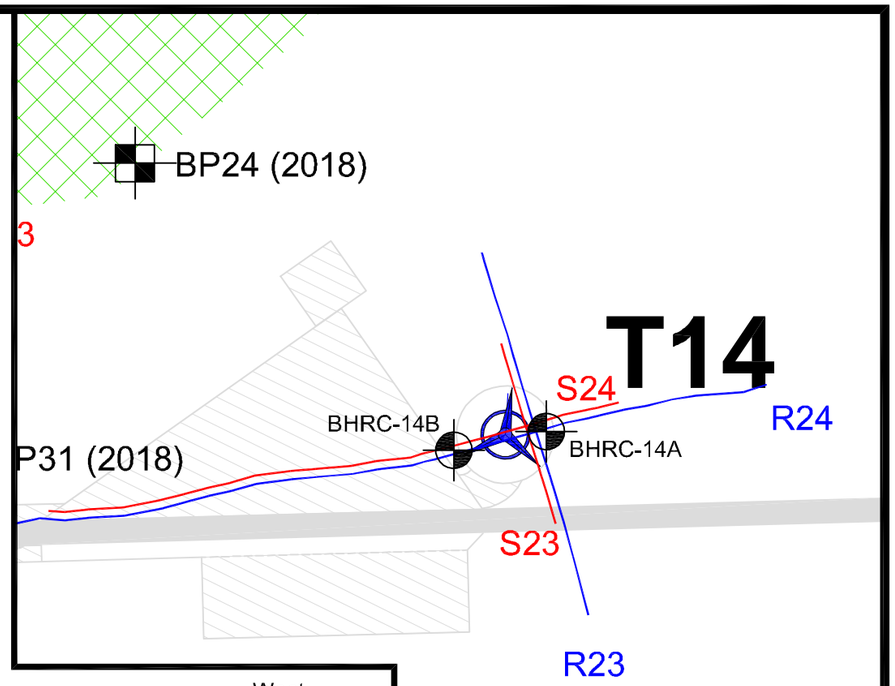
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- **1600** Seismic Velocity in m/s

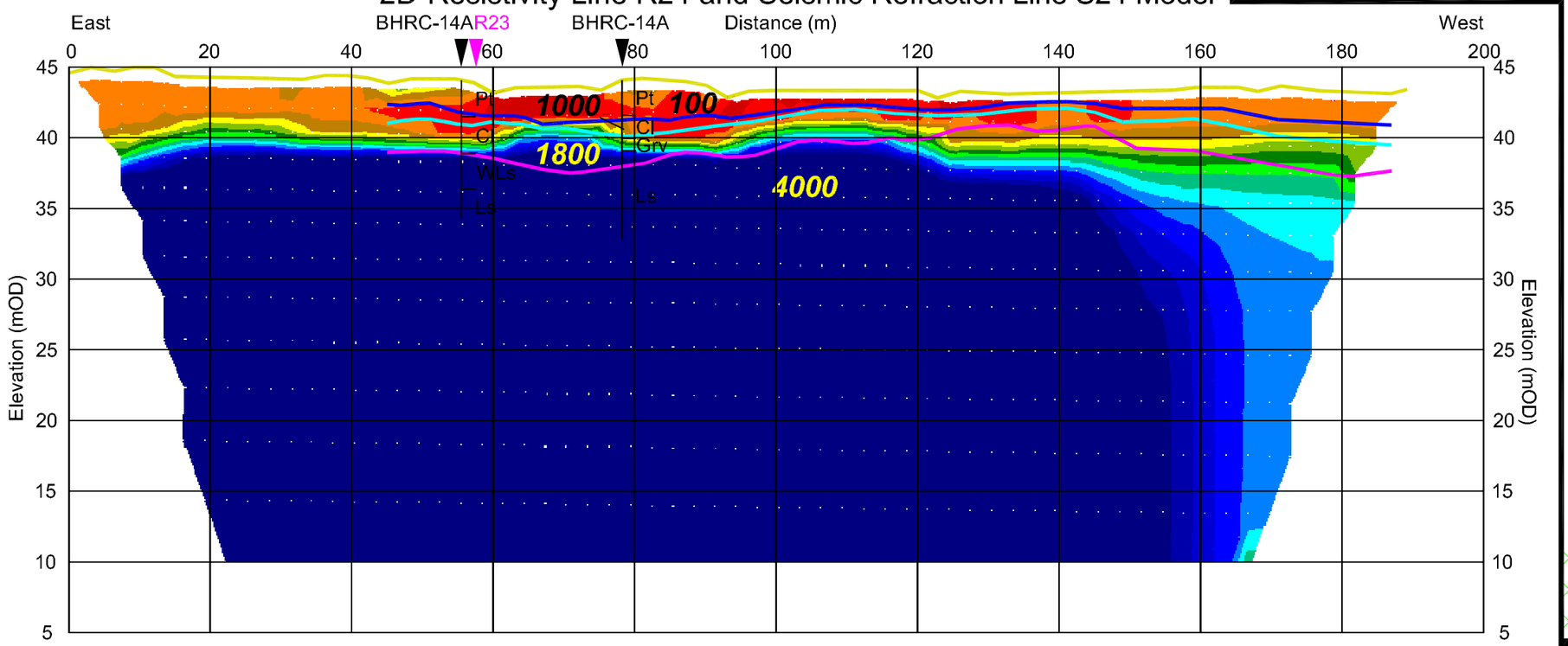
# T14

## 2D-Resistivity Line R23 and Seismic Refraction Line S23 Model




## 2D-Resistivity Line R24 and Seismic Refraction Line S24 Model

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| TITLE | Figure 1n: Models of Geophysical Survey, Turbine 14 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

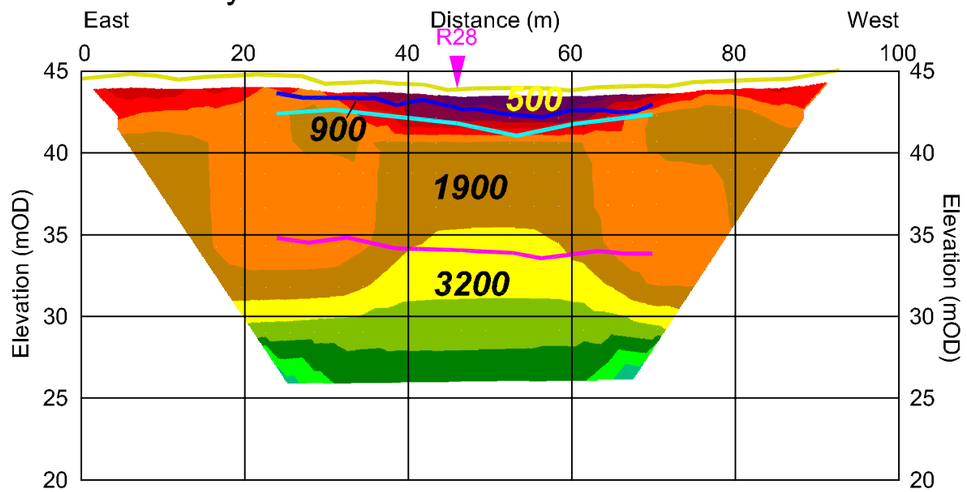
31.3 62.5 125 250 500 1000 2000 4000

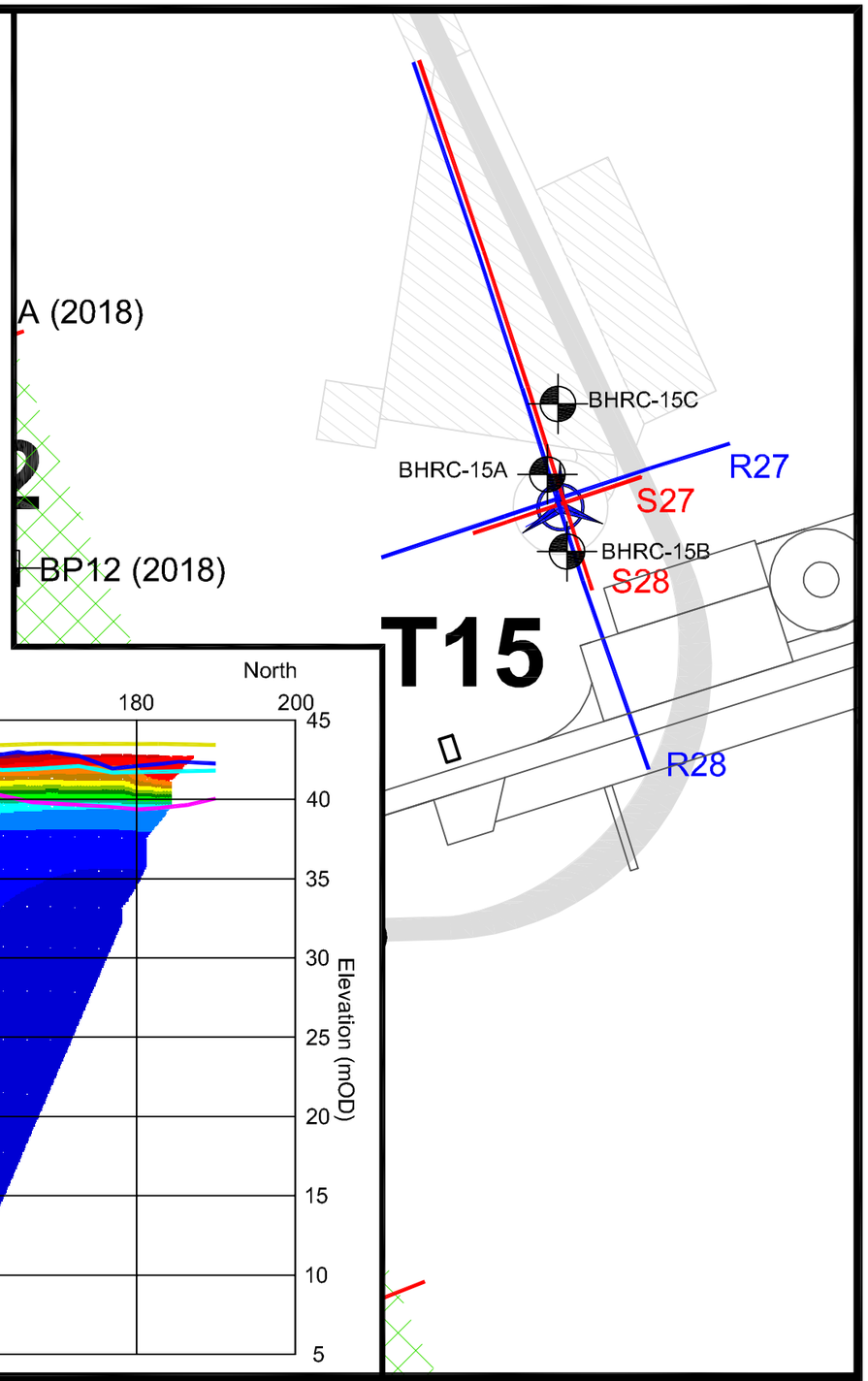
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- **1600** Seismic Velocity in m/s

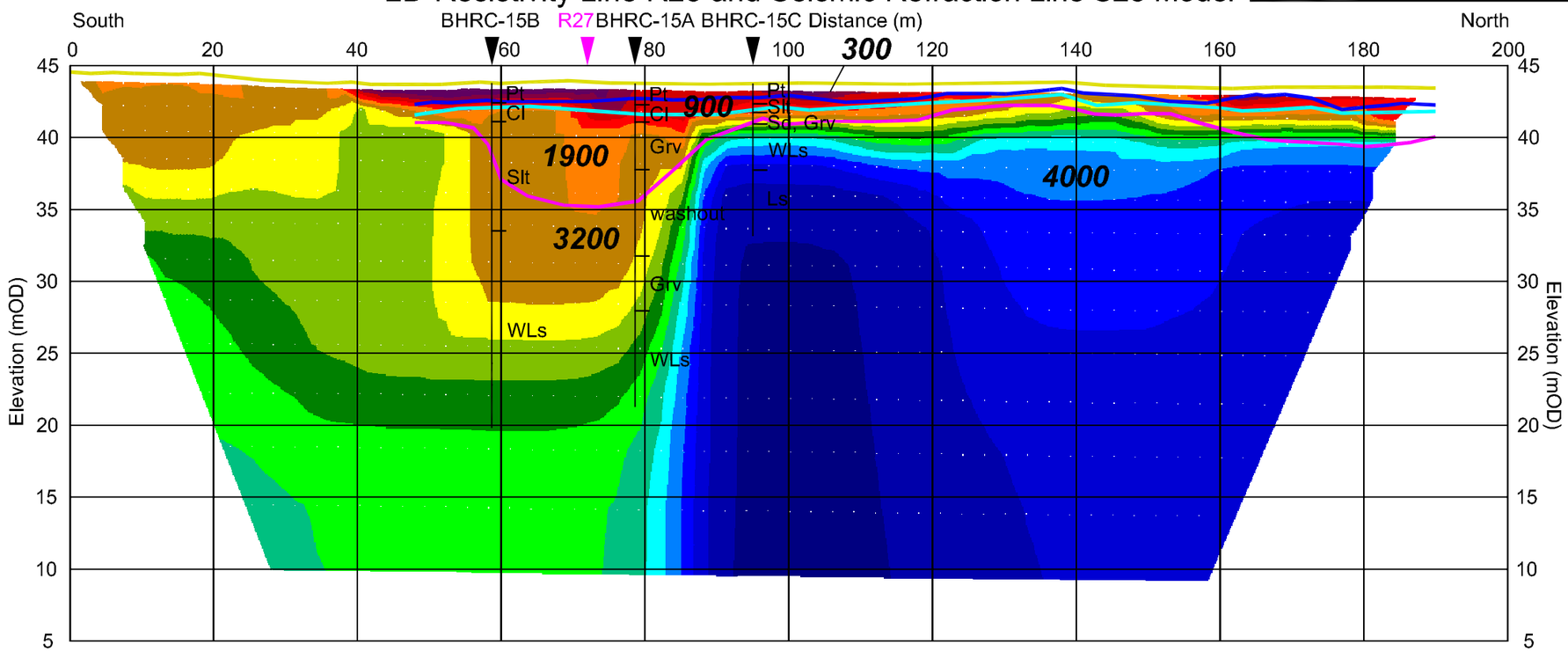
# T15

## 2D-Resistivity Line R27 and Seismic Refraction Line S27 Model




## 2D-Resistivity Line R28 and Seismic Refraction Line S28 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1o: Models of Geophysical Survey, Turbine 15 |

| | |
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| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

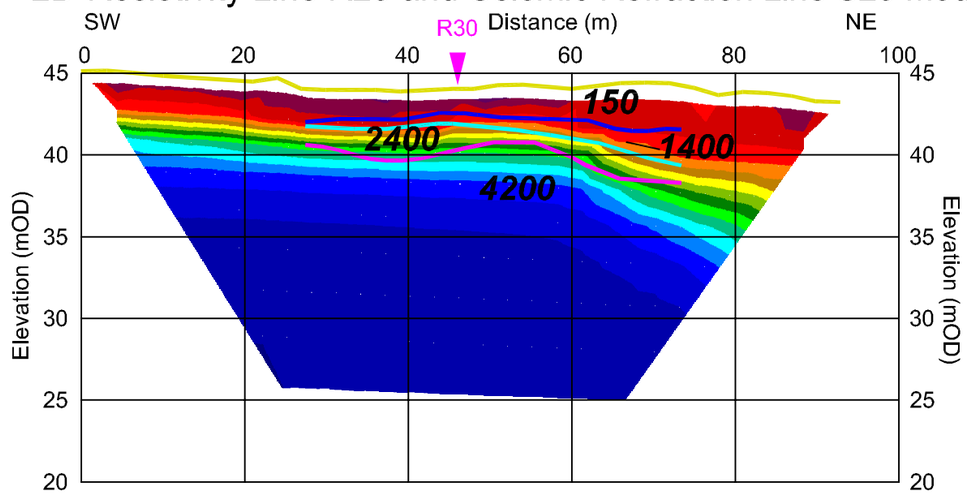
31.3 62.5 125 250 500 1000 2000 4000

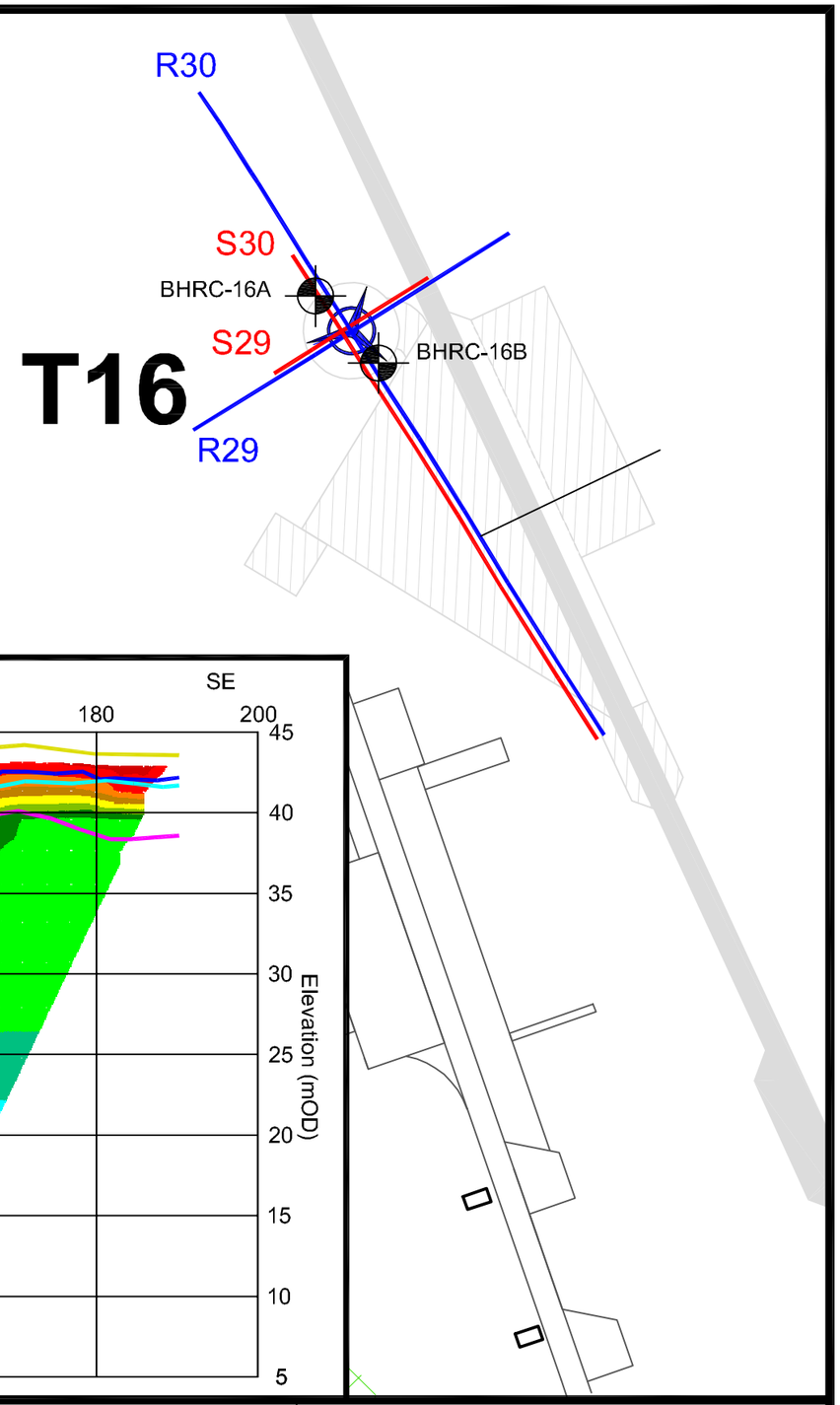
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

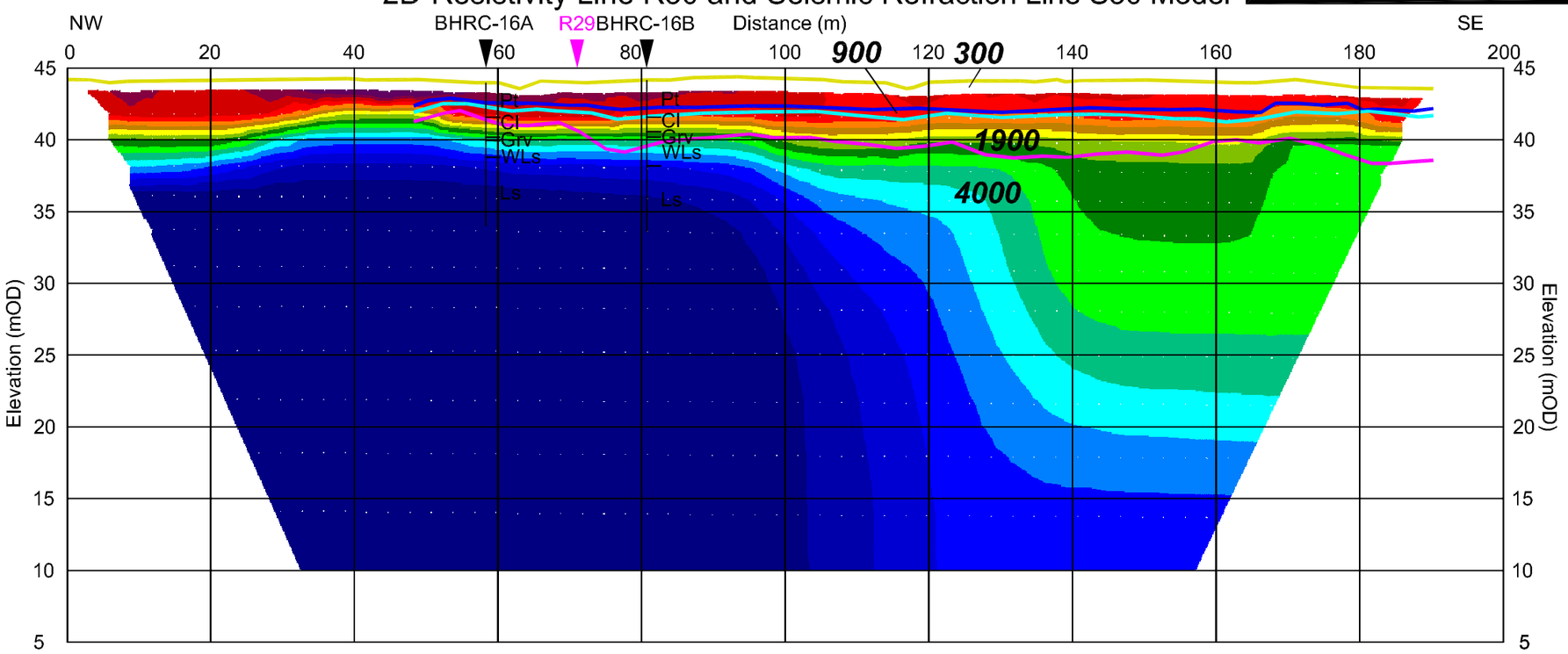
# T16

## 2D-Resistivity Line R29 and Seismic Refraction Line S29 Model




## 2D-Resistivity Line R30 and Seismic Refraction Line S30 Model





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| TITLE | Figure 1p: Models of Geophysical Survey, Turbine 16 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

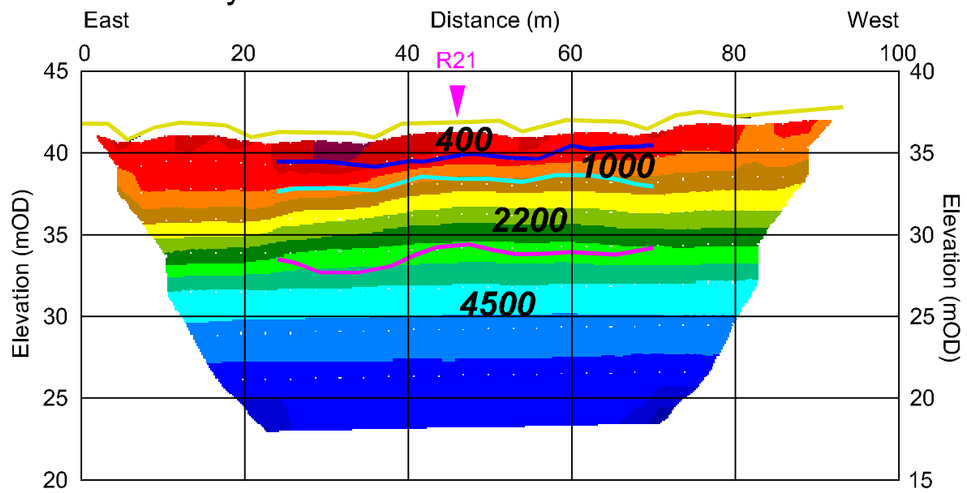
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

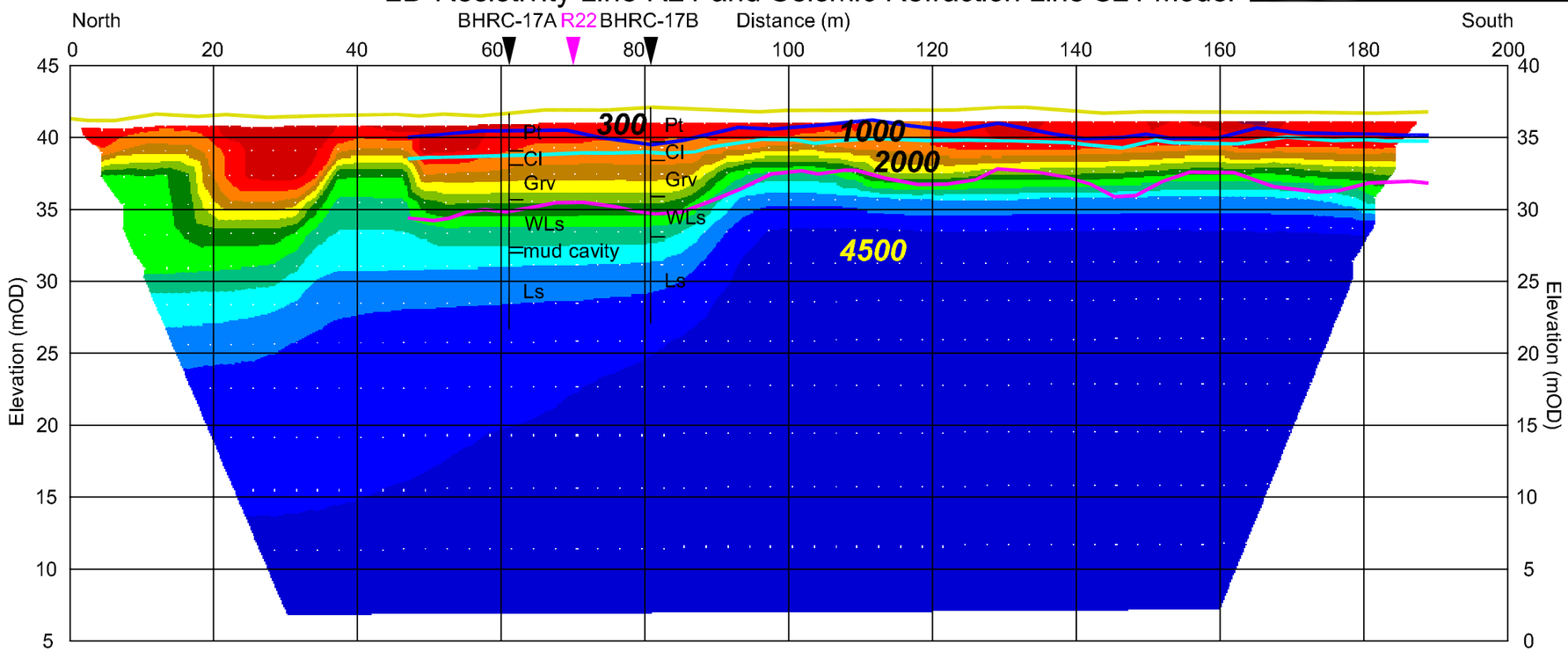
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

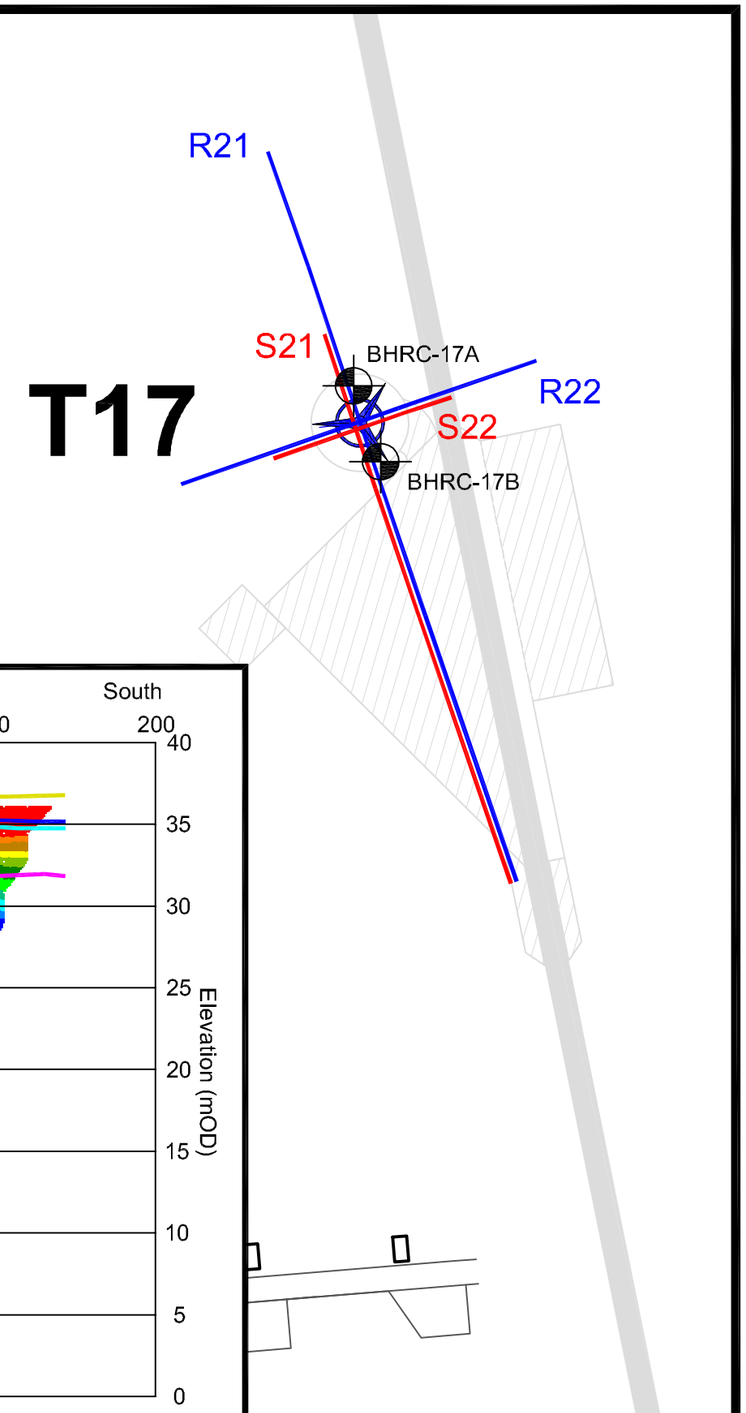
# T17

## 2D-Resistivity Line R22 and Seismic Refraction Line S22 Model




## 2D-Resistivity Line R21 and Seismic Refraction Line S21 Model





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1q: Models of Geophysical Survey, Turbine 17 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

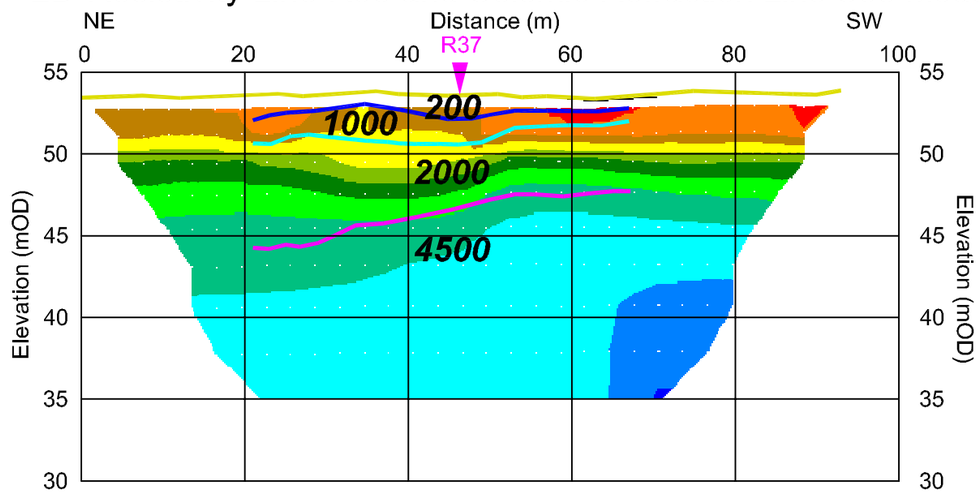
31.3 62.5 125 250 500 1000 2000 4000

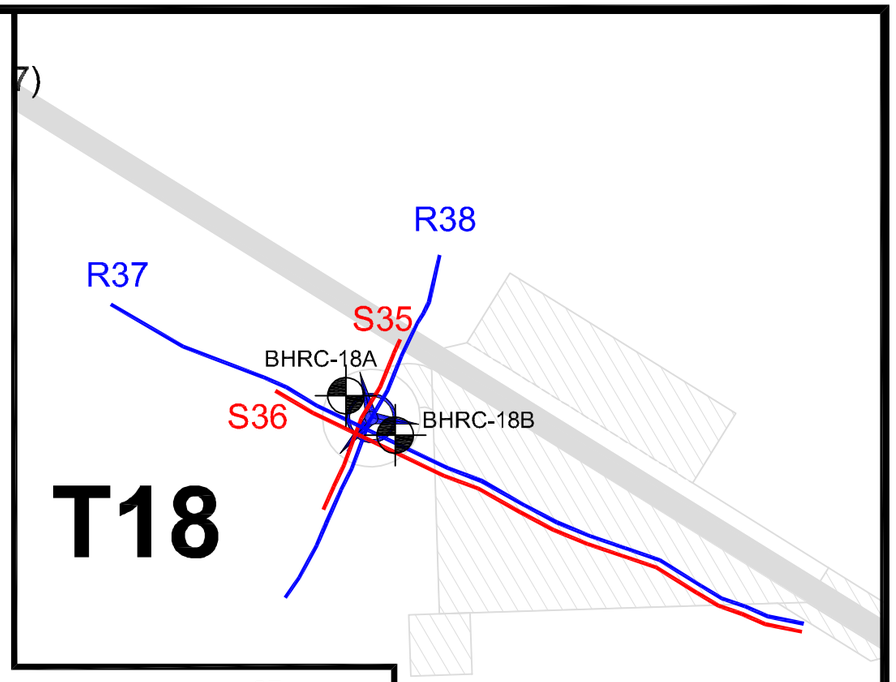
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

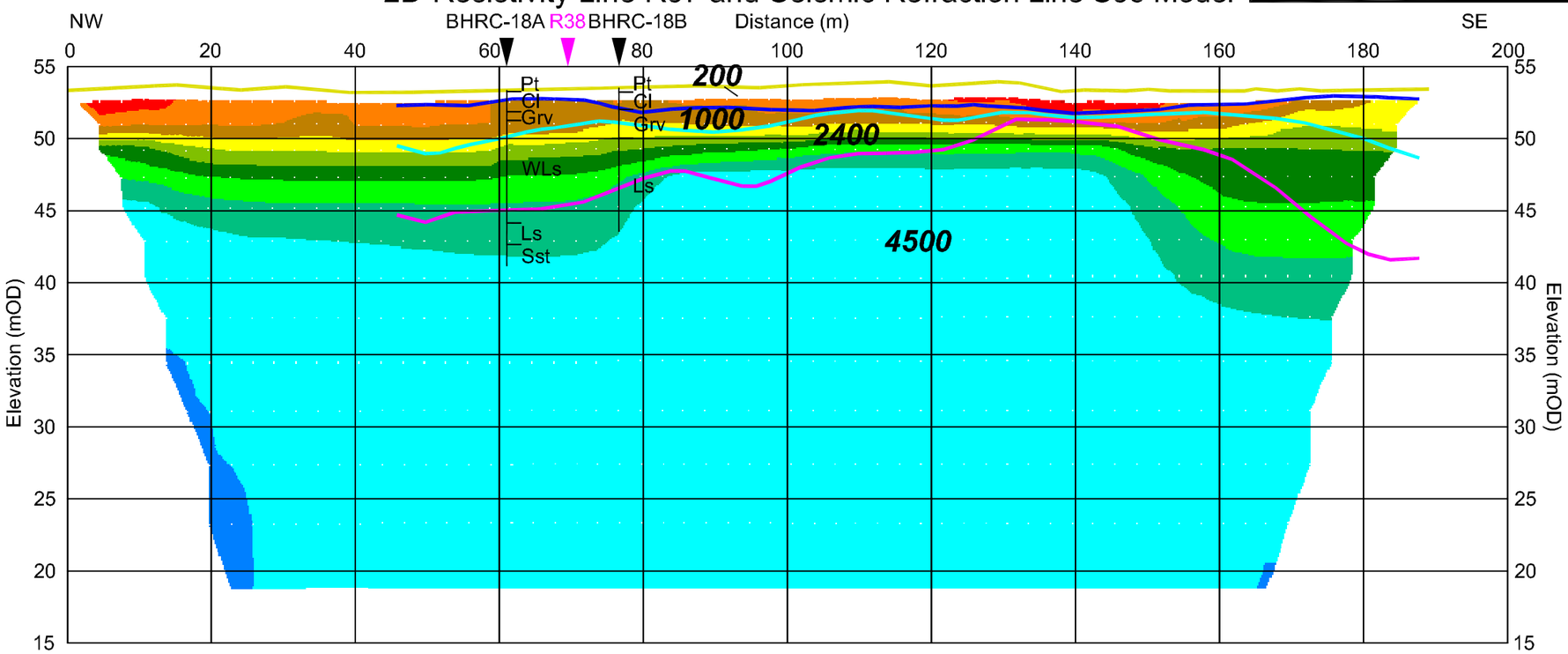
# T18

## 2D-Resistivity Line R38 and Seismic Refraction Line S35 Model




## 2D-Resistivity Line R37 and Seismic Refraction Line S36 Model





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| TITLE | Figure 1r: Models of Geophysical Survey, Turbine 18 |

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| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

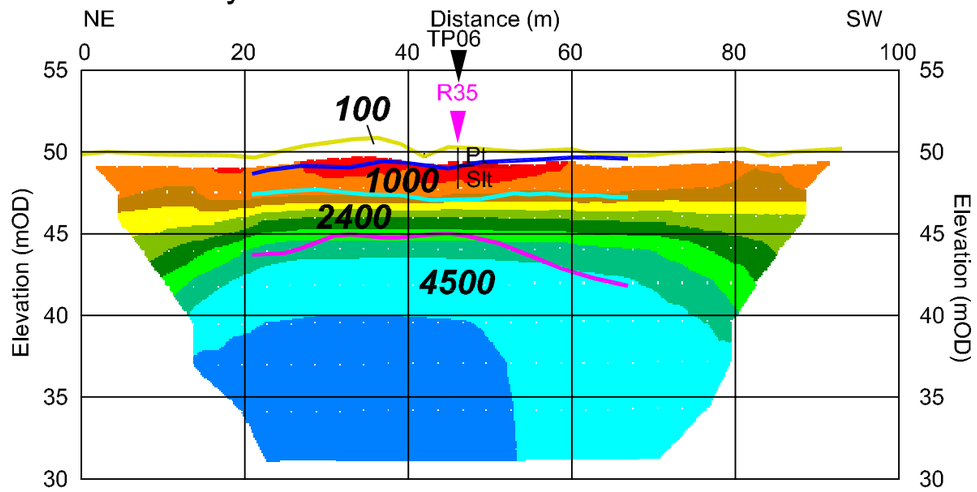
31.3 62.5 125 250 500 1000 2000 4000

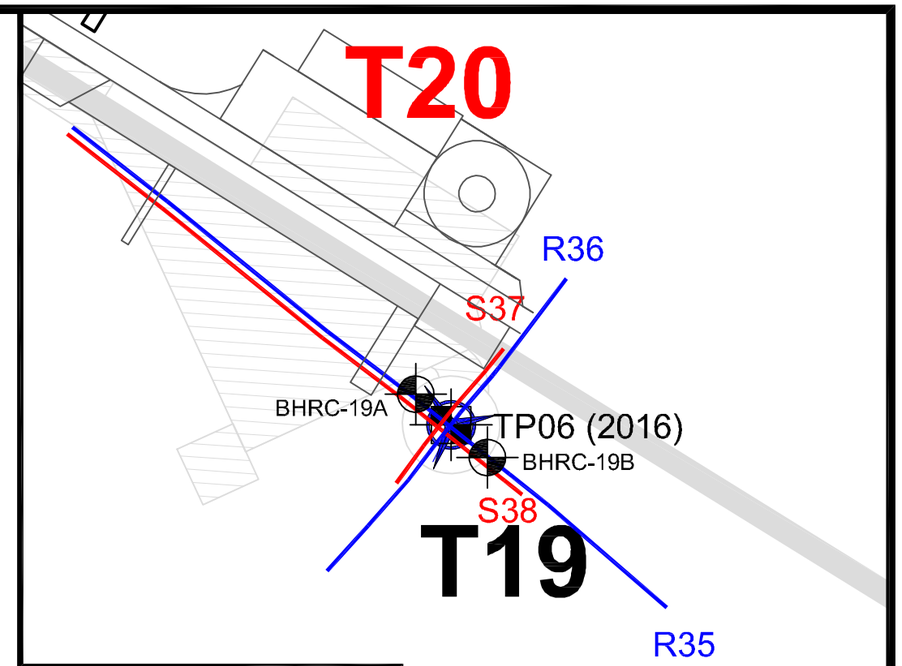
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

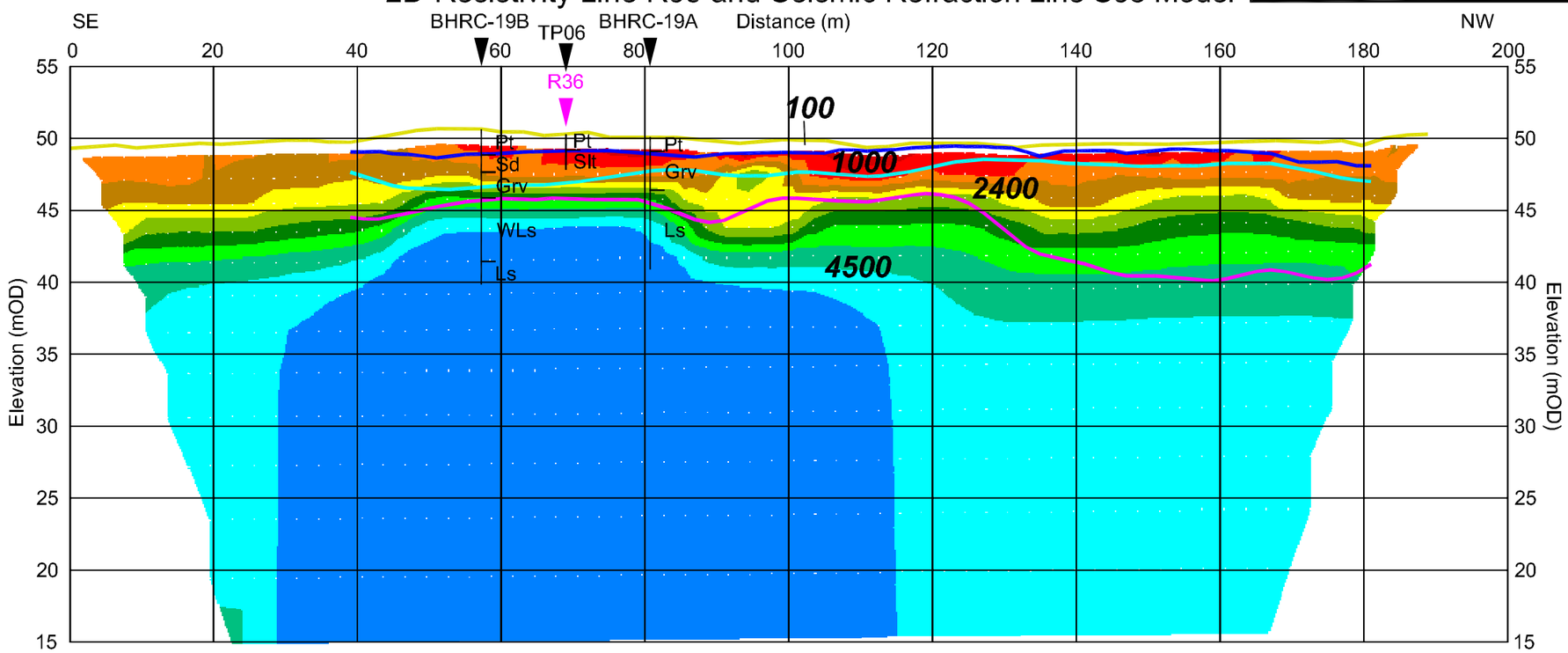
# T19

## 2D-Resistivity Line R36 and Seismic Refraction Line S37 Model




## 2D-Resistivity Line R35 and Seismic Refraction Line S38 Model





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| TITLE | Figure 1s: Models of Geophysical Survey, Turbine 19 |

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| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

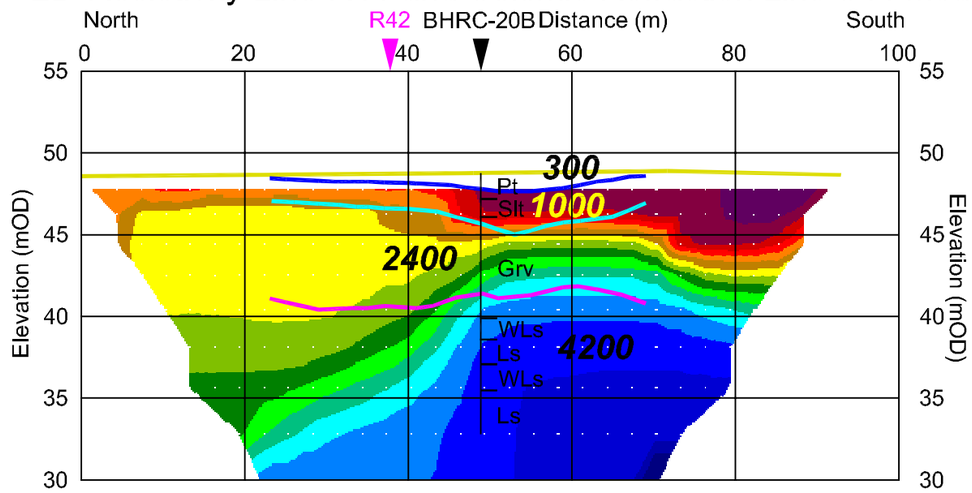
31.3 62.5 125 250 500 1000 2000 4000

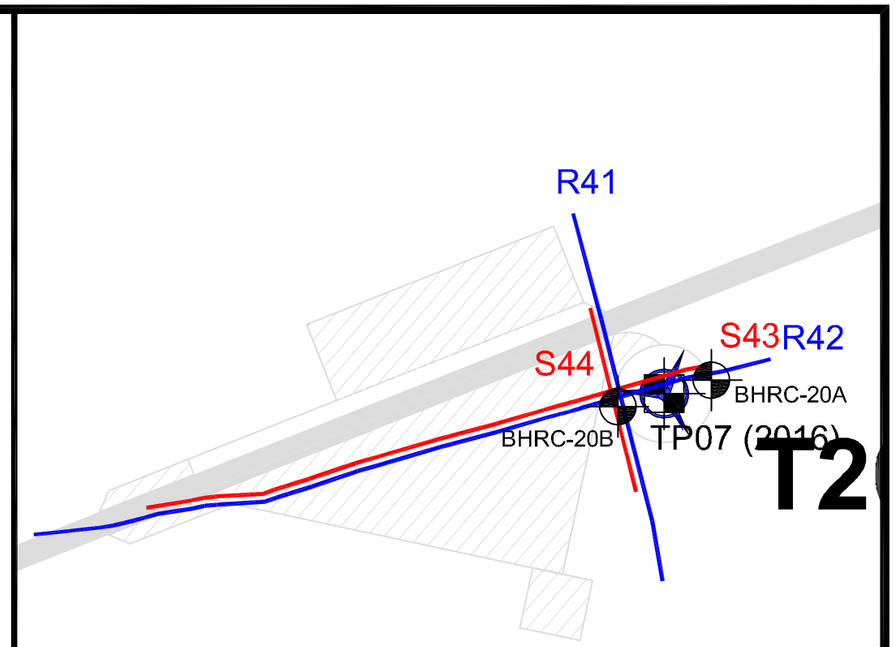
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

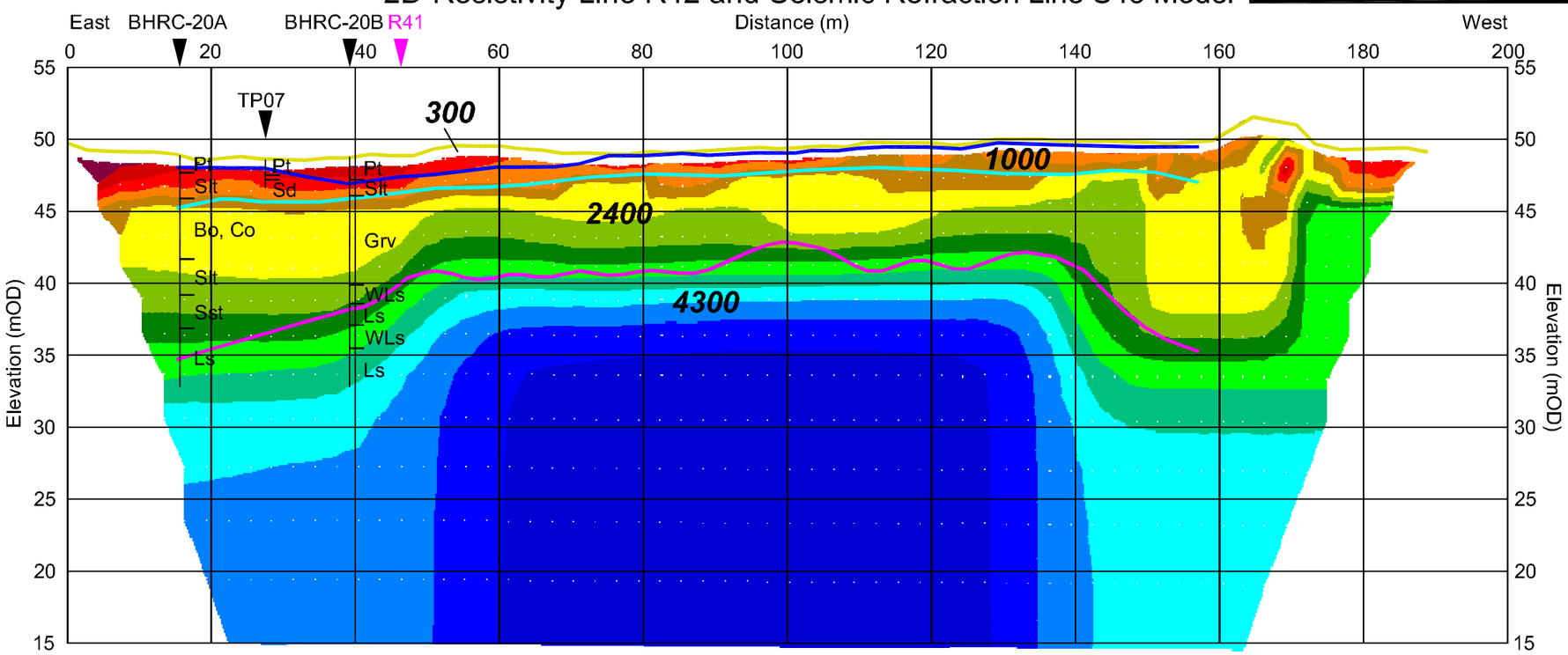
# T20

## 2D-Resistivity Line R41 and Seismic Refraction Line S44 Model




## 2D-Resistivity Line R42 and Seismic Refraction Line S43 Model

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| TITLE | Figure 1t: Models of Geophysical Survey, Turbine 20 |

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| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

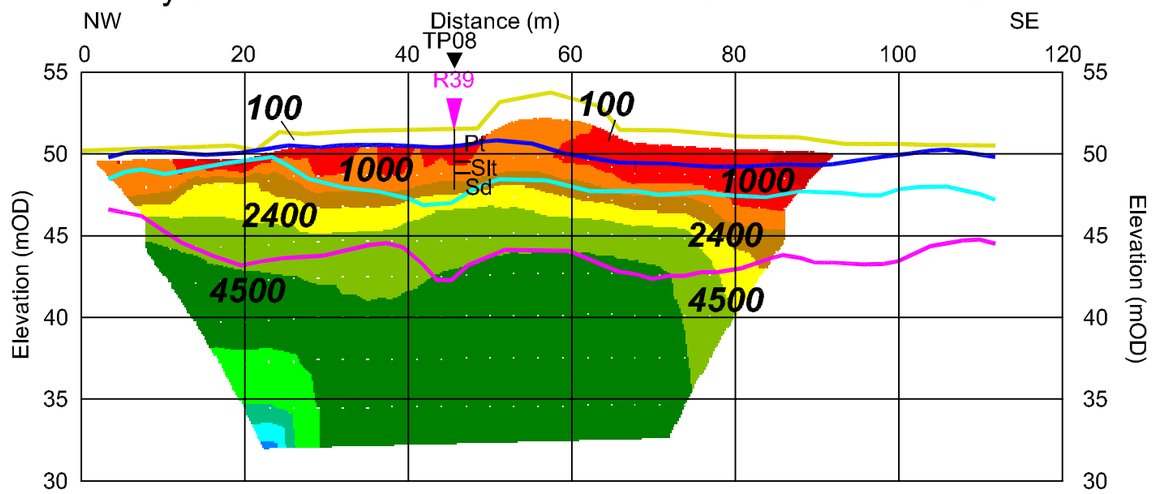
31.3 62.5 125 250 500 1000 2000 4000

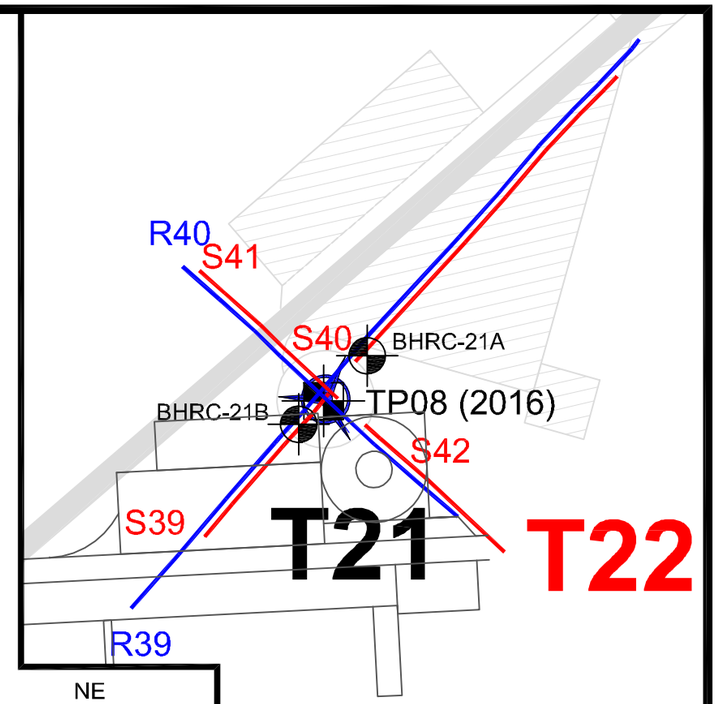
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

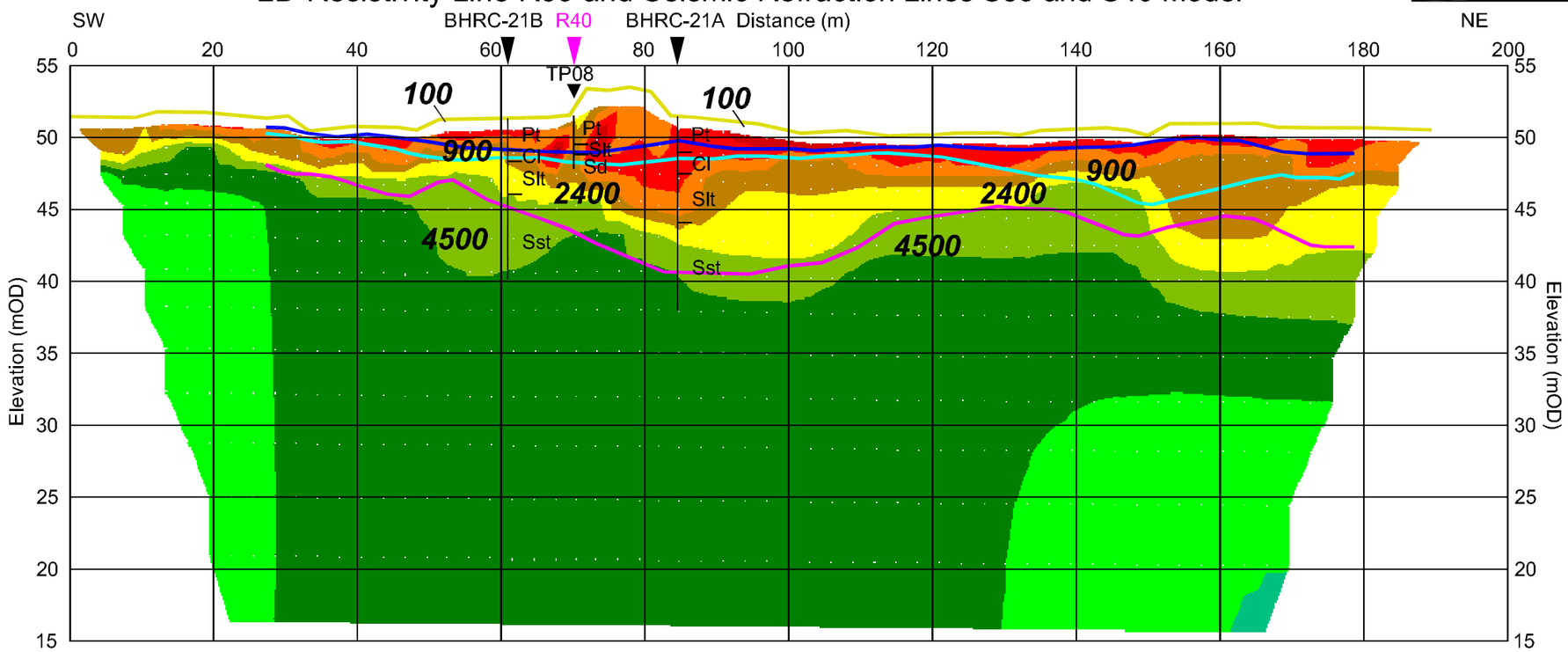
# T21

## 2D-Resistivity Line R40 and Seismic Refraction Lines S41 and S42 Model




## 2D-Resistivity Line R39 and Seismic Refraction Lines S39 and S40 Model





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| TITLE | Figure 1u: Models of Geophysical Survey, Turbine 21 |

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| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

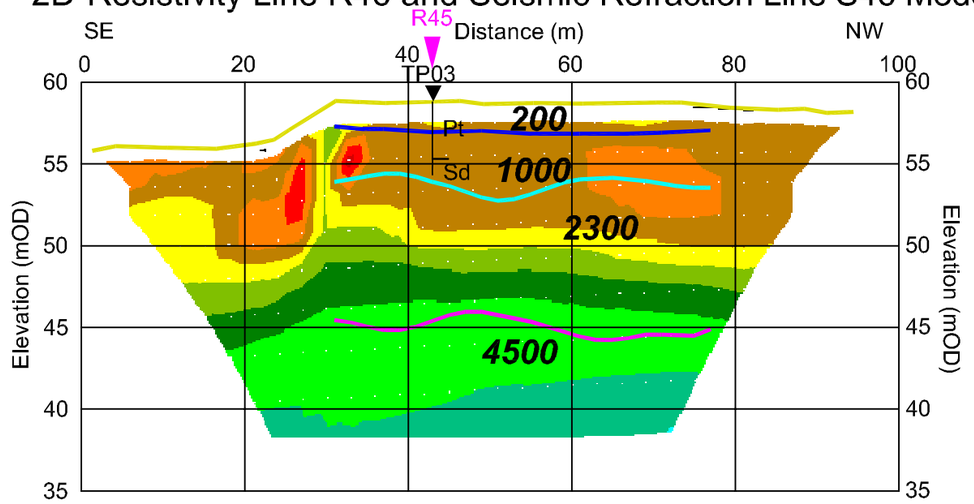
31.3 62.5 125 250 500 1000 2000 4000

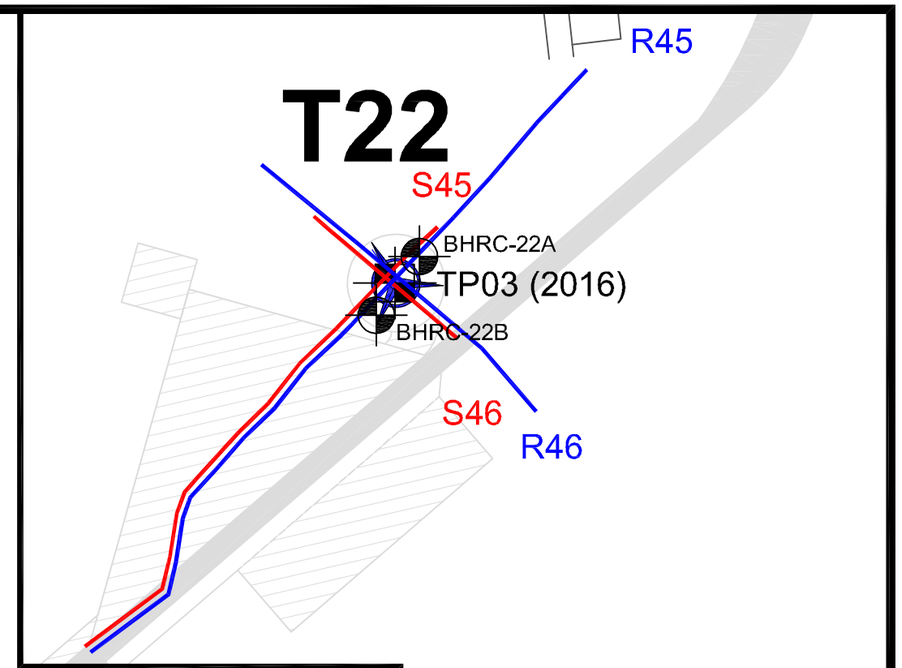
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

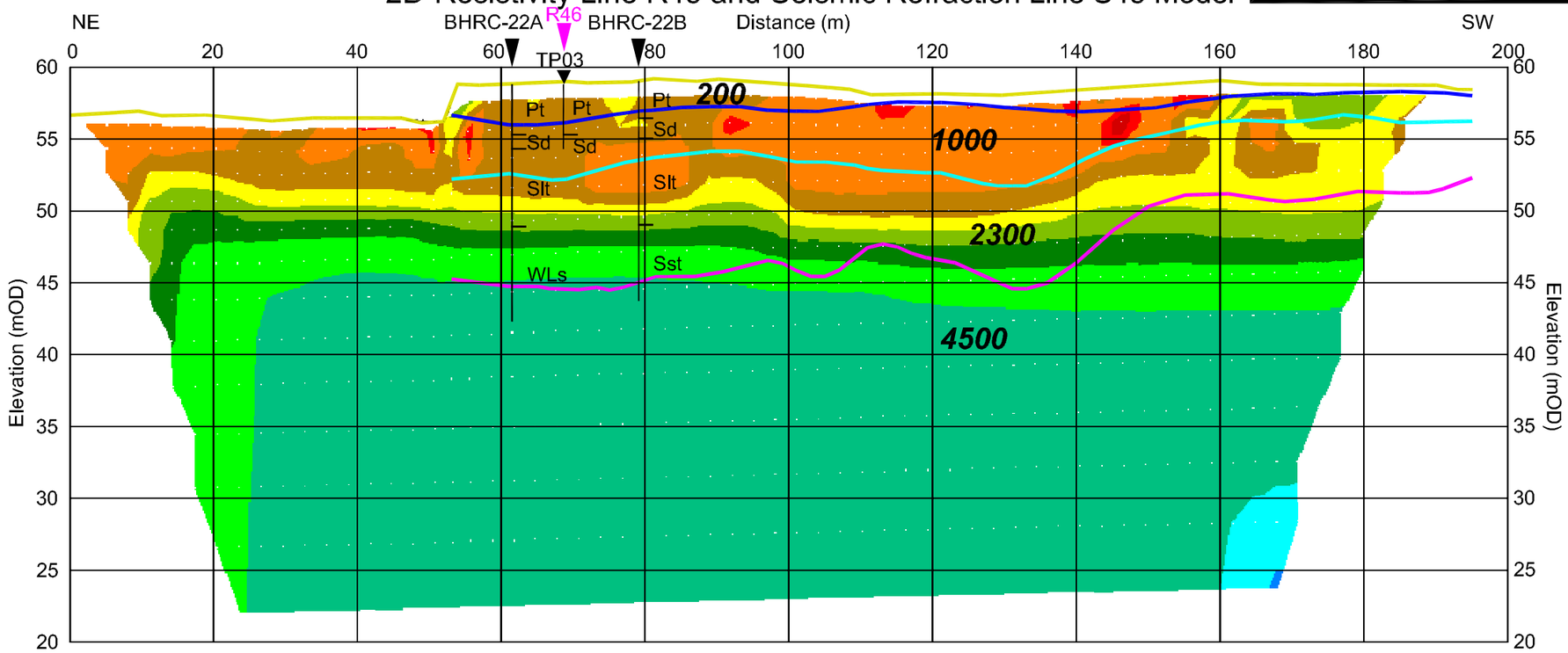
# T22

## 2D-Resistivity Line R46 and Seismic Refraction Line S46 Model




## 2D-Resistivity Line R45 and Seismic Refraction Line S45 Model





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1v: Models of Geophysical Survey, Turbine 22 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

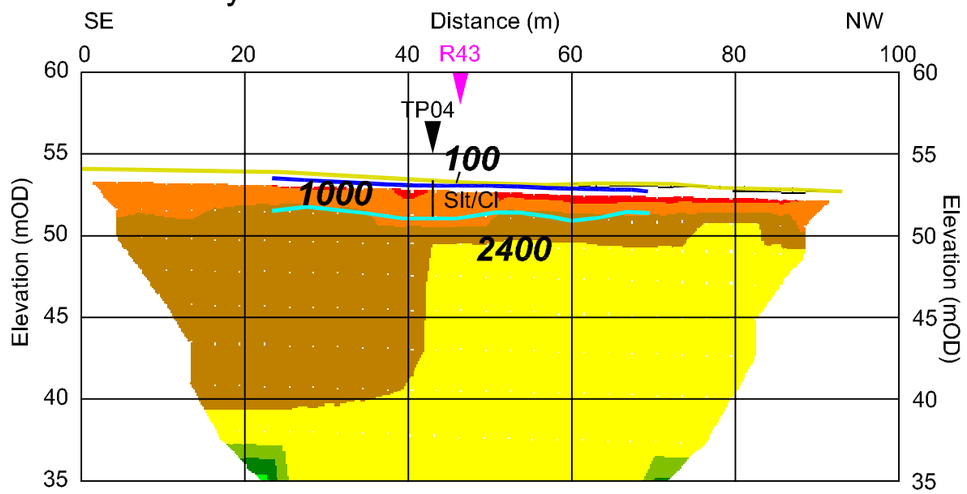
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

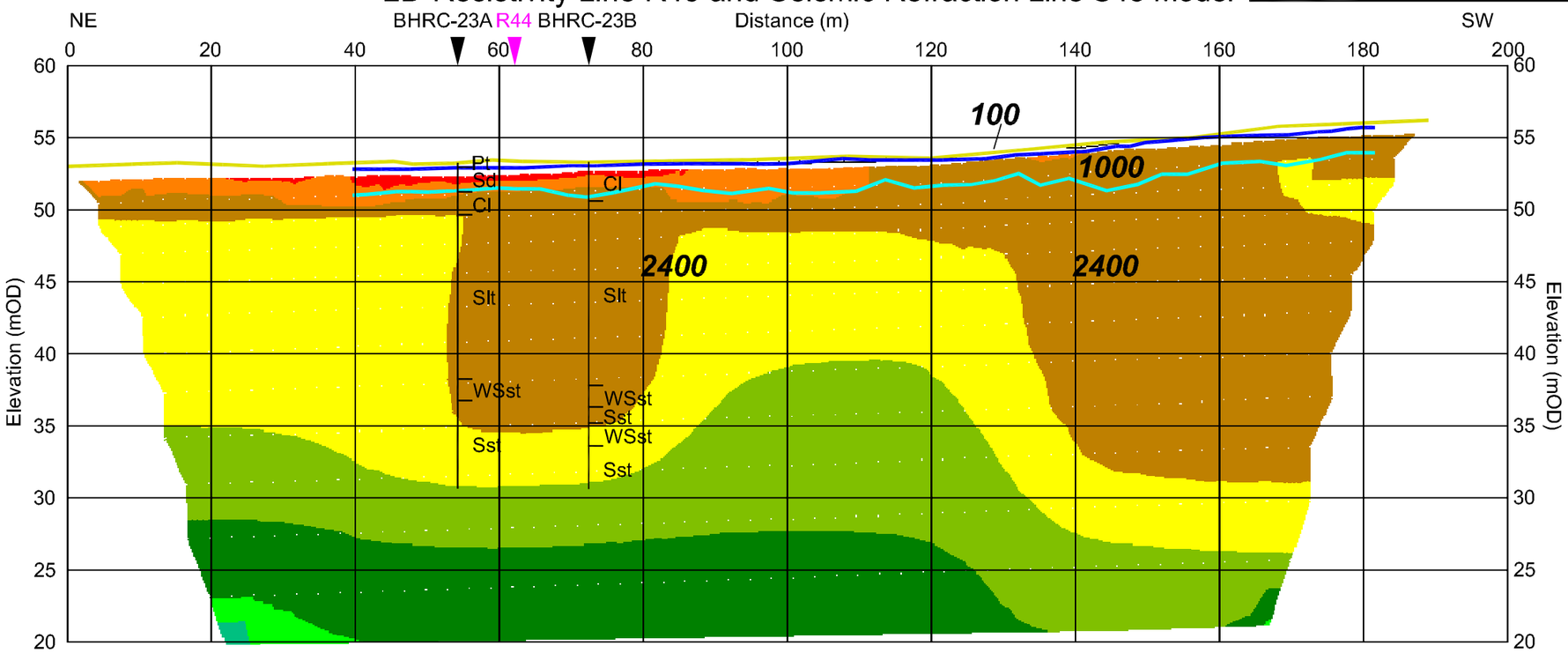
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

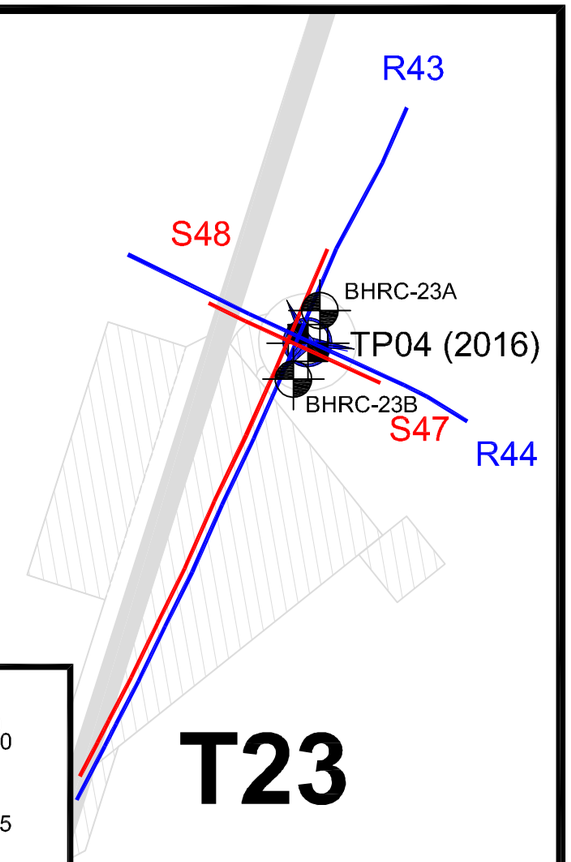
# T23

## 2D-Resistivity Line R44 and Seismic Refraction Line S47 Model




## 2D-Resistivity Line R43 and Seismic Refraction Line S48 Model




# T23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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1w: Models of Geophysical Survey, Turbine 23 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

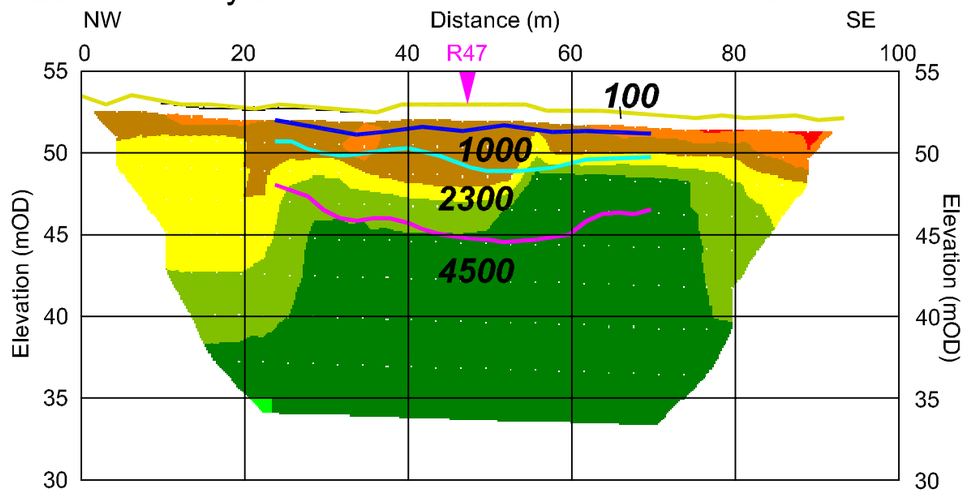
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

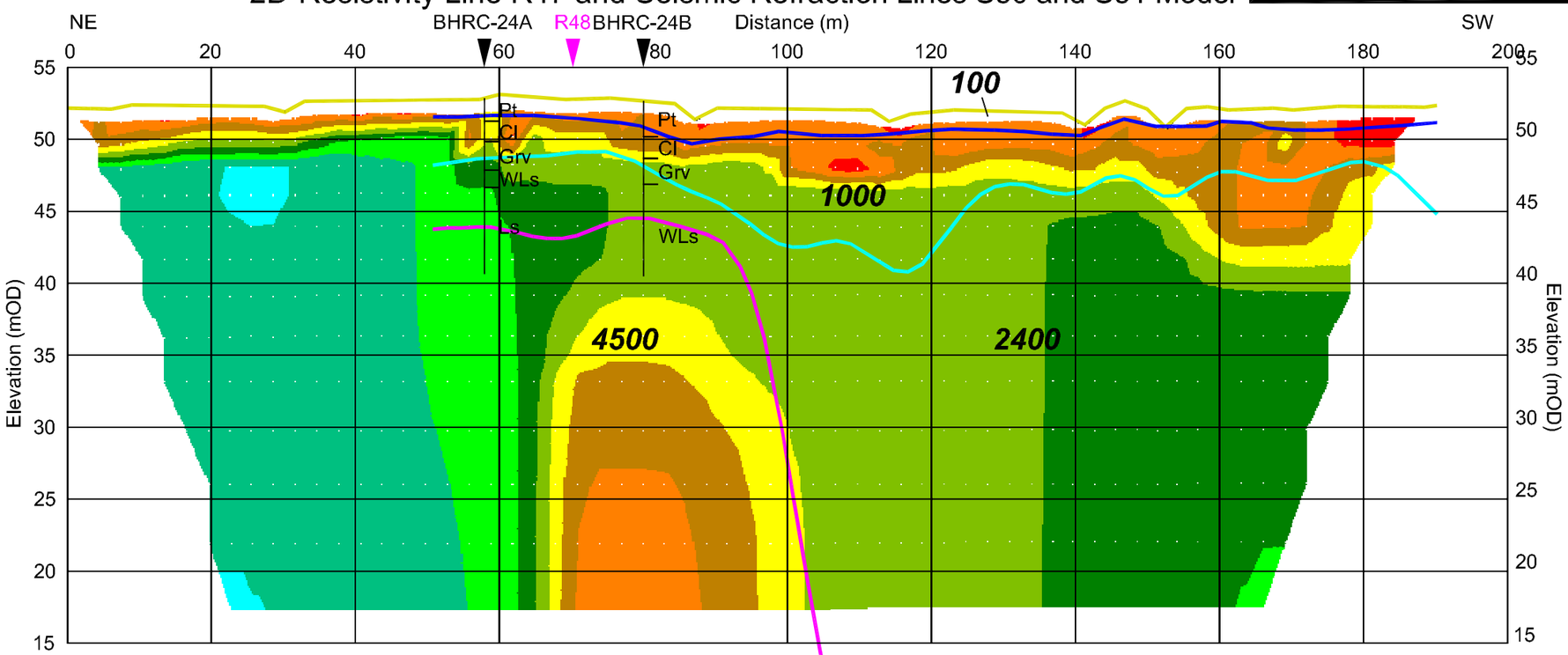
- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

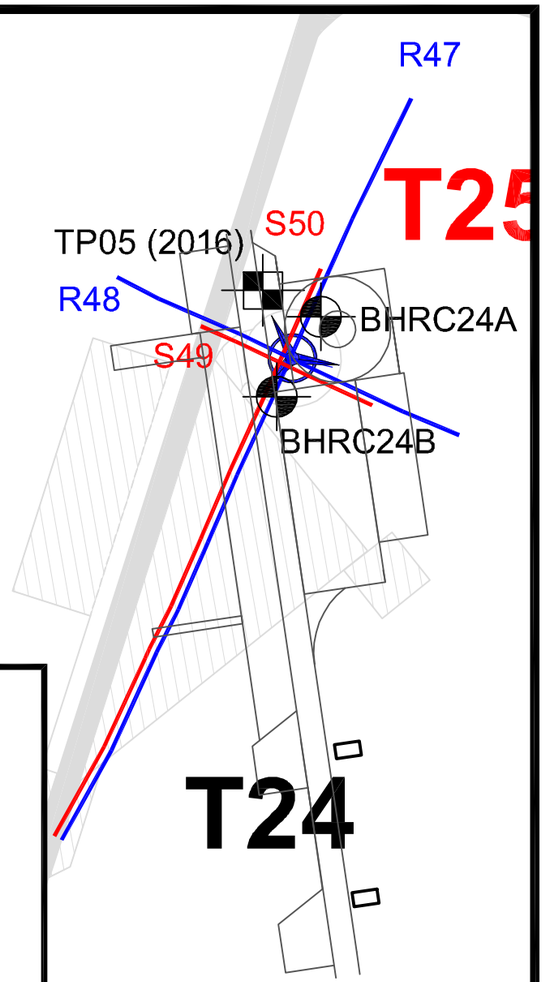
# T24

## 2D-Resistivity Line R48 and Seismic Refraction Line S49 Model




## 2D-Resistivity Line R47 and Seismic Refraction Lines S50 and S51 Model





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1x: Models of Geophysical Survey, Turbine 24 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

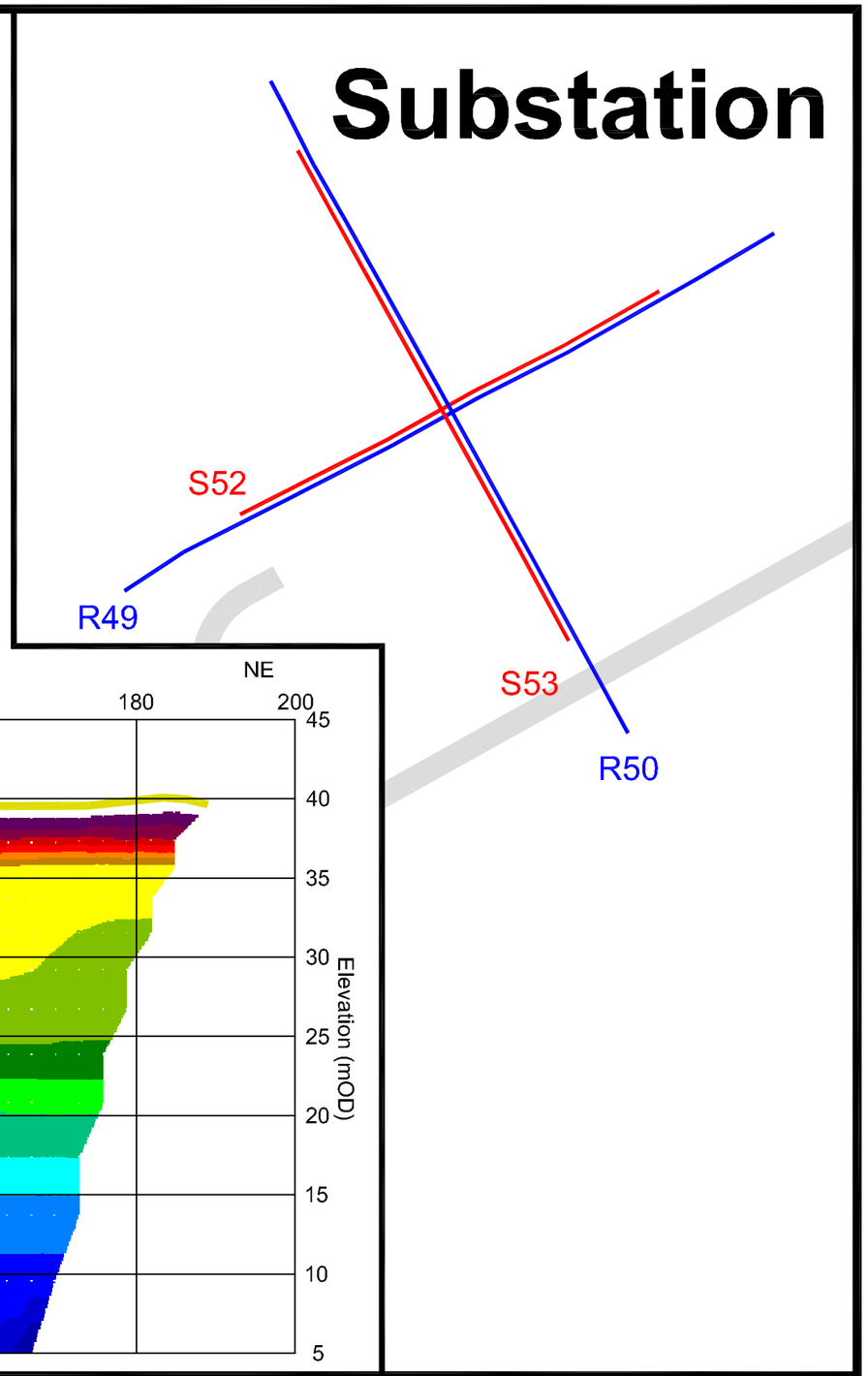
Resistivities (Ohmm) for 2D-Resistivity Model

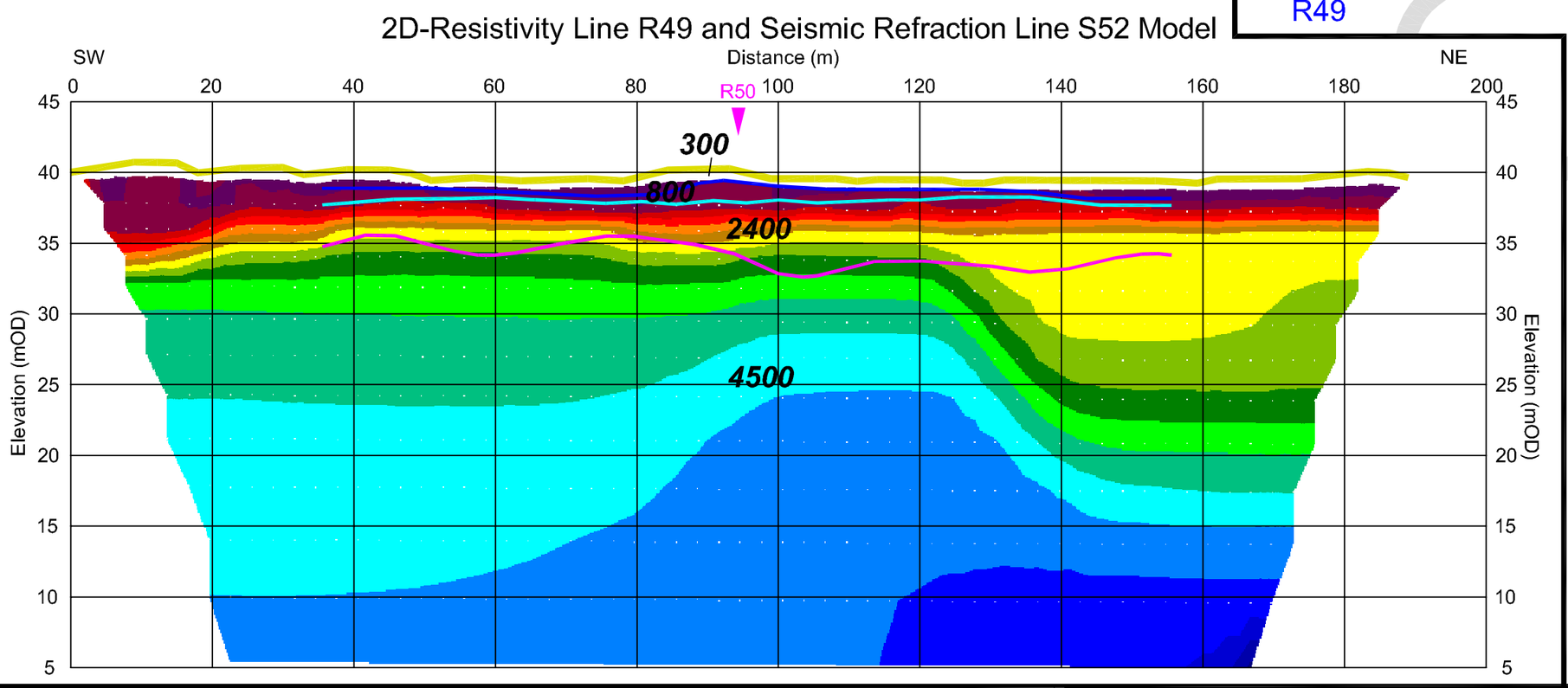
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

# Substation





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1y: Models of Geophysical Survey, Substation |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

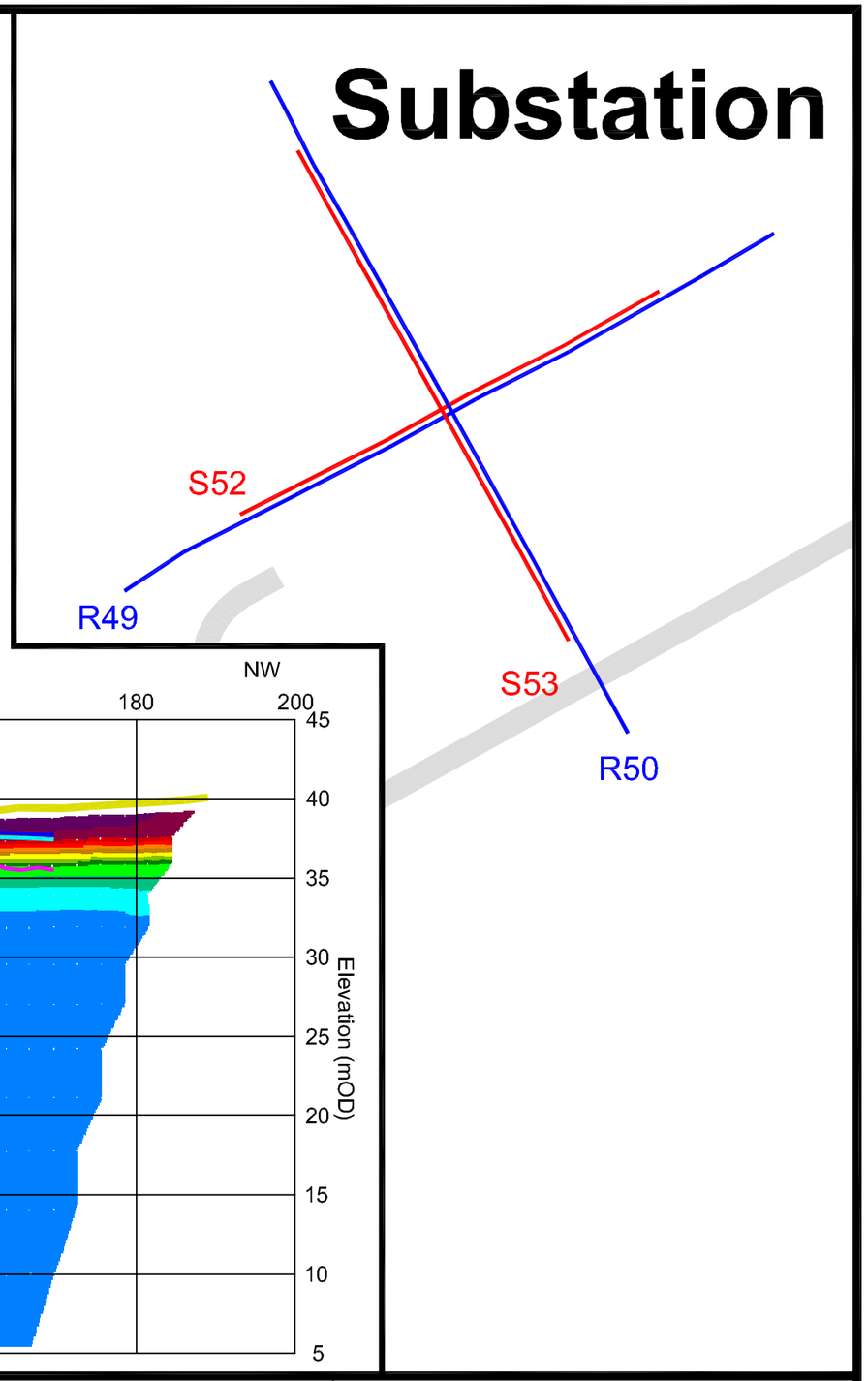
Resistivities (Ohmm) for 2D-Resistivity Model

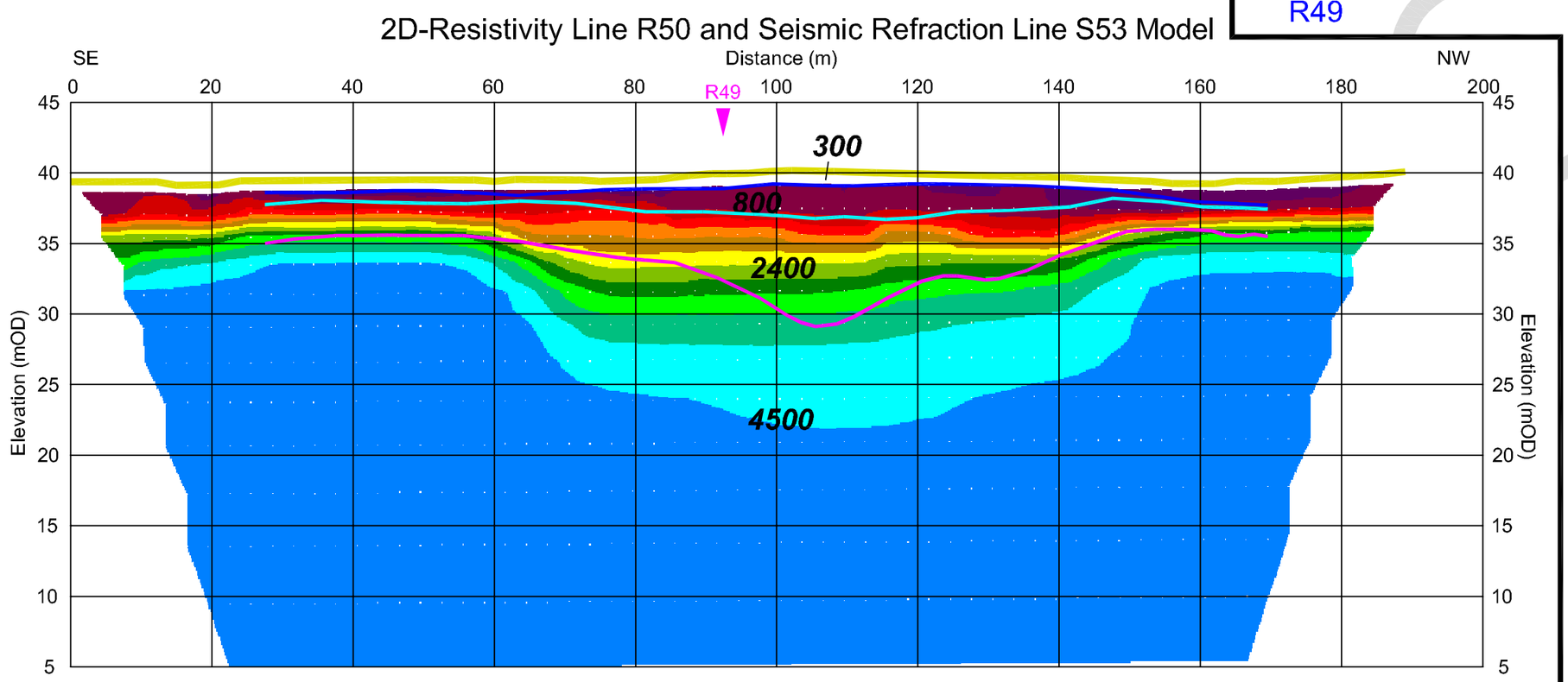
31.3 62.5 125 250 500 1000 2000 4000

**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- *1600* — Seismic Velocity in m/s

# Substation





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1z: Models of Geophysical Survey, Substation |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

**Geophysical Survey Locations:**

- R1 — 2D-Resistivity Line
- S1 — Seismic Refraction Line
- BHRC-11A — Bore Hole
- TP1 — Trial Pit

**2D-Resistivity Model Values:**

Resistivities (Ohmm) for 2D-Resistivity Model

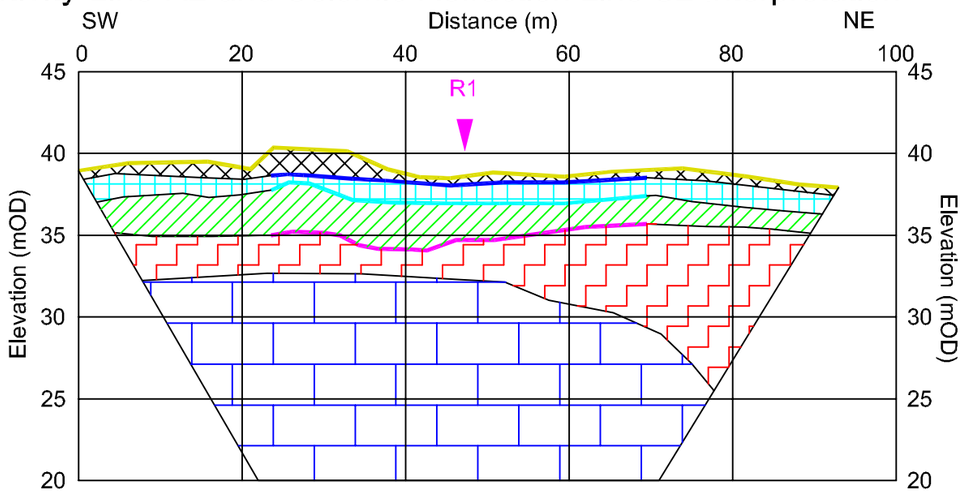
31.3 62.5 125 250 500 1000 2000 4000

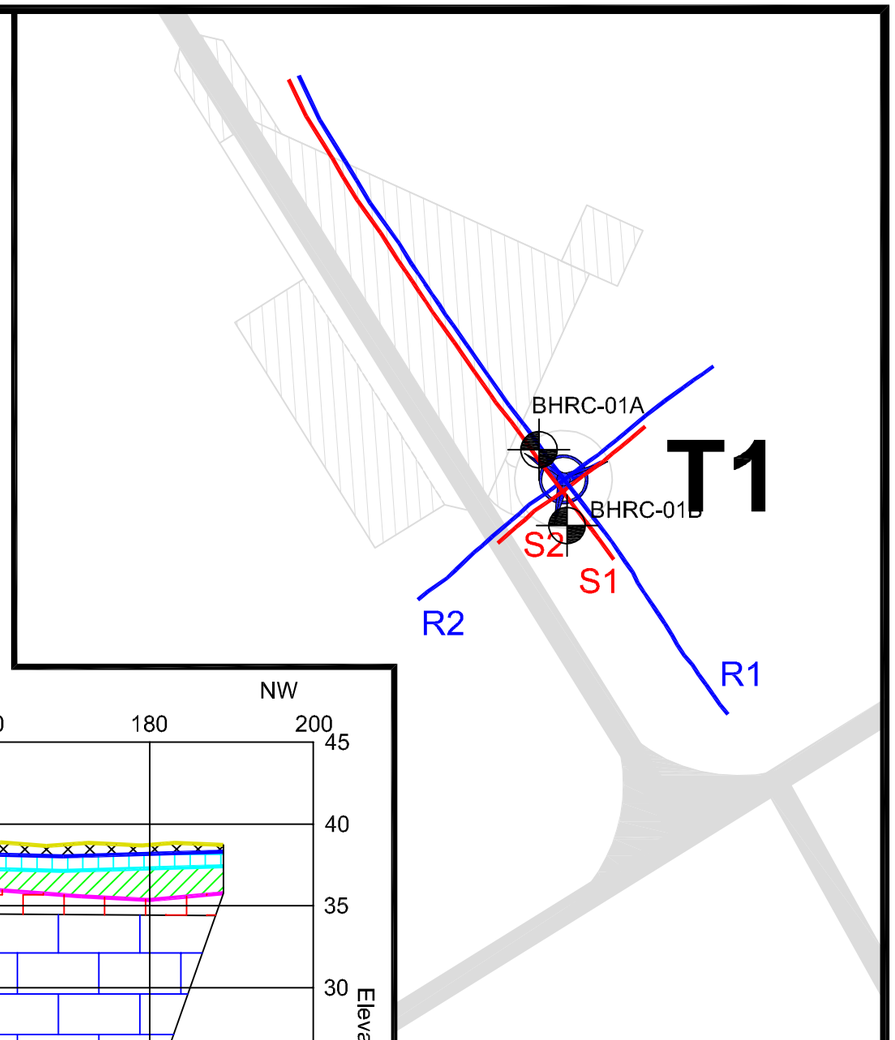
**Layers from Seismic Refraction Model:**

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

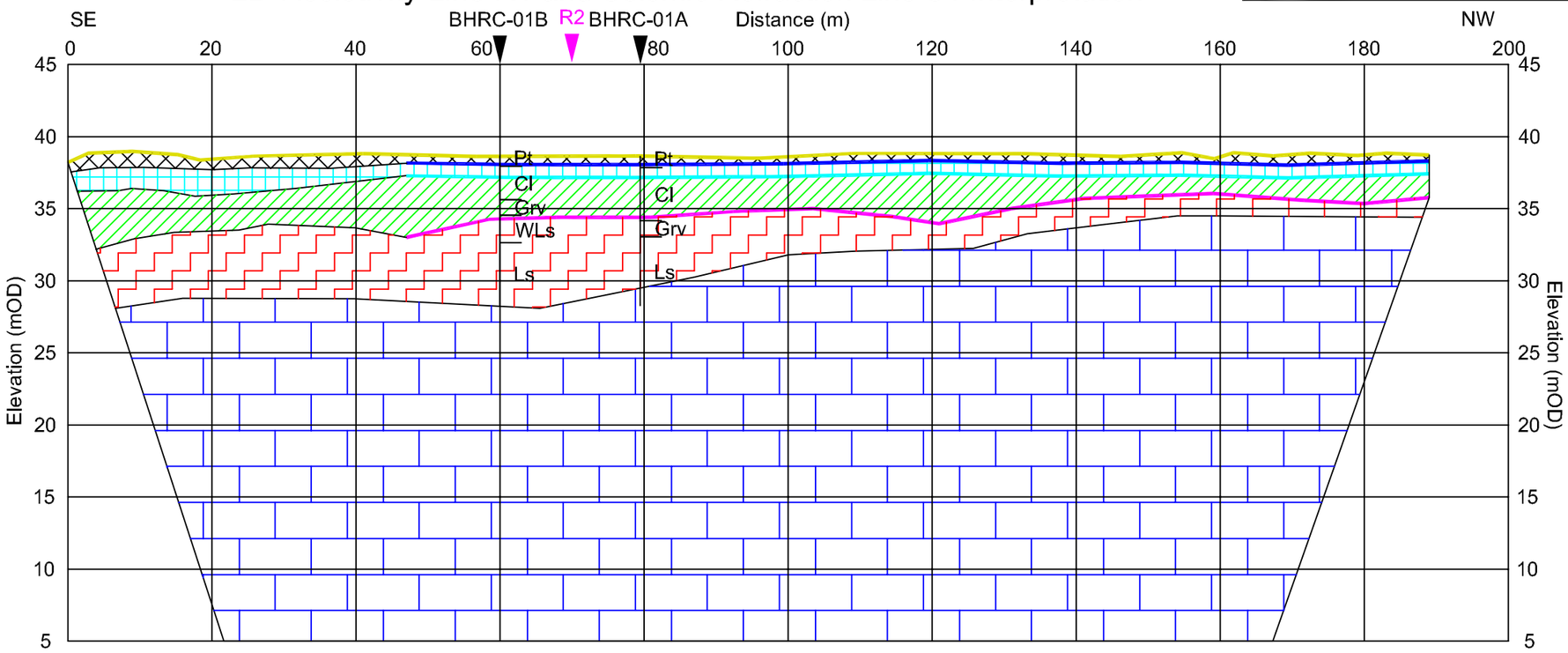
# T1

## 2D-Resistivity Line R2 and Seismic Refraction Line S2 Interpretation




## 2D-Resistivity Line R1 and Seismic Refraction Line S1 Interpretation





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2a: Interpretation of Geophysical Survey, Turbine 1 |

| | |
|---|---|
| SCALE: | Model:1:750, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

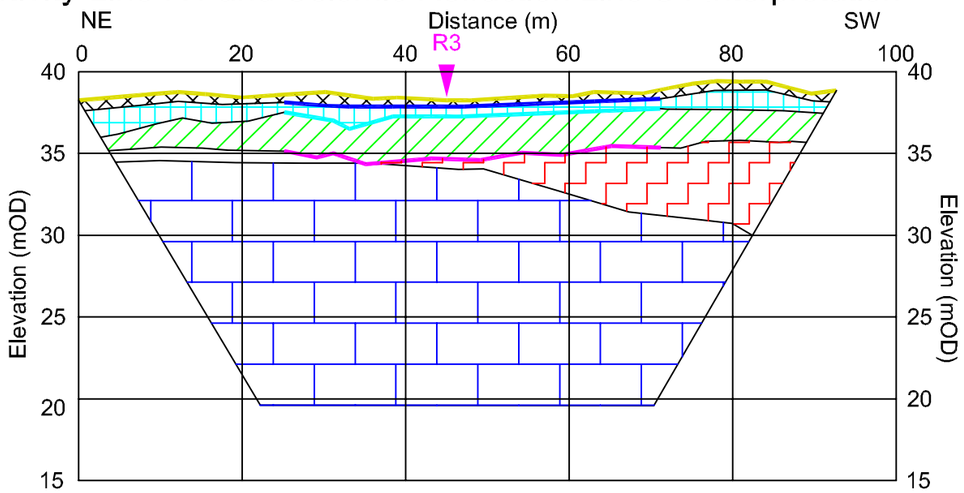
Abbreviated GI Logs:

| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

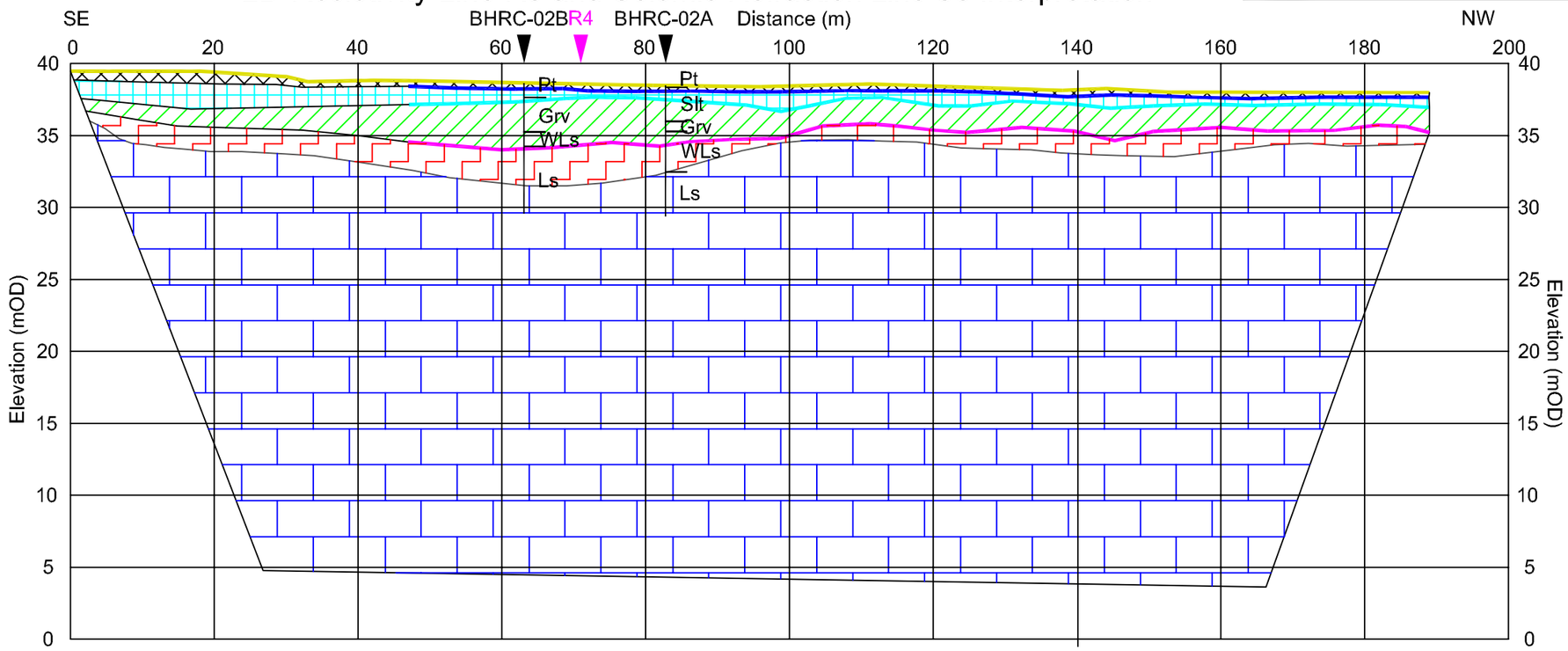
| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

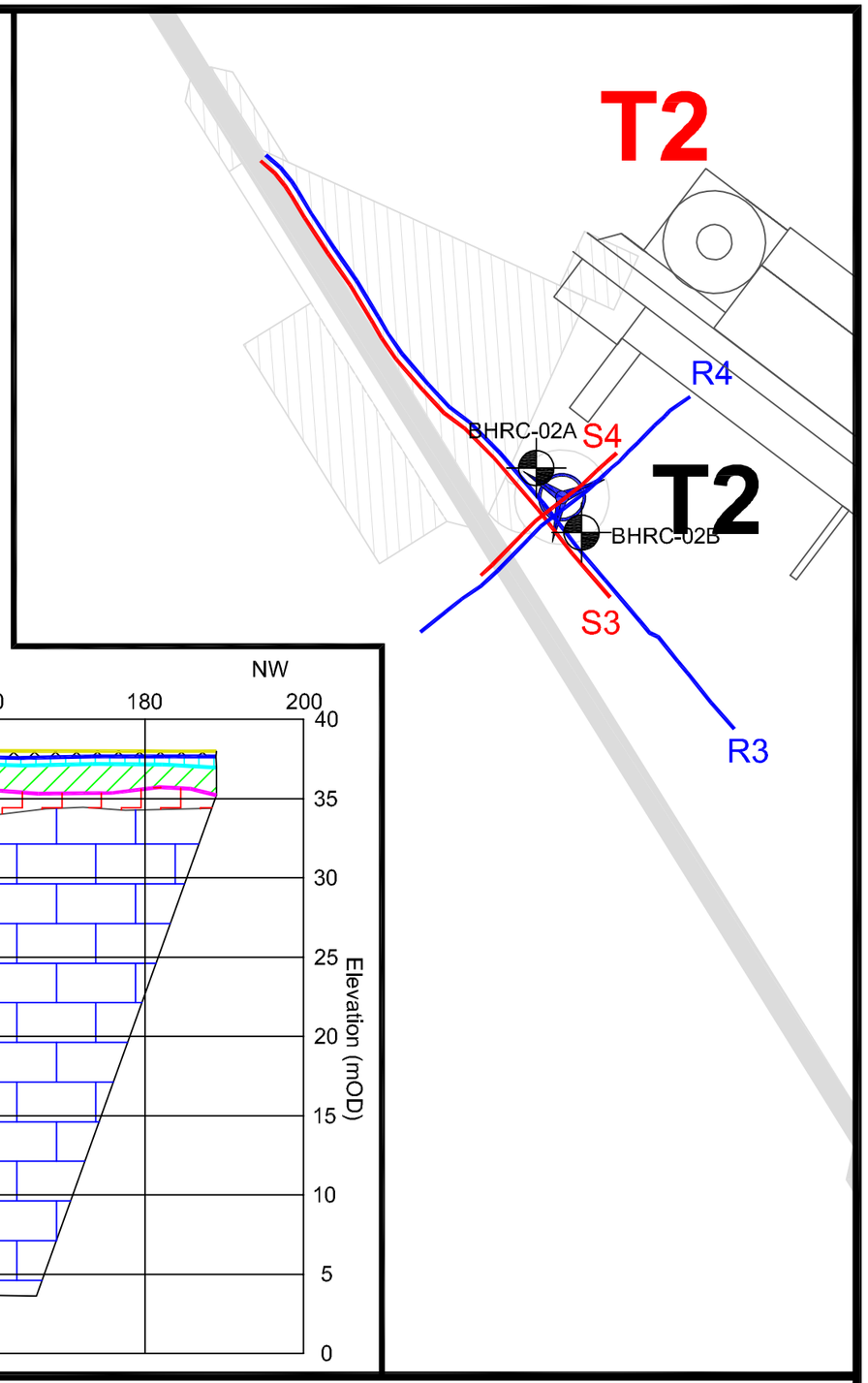
# T2

## 2D-Resistivity Line R4 and Seismic Refraction Line S4 Interpretation




## 2D-Resistivity Line R3 and Seismic Refraction Line S3 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2b: Interpretation of<br>Geophysical Survey, Turbine 2 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

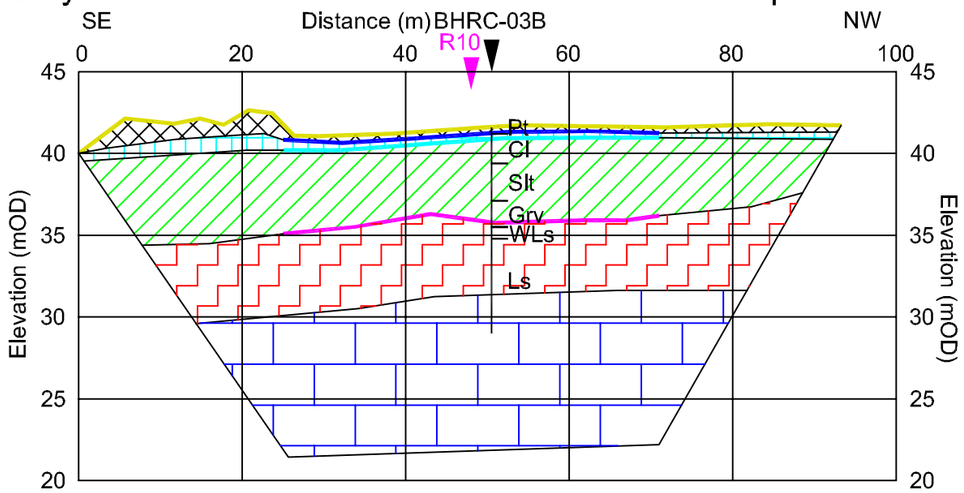
Abbreviated GI Logs:

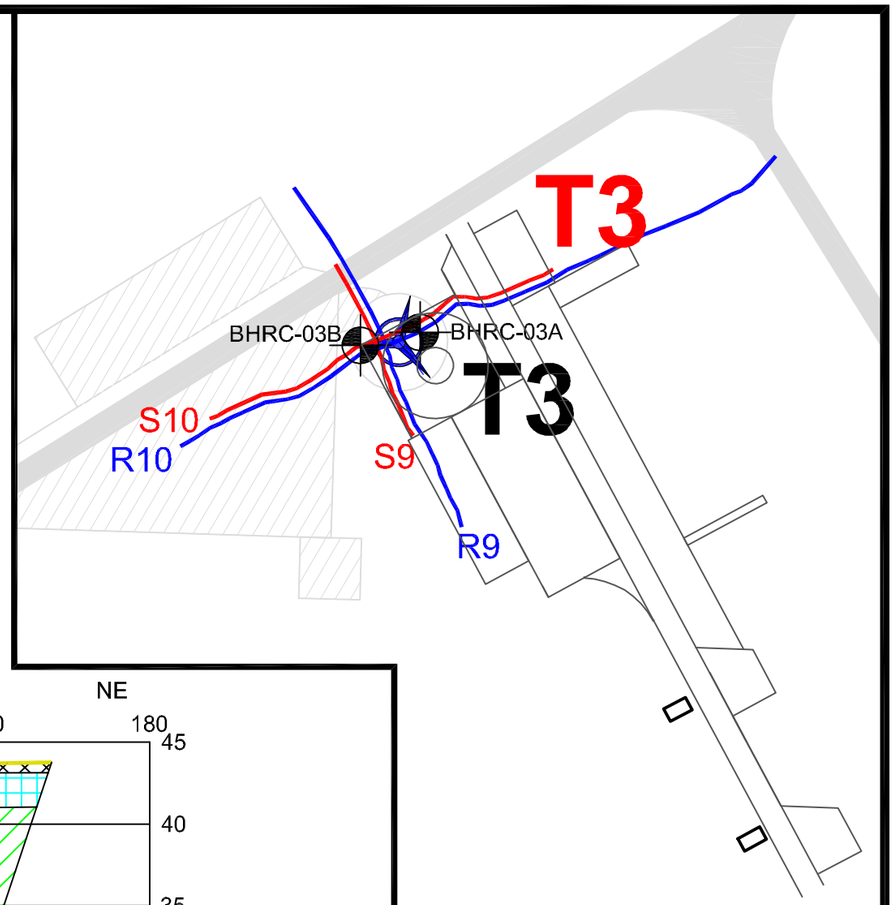
| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

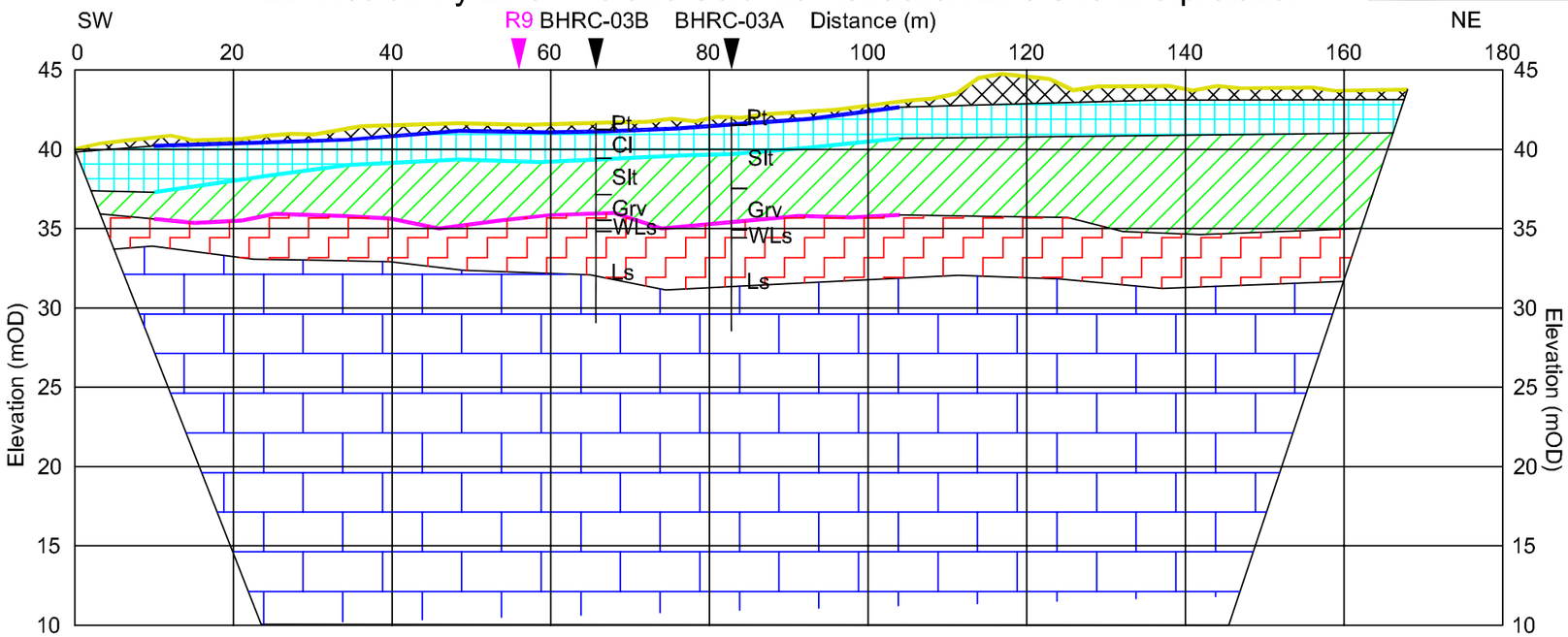
# T3

## 2D-Resistivity Line R9 and Seismic Refraction Line S9 Interpretation




## 2D-Resistivity Line R10 and Seismic Refraction Line S10 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2c: Interpretation of<br>Geophysical Survey, Turbine 3 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

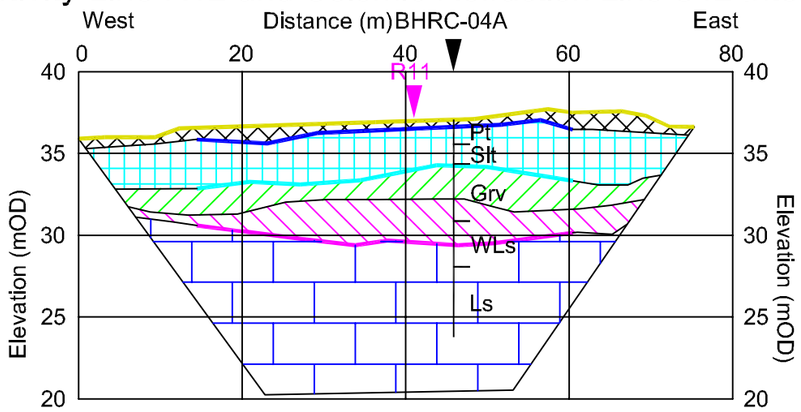
Abbreviated GI Logs:

| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

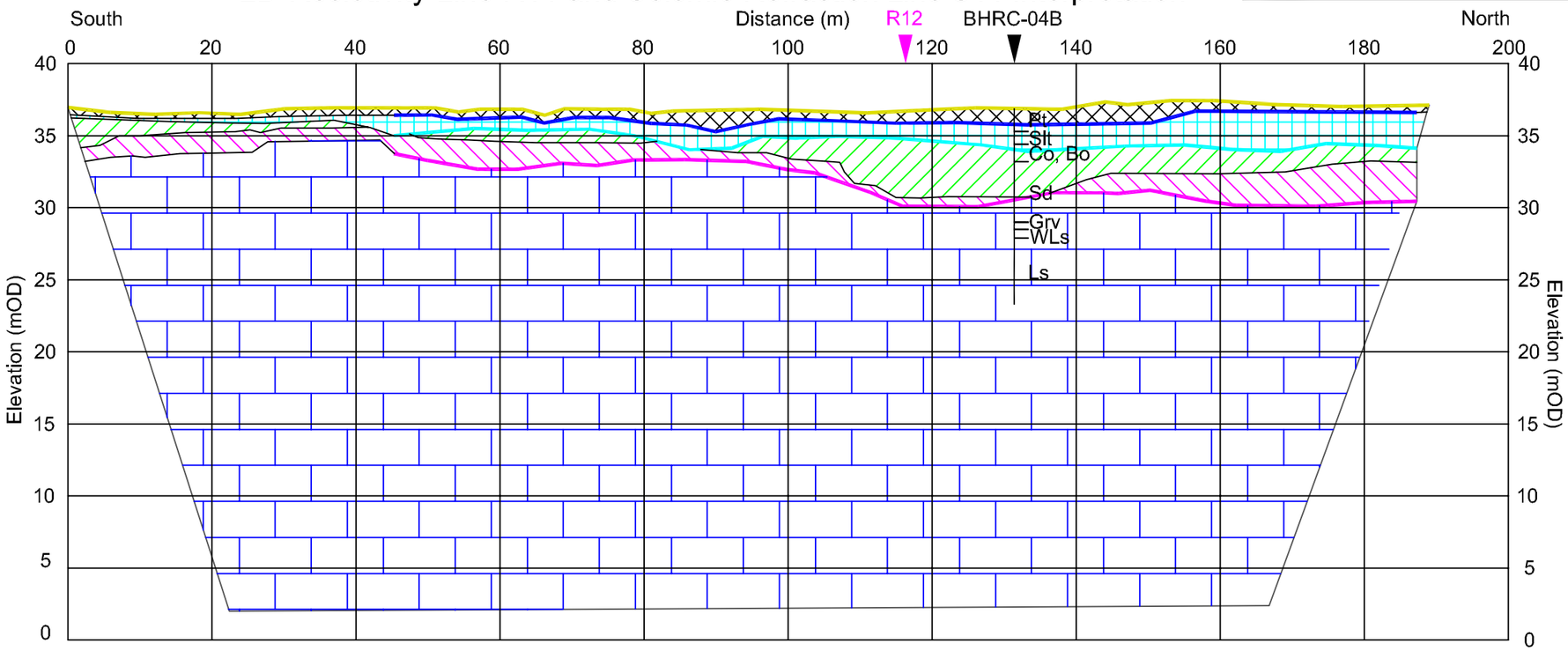
| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

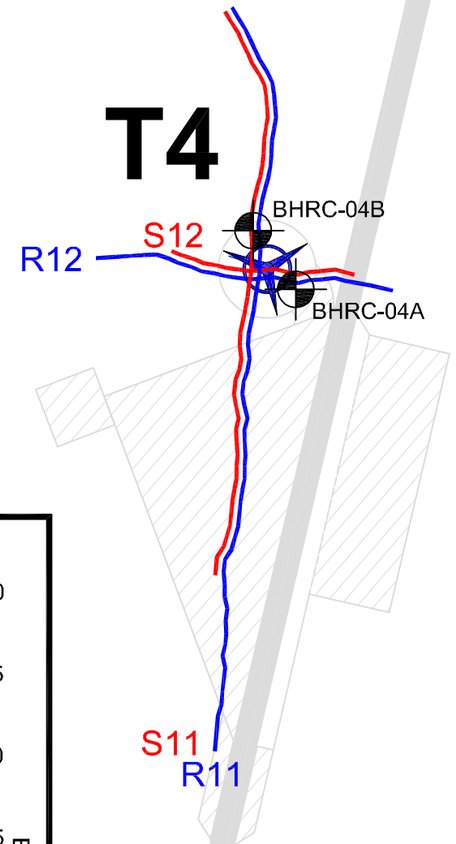
# T4

## 2D-Resistivity Line R12 and Seismic Refraction Line S12 Interpretation




## 2D-Resistivity Line R11 and Seismic Refraction Line S11 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2d: Interpretation of Geophysical Survey, Turbine 4 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

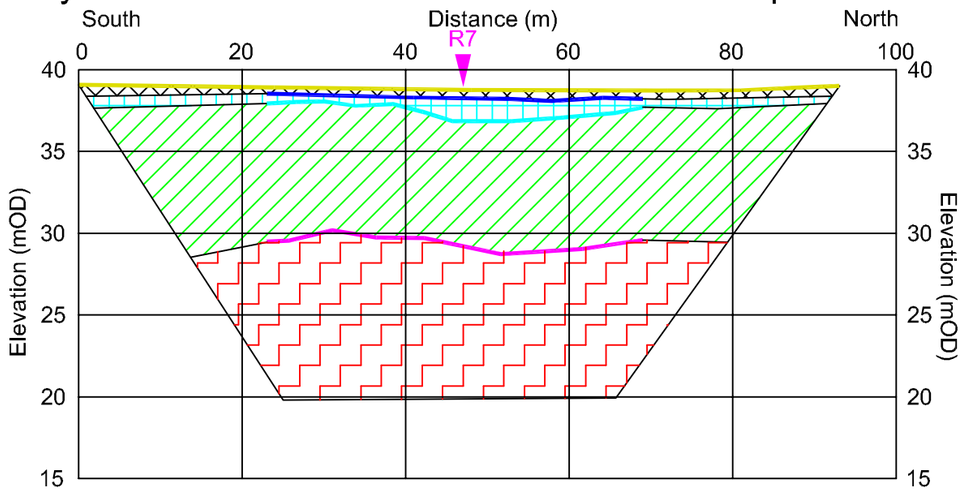
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

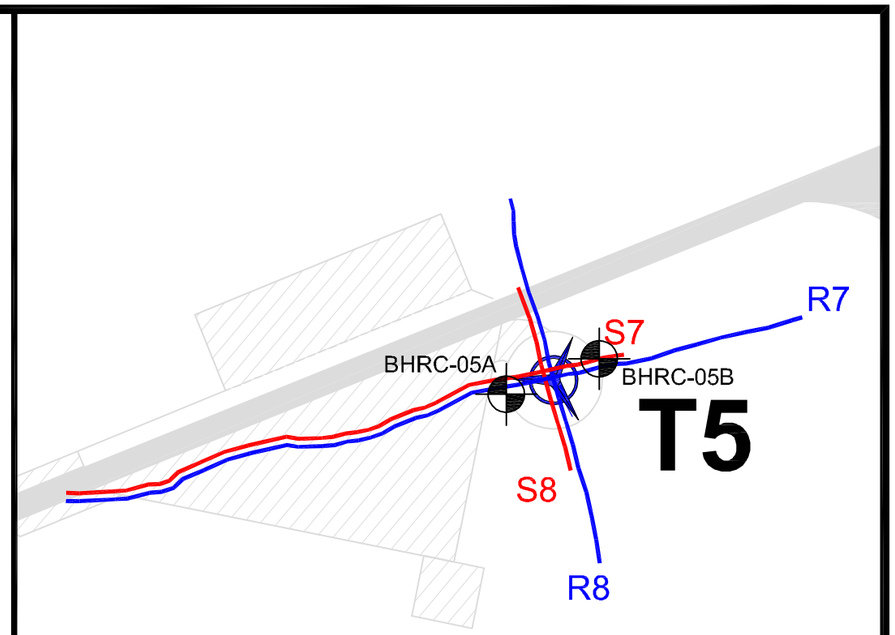
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| BHRC-04B | Bore Hole Name and Location | | |
| TP-02 | Trial Pit Name and Location | | |
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

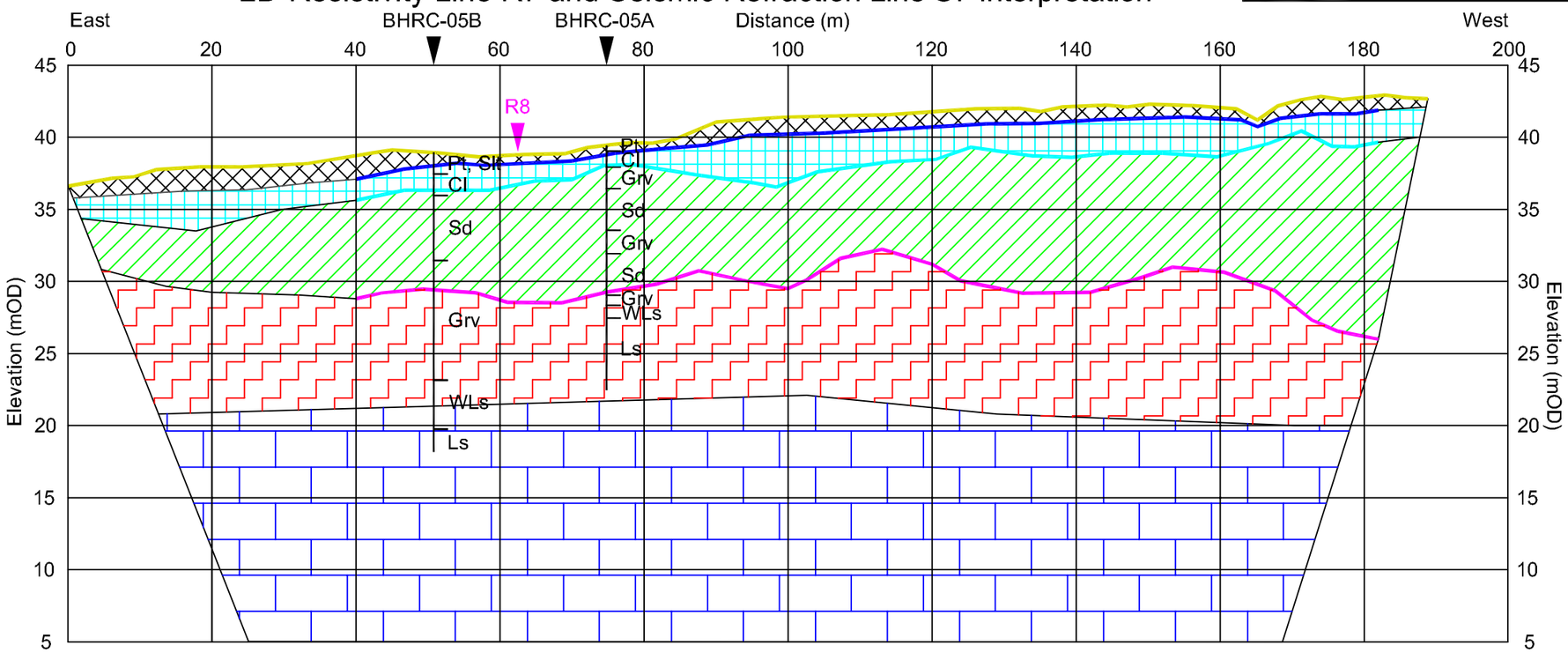
# T5

## 2D-Resistivity Line R8 and Seismic Refraction Line S8 Interpretation




## 2D-Resistivity Line R7 and Seismic Refraction Line S7 Interpretation





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2e: Interpretation of<br>Geophysical Survey, Turbine 5 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

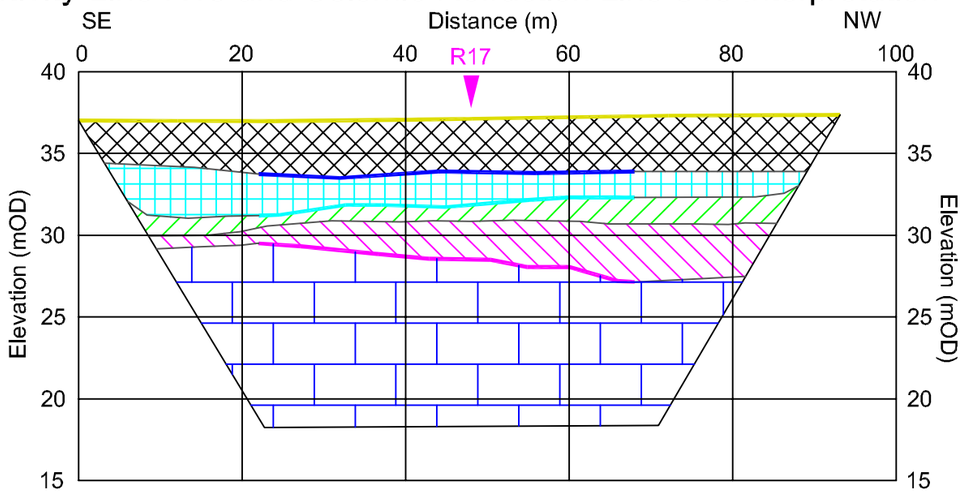
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

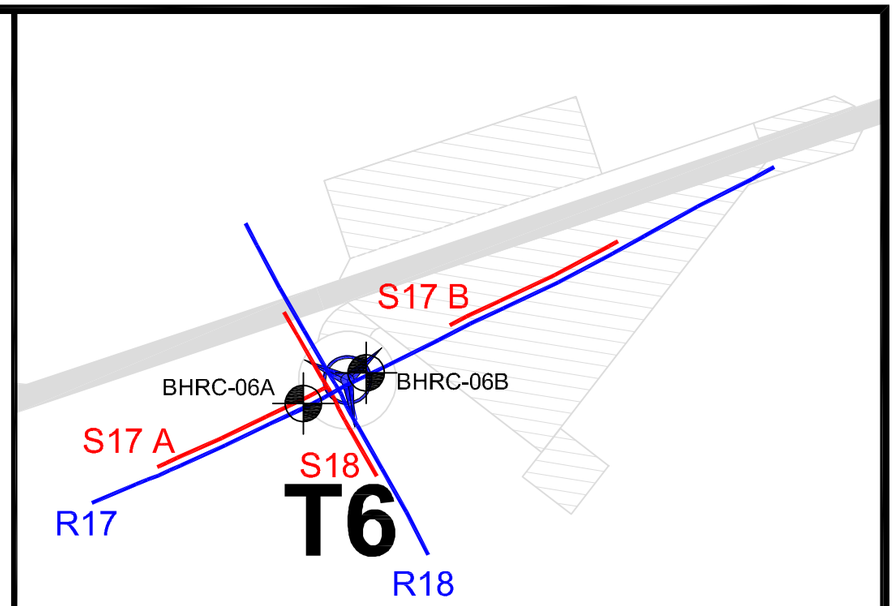
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| BHRC-04B | Bore Hole Name and Location | | |
| TP-02 | Trial Pit Name and Location | | |
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

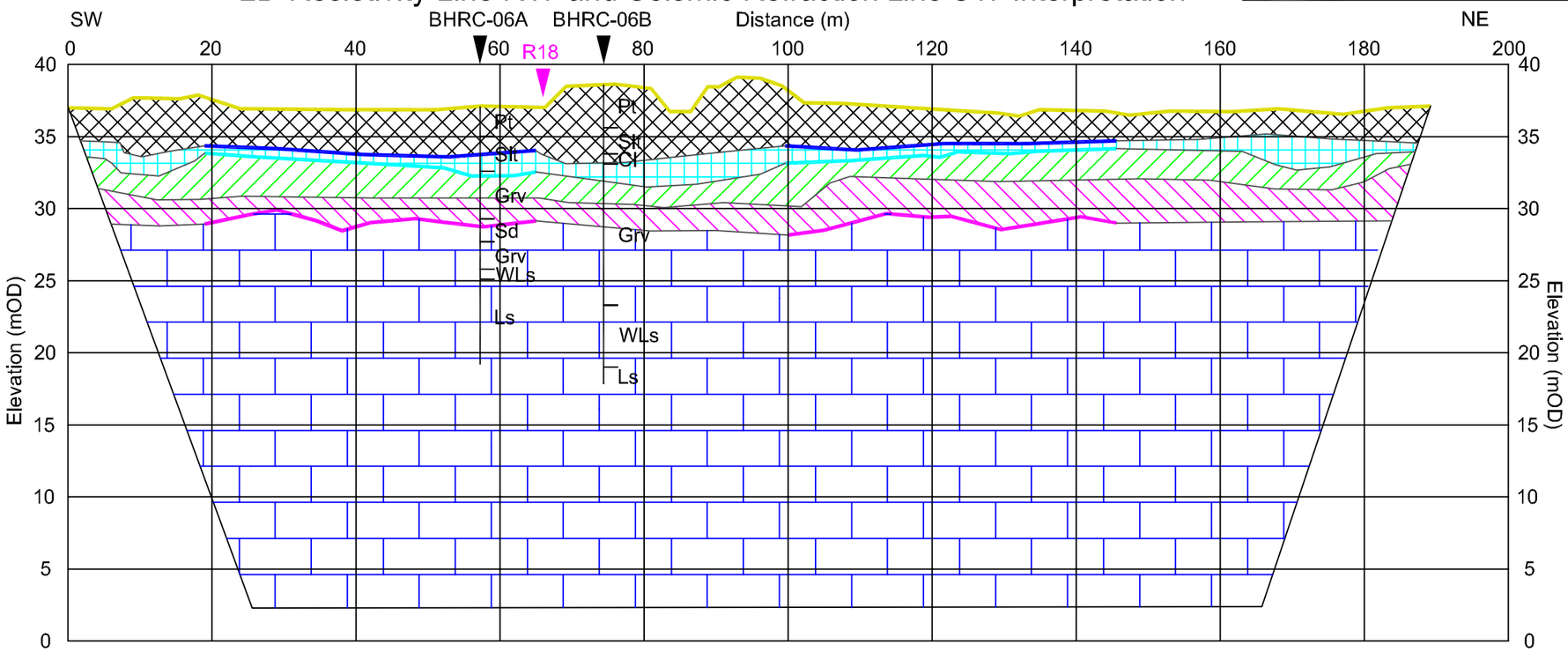
# T6

## 2D-Resistivity Line R18 and Seismic Refraction Line S18 Interpretation




## 2D-Resistivity Line R17 and Seismic Refraction Line S17 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2f: Interpretation of Geophysical Survey, Turbine 6 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: **Interpretation Turbine Locations:**

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

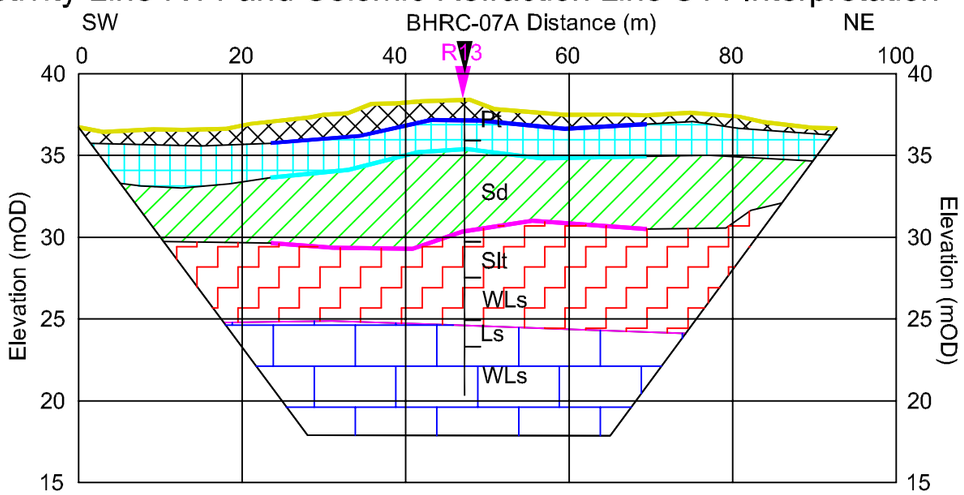
**Abbreviated GI Logs:**

| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

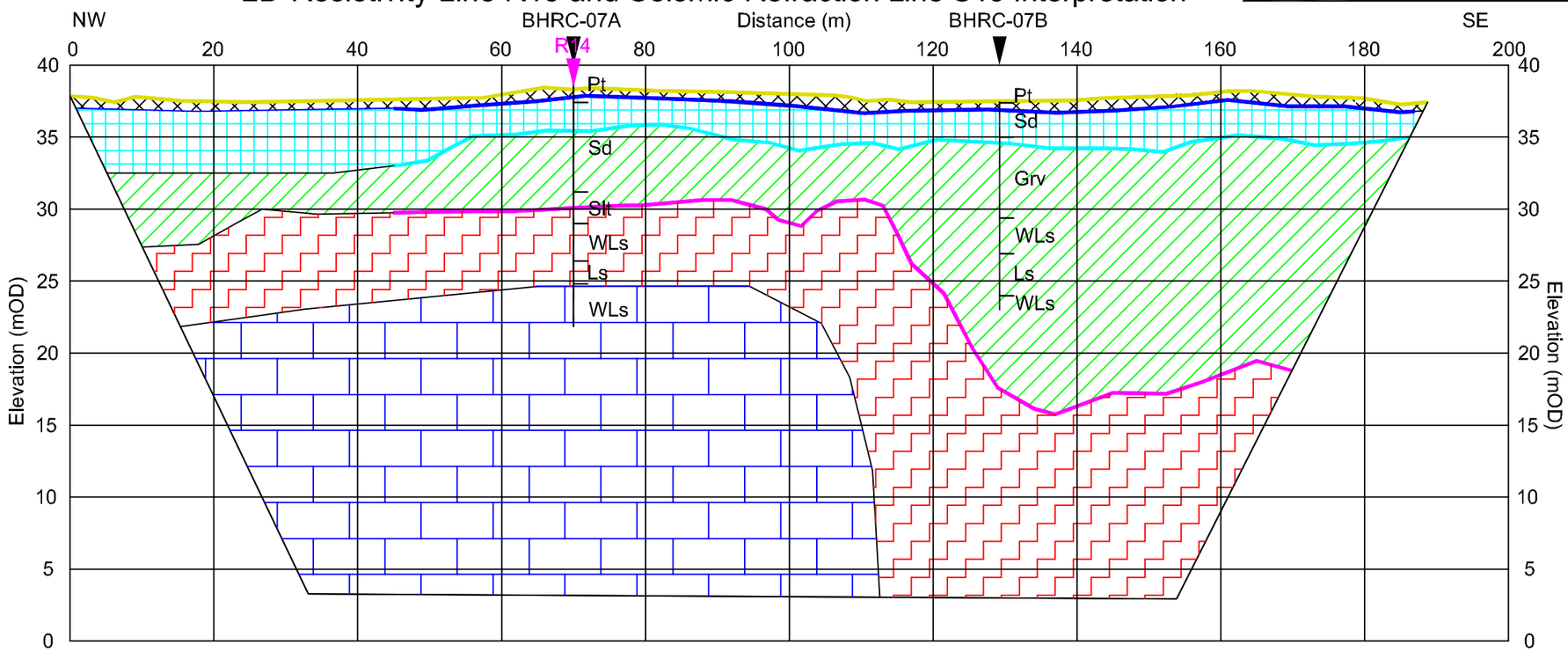
| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

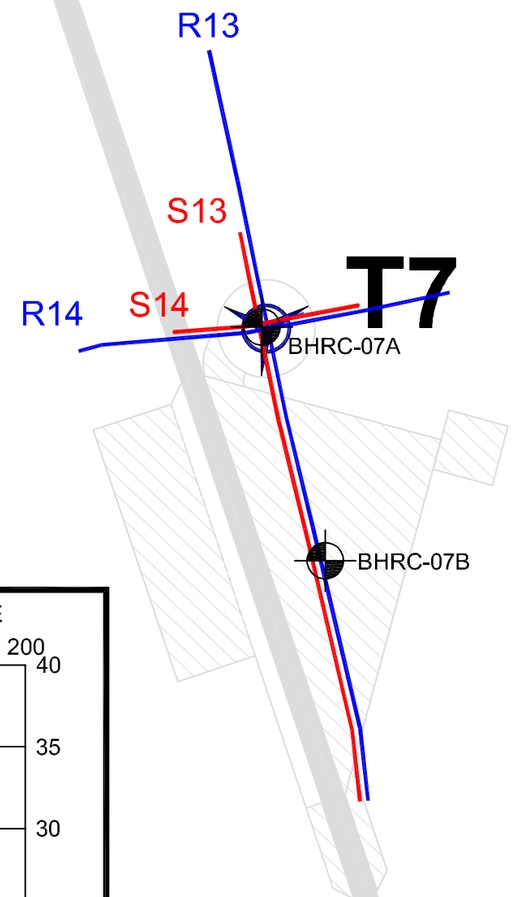
# T7

## 2D-Resistivity Line R14 and Seismic Refraction Line S14 Interpretation




## 2D-Resistivity Line R13 and Seismic Refraction Line S13 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2g: Interpretation of Geophysical Survey, Turbine 7 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

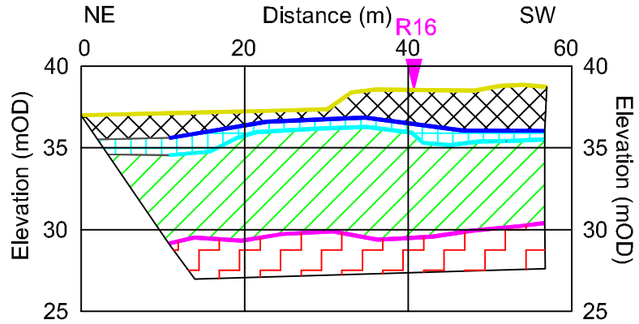
Abbreviated GI Logs:

| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

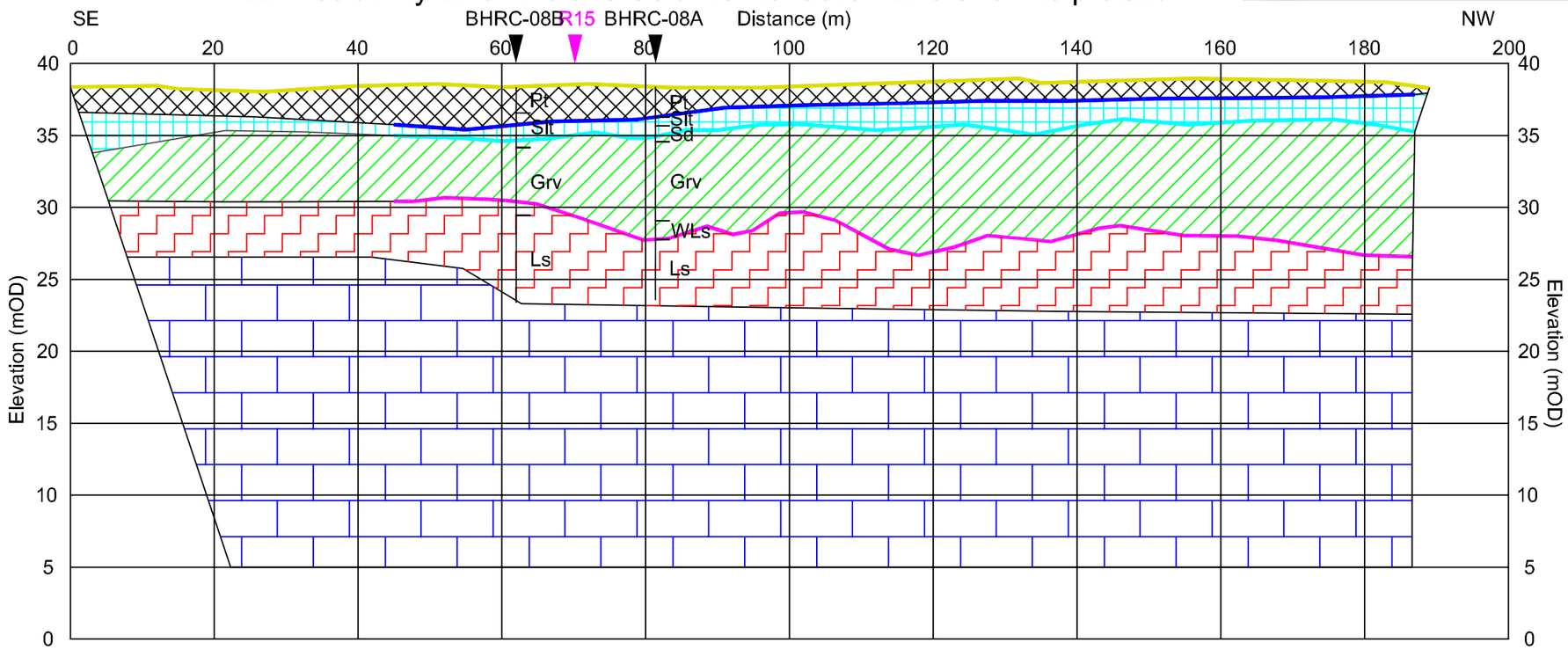
| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

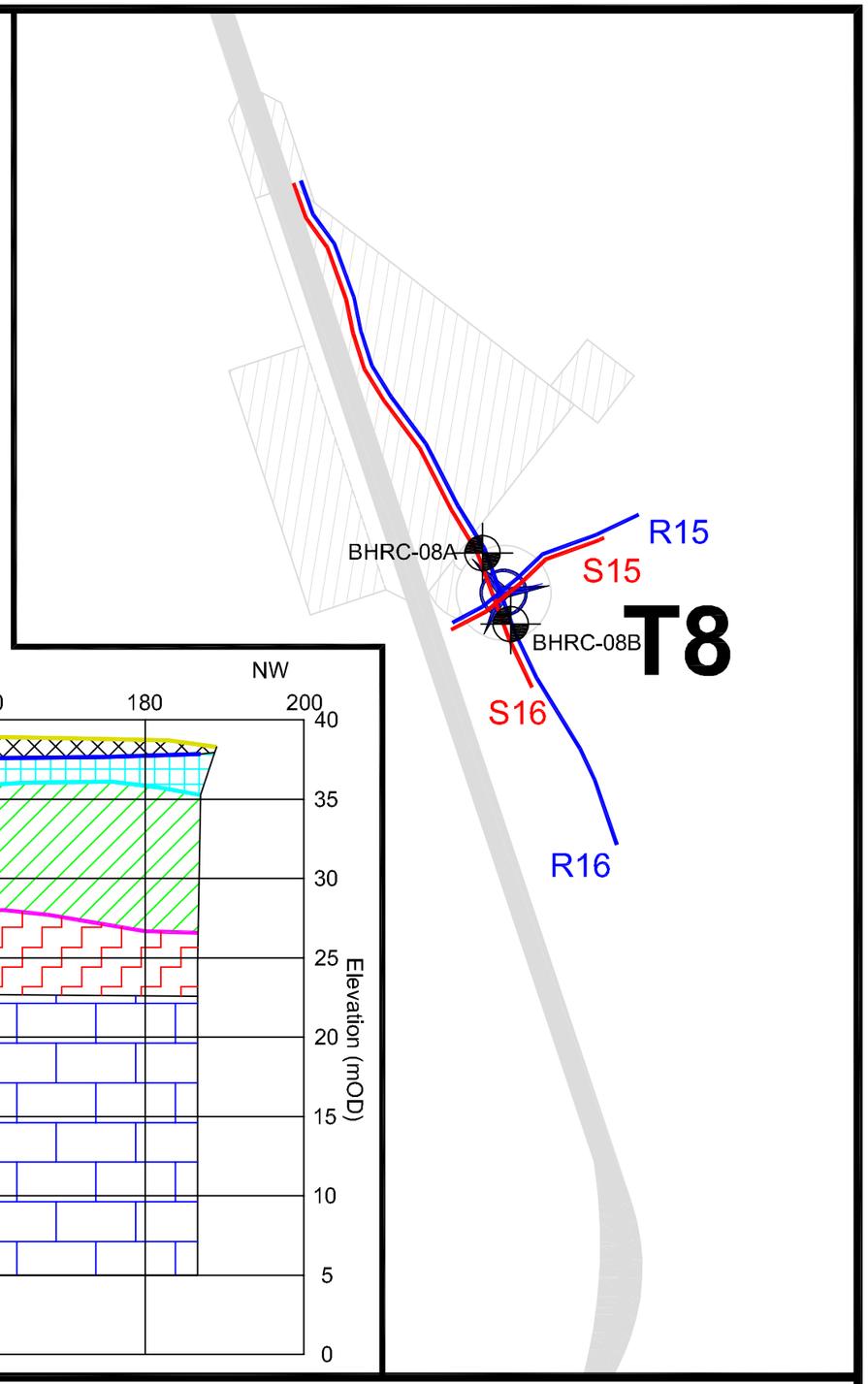
# T8

## 2D-Resistivity Line R15 and Seismic Refraction Line S15 Interpretation




## 2D-Resistivity Line R16 and Seismic Refraction Line S16 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2h: Interpretation of Geophysical Survey, Turbine 8 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

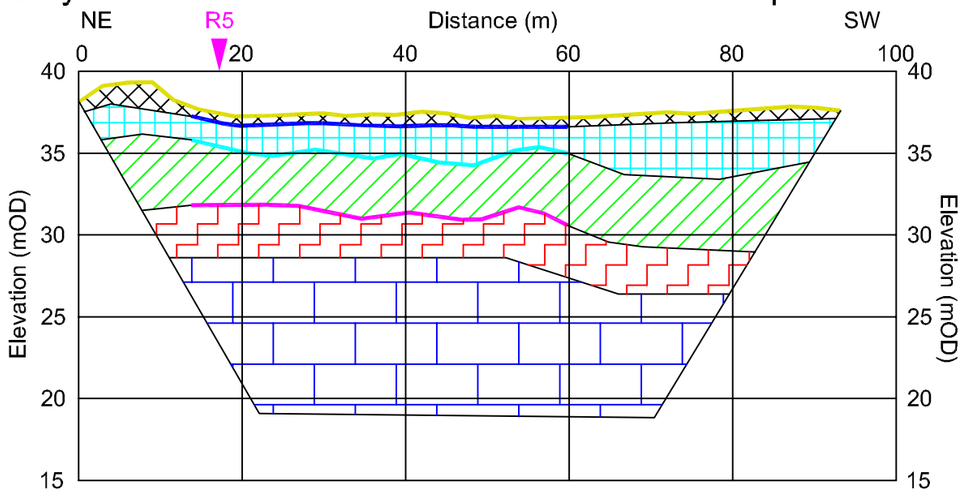
Abbreviated GI Logs:

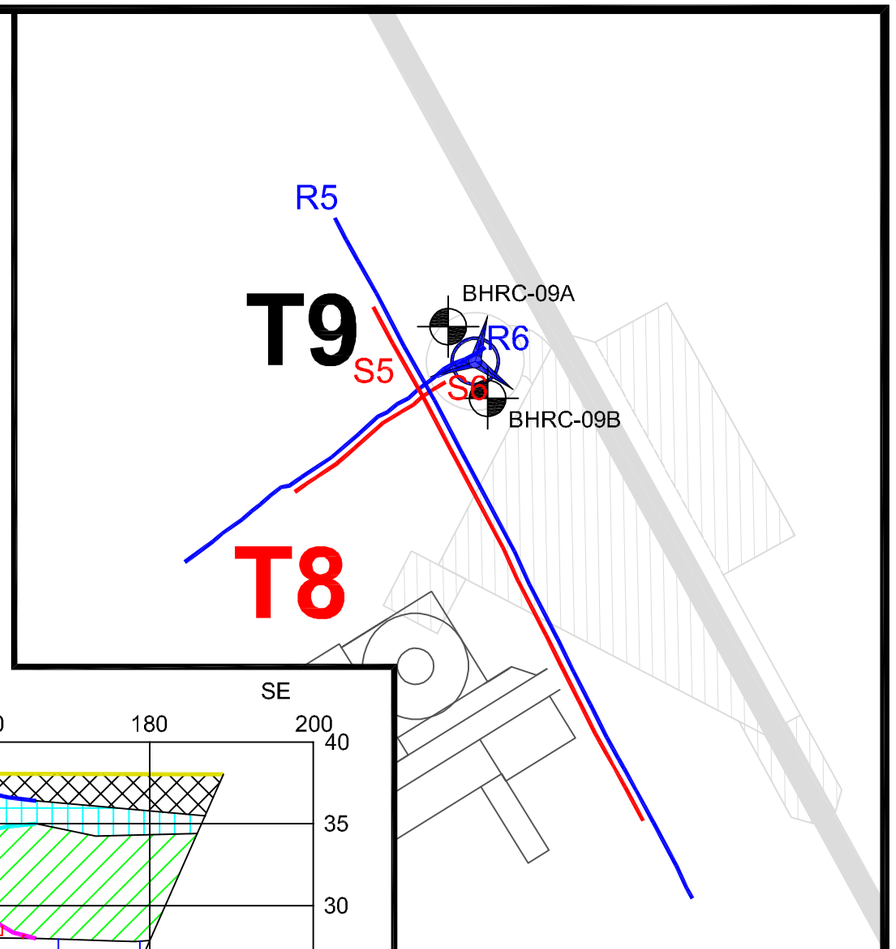
BHRC-04B Bore Hole Name and Location
TP-02 Trial Pit Name and Location

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

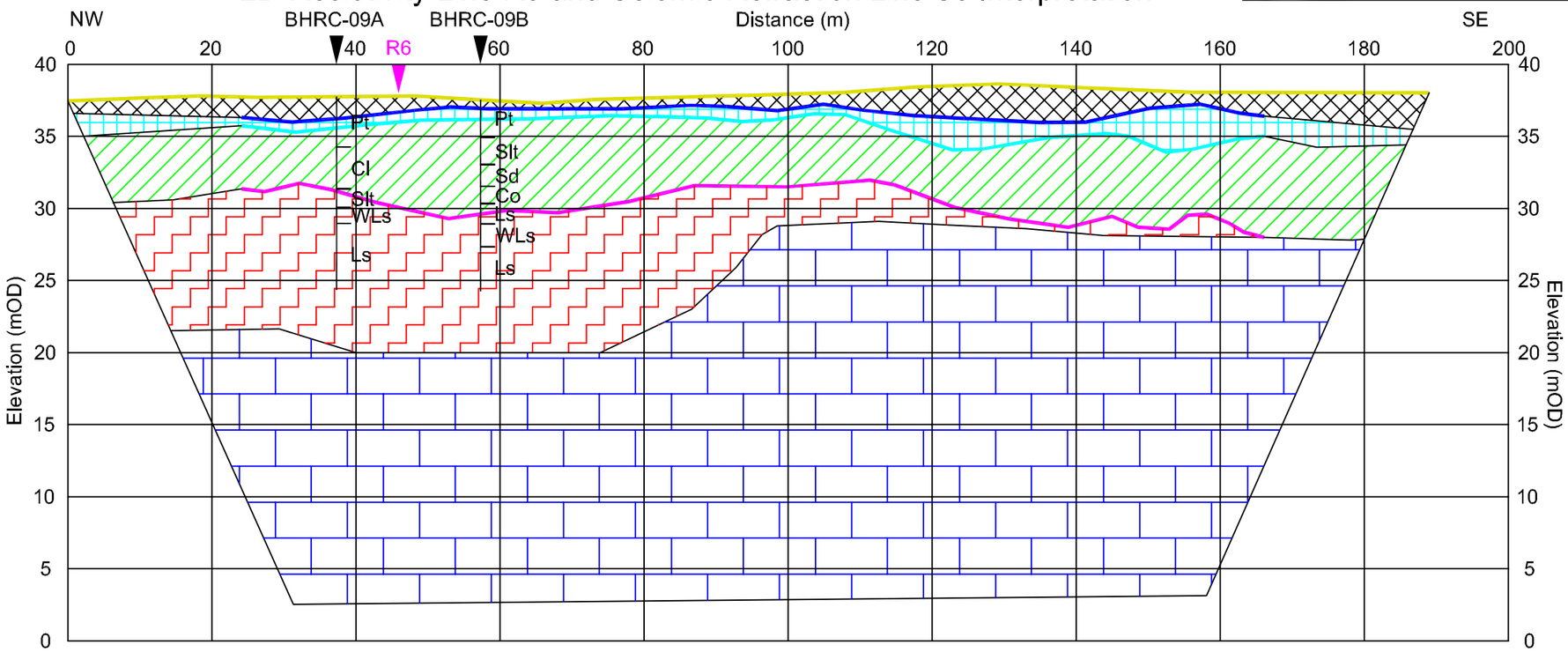
# T9

## 2D-Resistivity Line R6 and Seismic Refraction Line S6 Interpretation




## 2D-Resistivity Line R5 and Seismic Refraction Line S5 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2i: Interpretation of Geophysical Survey, Turbine 9 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

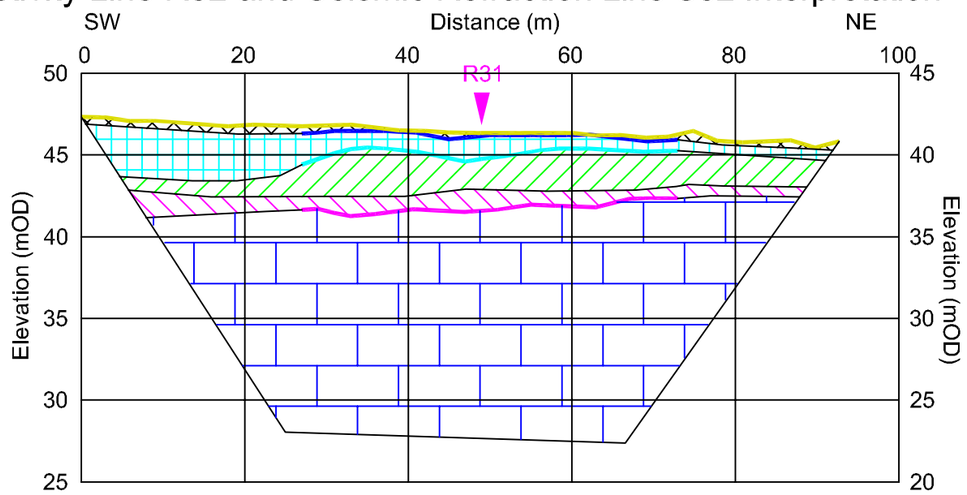
Abbreviated GI Logs:

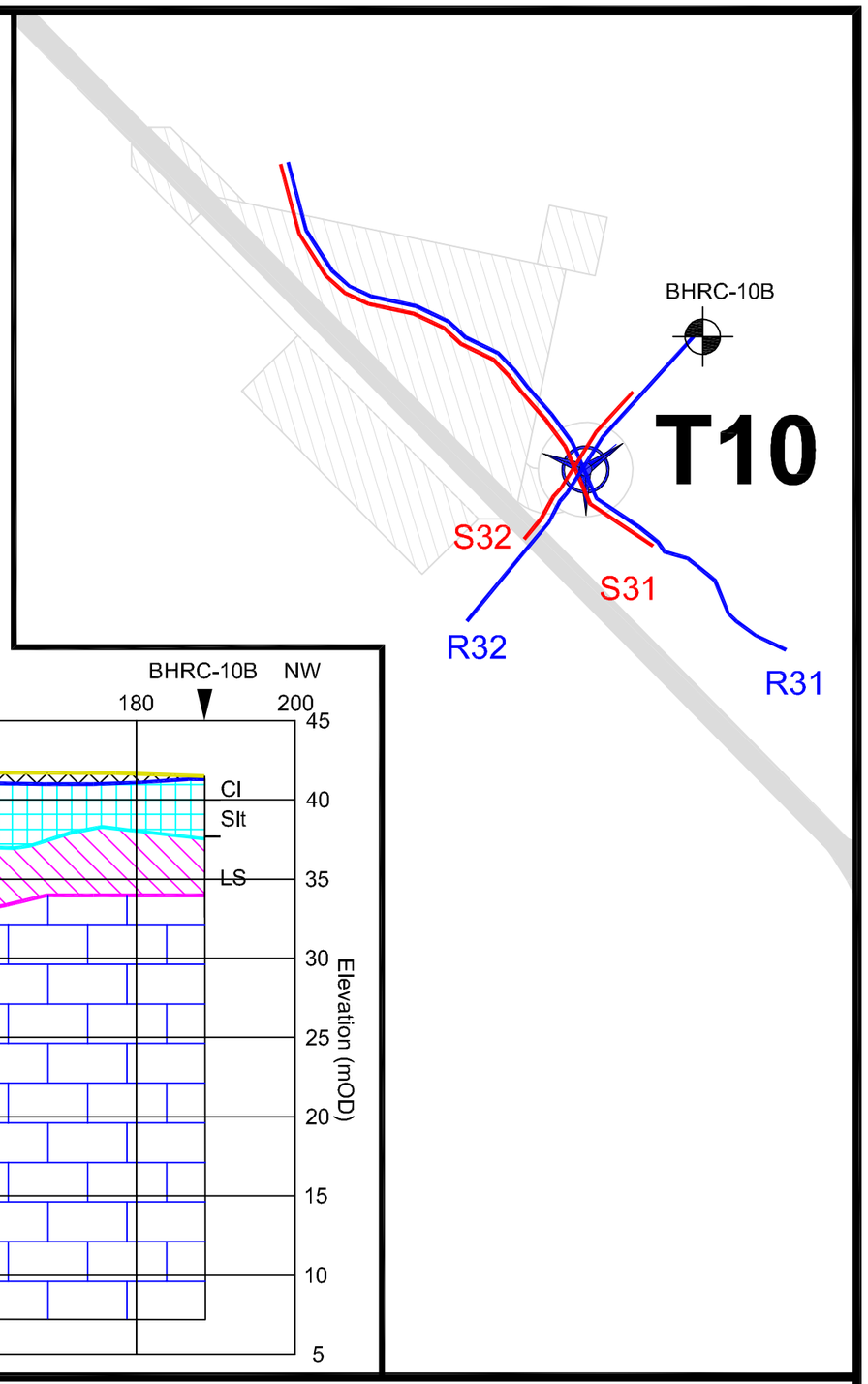
| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

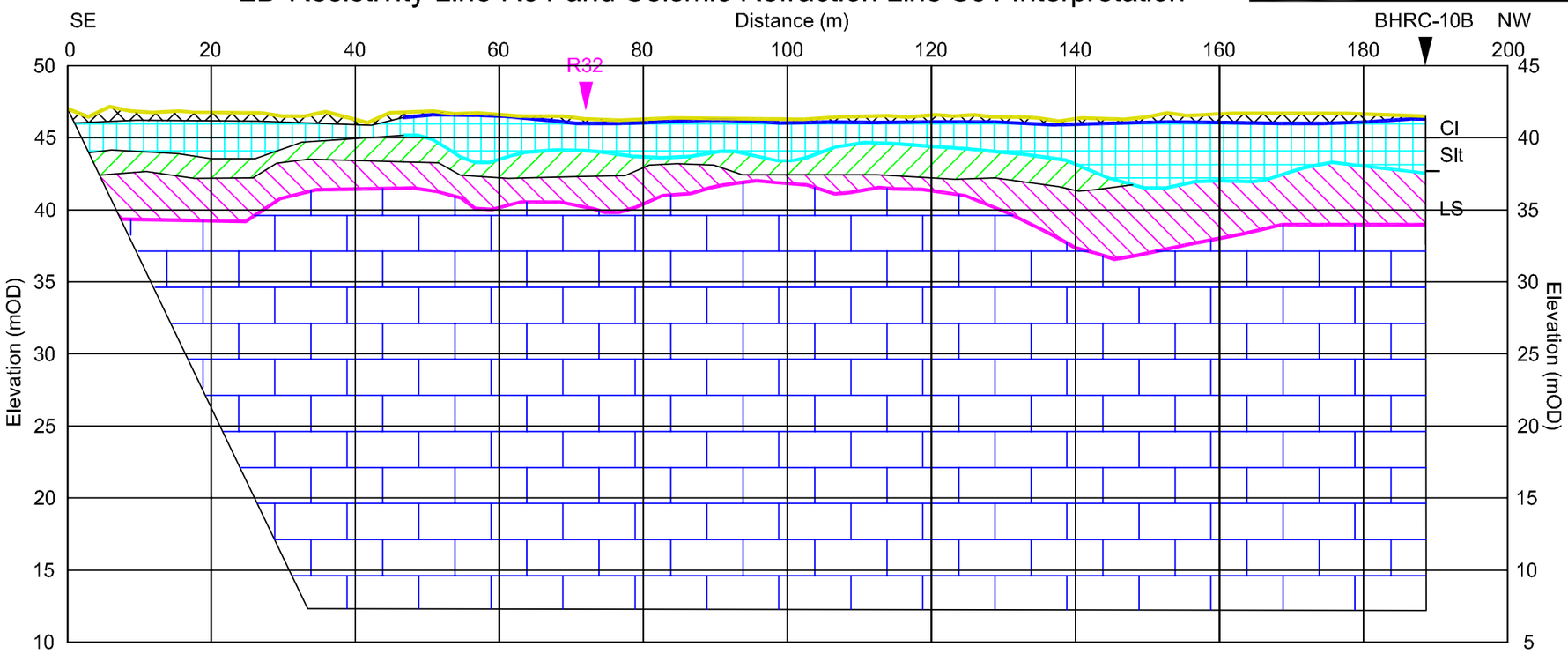
# T10

## 2D-Resistivity Line R32 and Seismic Refraction Line S32 Interpretation




## 2D-Resistivity Line R31 and Seismic Refraction Line S31 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2j: Interpretation of Geophysical Survey, Turbine 10 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

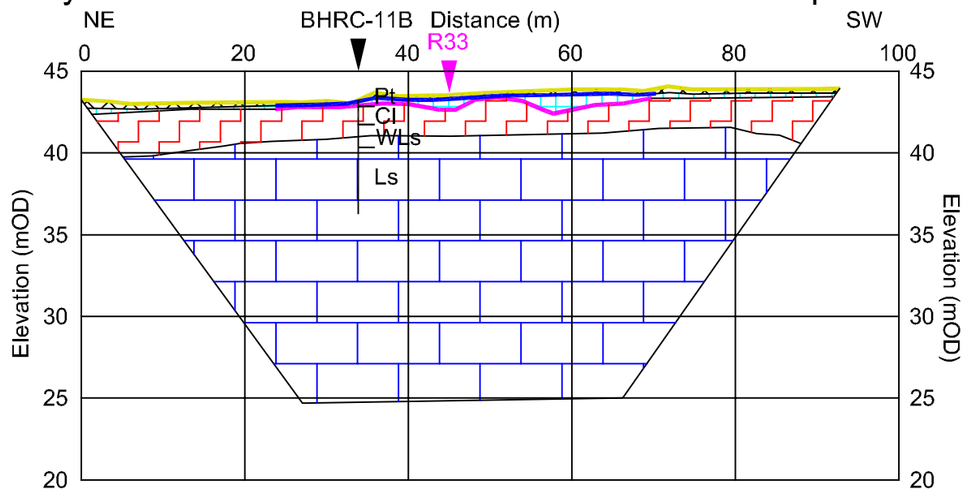
Abbreviated GI Logs:

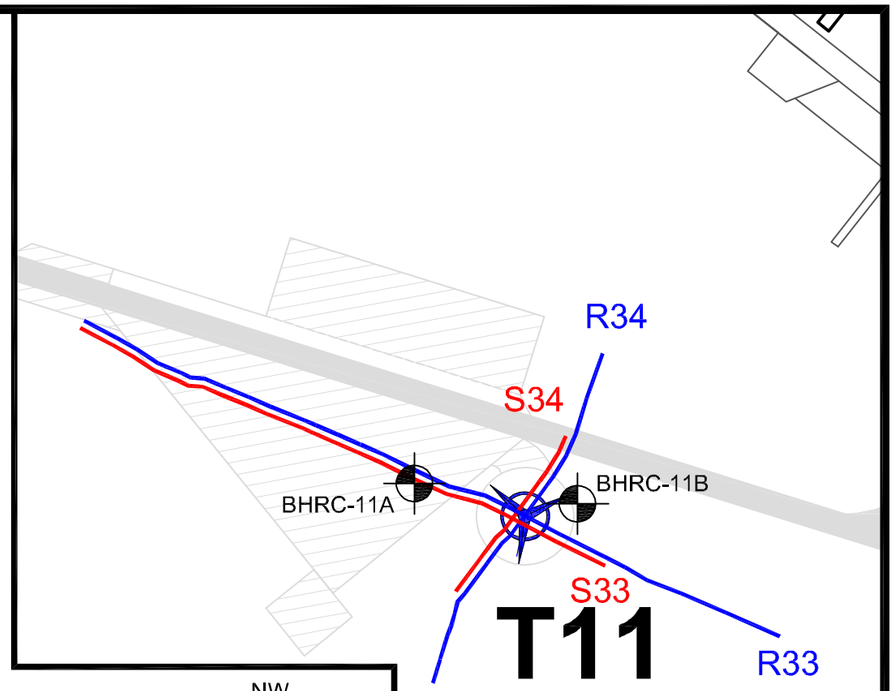
| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

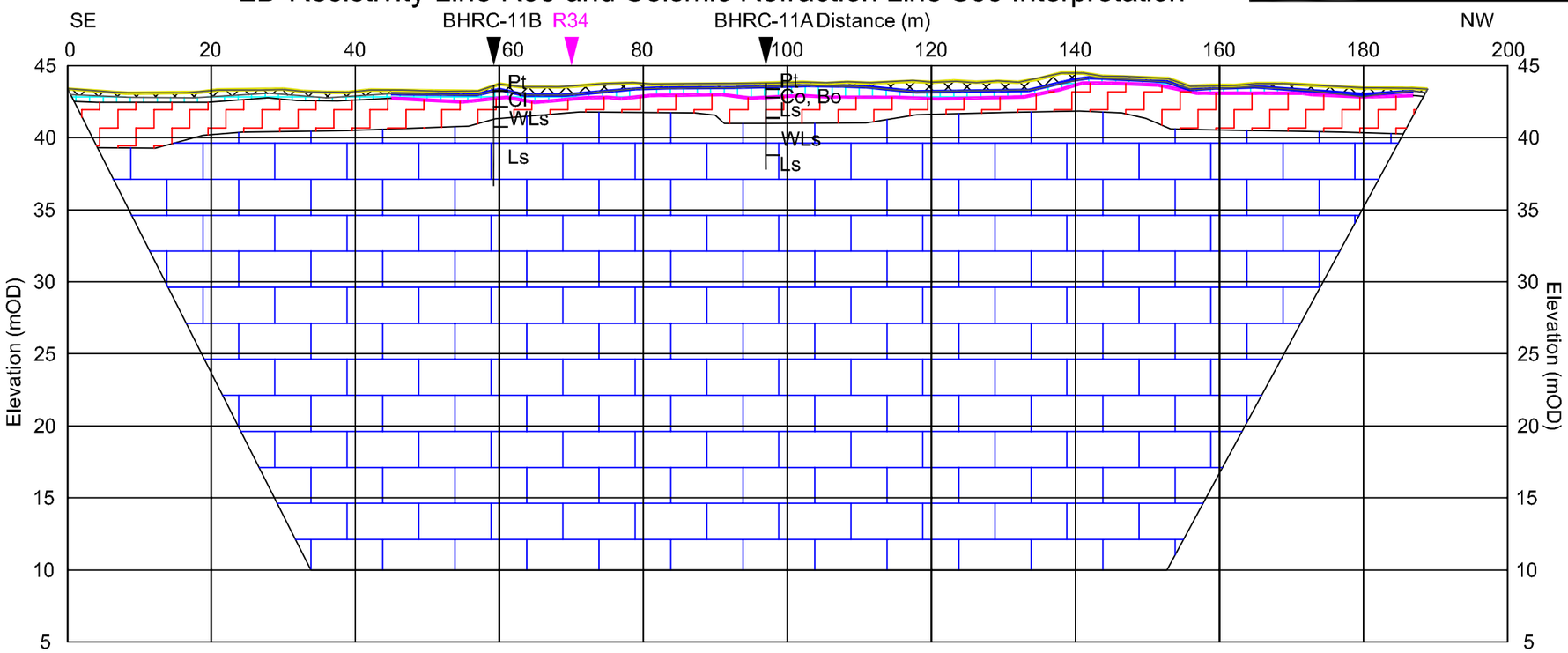
# T11

## 2D-Resistivity Line R34 and Seismic Refraction Line S34 Interpretation




## 2D-Resistivity Line R33 and Seismic Refraction Line S33 Interpretation





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2k: Interpretation of<br>Geophysical Survey, Turbine 11 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

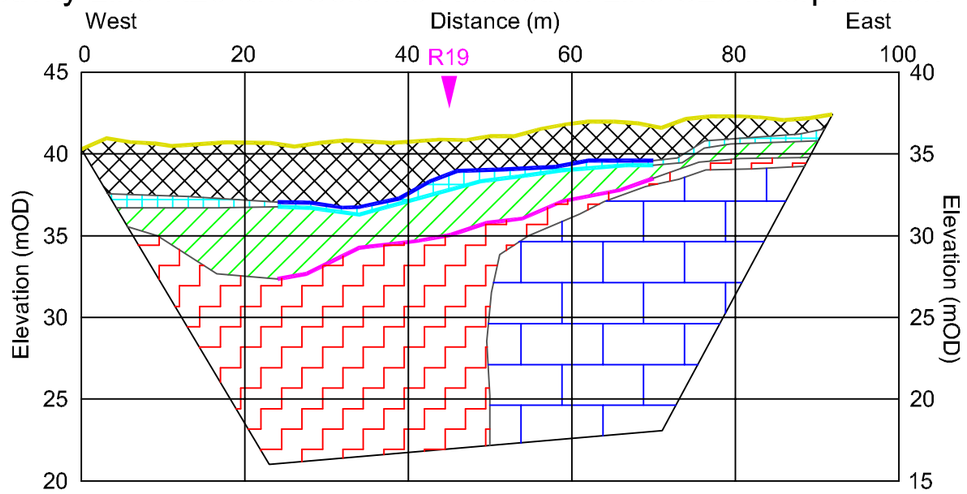
Abbreviated GI Logs:

| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

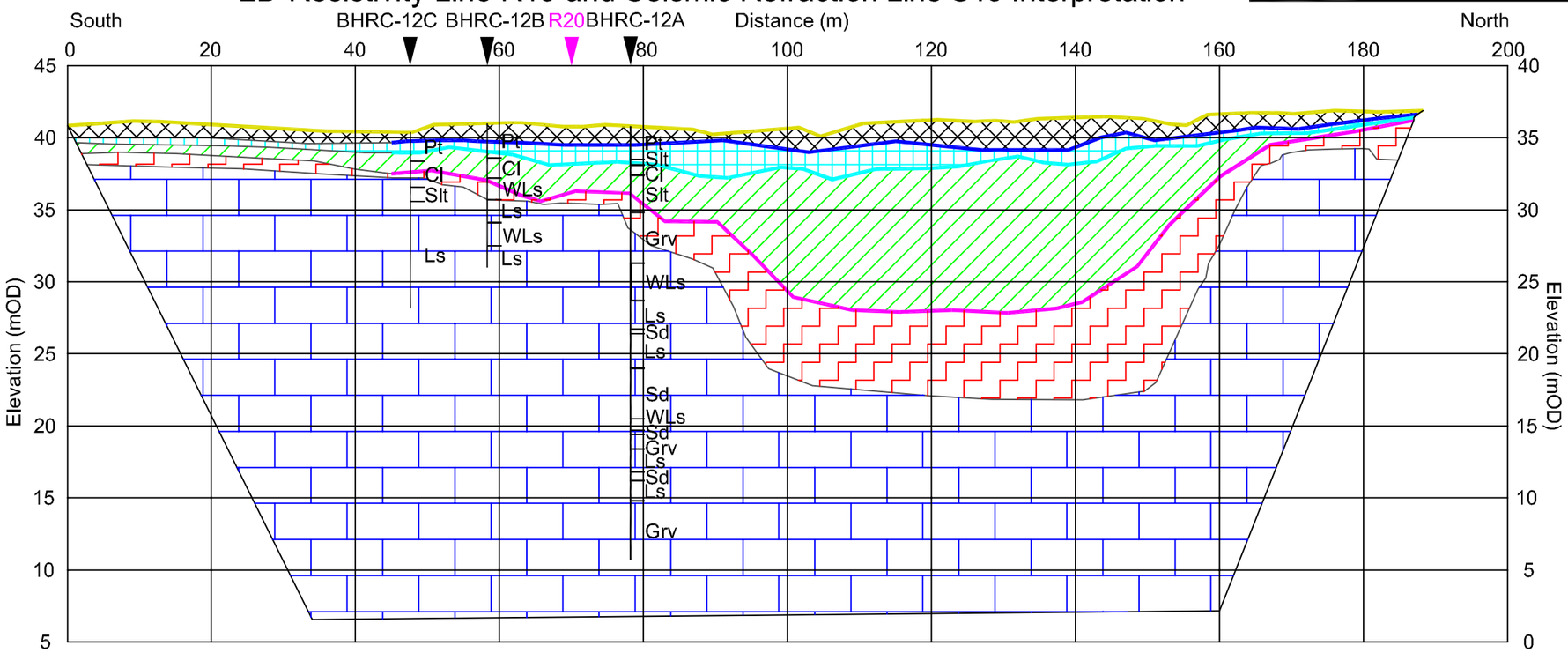
| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

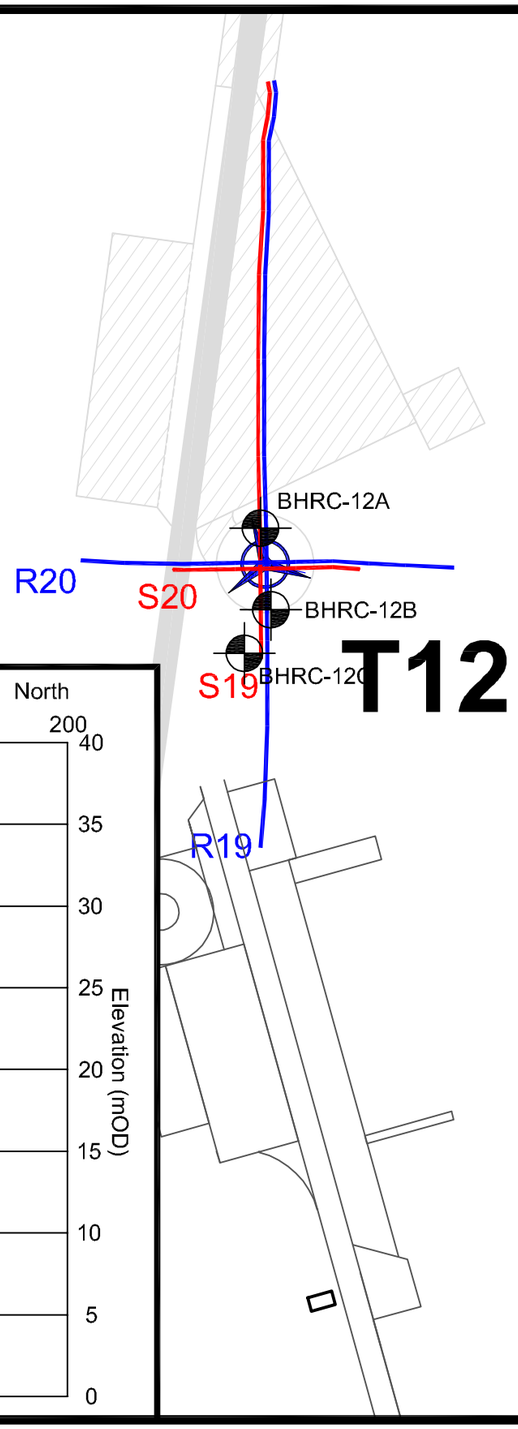
# T12

## 2D-Resistivity Line R20 and Seismic Refraction Line S20 Interpretation




## 2D-Resistivity Line R19 and Seismic Refraction Line S19 Interpretation





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2l: Interpretation of<br>Geophysical Survey, Turbine 12 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

1 Soft Peat or Clay or Silt
2 Firm Clay or Silt
3a Stiff to very stiff sandy gravelly Clay or Silt
3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
4a Fair to good weathered or karstified Limestone
4b Good to very good fresh clean Limestone
4c Good to very good Shale or argillaceous Limestone or Sandstone

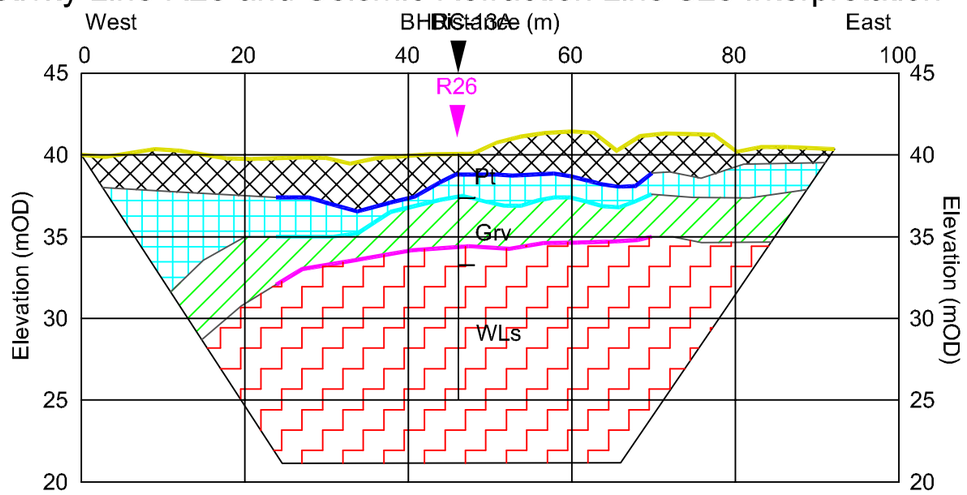
Abbreviated GI Logs:

BHRC-04B Bore Hole Name and Location
TP-02 Trial Pit Name and Location

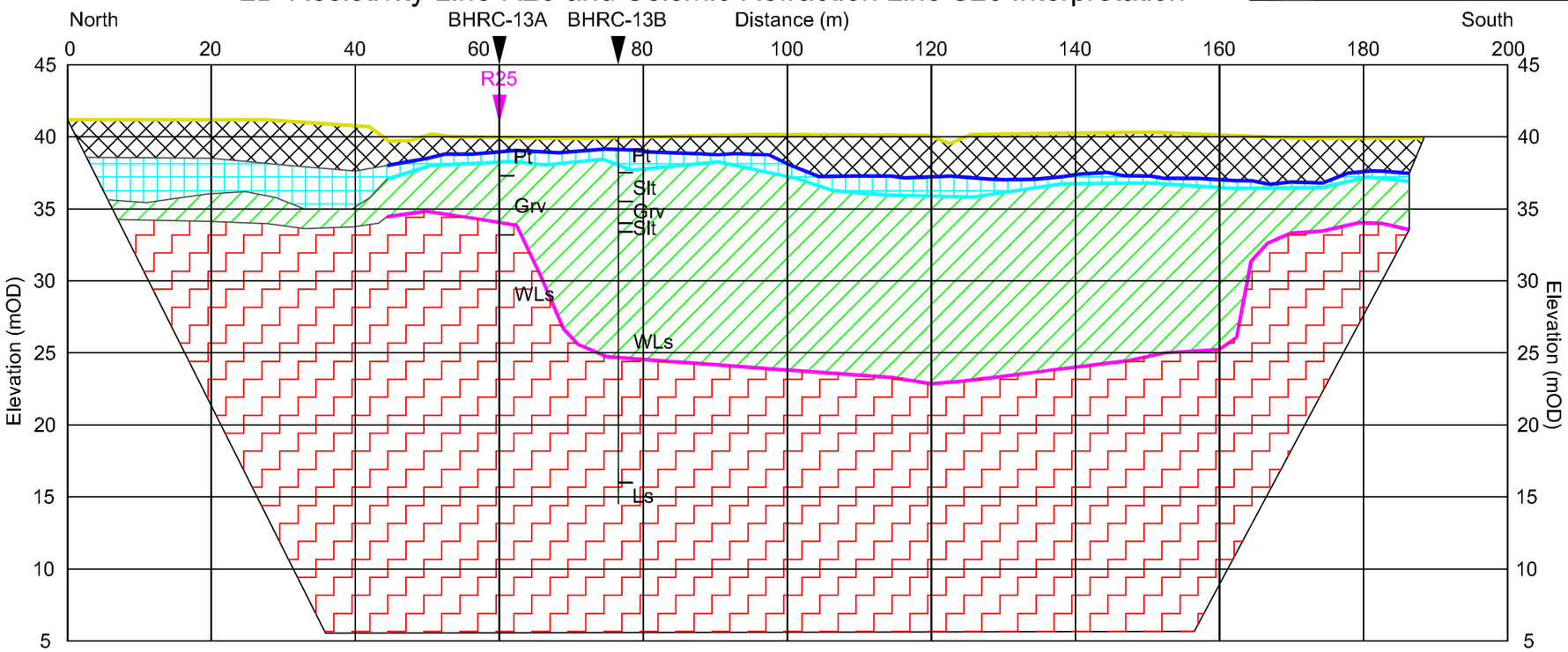
| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

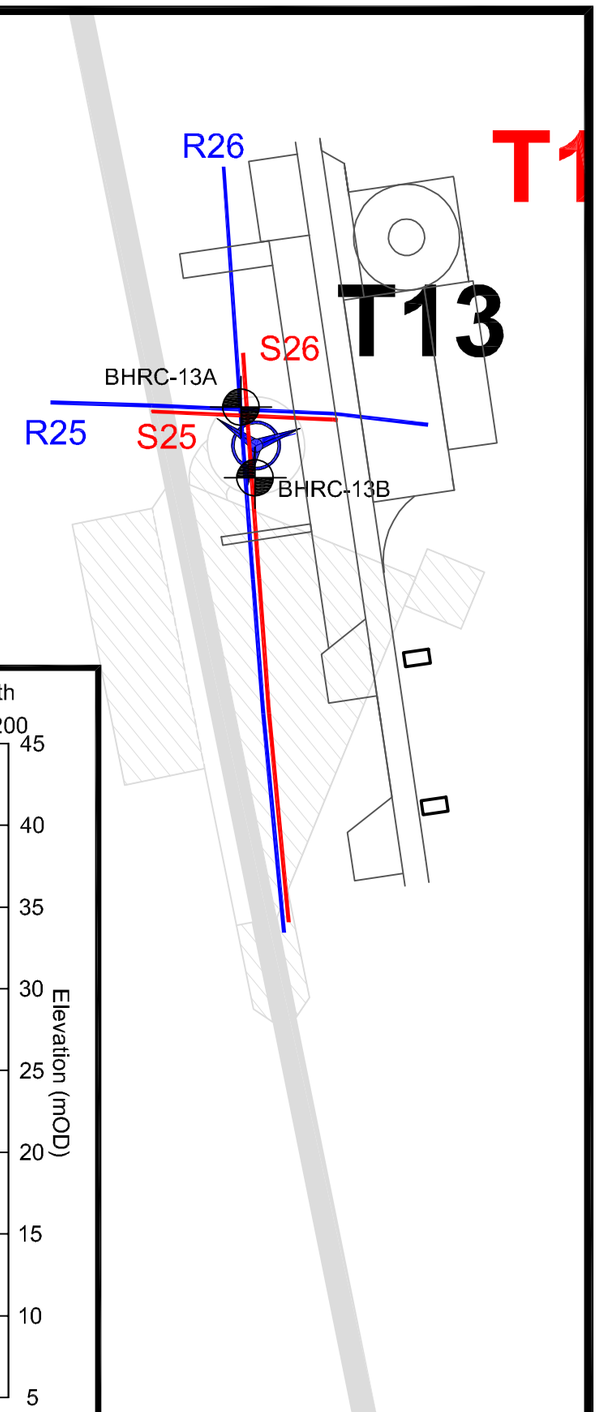
# T13

## 2D-Resistivity Line R25 and Seismic Refraction Line S25 Interpretation




## 2D-Resistivity Line R26 and Seismic Refraction Line S26 Interpretation





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2m: Interpretation of Geophysical Survey, Turbine 13 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

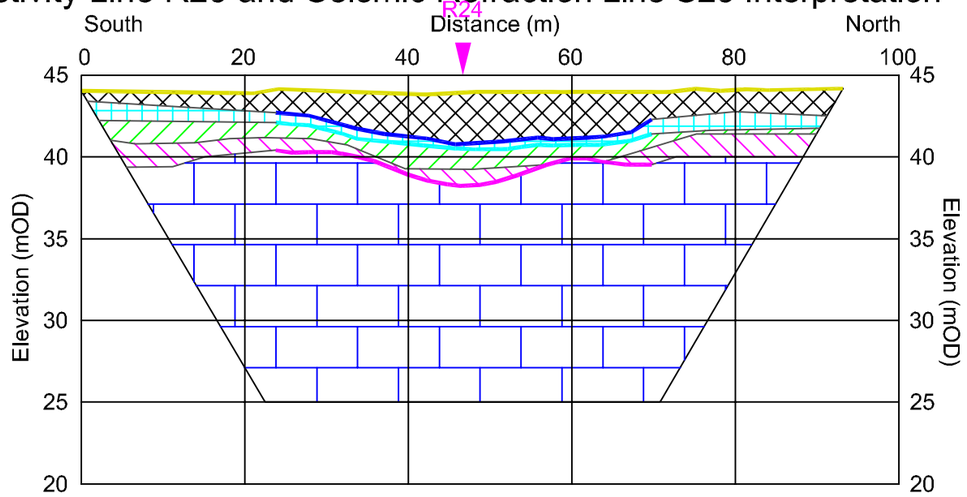
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

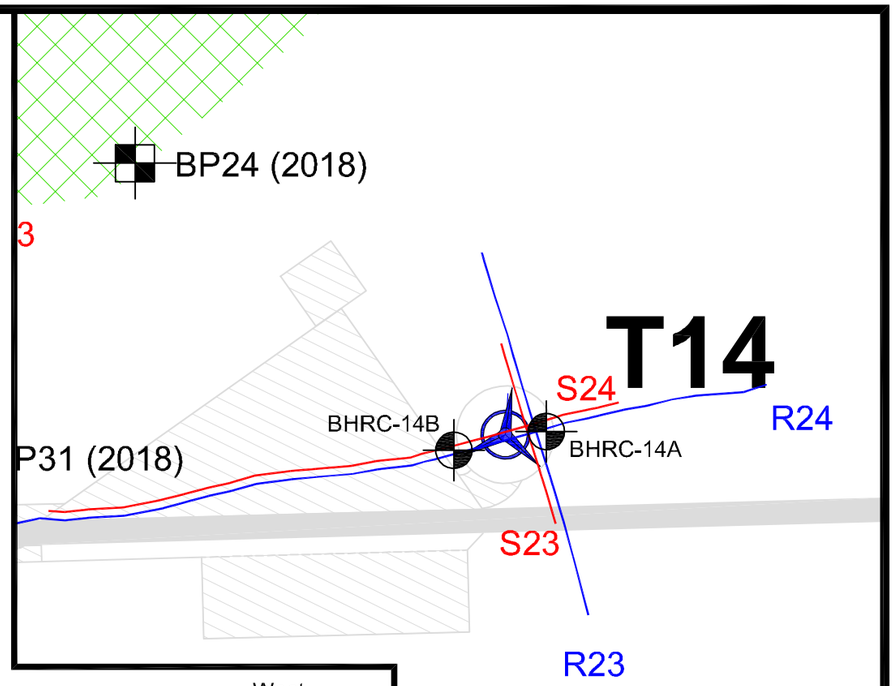
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| BHRC-04B | Bore Hole Name and Location | | |
| TP-02 | Trial Pit Name and Location | | |
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

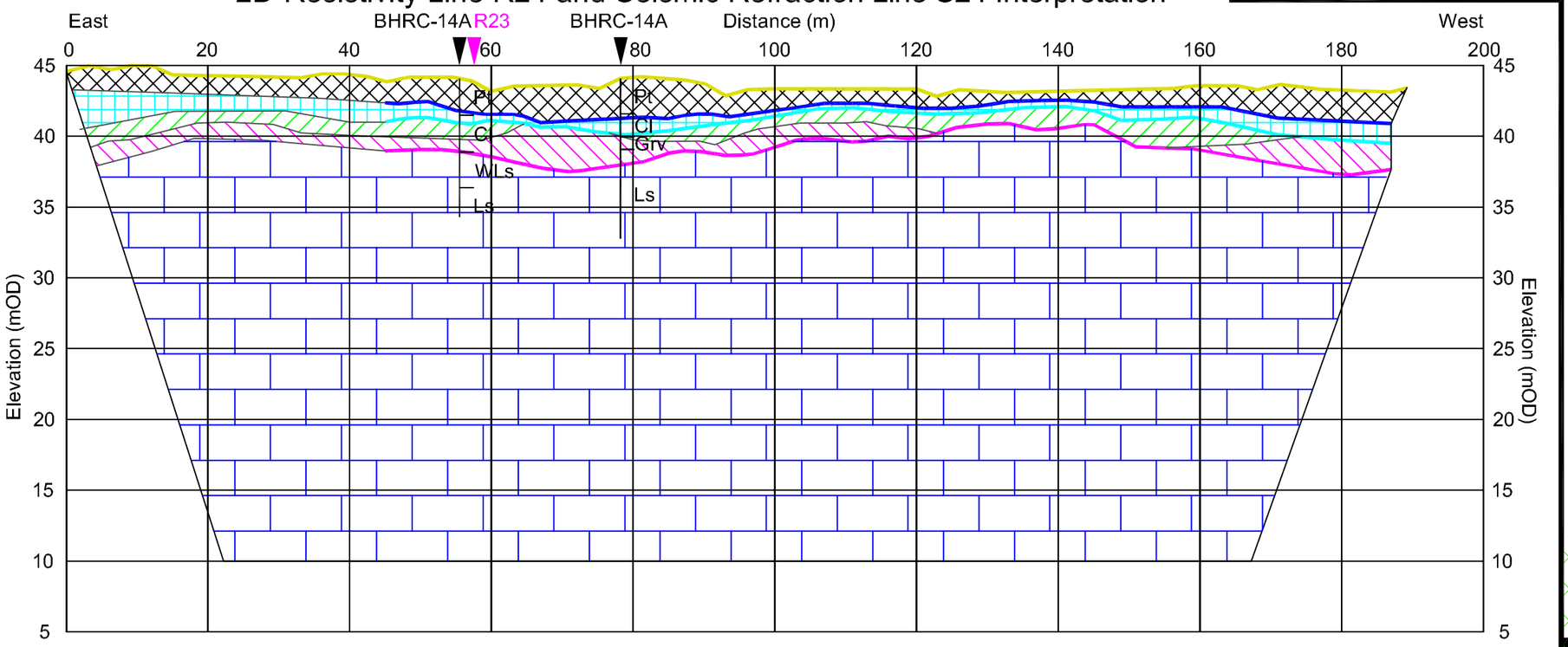
# T14

## 2D-Resistivity Line R23 and Seismic Refraction Line S23 Interpretation




## 2D-Resistivity Line R24 and Seismic Refraction Line S24 Interpretation




(2018)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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2n: Interpretation of Geophysical Survey, Turbine 14 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

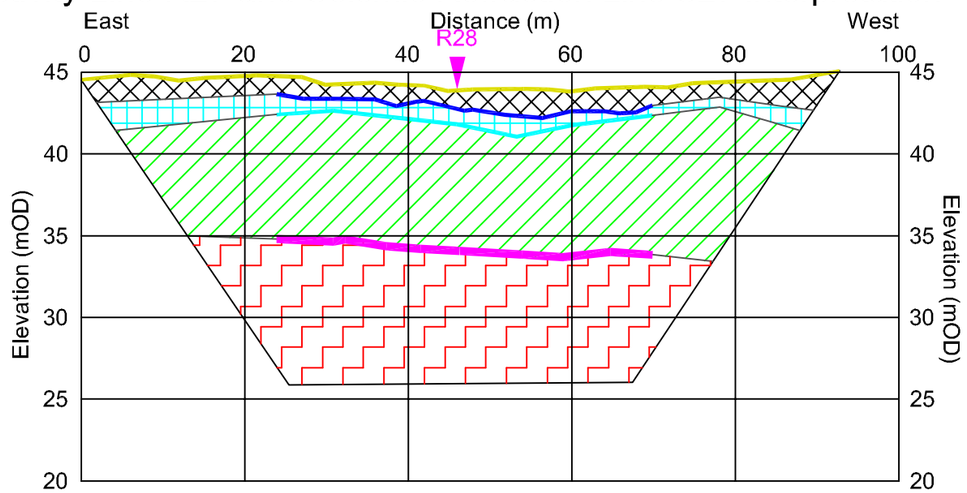
Abbreviated GI Logs:

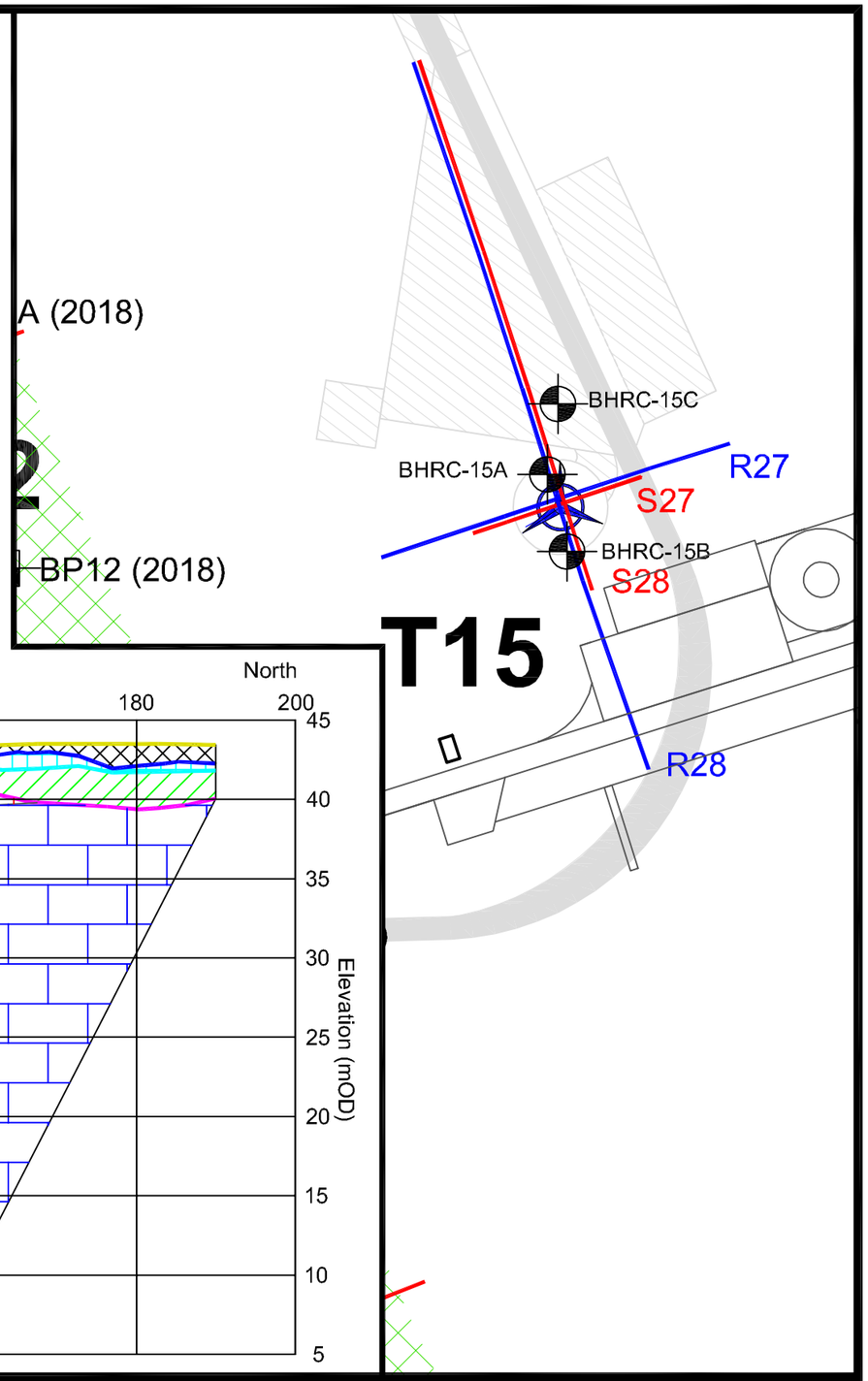
| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

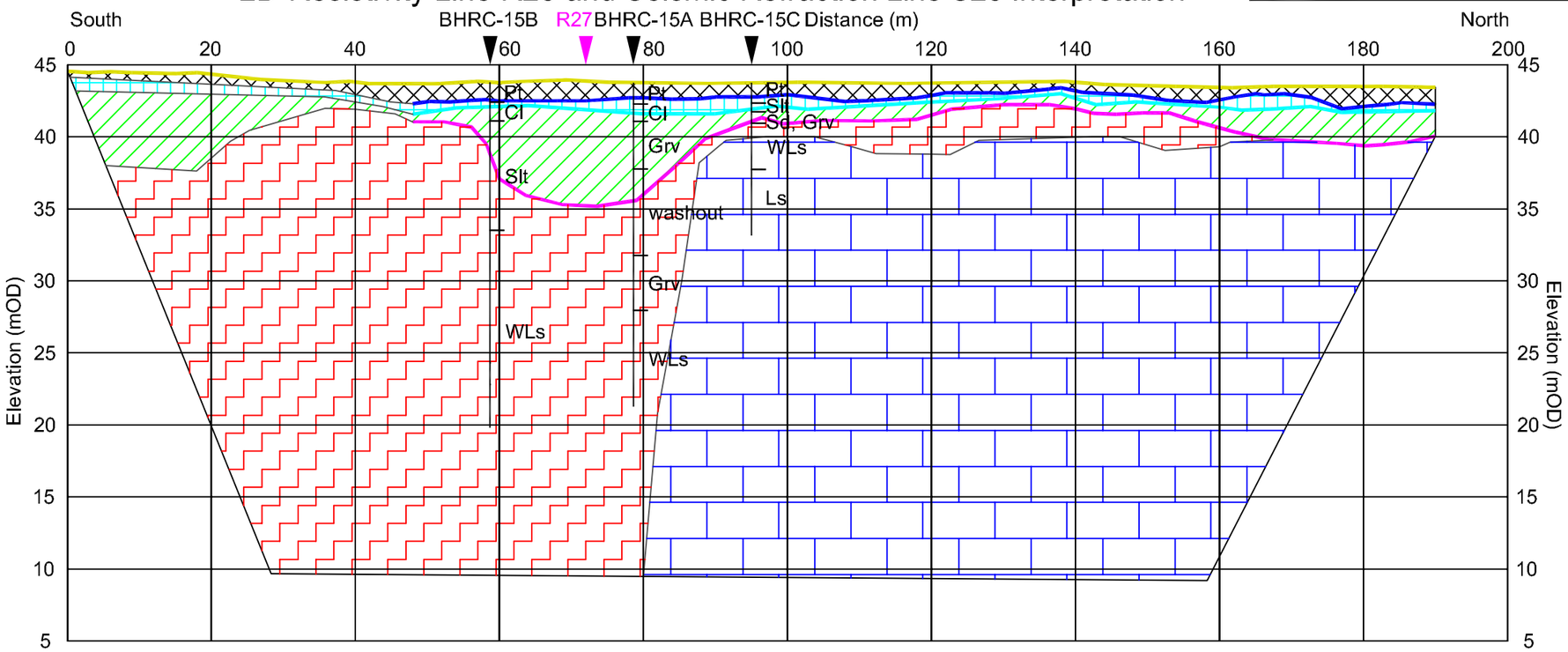
# T15

## 2D-Resistivity Line R27 and Seismic Refraction Line S27 Interpretation




## 2D-Resistivity Line R28 and Seismic Refraction Line S28 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2o: Interpretation of Geophysical Survey, Turbine 15 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: **Interpretation Turbine Locations:**

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

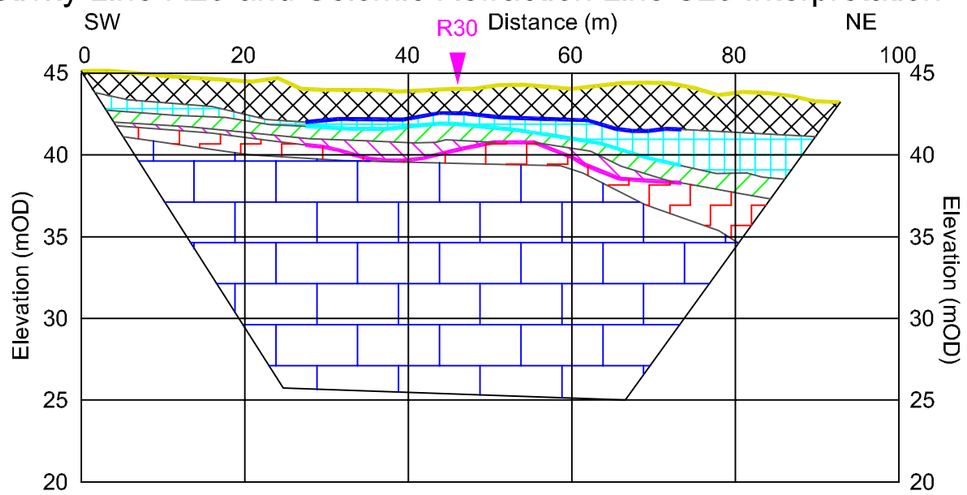
**Abbreviated GI Logs:**

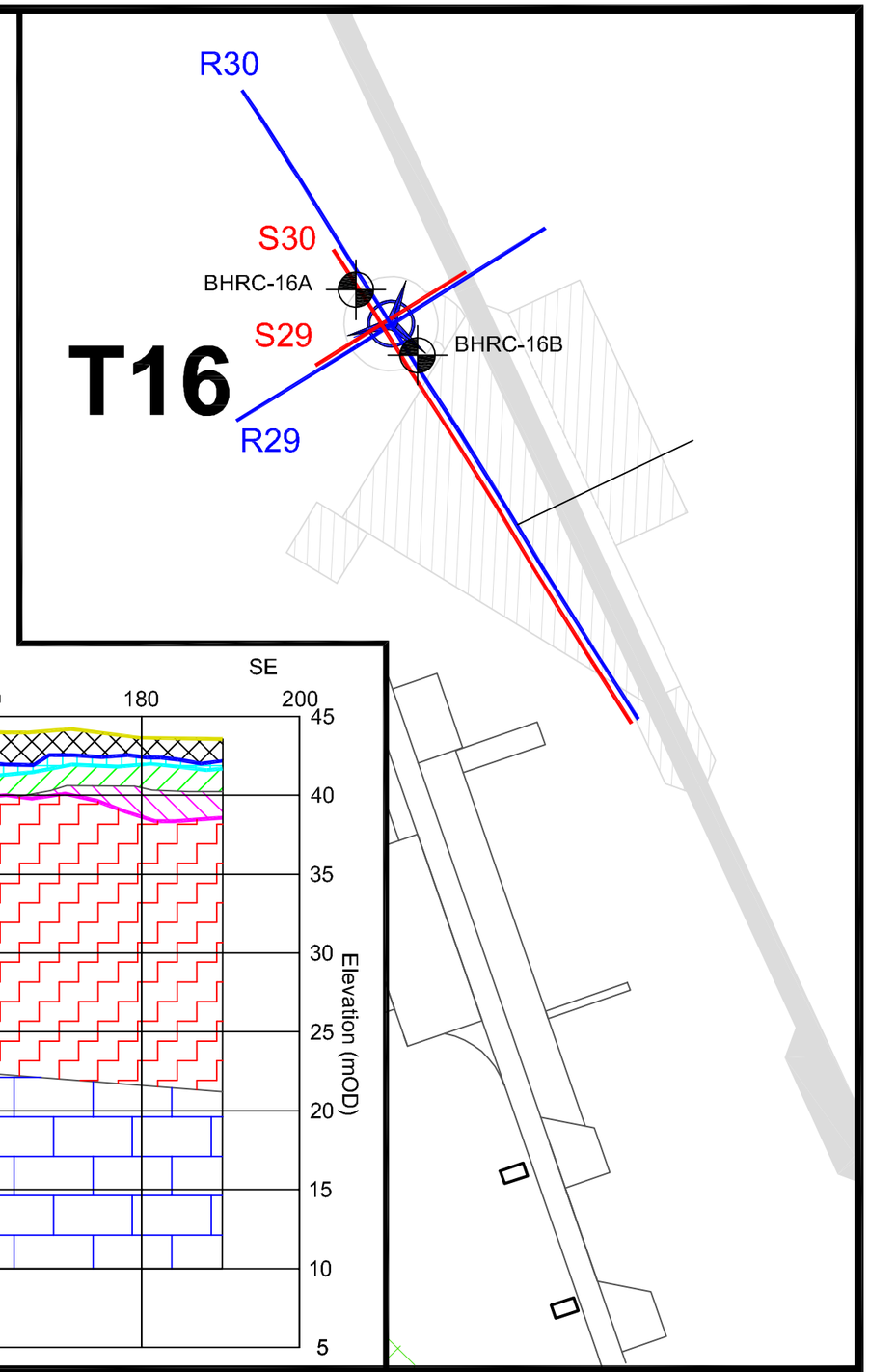
| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

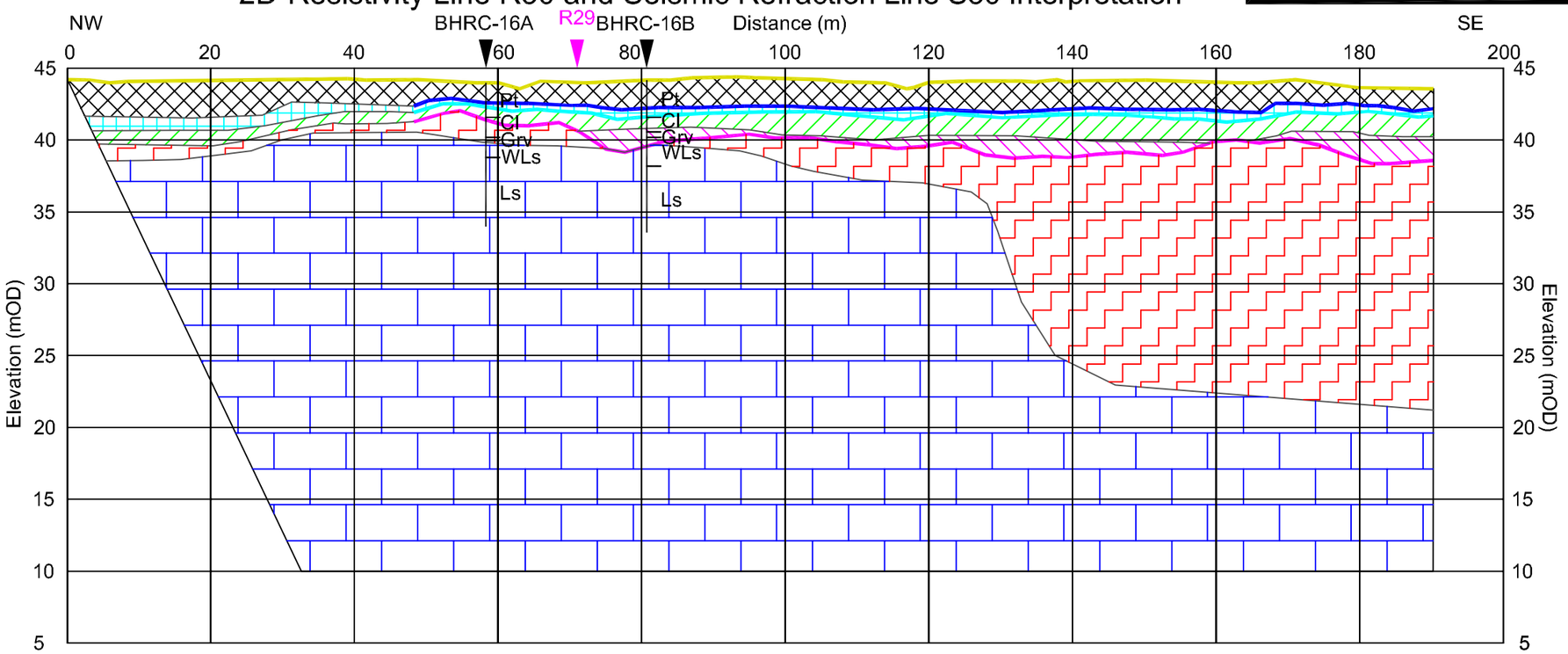
# T16

## 2D-Resistivity Line R29 and Seismic Refraction Line S29 Interpretation




## 2D-Resistivity Line R30 and Seismic Refraction Line S30 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2p: Interpretation of Geophysical Survey, Turbine 16 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: **Interpretation Turbine Locations:**

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

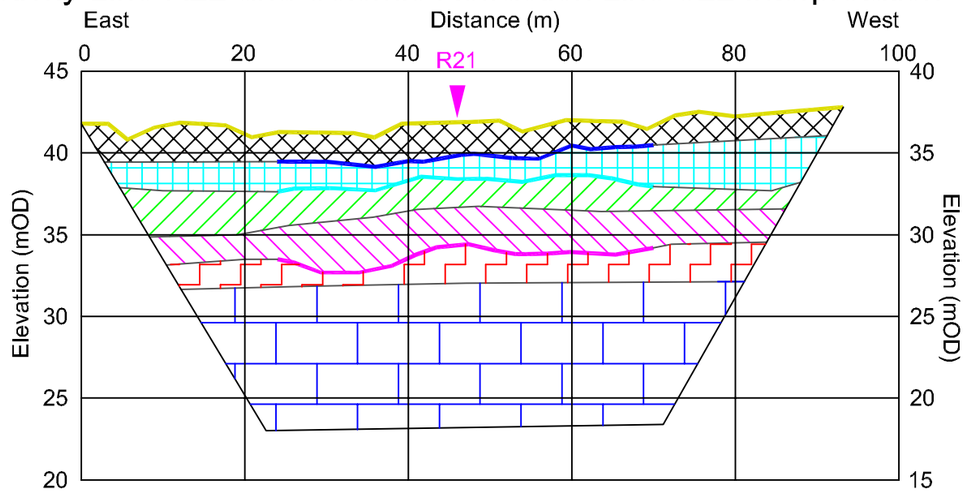
**Abbreviated GI Logs:**

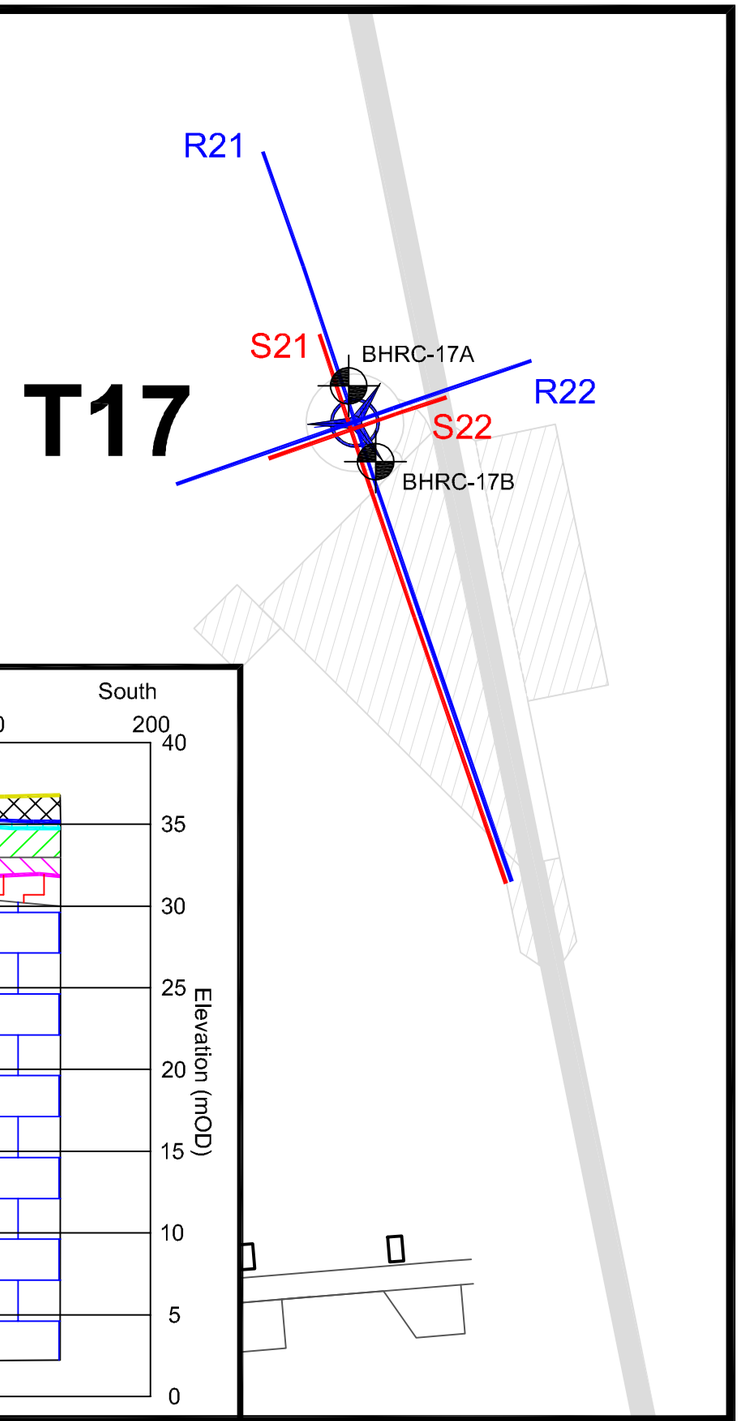
| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

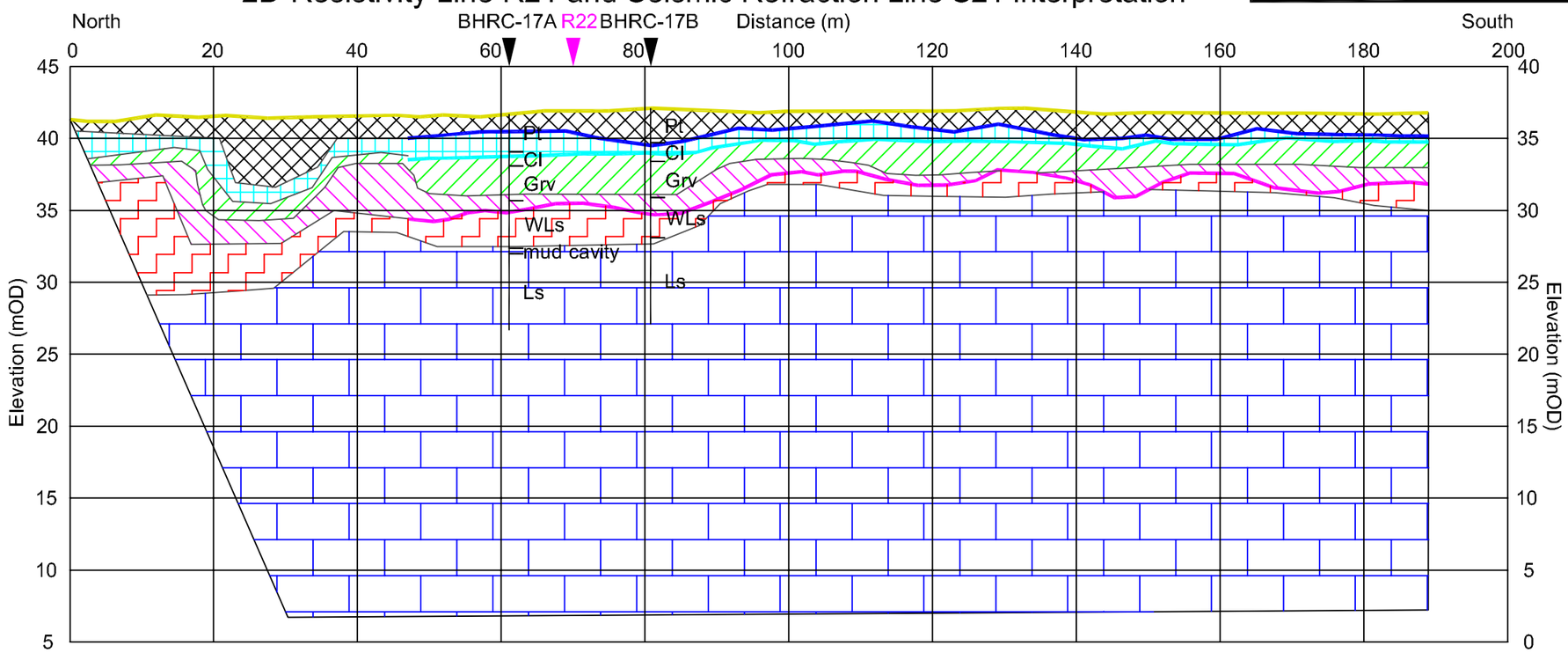
# T17

## 2D-Resistivity Line R22 and Seismic Refraction Line S22 Interpretation




## 2D-Resistivity Line R21 and Seismic Refraction Line S21 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd. Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford Geophysical Survey |
| TITLE | Figure 2q: Interpretation of Geophysical Survey, Turbine 17 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

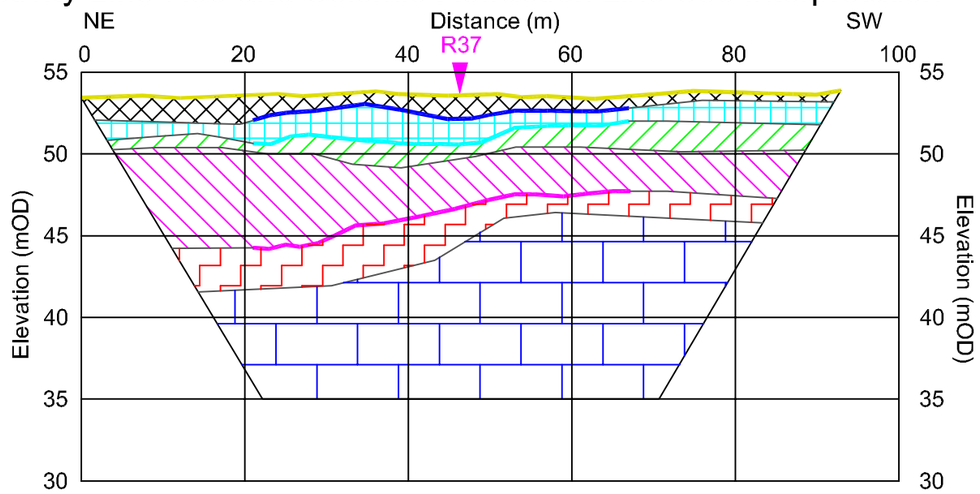
1 Soft Peat or Clay or Silt
2 Firm Clay or Silt
3a Stiff to very stiff sandy gravelly Clay or Silt
3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
4a Fair to good weathered or karstified Limestone
4b Good to very good fresh clean Limestone
4c Good to very good Shale or argillaceous Limestone or Sandstone

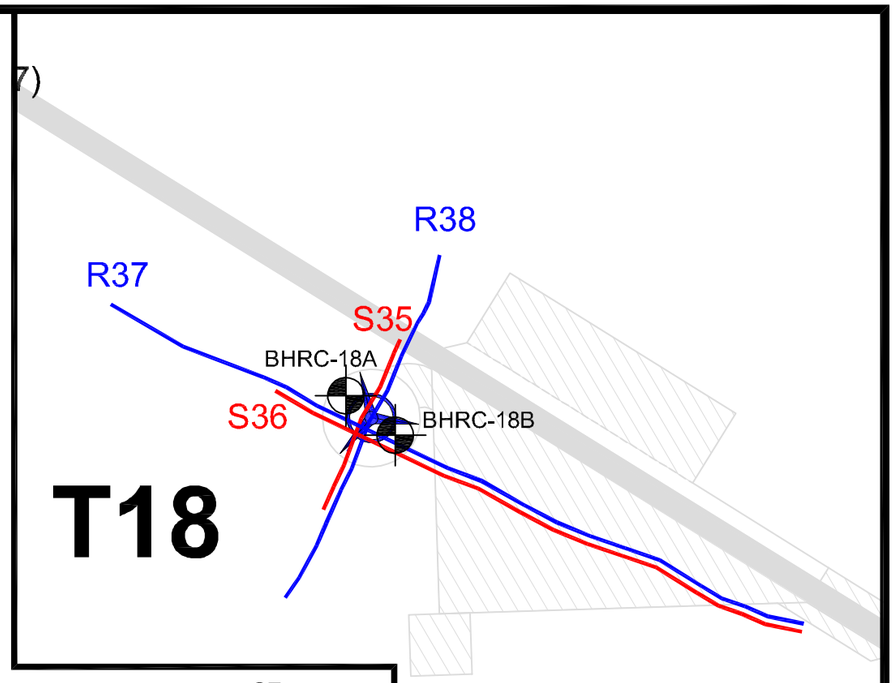
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| BHRC-04B | Bore Hole Name and Location | | |
| TP-02 | Trial Pit Name and Location | | |
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

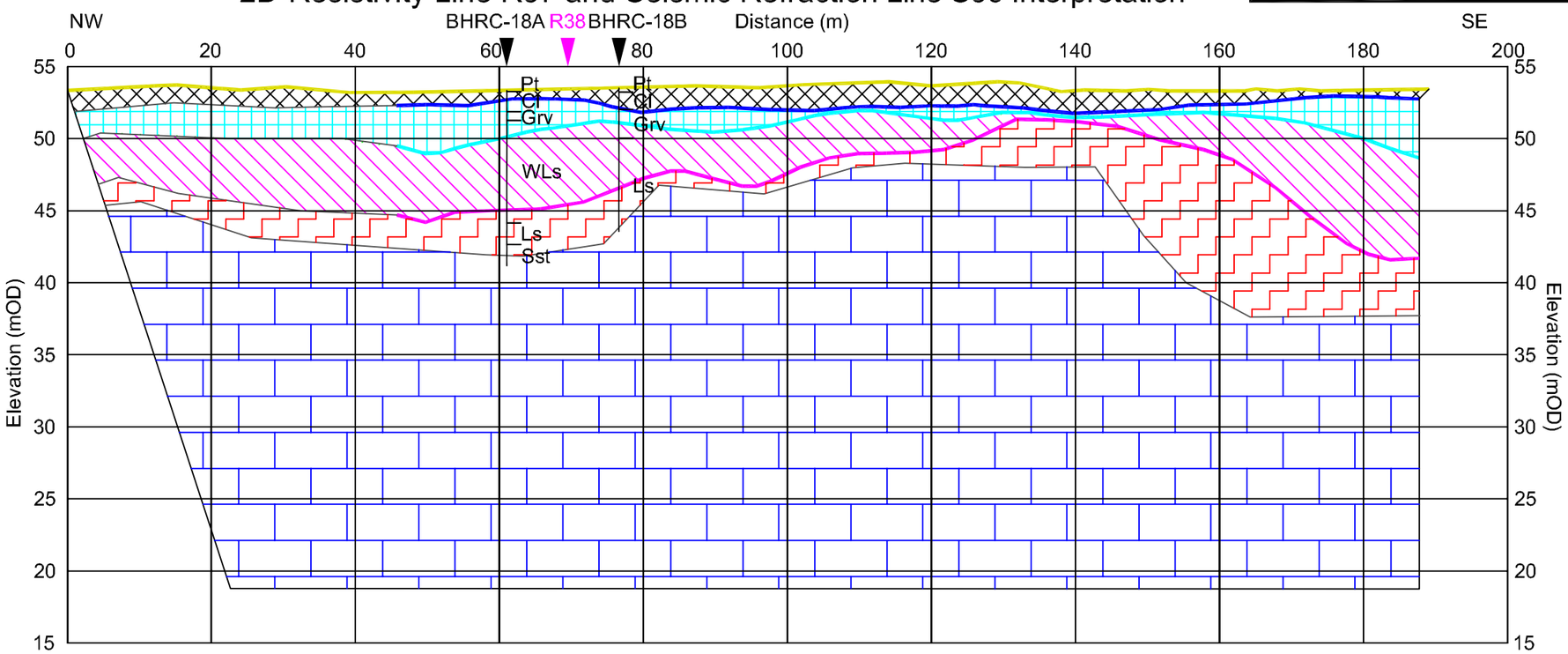
# T18

## 2D-Resistivity Line R38 and Seismic Refraction Line S35 Interpretation




## 2D-Resistivity Line R37 and Seismic Refraction Line S36 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2r: Interpretation of Geophysical Survey, Turbine 18 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

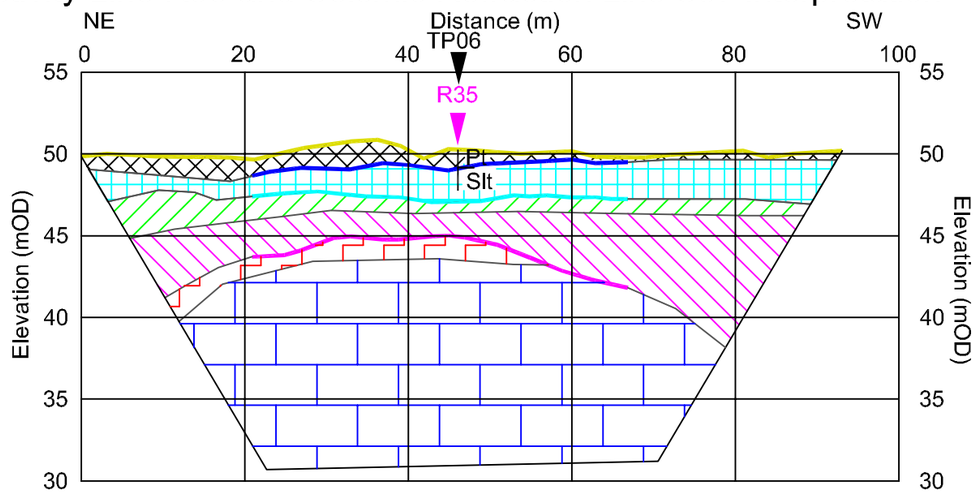
Abbreviated GI Logs:

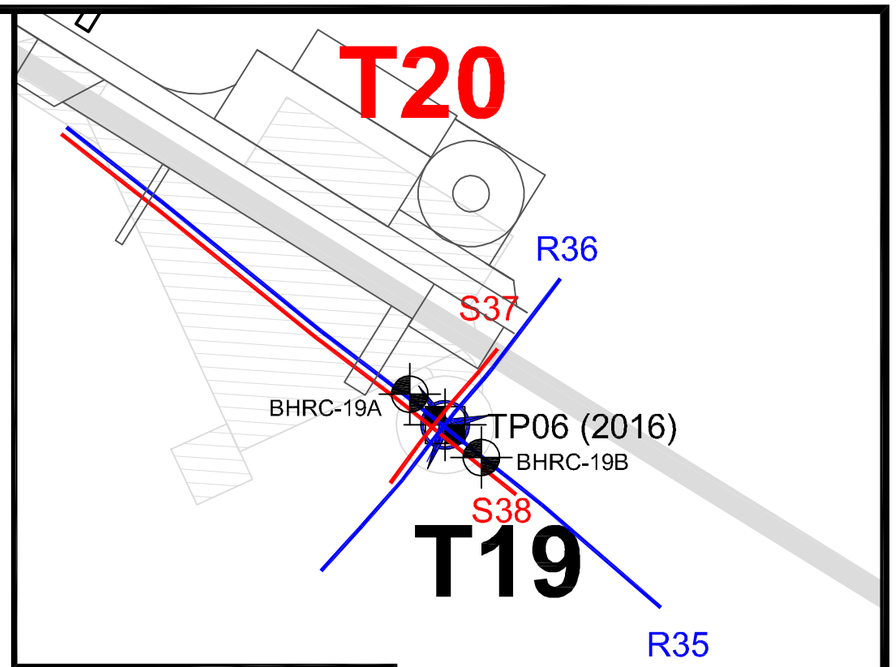
| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

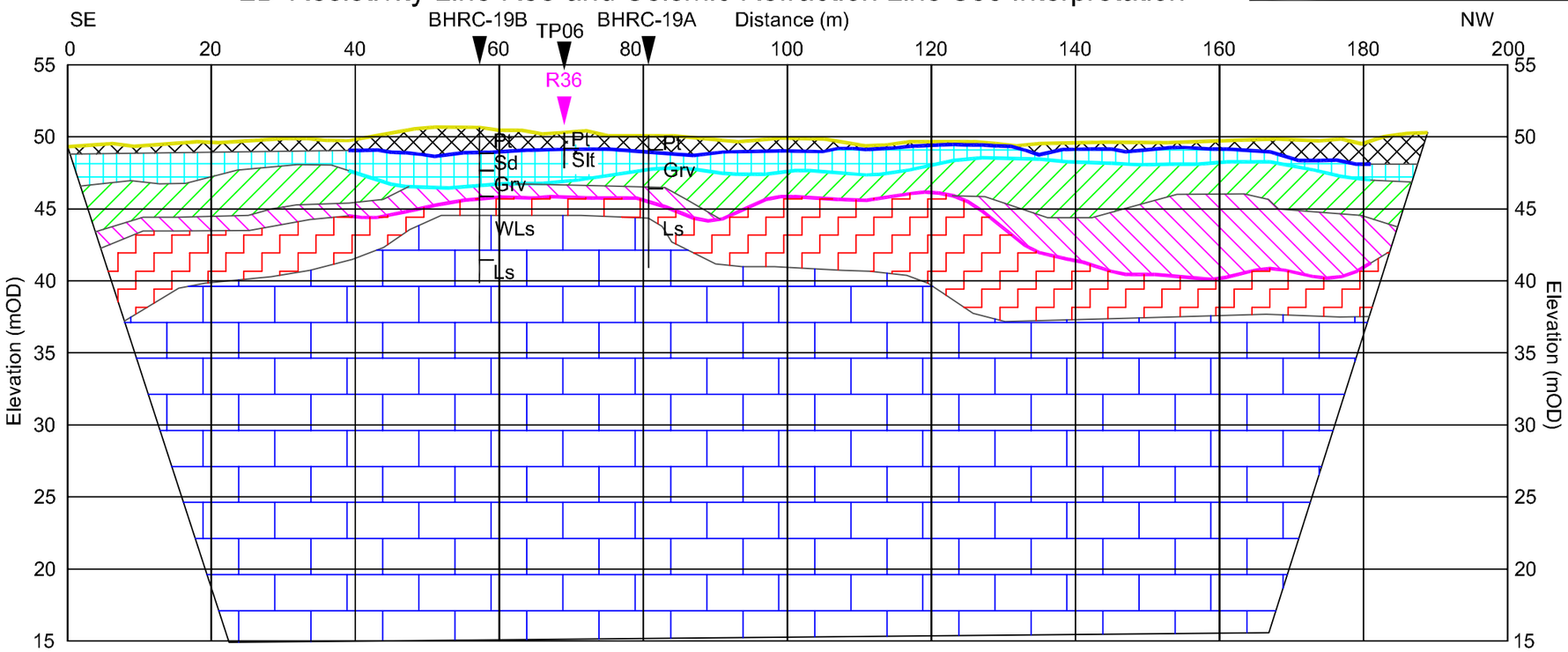
# T19

## 2D-Resistivity Line R36 and Seismic Refraction Line S37 Interpretation




## 2D-Resistivity Line R35 and Seismic Refraction Line S38 Interpretation





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Web: www.mgx.ie


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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2s: Interpretation of Geophysical Survey, Turbine 19 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

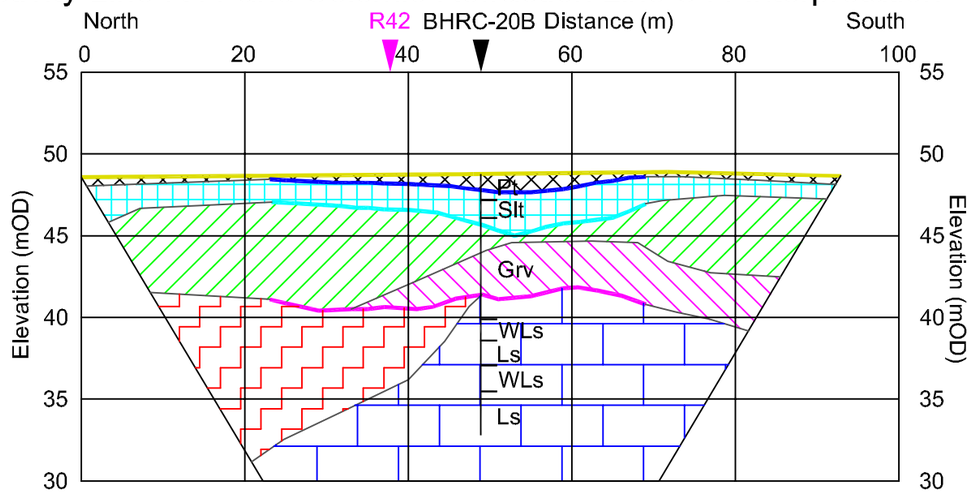
Abbreviated GI Logs:

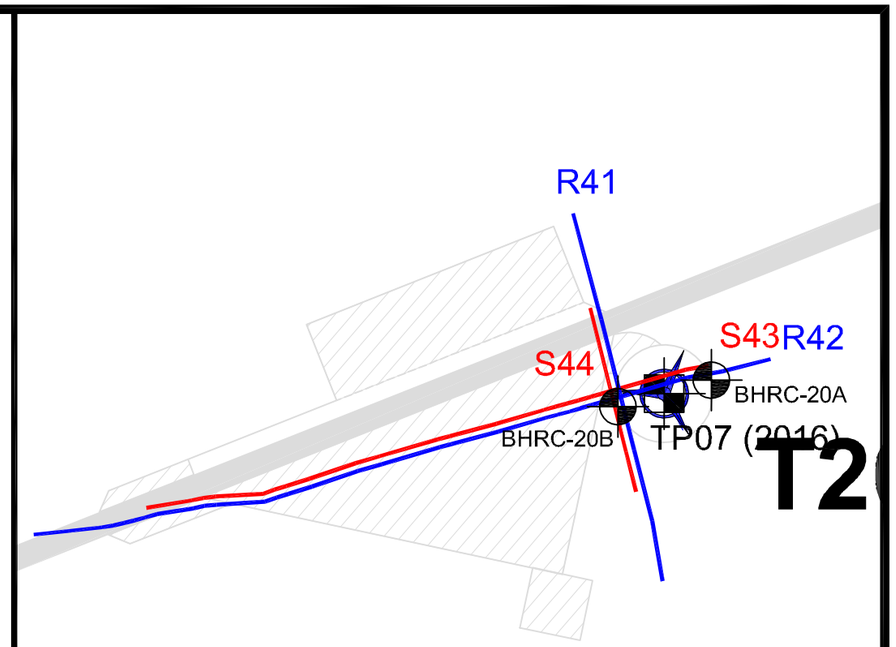
| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

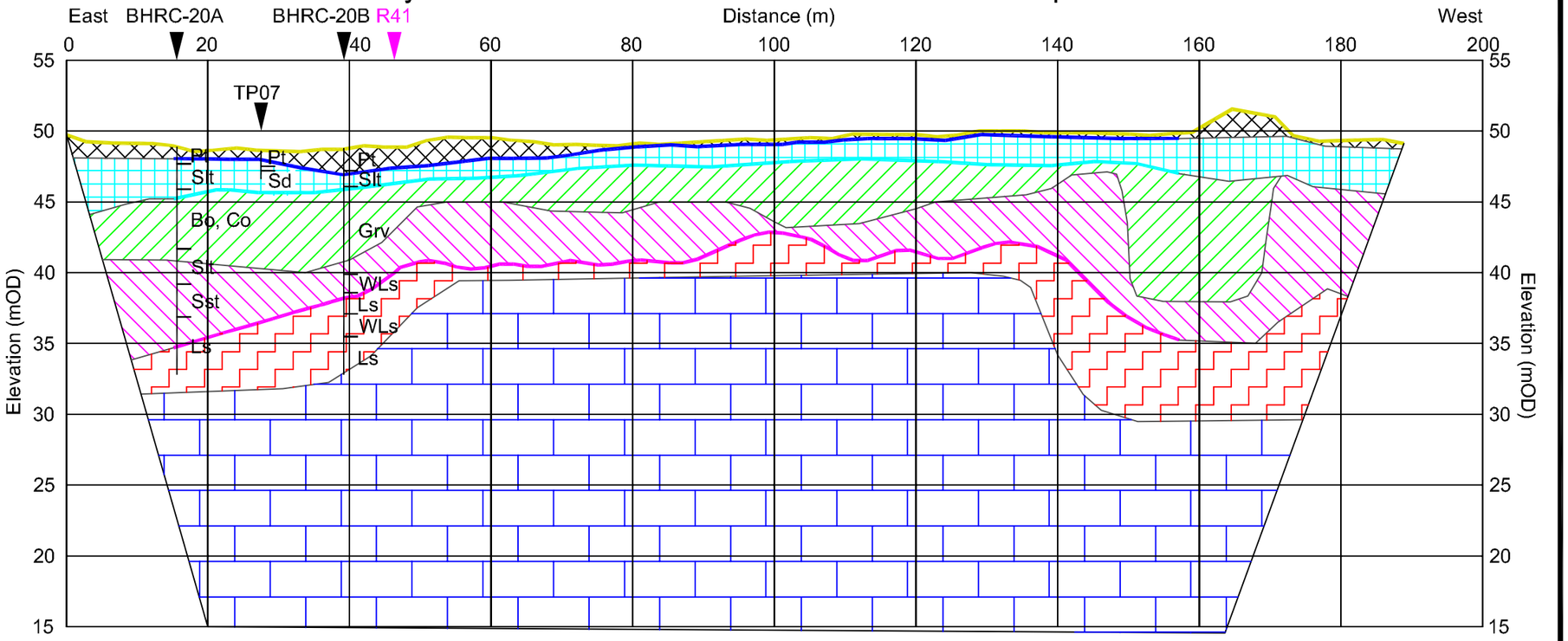
# T20

## 2D-Resistivity Line R41 and Seismic Refraction Line S44 Interpretation




## 2D-Resistivity Line R42 and Seismic Refraction Line S43 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2t: Interpretation of Geophysical Survey, Turbine 20 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

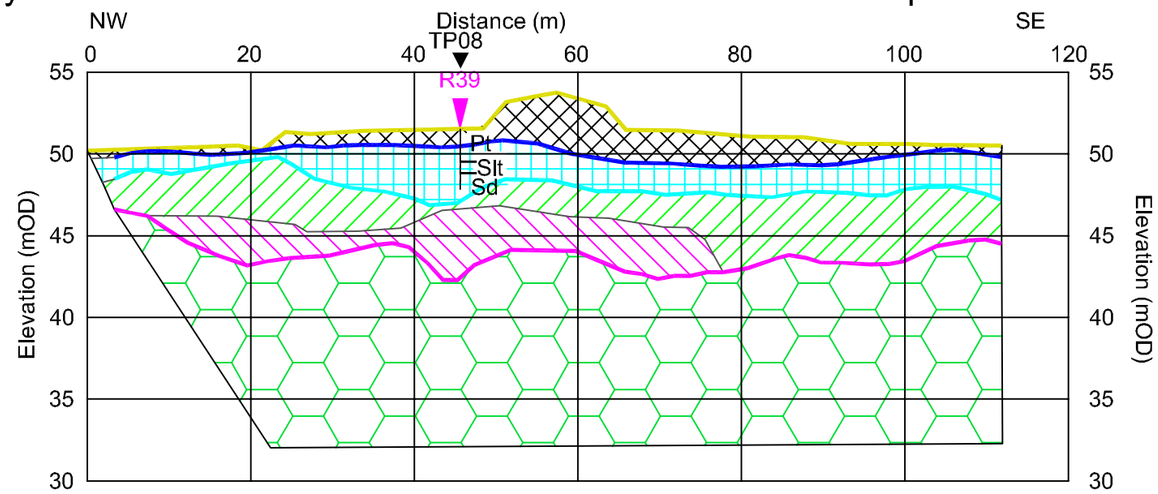
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

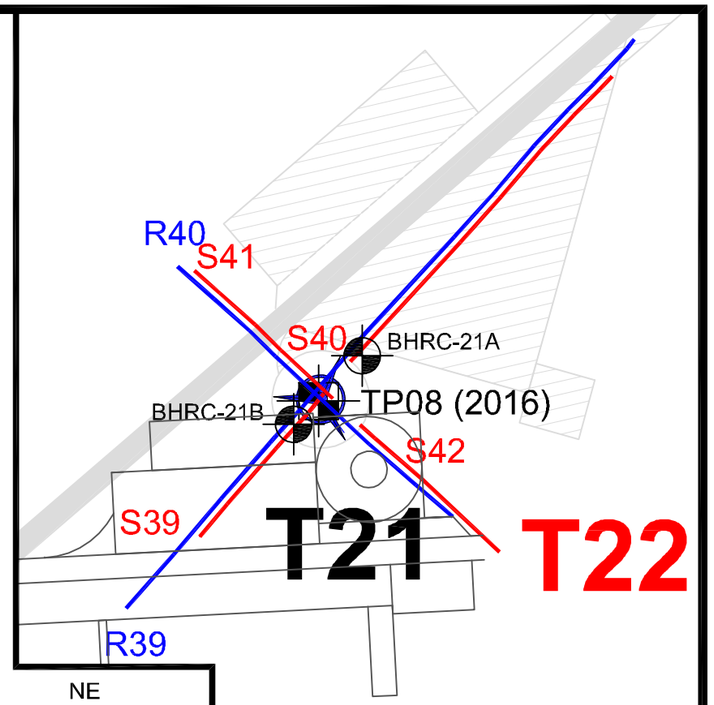
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| BHRC-04B | Bore Hole Name and Location | | |
| TP-02 | Trial Pit Name and Location | | |
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

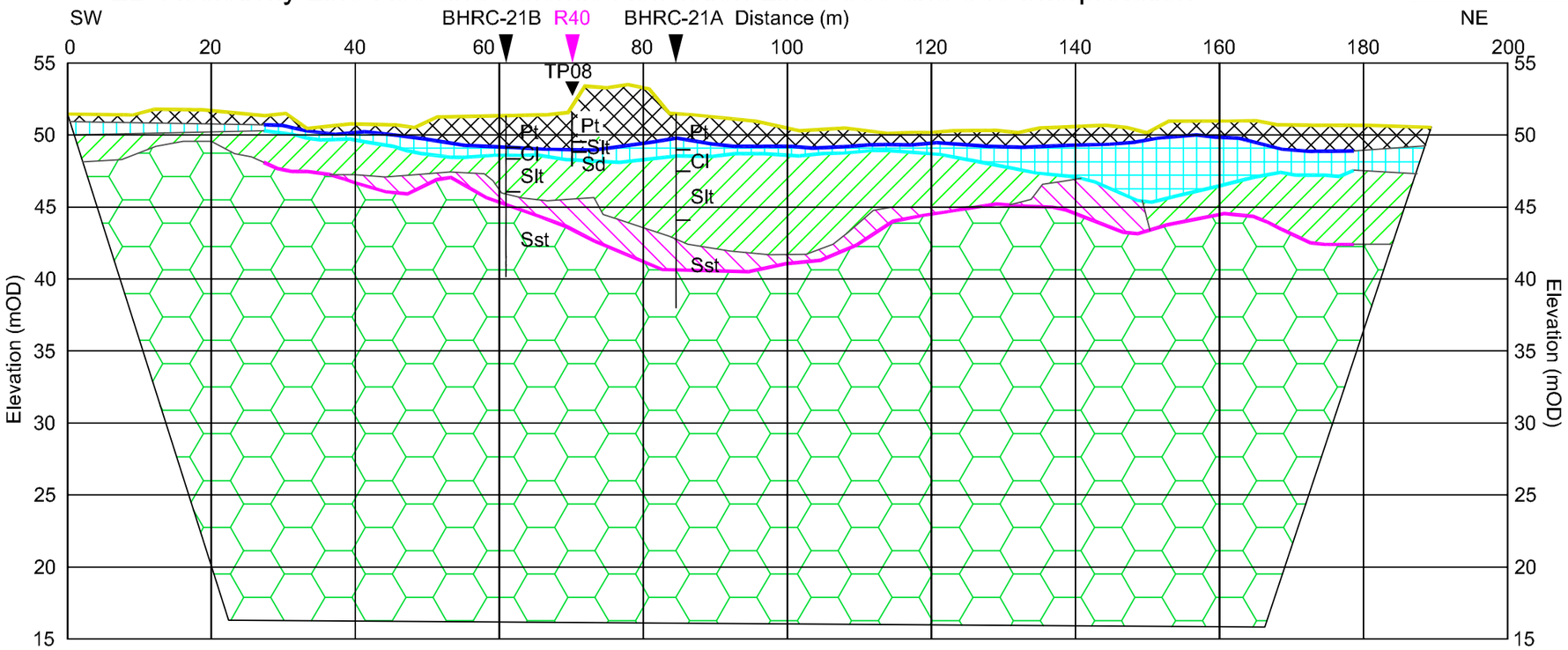
# T21

## 2D-Resistivity Line R40 and Seismic Refraction Lines S41 and S42 Interpretation




## 2D-Resistivity Line R39 and Seismic Refraction Lines S39 and S40 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 1u: Interpretation of Geophysical Survey, Turbine 21 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

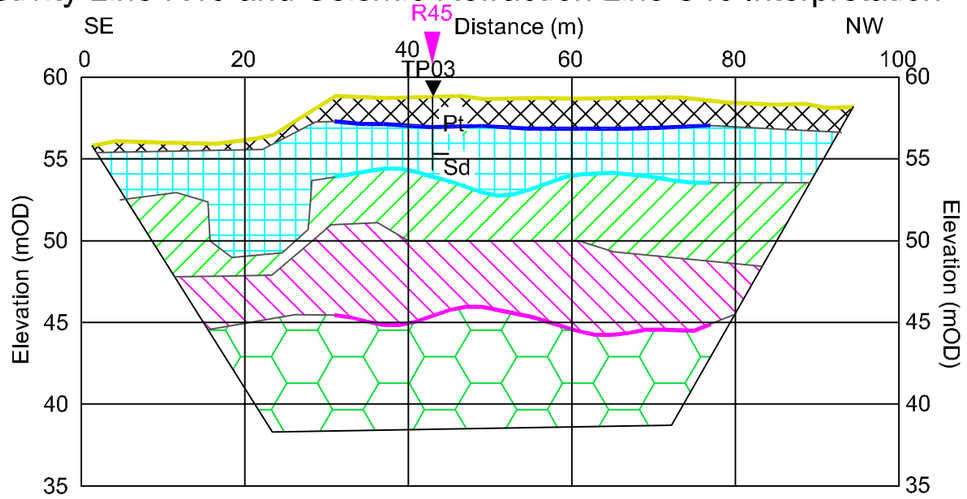
Abbreviated GI Logs:

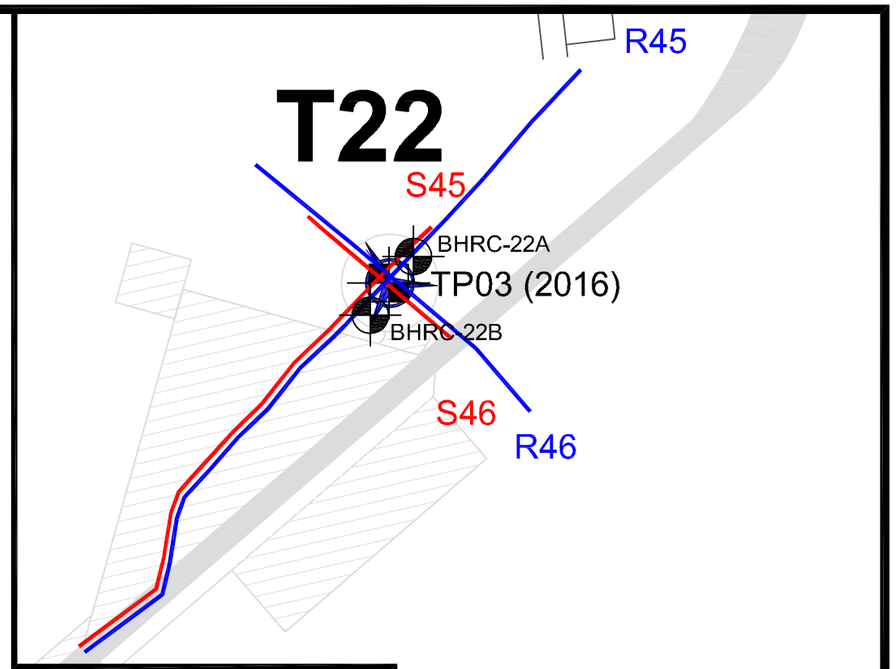
| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

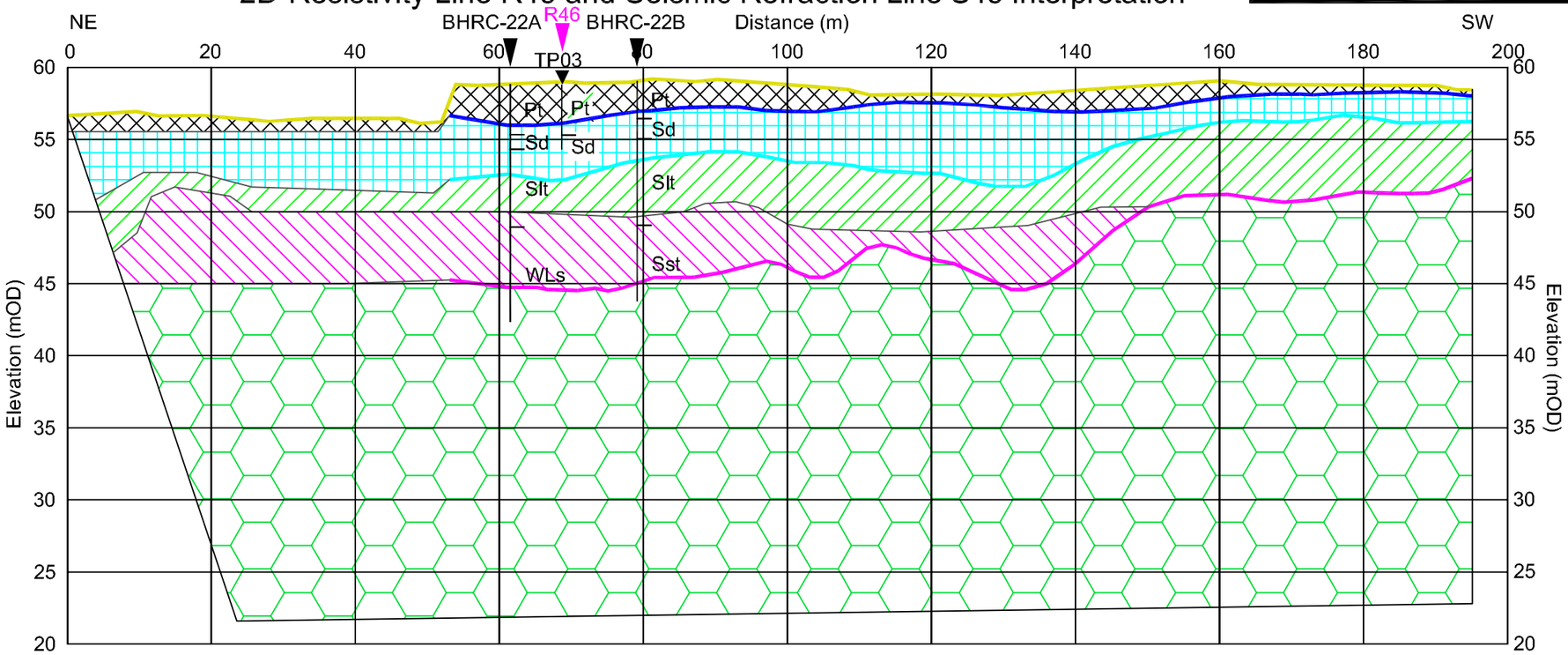
# T22

## 2D-Resistivity Line R46 and Seismic Refraction Line S46 Interpretation




## 2D-Resistivity Line R45 and Seismic Refraction Line S45 Interpretation





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2v: Interpretation of Geophysical Survey, Turbine 22 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: **Interpretation Turbine Locations:**

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

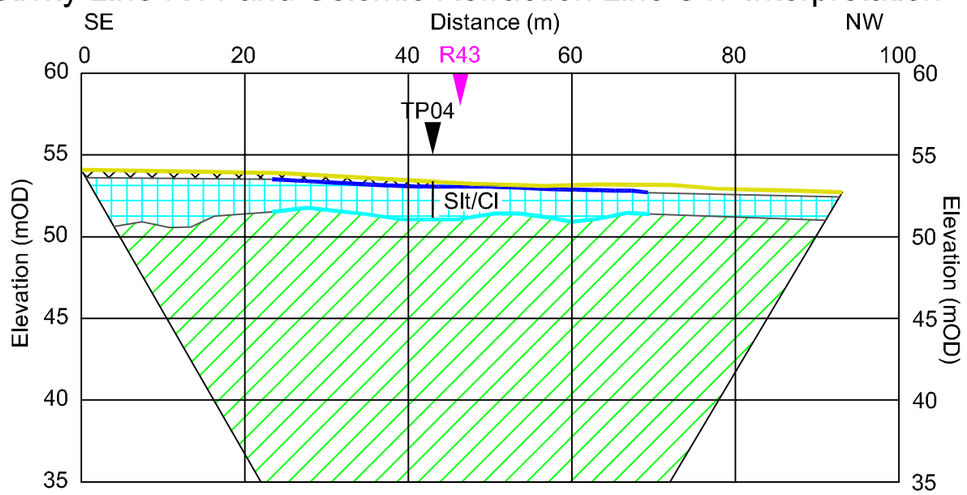
**Abbreviated GI Logs:**

| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

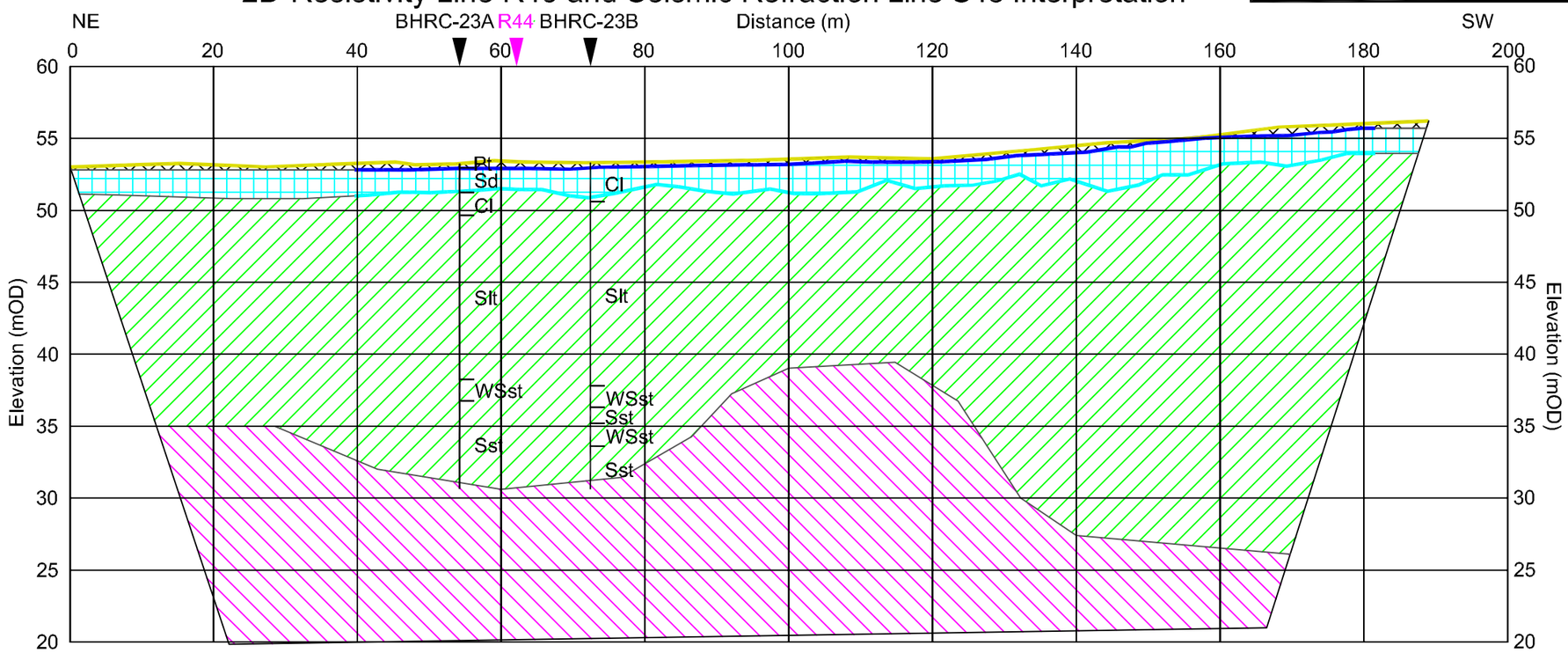
| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

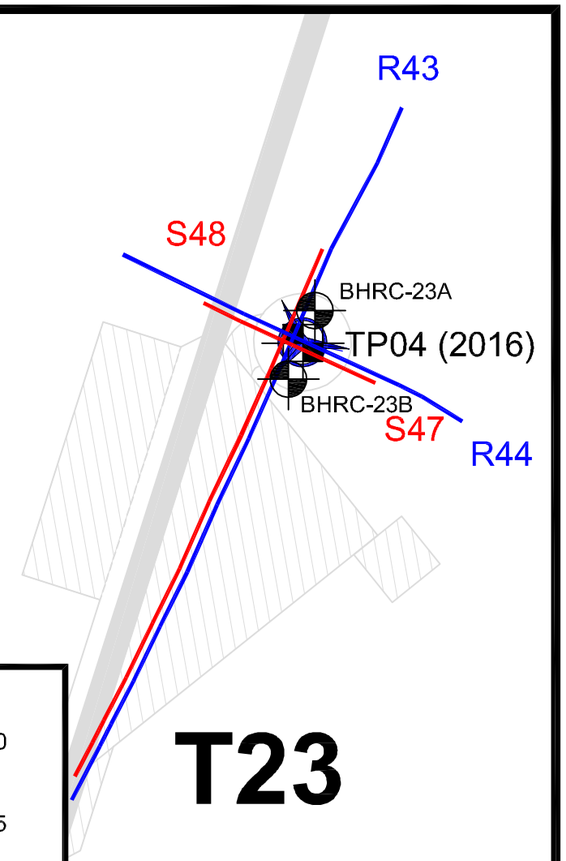
# T23

## 2D-Resistivity Line R44 and Seismic Refraction Line S47 Interpretation




## 2D-Resistivity Line R43 and Seismic Refraction Line S48 Interpretation




# T23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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2w: Interpretation of Geophysical Survey, Turbine 23 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

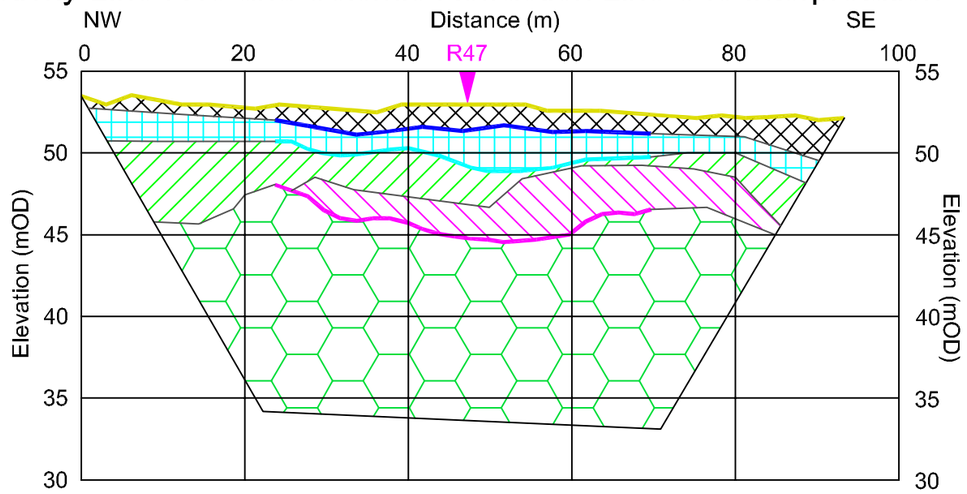
Abbreviated GI Logs:

| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

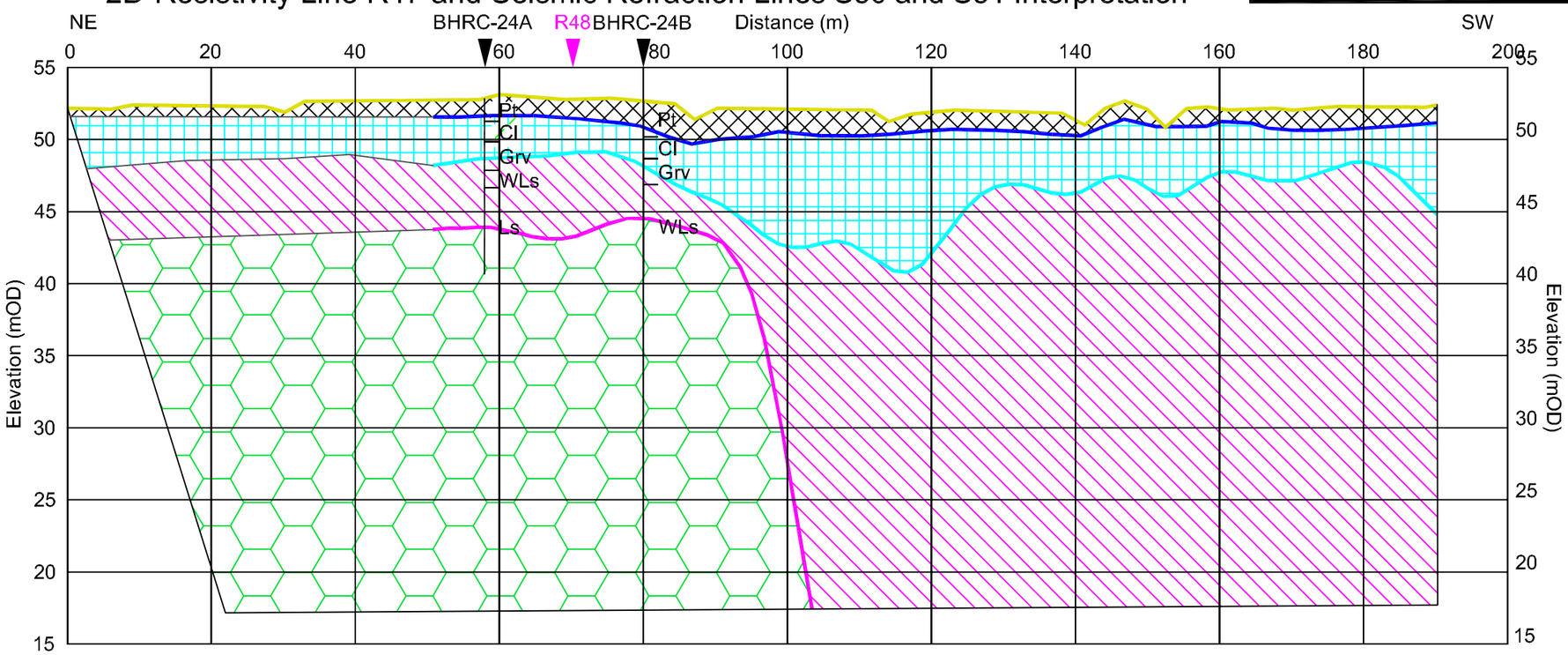
| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

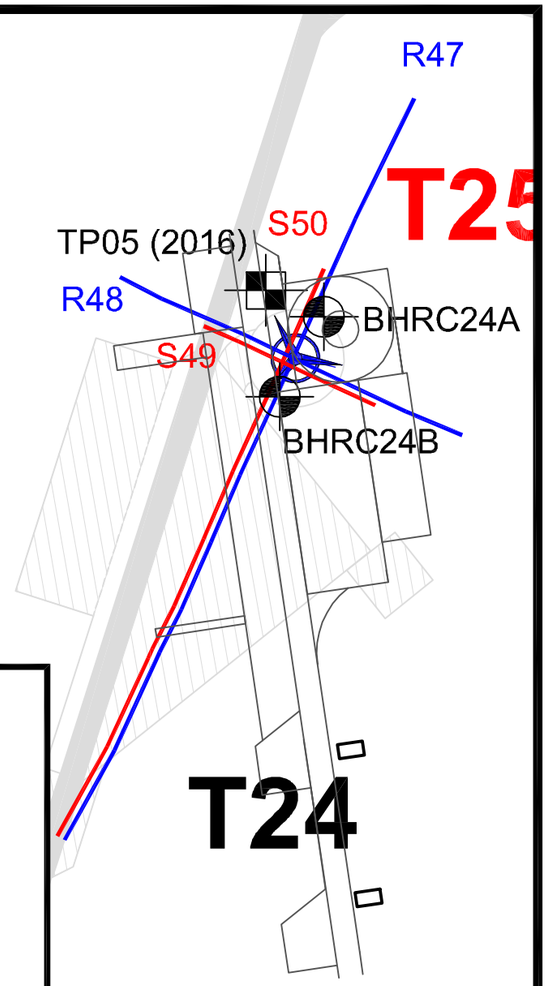
# T24

## 2D-Resistivity Line R48 and Seismic Refraction Line S49 Interpretation




## 2D-Resistivity Line R47 and Seismic Refraction Lines S50 and S51 Interpretation





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2x: Interpretation of<br>Geophysical Survey, Turbine 24 |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

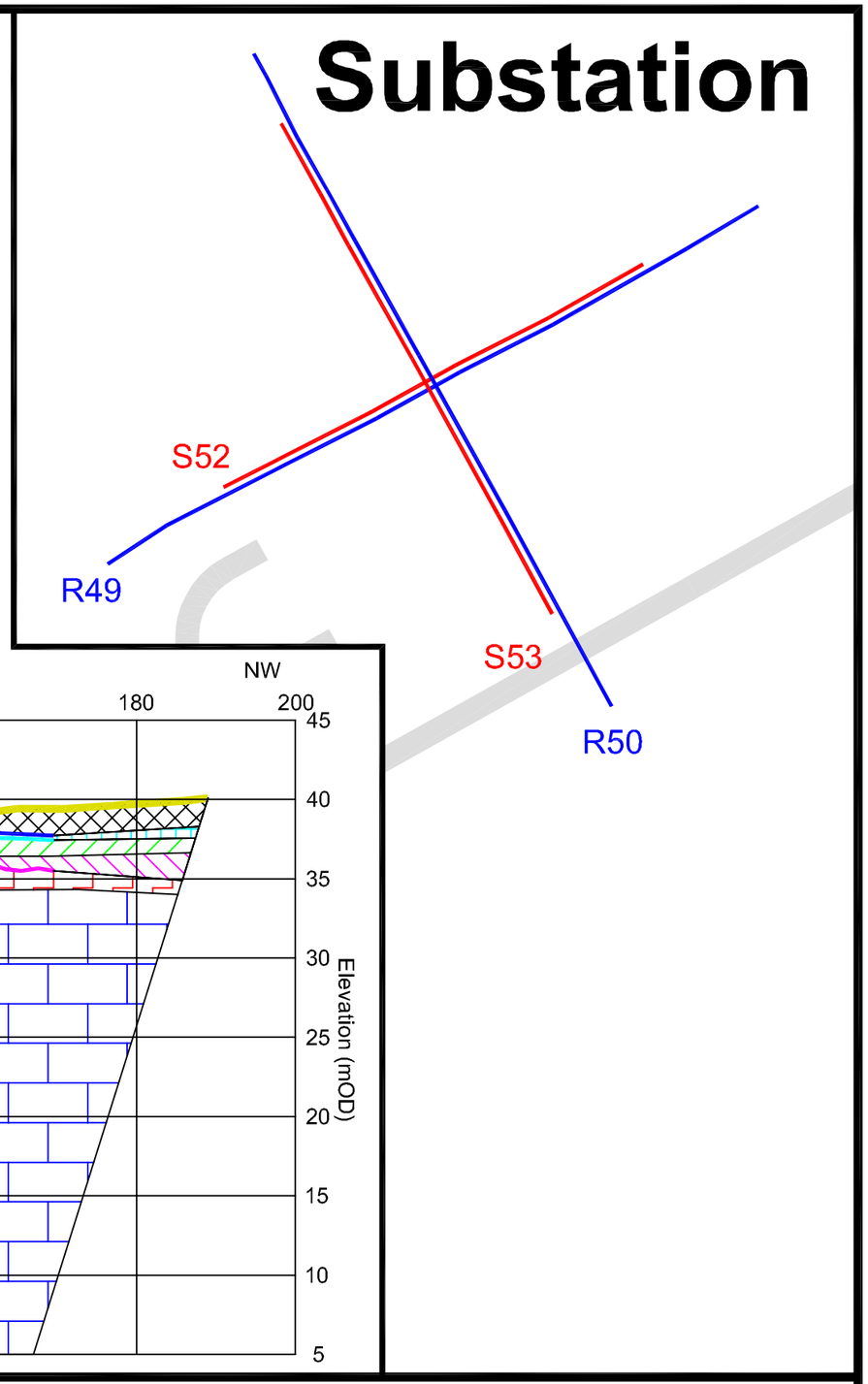
LEGEND: Interpretation Turbine Locations:

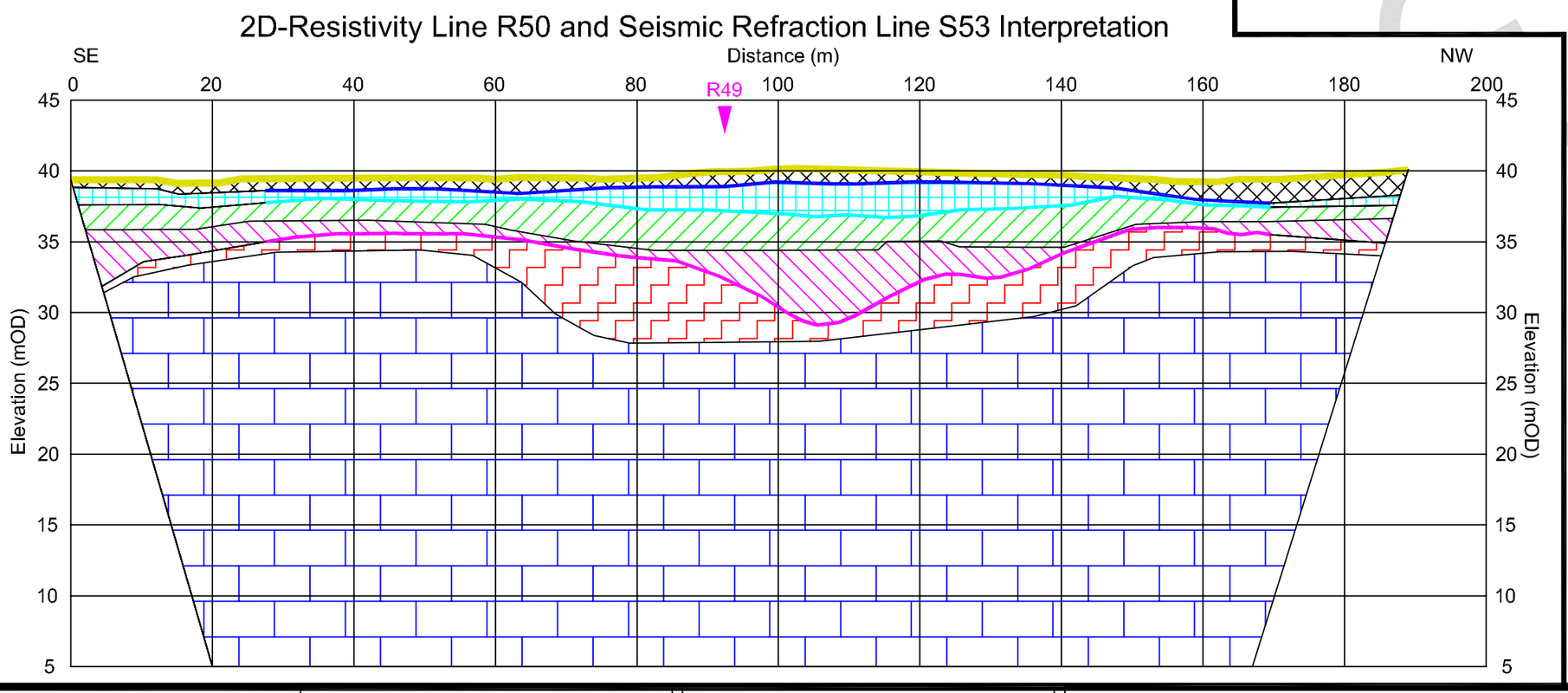
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| BHRC-04B | Bore Hole Name and Location | | |
| TP-02 | Trial Pit Name and Location | | |
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

# Substation





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2y: Interpretation of Geophysical Survey, Substation |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

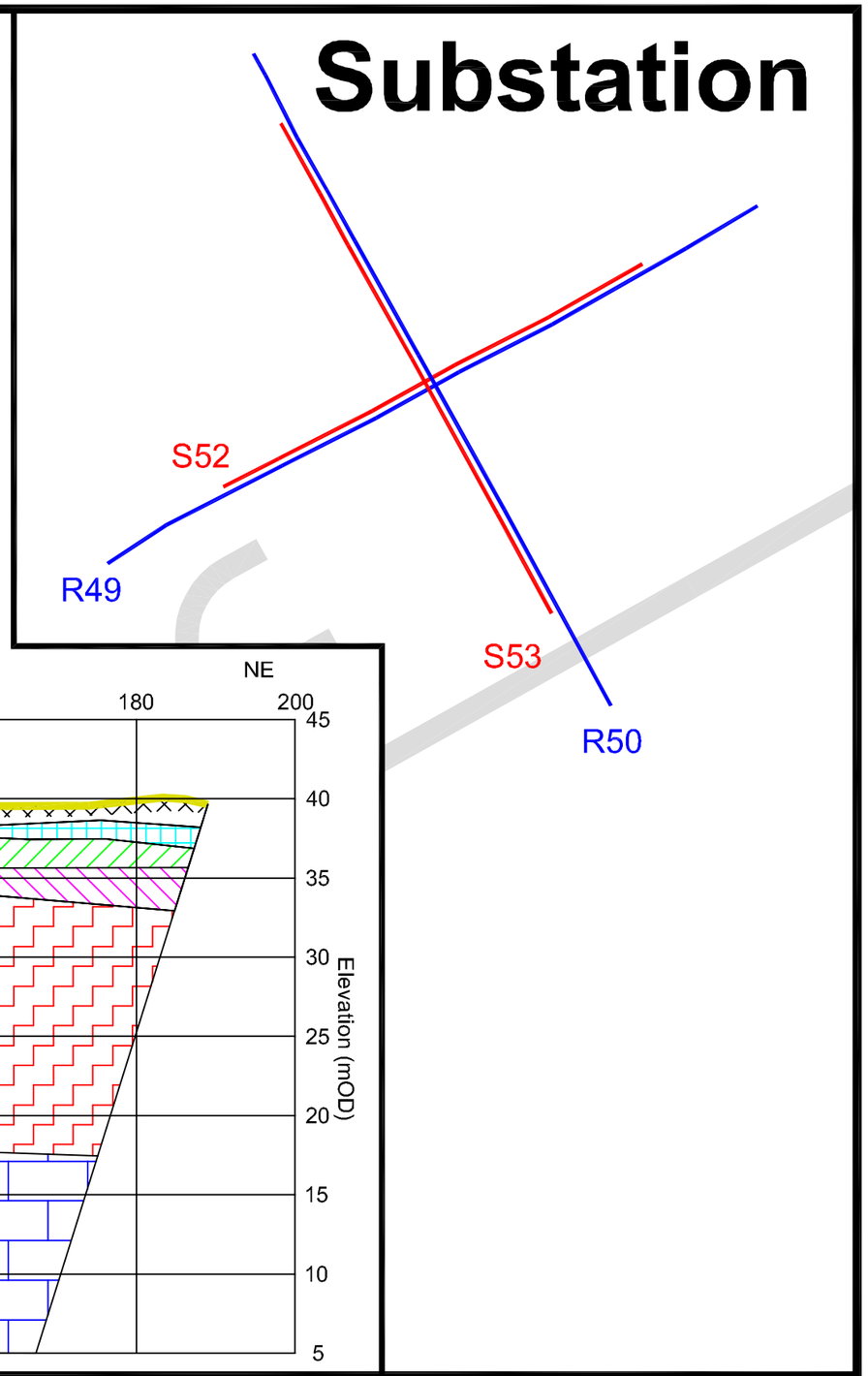
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

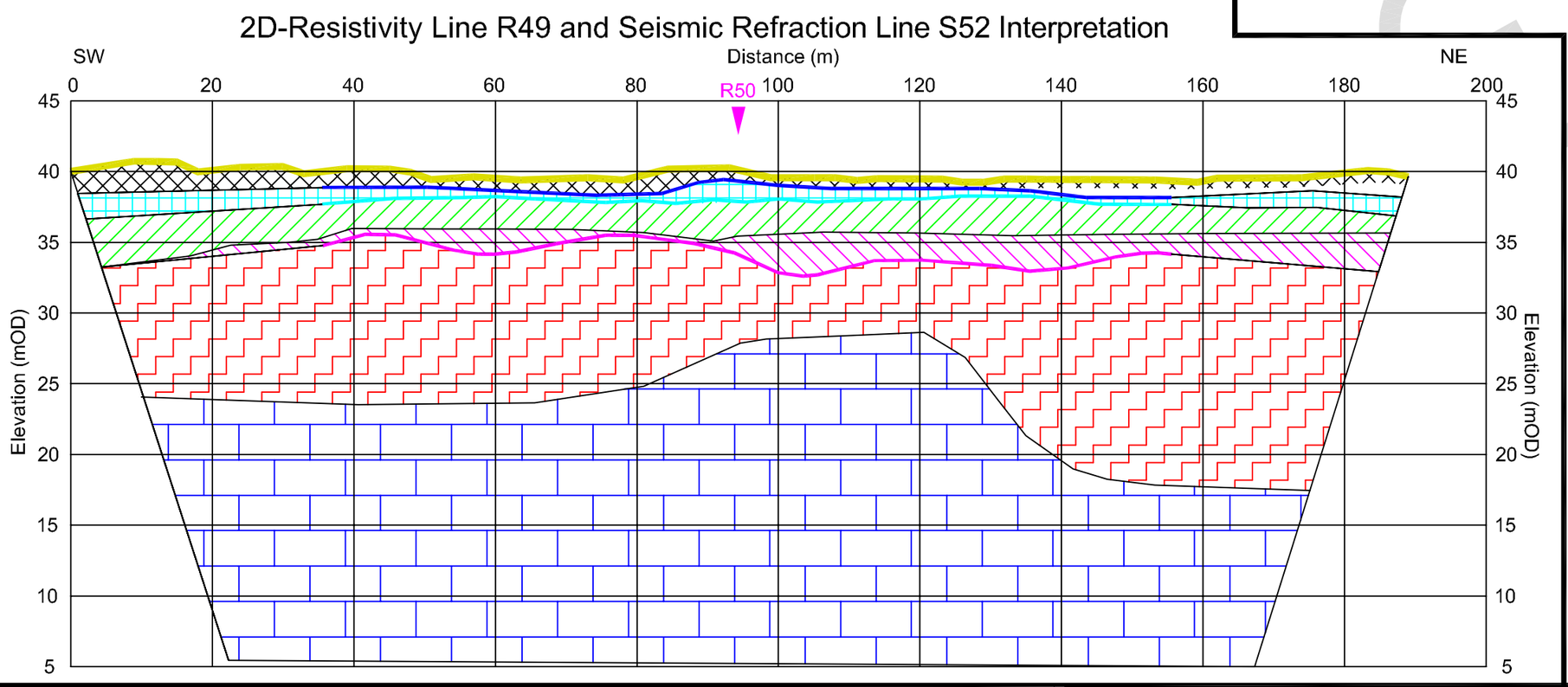
Abbreviated GI Logs:

| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

# Substation





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| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 2z: Interpretation of Geophysical Survey, Substation |

| | |
|---|---|
| SCALE: | Model: 1:750, VE x 2, Map: 1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND: Interpretation Turbine Locations:

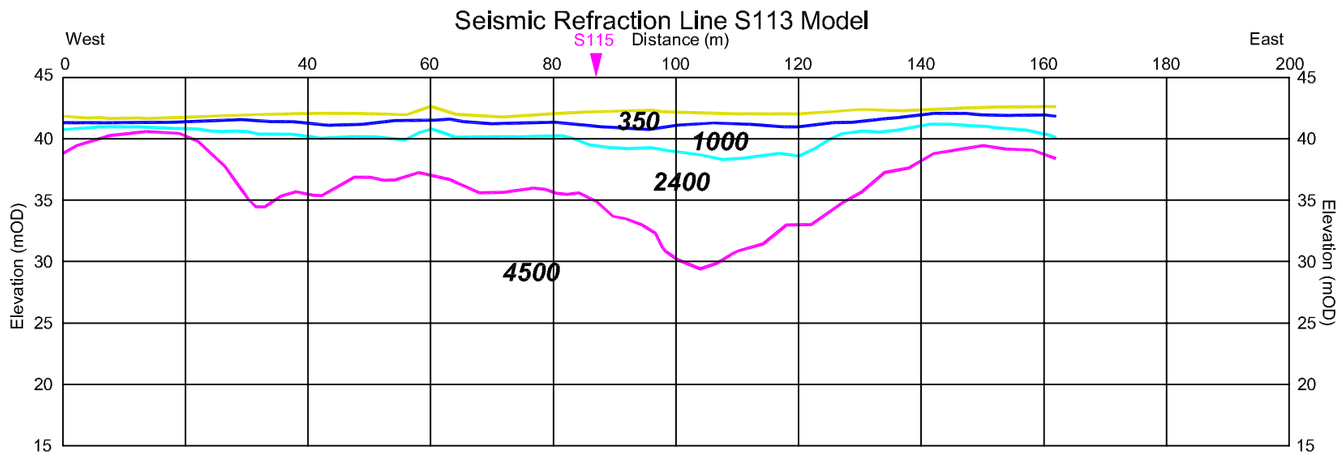
- 1 Soft Peat or Clay or Silt
- 2 Firm Clay or Silt
- 3a Stiff to very stiff sandy gravelly Clay or Silt
- 3b Dense to very dense clayey silty Sand and Gravel or poor highly weathered Rock
- 4a Fair to good weathered or karstified Limestone
- 4b Good to very good fresh clean Limestone
- 4c Good to very good Shale or argillaceous Limestone or Sandstone

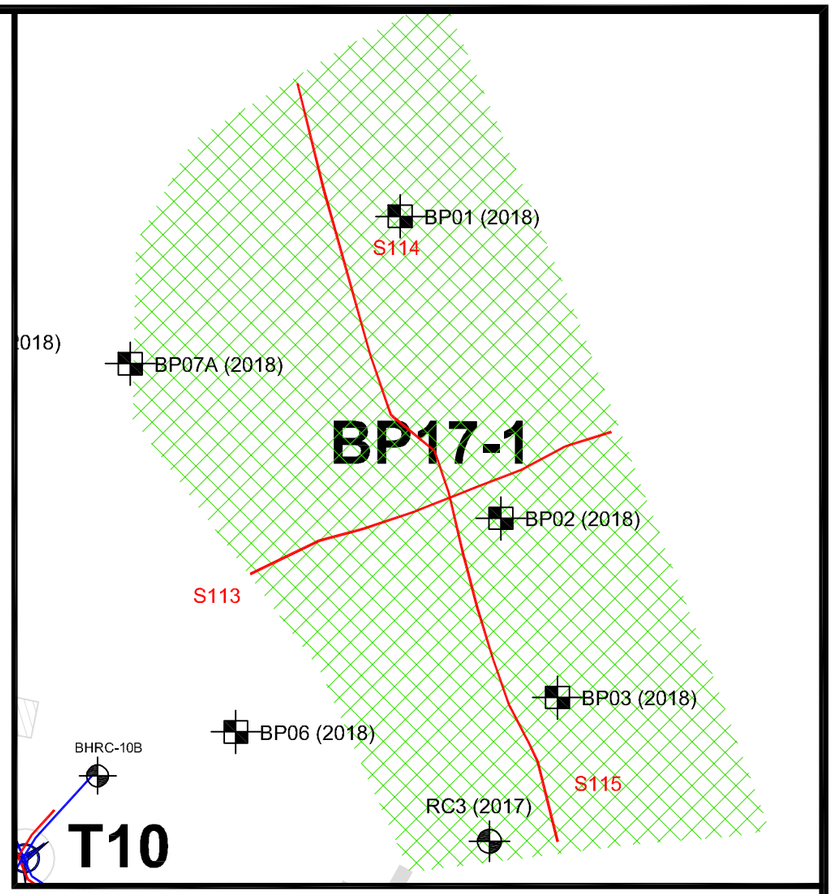
Abbreviated GI Logs:

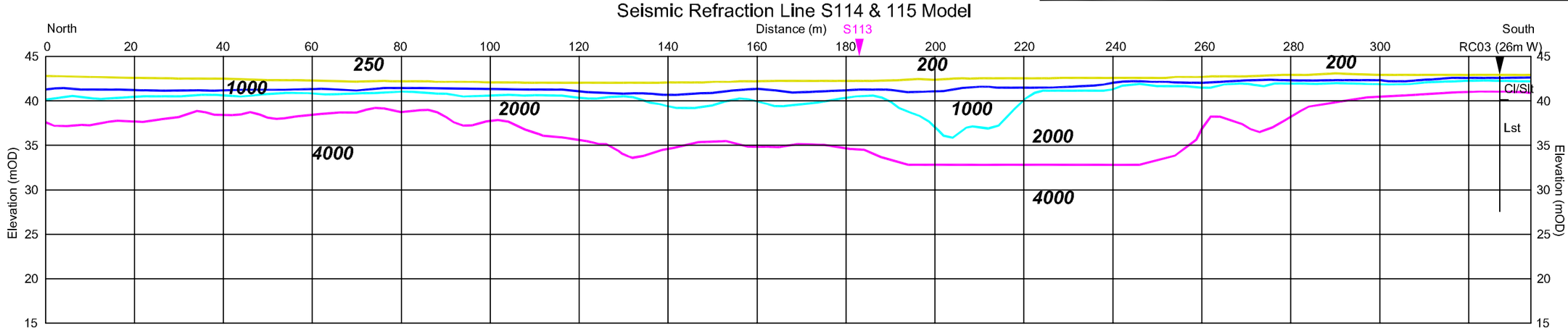
| | |
|---|---|
| BHRC-04B | Bore Hole Name and Location |
| TP-02 | Trial Pit Name and Location |

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Ls | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

# Borrow Pit 17-1





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 3a: Models of Geophysical Survey, Borrow Pit 17-1 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:2500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

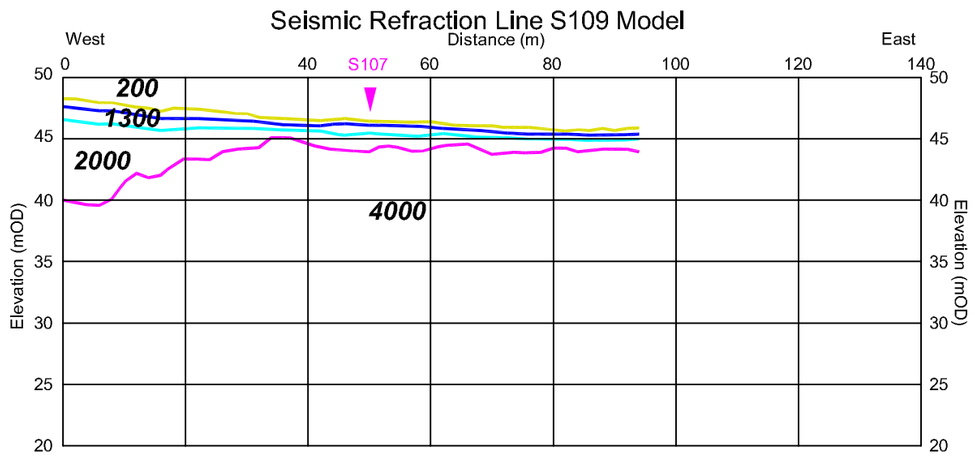
LEGEND: Geophysical Survey Locations:

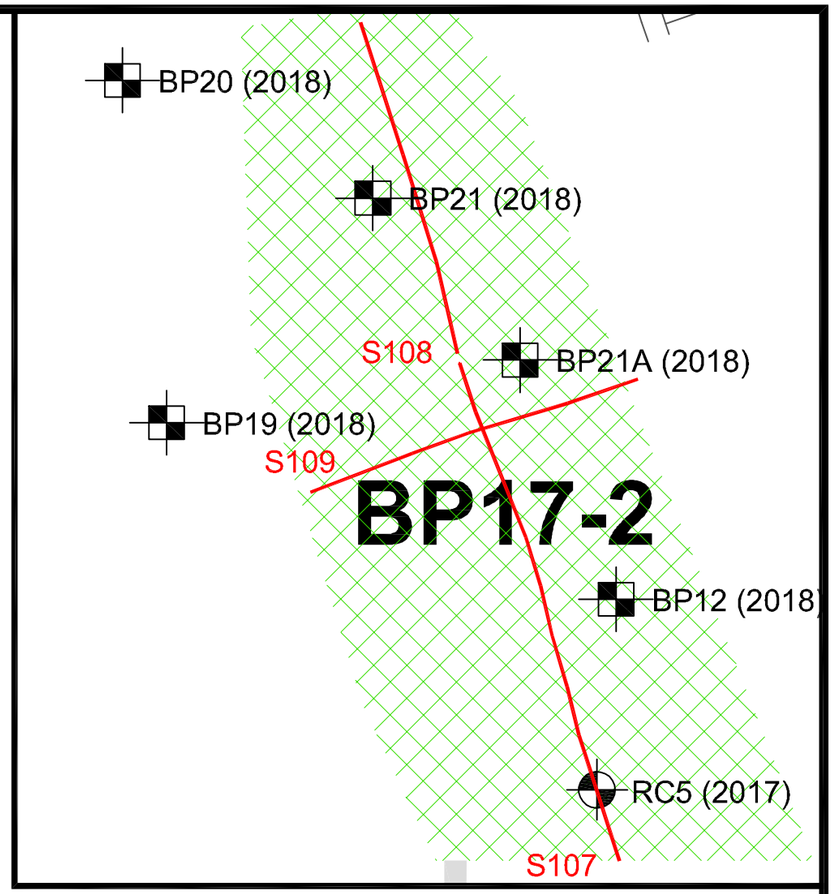
- S1 — Seismic Refraction Line
- RC1 — Bore Hole
- TP1 — Trial Pit

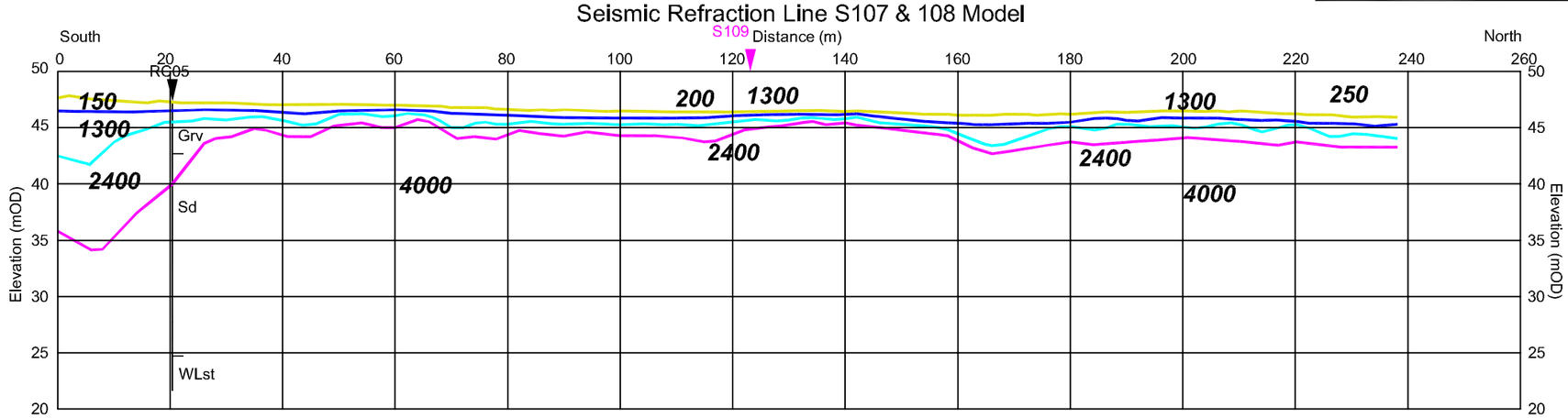
Layers from Seismic Refraction Model:

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

# Borrow Pit 17-2





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 3b: Models of Geophysical Survey, Borrow Pit 17-2 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

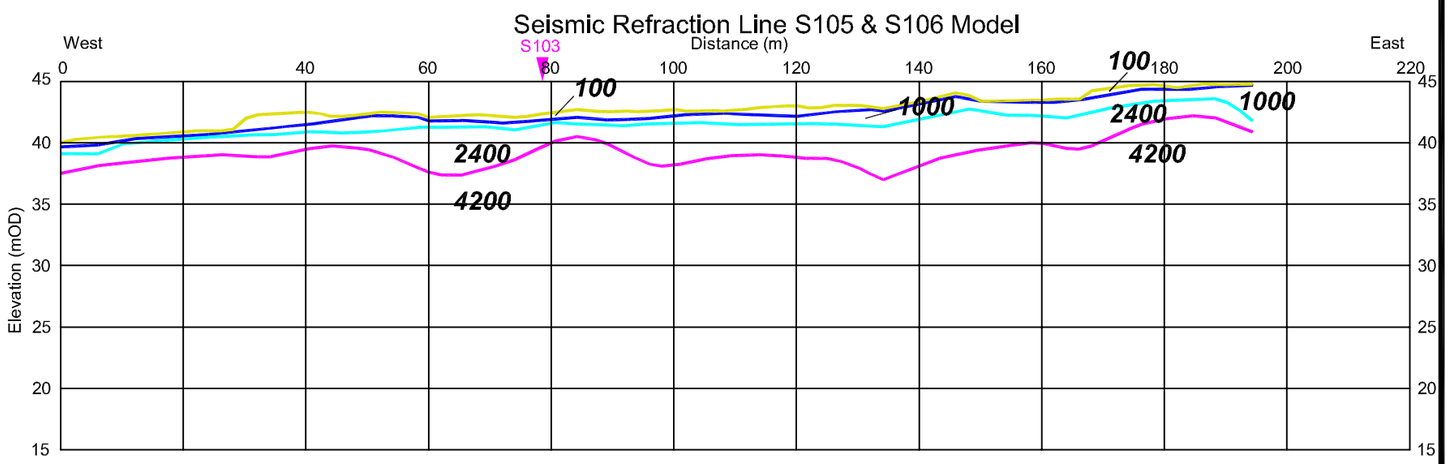
LEGEND: Geophysical Survey Locations:

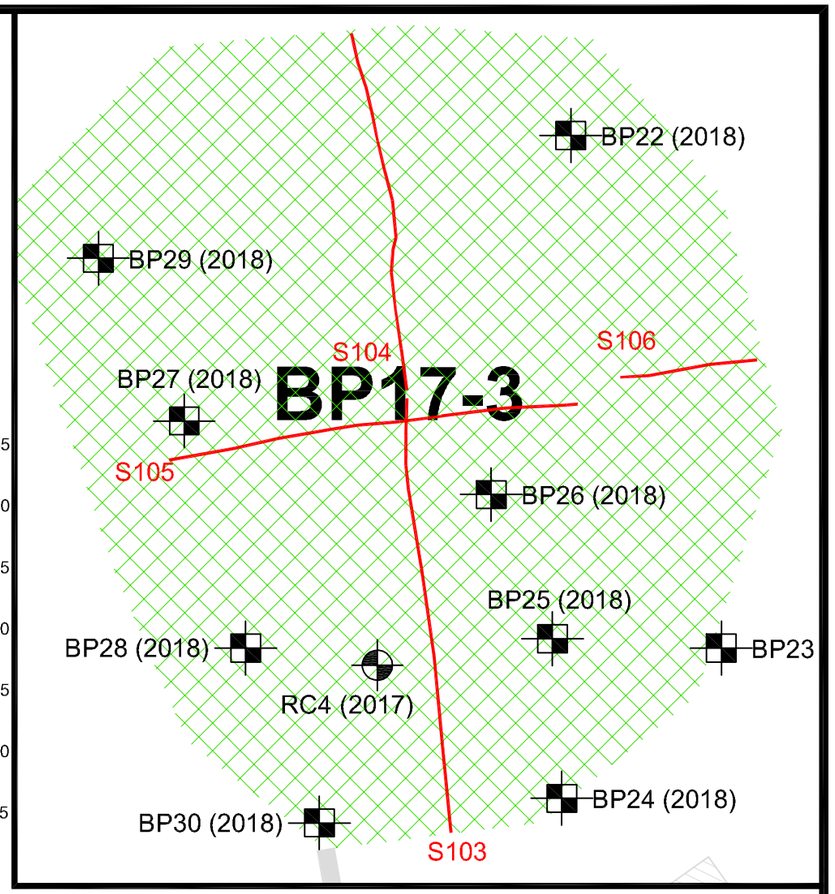
- S1 — Seismic Refraction Line
- RC1 — Bore Hole
- TP1 — Trial Pit

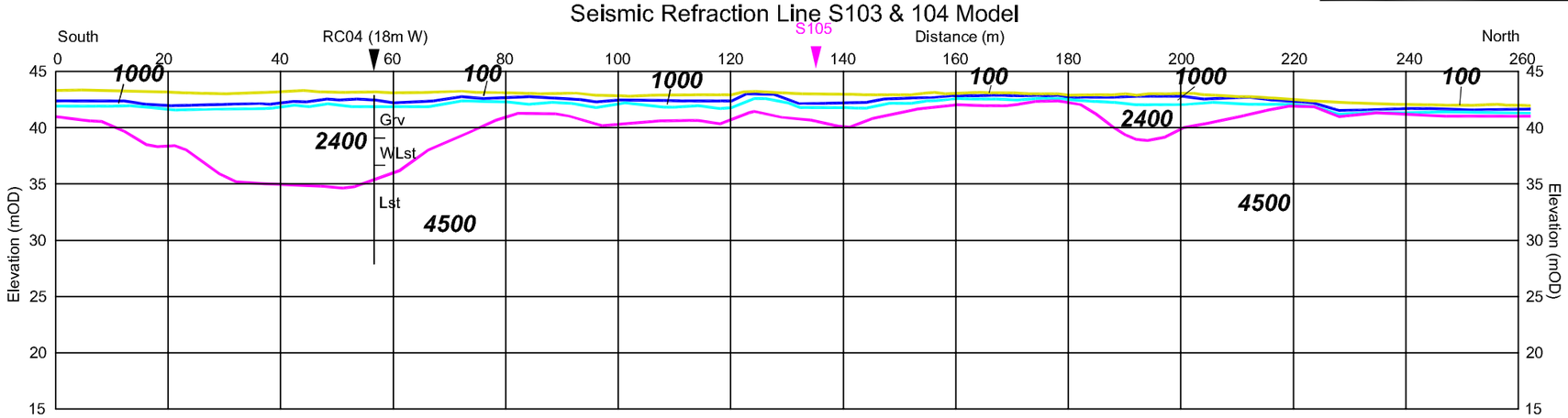
Layers from Seismic Refraction Model:

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

# Borrow Pit 17-3





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|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 3c: Models of Geophysical Survey, Borrow Pit 17-3 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:2000 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

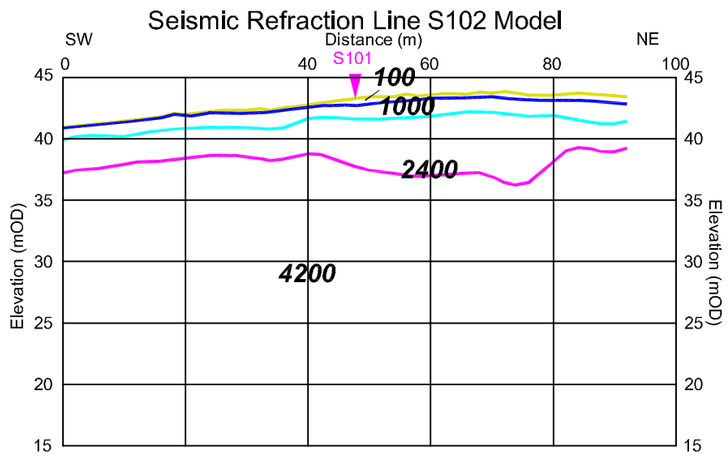
LEGEND: Geophysical Survey Locations:

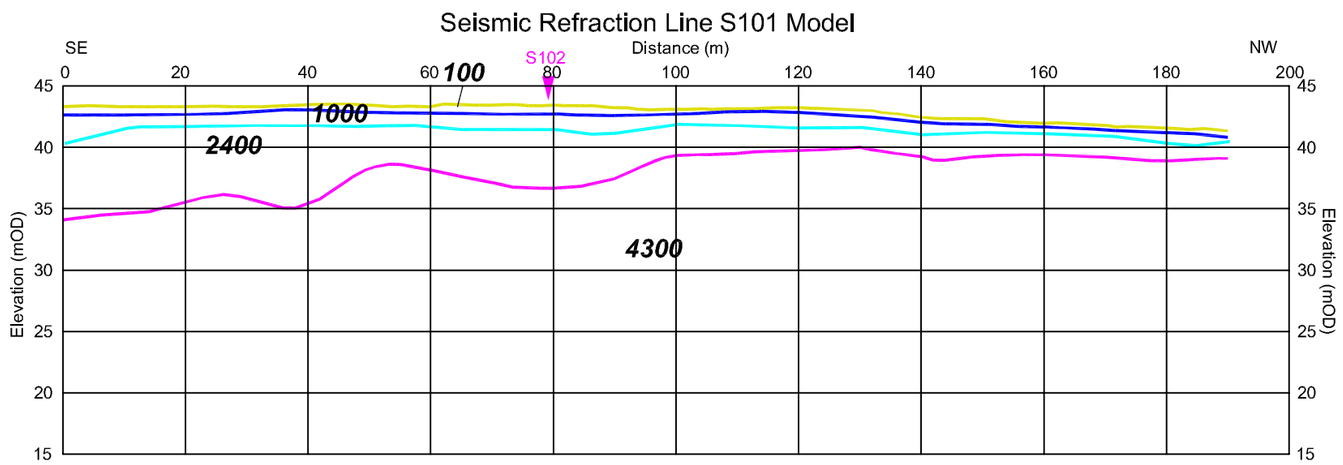
- S1 — Seismic Refraction Line
- RC1 — Bore Hole
- TP1 — Trial Pit

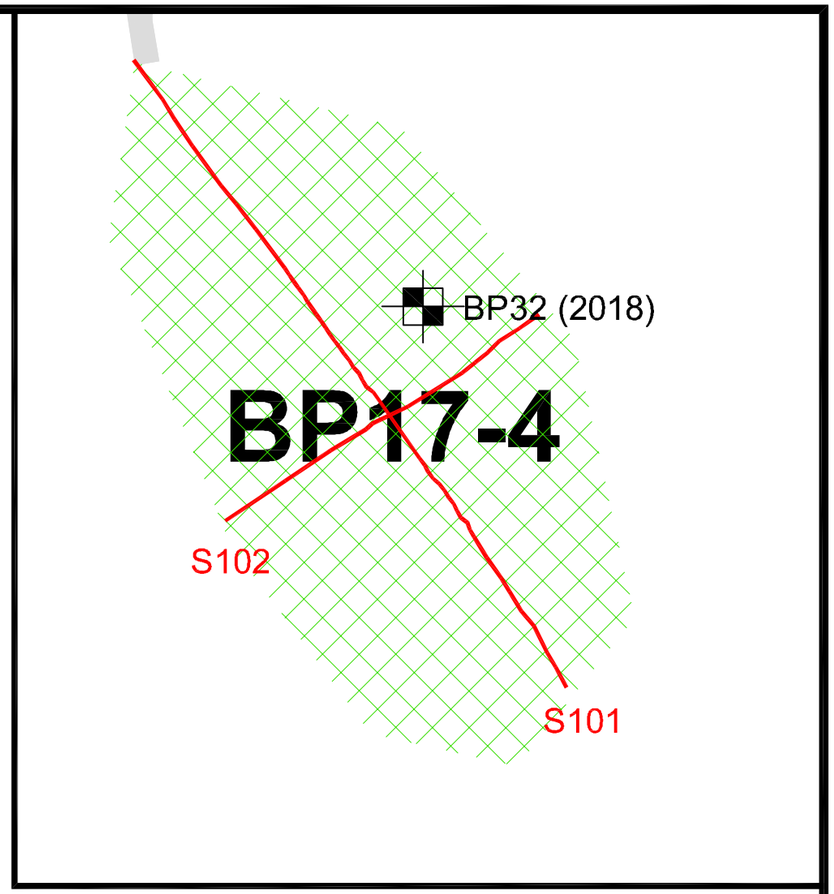
Layers from Seismic Refraction Model:

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

# Borrow Pit 17-4





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| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 3d: Models of Geophysical Survey, Borrow Pit 17-4 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

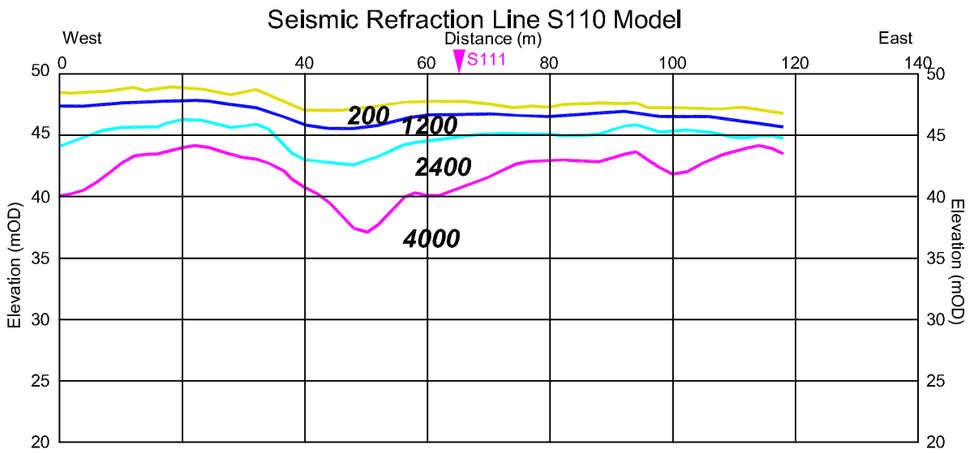
Geophysical Survey Locations:

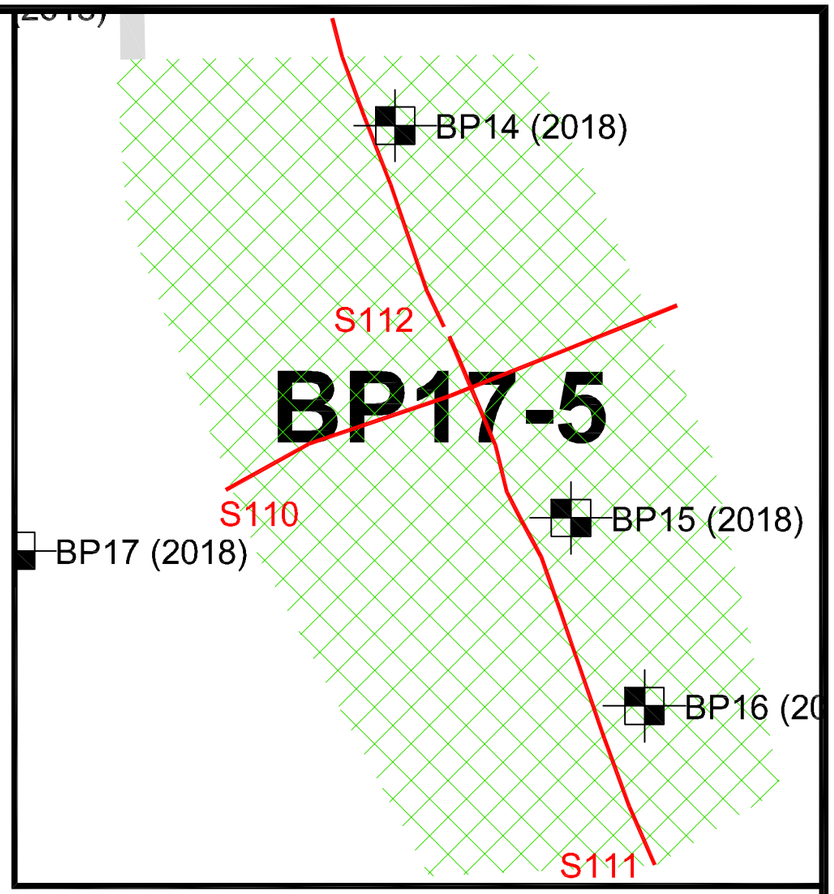
- S1 — Seismic Refraction Line
- RC1 — Bore Hole
- TP1 — Trial Pit

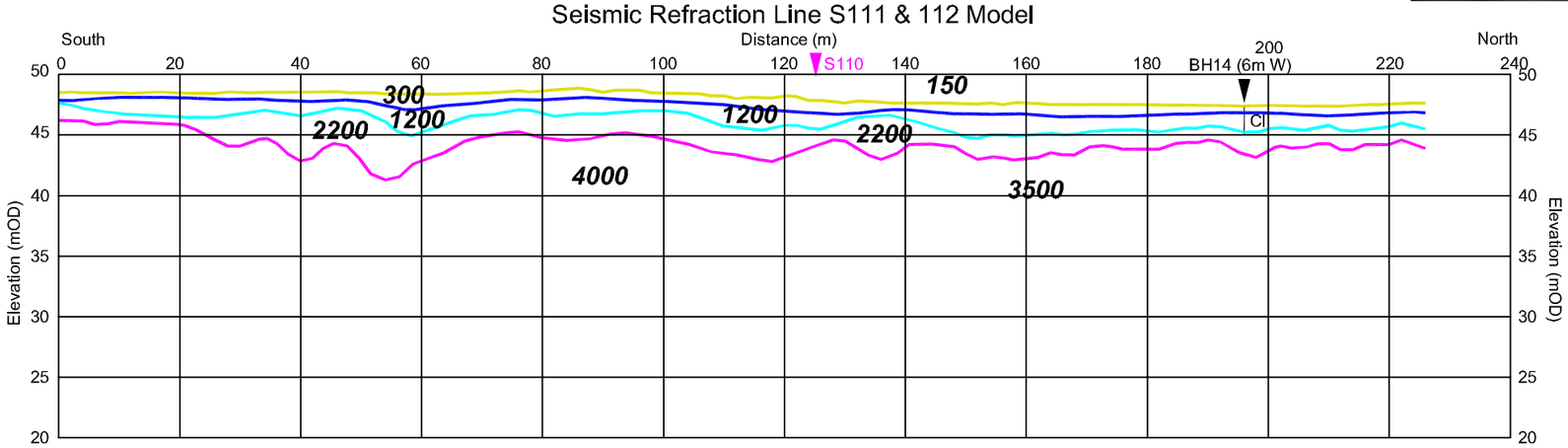
Layers from Seismic Refraction Model:

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

# Borrow Pit 17-5





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 3e: Models of Geophysical Survey, Borrow Pit 17-5 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

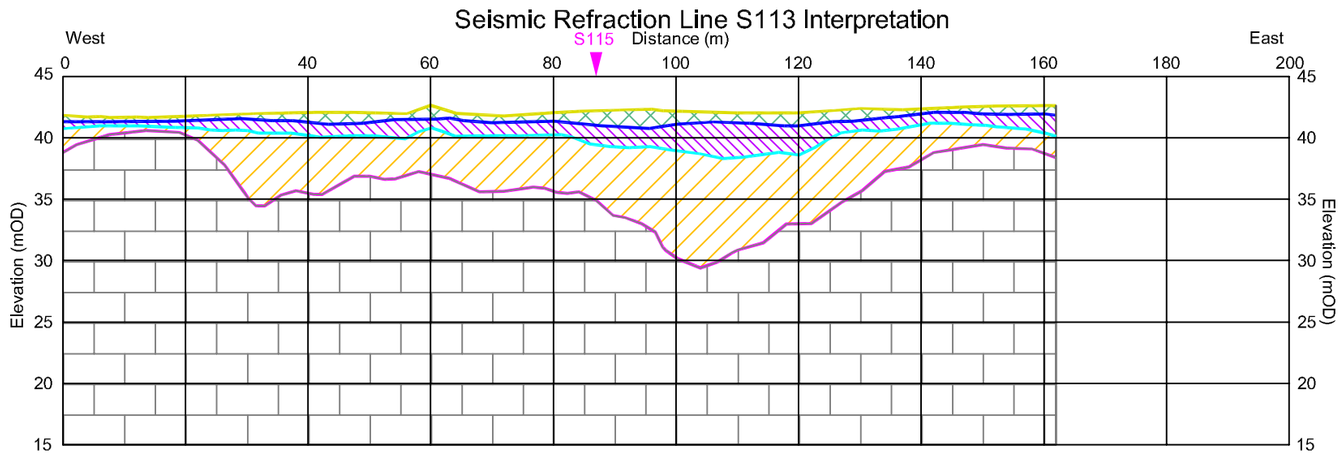
LEGEND: Geophysical Survey Locations:

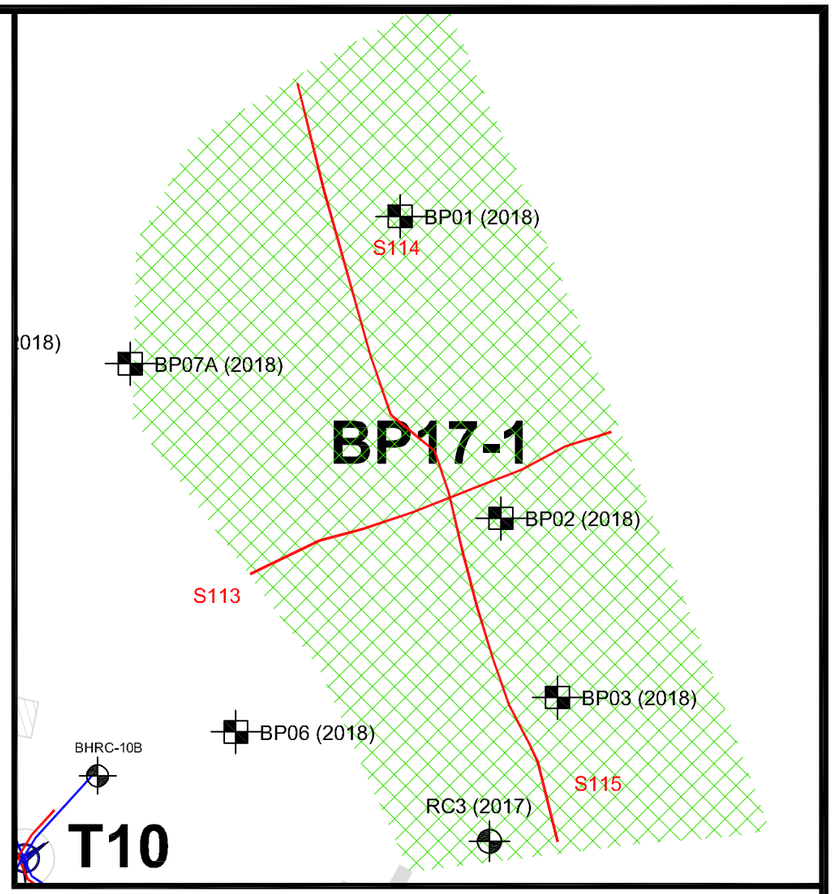
- S1 — Seismic Refraction Line
- RC1 — Bore Hole
- TP1 — Trial Pit

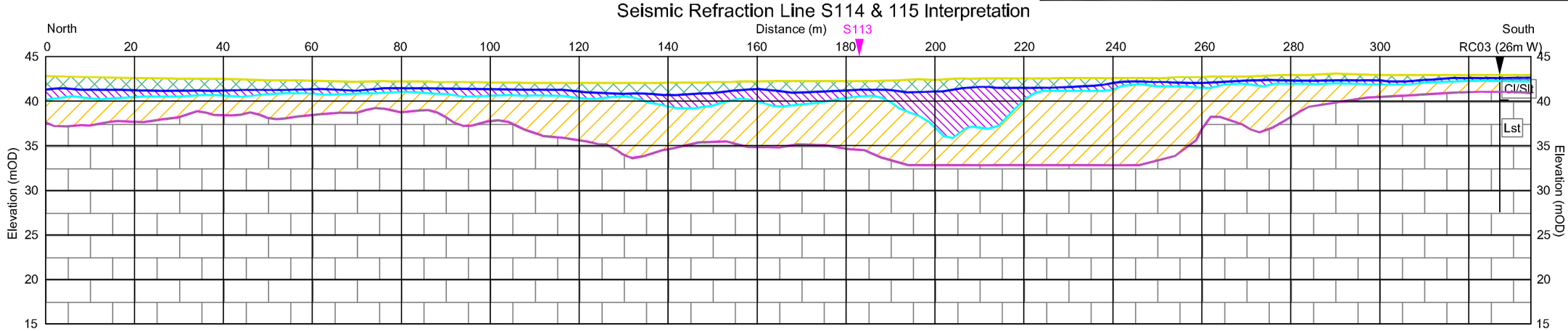
Layers from Seismic Refraction Model:

- Ground Surface/Top of Layer 1 (100 - 400 m/s)
- Top of Layer 2 (600 - 1400 m/s)
- Top of Layer 3 (1600 - 2400 m/s)
- Top of Layer 4 (3000 - 4500 m/s)
- 1600 — Seismic Velocity in m/s

# Borrow Pit 17-1





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 4a: Interpretation of<br>Geophys. Survey, Borrow Pit 17-1 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:2500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

## Interpretation Borrow Pit Locations:

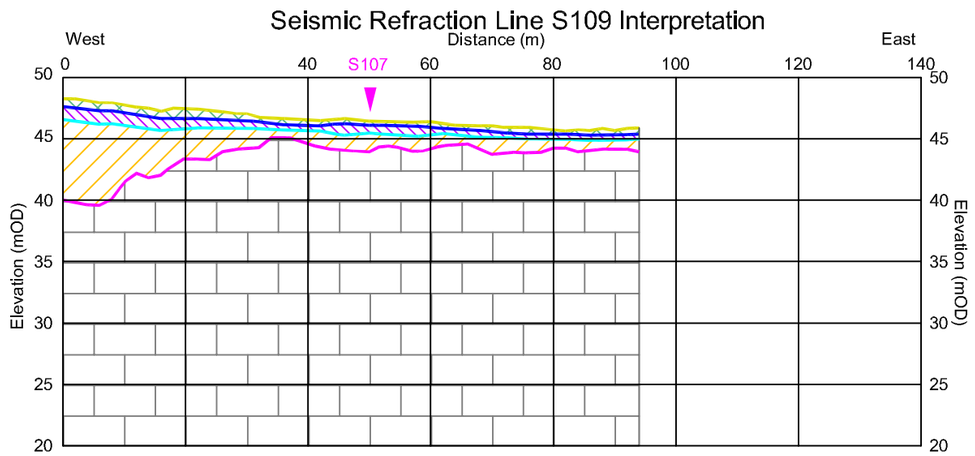
1 Soft Peat or Clay or Silt
2 Firm Clay or Silt
3 Stiff to very stiff or dense to very dense Overburden or poor highly weathered Rock
4 Fair to very good Limestone

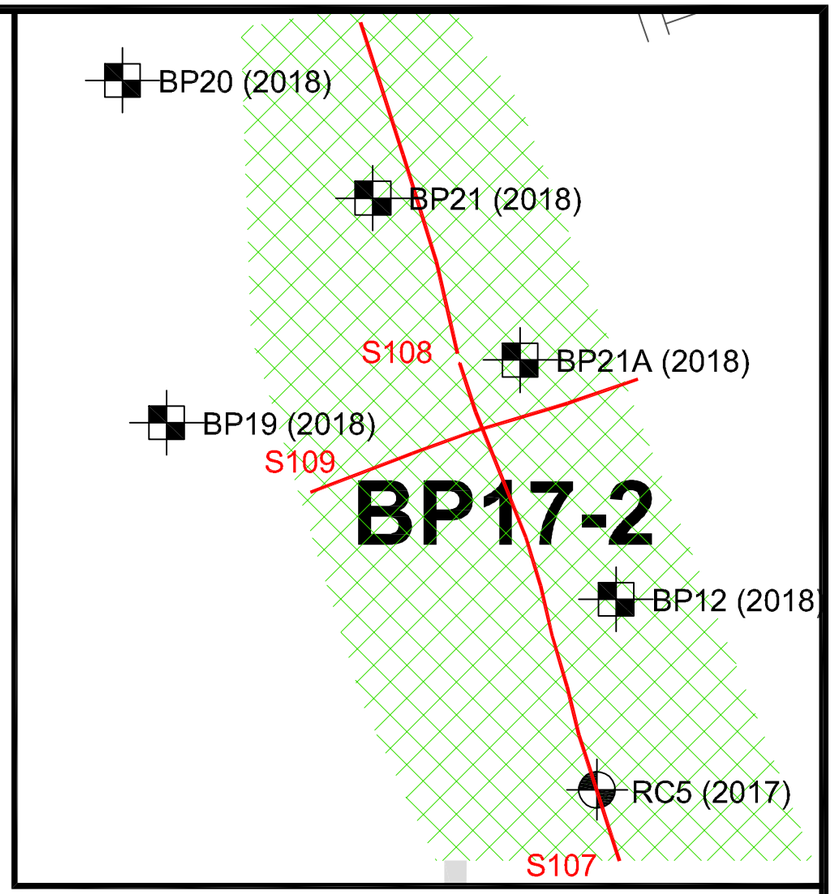
## Abbreviated GI Logs:

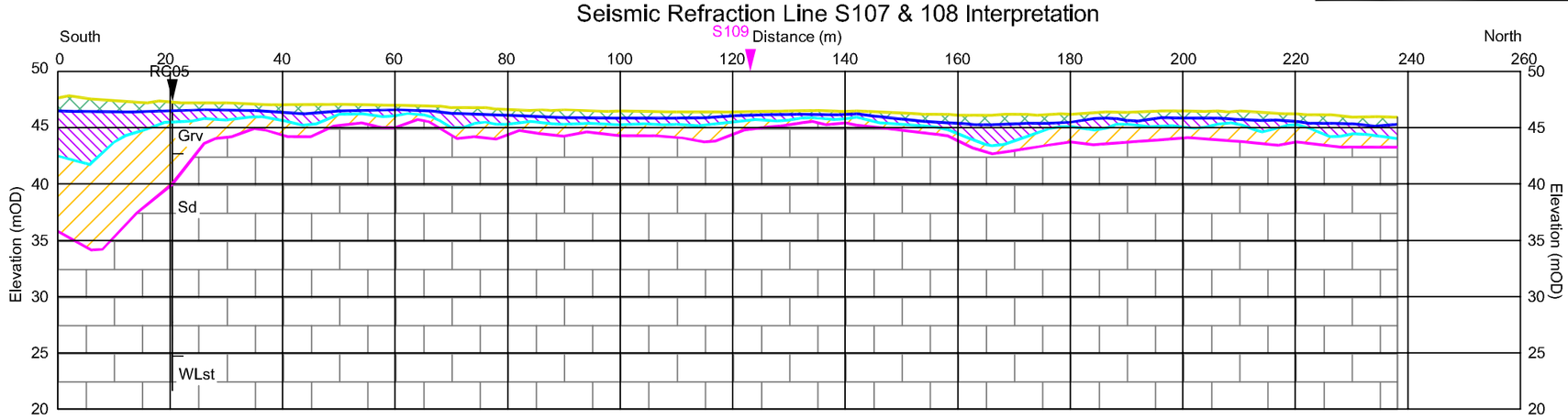
| | |
|---|---|
| RC01 | Rotary Core Name and Location |
| TP01/BP01 | Trial Pit Name and Location |

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

# Borrow Pit 17-2





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 4b: Interpretation of<br>Geophys. Survey, Borrow Pit 17-2 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

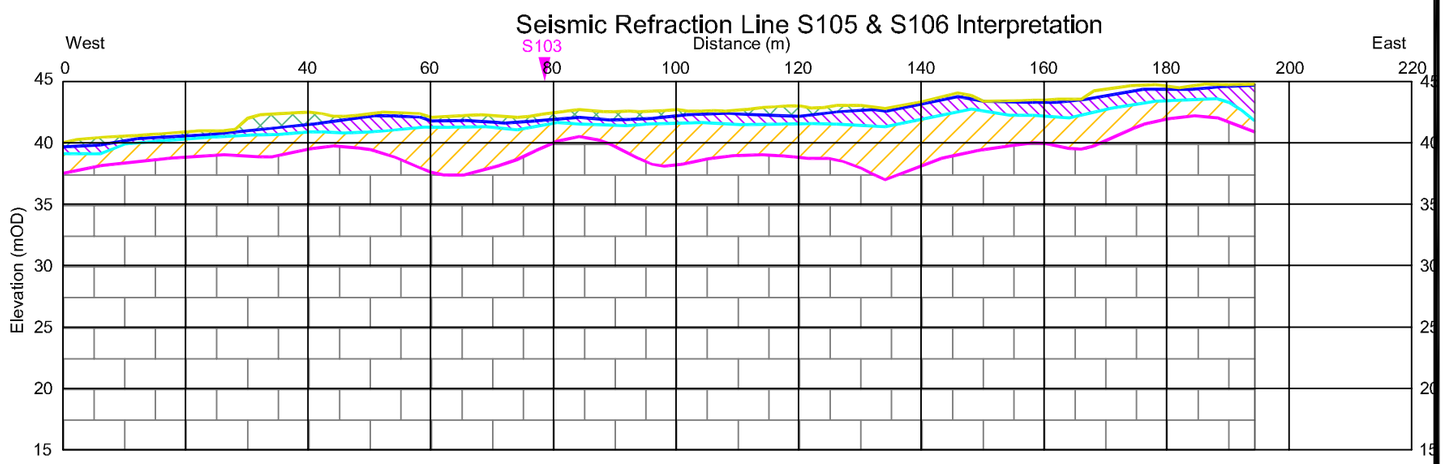
Interpretation Borrow Pit Locations:

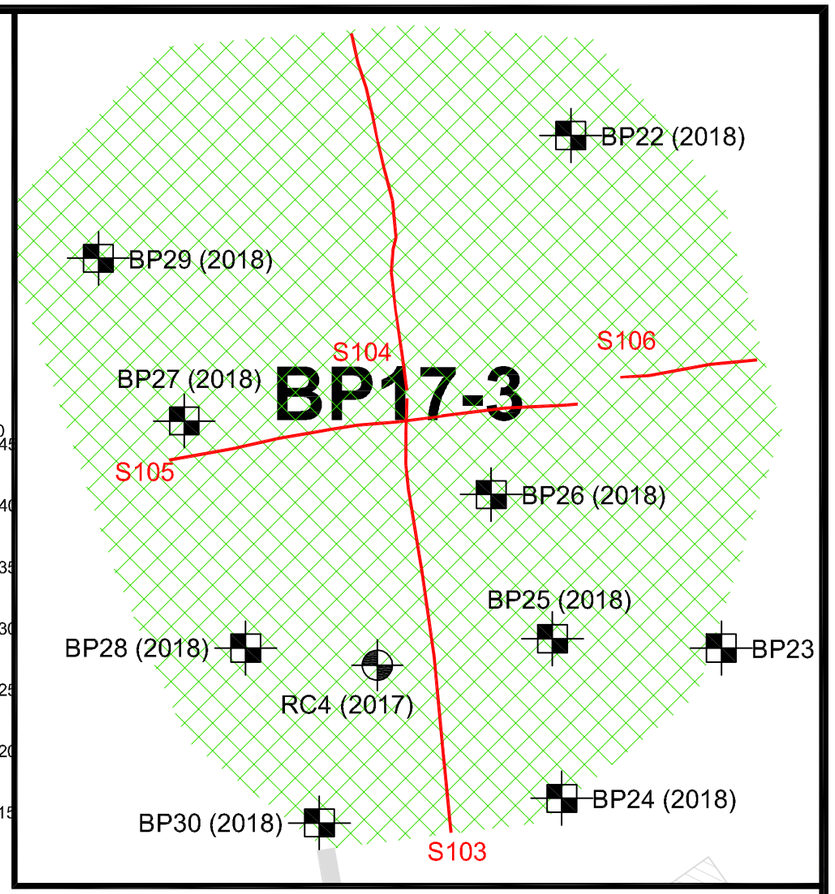
1 Soft Peat or Clay or Silt
2 Firm Clay or Silt
3 Stiff to very stiff or dense to very dense Overburden or poor highly weathered Rock
4 Fair to very good Limestone

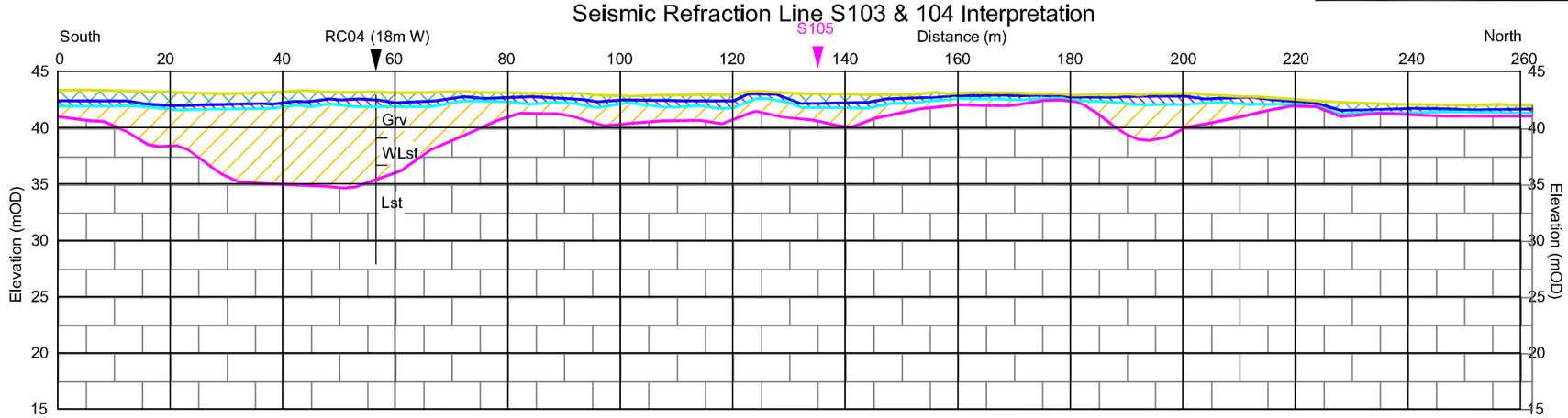
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

# Borrow Pit 17-3





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 4c: Interpretation of<br>Geophys. Survey, Borrow Pit 17-3 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:2000 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

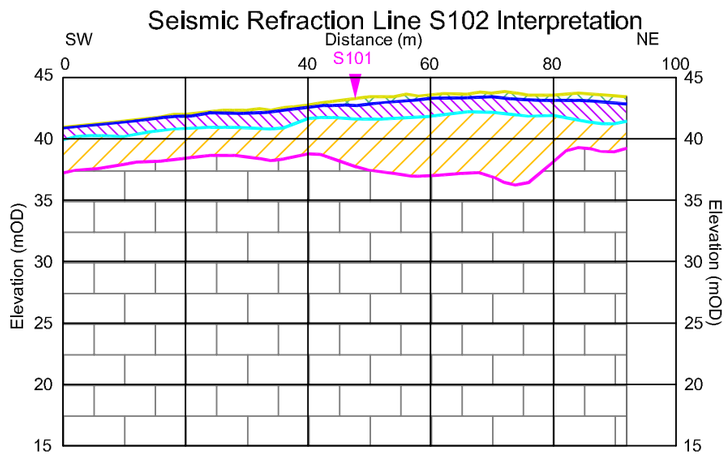
Interpretation Borrow Pit Locations:

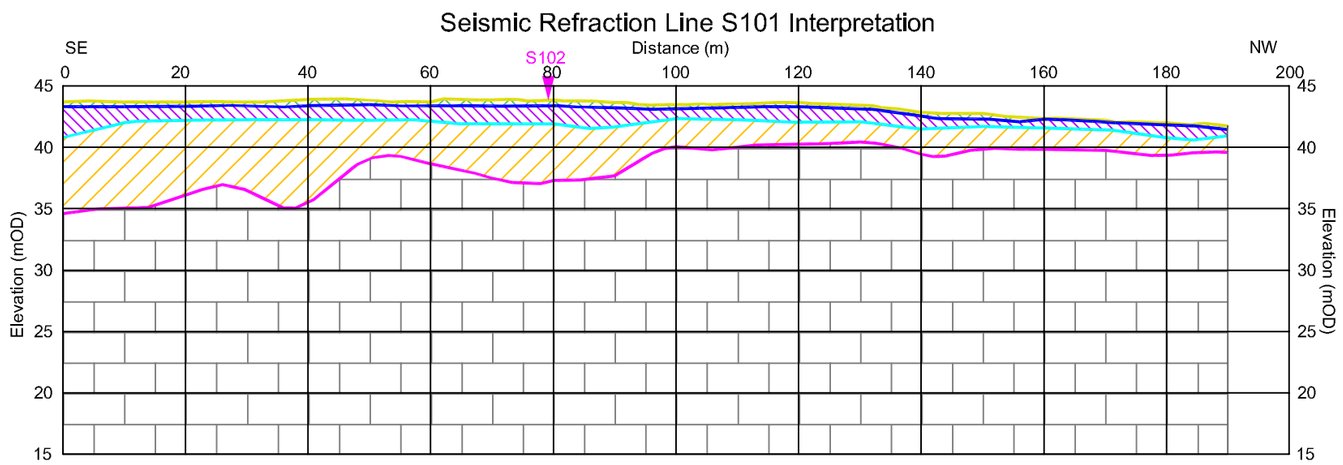
1 Soft Peat or Clay or Silt
2 Firm Clay or Silt
3 Stiff to very stiff or dense to very dense Overburden or poor highly weathered Rock
4 Fair to very good Limestone

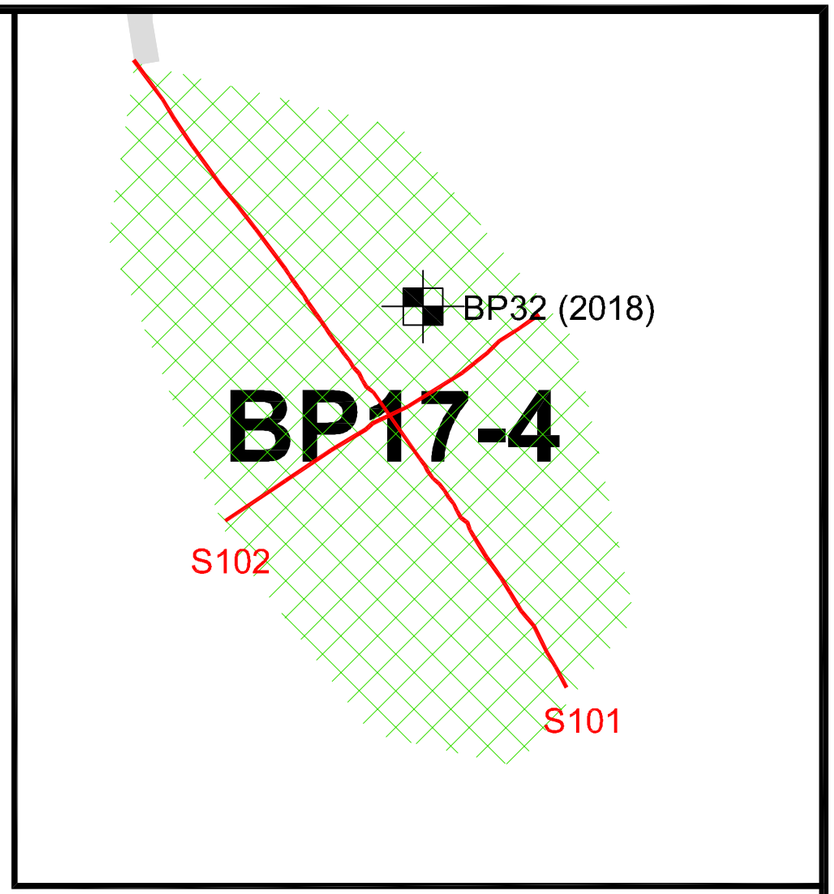
Abbreviated GI Logs:

| | | | |
|---|---|---|---|
| RC01 | Rotary Core Name and Location | | |
| TP01/BP01 | Trial Pit Name and Location | | |
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

# Borrow Pit 17-4





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 4d: Interpretation of<br>Geophys.l Survey, Borrow Pit 17-4 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

Interpretation Borrow Pit Locations:

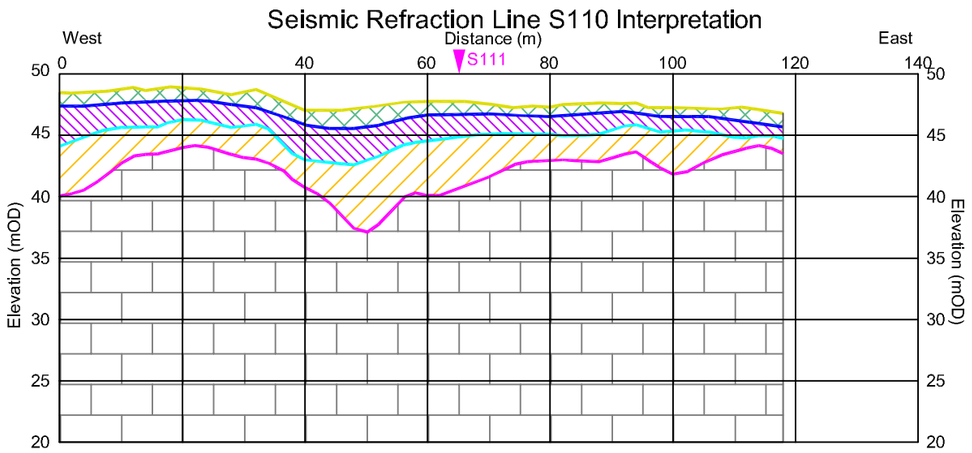
1 Soft Peat or Clay or Silt
2 Firm Clay or Silt
3 Stiff to very stiff or dense to very dense Overburden or poor highly weathered Rock
4 Fair to very good Limestone

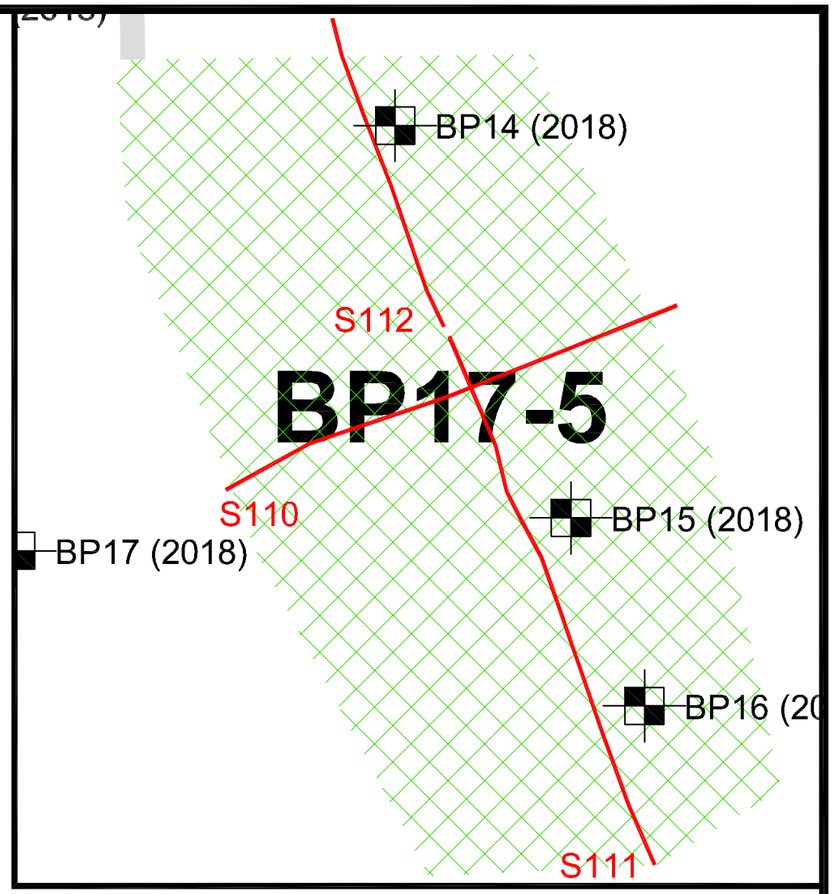
Abbreviated GI Logs:

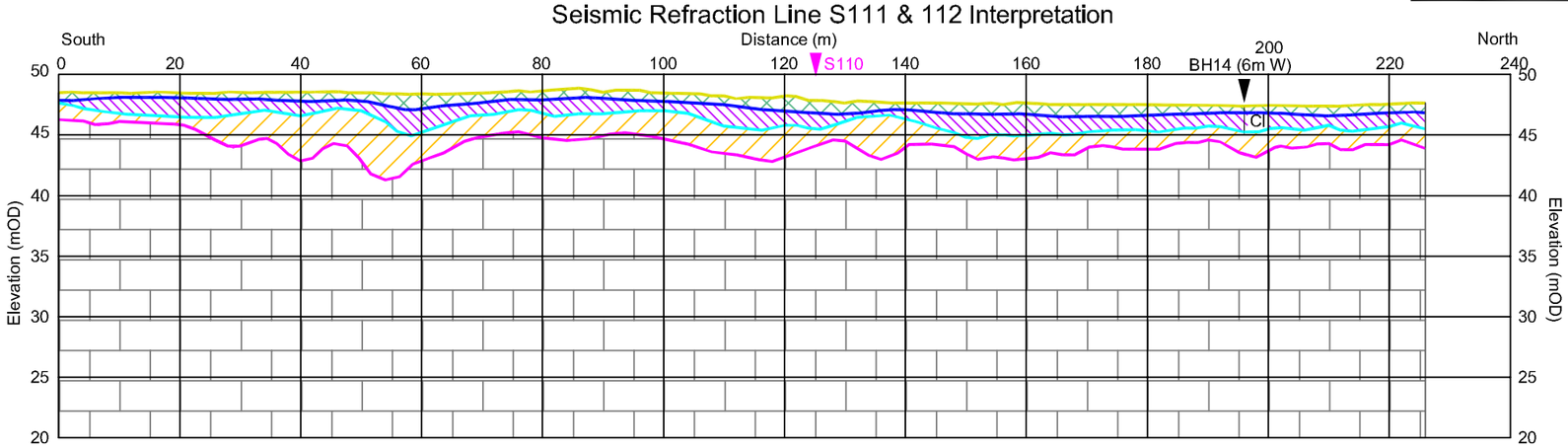
RC01 Rotary Core Name and Location
TP01/BP01 Trial Pit Name and Location

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

# Borrow Pit 17-5





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| | |
|---|---|
| CLIENT | Irish Drilling Ltd.<br>Bord Na Mona |
| PROJECT | Derryadd Wind Farm, Co. Longford<br>Geophysical Survey |
| TITLE | Figure 4e: Interpretation of Geophys. Survey, Borrow Pit 17-5 |

| | |
|---|---|
| SCALE: | Model:1:1000, VE x 2, Map:1:1500 |
| PROJECT: | 6540 |
| DRAWN: | JS |
| DATE: | 24/08/2022 |
| MGX FILE: | 6540f_MapsFigs.dwg |
| STATUS: | Final |

LEGEND:

Interpretation Borrow Pit Locations:

1 Soft Peat or Clay or Silt
2 Firm Clay or Silt
3 Stiff to very stiff or dense to very dense Overburden or poor highly weathered Rock
4 Fair to very good Limestone

Abbreviated GI Logs:

RC01 Rotary Core Name and Location
TP01/BP01 Trial Pit Name and Location

| | | | |
|---|---|---|---|
| Pt | Peat | Co | Cobbles |
| Cl | Clay | Slt | Silt |
| Grv | Gravel | WLst | Weath. Limestone |
| Sd | Sand | Lst | Limestone |
| Bo | Boulders | WSst | Weath. Sandstone |
| | | Sst | Sandstone |

# Appendix 9-1.10- 2022-2023 TPs and RC's

Irish Drilling Ltd
Telephone: +353 91841274

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd WF Phase 2, Additional Works 2023 | Lanesborough, Co. Longford | **CH-01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2022LD104 | 17-02-23<br>17-02-23 | | |

| Engineer | Sheet |
|---|---|
| Tobin | 1 of 1<br>Status DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Index | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | - - - | NA | | | (1.50) 1.50 | 0.00 - 4.30 : overburden. | | Open hole drilling. No recovery. | |
| 1.50 | 9 - - | NA | | | (2.80) 4.30 | | | Subrounded to subangular fine to coarse dark grey and grey limestone GRAVEL with a little dark grey sandy silt. Sand is fine and medium. | |
| 2.60 | 31 - - | | | | | | | | |
| 4.20 | 100 (92) 86 | 4 | | | | 4.30 - 10.20 Discontinuities, medium spaced, locally closely spaced, dipping 10 to 12°, stepped, smooth, with 0.5 to 2mm thick grey silt smear. | | Strong thinly bedded grey sparry fine to coarse grained LIMESTONE. | |
| 5.60 | 100 (98) 69 | 3<br>11 | | | | 6.40 - 6.80 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick grey silt smear, open. | | 5.85m to 7.30m: subvertical white calcitic vein. | |
| 7.20 | 100 (98) 94 | 3 | | | (5.90) | 7.75 - 7.80 Joint, dipping 45°, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | 7.50m to 8.60m: coarse grained. | |
| 8.60 | 100 (91) 84 | 4<br>5 | | | | 8.00 - 8.10 Joint, dipping 60°, stepped, rough, with 0.5 to 1mm thick grey silt smear, open. | | | |
| 17.02 10.20 | | | | | 10.20 | | | BH terminated at 10.20m bgl on REs instruction. | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 17/02/23 | 17.00 | 10.20 | 1.50 | 96 | | | 0.30 |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 10.2 | Water | 100 |

## GENERAL REMARKS

Variable head tests carried out in borehole once target depths reached. BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used CS-14 | | Driller DC | Logged By EAT |
|---|---|---|---|---|---|

IDL AGS4 UK DH (SPTS) DERRYADD WF 23 RC FILE 1 FEB 21 2023.GPJ ID GINT AGS 4_0_4.GDT 21/2/23

Irish Drilling Ltd
Telephone: +353 91841274

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd WF Phase 2, Additional Works 2023 | Lanesborough, Co. Longford | **CH-02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2022LD104 | 16-02-23<br>16-02-23 | | |

| Engineer | Sheet |
|---|---|
| Tobin | 1 of 1<br>Status DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Index | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00<br>0.50 | -<br>-<br>- | NA | | | 0.50 | 0.00 - 1.20 : overburden. | | Open hole drilling. No recovery. | |
| | | NA | | | (0.70)<br>1.20 | | | Angular coarse assorted grey limestone GRAVEL. | |
| | 70<br>(59)<br>40 | 7 | | | | 1.20 - 10.10 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, smooth, with 0.5 to 1mm thick grey silt smear. | | Strong locally very strong thinly bedded grey slightly bioclastic sparry fine and coarse grained LIMESTONE. | |
| 2.20 | | 6 | | | | | | | |
| | 100<br>(97)<br>88 | | | | | | | | |
| 3.80 | | 6 | | | | | | | |
| | 100<br>(96)<br>84 | 5 | | | | | | | |
| 5.40 | | 5 | | | (8.90) | | | | |
| | 100<br>(97)<br>96 | | | | | | | 5.90m to 8.20m: extremely strong. | |
| 6.90 | | 3 | | | | | | | |
| | 100<br>(96)<br>95 | 3 | | | | | | | |
| 8.50 | | 2 | | | | | | 8.30m to 9.20m: extremely strong crystalline weakly dolomitised limestone. 8.30m to 10.10m: vertical 10 to 15mm wide brownish white calcitic vein. | |
| | 100<br>(95)<br>93 | 4 | | | | | | | |
| 10.10 | | | | | 10.10 | 10.00 - 10.10 Joint, dipping 60°, stepped, rough, with 0.5 to 1mm thick dark grey silt smear, open, non-intact. | | BH terminated at 10.10m bgl on REs instruction. | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 16/02/23 | 17.00 | 10.10 | 0.50 | 96 | | | 0.40 |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 10.1 | Water | 100 |

## GENERAL REMARKS

Variable head tests carried out in borehole once target depths reached. BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used: CS-14 | | Driller: DC | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS4 UK DH (SPTS) DERRYADD WF 23 RC FILE 1 FEB 21 2023.GPJ ID GINT AGS 4_0_4.GDT 21/2/23

Irish Drilling Ltd
Telephone: +353 91841274

# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd WF Phase 2, Additional Works 2023 | Lanesborough, Co. Longford | **CH-03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2022LD104 | 15-02-23<br>15-02-23 | | |

| Engineer | Sheet |
|---|---|
| Tobin | 1 of 1<br>Status DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Index | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | - - - | NA | | | (1.50) | 0.00 - 2.20 : overburden. | | Open hole drilling. No recovery. | |
| 1.50 | 50 (27) - | NA | | | 1.50<br>(0.70)<br>2.20 | | | Subangular fine to coarse assorted grey limestone GRAVEL. | |
| 2.50 | 100 (89) 58 | 15<br>8 | | | | 2.20 - 10.10 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, smooth, with 0.5 to 30mm thick grey silt smear.<br>2.60 - 3.00 Joint, subvertical dip, stepped, smooth, with 0.5 to 10mm thick grey sandy silt smear from 2.55m to 3.00m, open to moderately wide.<br>3.80 - 3.85 Joint, dipping 45°, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | Very strong locally strong and extremely strong thinly bedded grey sparry fine and coarse grained LIMESTONE. | |
| 4.10 | 100 (95) 85 | 2 | | | | 4.20 - 4.25 Joint, dipping 45°, stepped, smooth, with 0.5 to 1mm thick grey silt smear, open. | | | |
| 5.50 | 100 (96) 87 | 6<br>2 | | | (7.90) | | | 5.40m to 5.50m: strong brownish grey crystalline weakly dolomitised limestone.<br>5.50m to 5.70m: extremely strong. | |
| 7.10 | 100 (95) 90 | 6 | | | | | | 7.28m to 7.35mn: grey slightly sandy silt. Sand is fine. | |
| 8.50 | 100 (97) 93 | 4<br>5 | | | | 9.15 - 9.30 Joint, subvertical dip, undulating, tight.<br>9.55 - 9.65 Joint, dipping 60°, stepped, rough, with 0.5 to 1mm thick grey silt smear, open. | | | |
| 15.02 10.10 | | | | | 10.10 | | | BH terminated at 10.10m bgl on REs instruction. | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 15/02/23 | 17.00 | 10.10 | 1.50 | 96 | | | 0.60 |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 10.1 | Water | 100 |

## GENERAL REMARKS

Variable head tests carried out in borehole once target depths reached. BH backfilled.

| All dimensions in metres Scale 1:68.75 | Client: Bord na Mona | Method/ Plant Used CS-14 | | Driller DC | Logged By EAT |
|---|---|---|---|---|---|

IDL AGS4 UK DH (SPTS) DERRYADD WF 23 RC FILE 1 FEB 21 2023.GPJ ID GINT AGS 4_0_4.GDT 21/2/23

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd WF Phase 2 | Lanesborough, Co. Longford | **RC-01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2022LD104 | 15-12-22<br>15-12-22 | 41.55 | E 605,137.6 N 769,310.9 |

| Engineer | Sheet |
|---|---|
| Tobin | 1 of 2<br>Status DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Index | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | - - - | NA | | | (3.00) | 0.00 - 8.20 : overburden. | | Open hole drilling. No recovery. | |
| 3.00 | 38 - - | NA | 38.55 | | 3.00 | | | Very stiff dark brown slightly gravelly SILT with cobbles and boulders. Gravel is subangular fine to medium of brown dolomitised limestone and assorted grey limestone. | |
| 4.60 | 40 - - | | | | | | | | |
| 5.60 | 67 - - | | | | (5.20) | | | Core run - 5.60m to 6.20m: 1 No grey limestone boulder 210mm in length. | |
| 6.20 | 60 - - | | | | | | | | |
| 7.20 | 41 (12) - | | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | 3.00 | 84 | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 11.6 | Polymer | 100 |

## GENERAL REMARKS

1 gallon polydrill used. BH backfilled.

| All dimensions in metres Scale 1:50 | Client: Bord na Mona | Method/ Plant Used: Rotary Core/DB520 | | Driller: AZ | Logged By: EAT |
|---|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd WF Phase 2 | Lanesborough, Co. Longford | **RC-01** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2022LD104 | 15-12-22<br>15-12-22 | 41.55 | E 605,137.6 N 769,310.9 |

| Engineer | Sheet |
|---|---|
| Tobin | 2 of 2<br>Status DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Index | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|
| | | | 33.35 | | 8.20 | | | |
| 8.40 | | 6 | | | | 8.20 - 11.60 Discontinuities, medium spaced, locally closely spaced, dipping 12 to 14°, stepped, rough, with 0.5 to 10mm thick dark greenish grey silt smear. 8.80 - 8.95 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick brown clay smear, open. | Very strong apparently massive orangish brown 'marbled' light brown crystalline fine to coarse grained DOLOMITISED LIMESTONE. | |
| | 100 (84) 39 | 10 | | | | 9.40 - 10.05 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick brown clay smear, open. | | |
| 10.00 | | | | | (3.40) | | | |
| | 100 (89) 58 | 6 | | | | | | |
| | | 3 | | | | | 11.00m to 11.05m: 20mm deep vug infilled with 1 to 10mm carbonate crystal assemblage. | |
| 15.12 11.60 | | | 29.95 | | 11.60 | 11.30 - 11.50 Joint, subvertical dip, stepped, rough, with 0.5 to 1mm thick orangish brown clay smear, open. | BH terminated at 11.60m bgl on REs instruction. | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 15/12/22 | 17.00 | 11.60 | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

1 gallon polydrill used. BH backfilled.

| All dimensions in metres Scale 1:50 | Client: Bord na Mona | Method/ Plant Used: Rotary Core/DB520 | Driller: AZ | Logged By: EAT |
|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd WF Phase 2 | Lanesborough, Co. Longford | **RC-02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2022LD104 | 16-12-22<br>16-12-22 | 42.16 | E 605,154.2 N 769,281.6 |

| Engineer | Sheet |
|---|---|
| Tobin | 1 of 2<br>Status DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Index | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|
| 0.00 | - - - | NA | | | (3.00) | 0.00 - 8.10 : overburden. | Open hole drilling. No recovery. | |
| 3.00 | 31 - - | NA | 39.16 | | 3.00 (5.10) | | Dark brown silty gravelly fine to medium SAND. Gravel is subrounded to rounded fine to coarse of assorted grey limestone. | |
| 4.60 | 27 - - | | | | | | | |
| 5.70 | 38 - - | | | | | | | |
| 7.00 | 23 (11) - | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | 2.00 | 84 | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 11.5 | Polymer | 100 |

## GENERAL REMARKS

1 gallon polydrill used. BH backfilled.

| All dimensions in metres Scale 1:50 | Client: Bord na Mona | Method/ Plant Used: Rotary Core/DB520 | | Driller: AZ | Logged By: EAT |
|---|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd WF Phase 2 | Lanesborough, Co. Longford | **RC-02** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2022LD104 | 16-12-22<br>16-12-22 | 42.16 | E 605,154.2 N 769,281.6 |

| Engineer | Sheet |
|---|---|
| Tobin | 2 of 2<br>Status DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Index | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities / Detail | DESCRIPTION: Main | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|
| 8.30 | | | 34.06 | | 8.10 | 8.10 - 11.50 Discontinuities, medium spaced, locally closely spaced, dipping 8 to 10°, stepped, smooth, with 0.5 to 2mm thick dark grey silt smear.<br>8.30 - 8.80 Joint, subvertical dip, stepped, smooth, with 0.5 to 1mm thick brown clay smear, open. | Strong locally very strong thinly bedded grey sparry fine to coarse grained LIMESTONE with subvertical white calcitic veinlets. | |
| | 100<br>(98)<br>89 | 6 | | | | | | |
| 9.90 | | 4 | | | (3.40) | | | |
| | 100<br>(98)<br>97 | 3 | | | | | | |
| 16.12 11.50 | | 1 | 30.66 | | 11.50 | | BH terminated at 11.50m bgl on REs instruction. | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| 16/12/22 | 17.00 | 11.50 | | | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| | | | |

## GENERAL REMARKS

1 gallon polydrill used. BH backfilled.

| All dimensions in metres Scale 1:50 | Client: Bord na Mona | Method/ Plant Used: Rotary Core/DB520 | Driller: AZ | Logged By: EAT |
|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd WF Phase 2 | Lanesborough, Co. Longford | **RC-03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2022LD104 | 14-12-22<br>14-12-22 | 43.43 | E 605,117.1 N 769,270.5 |

| Engineer | Sheet |
|---|---|
| Tobin | 1 of 2<br>Status DRAFT |

## RUN DETAILS / STRATA

| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Index | Red'cd Level | Legend | Depth (Thick-ness) | Discontinuities | Detail | Main | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | - - - | NA | | | (4.50) | 0.00 - 8.60 : overburden. | | Open hole drilling. No recovery. | |
| 4.50 | 28 - - | NA | 38.93 | | 4.50 | | | Very stiff dark brown slightly gravelly SILT with cobbles and boulders. Gravel is subangular fine to medium of brown dolomitised limestone and assorted grey limestone.<br><br>Core run - 5.60m to 6.20m: 1 No grey limestone boulder 210mm in length. | |
| 5.40 | 38 - - | NA | | | (4.10) | | | | |
| 7.00 | 75 - - | | | | | | | | |
| 7.80 | | | | | | | | | |

## Drilling Progress and Water Observations

| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing |
|---|---|---|---|---|---|---|---|
| | | | 4.50 | 84 | | | |

## Rotary Flush

| From (m) | To (m) | Type | Return (%) |
|---|---|---|---|
| 0 | 11.5 | Polymer | 100 |

## GENERAL REMARKS

1 gallon polydrill used. BH backfilled.

| All dimensions in metres Scale 1:50 | Client: Bord na Mona | Method/ Plant Used: Rotary Core/DB520 | Driller: AZ | Logged By: EAT |
|---|---|---|---|---|

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# DRILLHOLE LOG

| Project | Location | DRILLHOLE No |
|---|---|---|
| Derryadd WF Phase 2 | Lanesborough, Co. Longford | **RC-03** |

| Job No | Date | Ground Level (m OD) | Co-Ordinates () |
|---|---|---|---|
| 2022LD104 | 14-12-22<br>14-12-22 | 43.43 | E 605,117.1 N 769,270.5 |

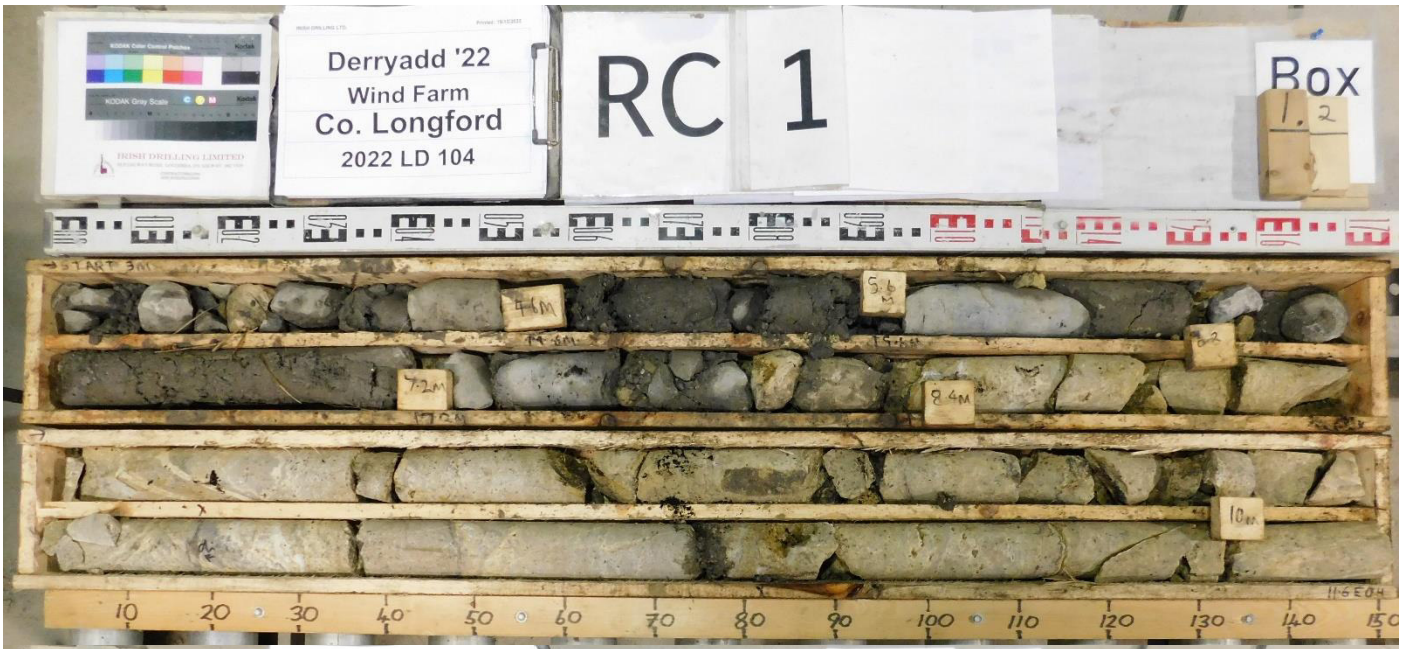
| Engineer | Sheet |
|---|---|
| Tobin | 2 of 2<br>Status DRAFT |

| RUN DETAILS | | | | | STRATA | | | |
|---|---|---|---|---|---|---|---|---|
| Depth / Date | TCR (SCR) RQD | (SPT) Fracture Index | Red'cd Level | Legend | Depth (Thick-ness) | DESCRIPTION: Discontinuities | DESCRIPTION: Detail | DESCRIPTION: Main | Instrument/ Backfill |
| 8.50 | 20<br>-<br>- | | 34.83 | | 8.60 | | | | |
| 9.00 | 100<br>(76)<br>- | 6<br>NI | | | | 8.60 - 11.50 Discontinuities, closely spaced, locally medium spaced, dipping 12 to 14°, stepped, rough, with 0.5 to 2mm thick orangish brown clay smear.<br>9.00 - 9.10 Non-intact as angular fine and medium grey limestone clasts<br>9.10 - 9.30 Joint, subvertical dip, stepped, rough, with 0.5 to 2mm thick orangish brown clay smear, open.<br>9.60 - 9.95 Joint, subvertical dip, stepped, rough, with 0.5 to 2mm thick orangish brown clay smear and a little black silt smear, open. | | Medium strong apparently massive brownish orange 'marbled' brown and white crystalline fine to coarse grained DOLOMITISED LIMESTONE.<br>9.00m to 9.10m: non-intact as angular fine and medium grey limestone clasts<br>9.10m: becoming very strong. | |
| 10.00 | 100<br>(84)<br>37 | 6 | | | (2.90) | | | | |
| | 100<br>(90)<br>60 | 7 | | | | | | 10.65m: becoming grey weakly dolomitised. | |
| 14.12 11.50 | | 6 | 31.93 | | 11.50 | | | 11.35m to 11.37m: orangish brown clay. | |
| | | | | | | | | BH terminated at 11.50m bgl on REs instruction. | |

| Drilling Progress and Water Observations | | | | | | | | Rotary Flush | | | | GENERAL REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Depth | Casing Depth | Casing Dia | Core Dia mm | Water Strike | Water Standing | From (m) | To (m) | Type | Return (%) | |
| 14/12/22 | 17.00 | 11.50 | | | | | | | | | | 1 gallon polydrill used. BH backfilled. |

| All dimensions in metres Scale 1:50 | Client: Bord na Mona | Method/ Plant Used: Rotary Core/DB520 | | Driller: AZ | Logged By: EAT |
|---|---|---|---|---|---|

IDL AGS4 UK DH (SPTS) DERRYADD WF 22 FILE 1 DEC 20 2022.GPJ ID GINT AGS 4_0_4.GDT 20/12/22


Derryadd '22
Wind Farm
Co. Longford
2022 LD 104
RC 1
Box
1, 2

Derryadd '22
Wind Farm
Co. Longford
2022 LD 104
RC 2
Box
1, 2

Derryadd '22
Wind Farm
Co. Longford
2022 LD 104
RC 3
Box
1, 2

Derryadd '22
Wind Farm
Co. Longford
2022 LD 104
CH 1
Box
1.2.3.
2.6 m
4.2 m
5.6
7.2 m
8.6 m
10.2m E.O.H
10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

Derryadd '22
Wind Farm
Co. Longford
2022 LD 104
CH2
Box
1.2.
2.2 m
3.8 m
5.4 m
10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

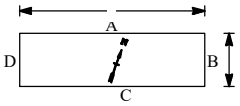
Derryadd '22
Wind Farm
Co. Longford
2022 LD 104
CH2
Box
3. 4.
6.9 m
8.5 m
10.1 m
10.1m E.O.H

Derryadd '22
Wind Farm
Co. Longford
2022 LD 104
CH 3
Box
1. 2. 3.
2.5 m
4.1 m
5.5 m
7.1 m
8.5 m
10.1 m
10.1m E.O.H

| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-03 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 603,630.9 N 770,707.2 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 41.46m O.D. | **DATE:** 12.12.22 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 70°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 41.36 | 0.10 | Moss rushes and saplings over spongy dark brownish black clayey pseudo fibrous PEAT. H7 B1 F1 R0 W0 TV1 TH1 A0. | |
| | | | B 1 | 0.20-0.30 | | | 41.06 | 0.40 | Greyish brown slightly clayey gravelly silty fine to coarse SAND with low cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. | |
| | | | B 2 | 0.70-0.80 | | | 40.46 | 1.00 | Very soft damp brownish grey gravelly silty CLAY with low medium cobble content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. | |
| 1 | | | | | | | | | Very soft damp grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subrounded to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 450mm in length. | |
| | | | B 3 | 1.70-1.80 | | | 39.56 | 1.90 | | |
| 2 | | | | | | END | | | TP terminated at 1.90m bgl. Obstruction as boulders. | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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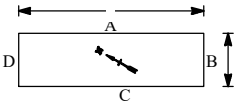
TRIALPIT DERRYADD WF 22 TPS FILE 1 JAN 4 2023.GPJ ID GINT AGS 4_0_4.GDT 6/1/23

| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-04 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 604,396.9 N 770,966.5 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 37.39m O.D. | **DATE:** 12.12.22 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 150°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.34 | 0.05 | Rushes and moss over soft blackish brown peaty CLAY. | |
| | | | B 1 | 0.20-0.30 | | | 36.69 | 0.70 | Greyish brown silty fine to coarse SAND. | |
| 1 | | | B 2 | 1.20-1.30 | | | 35.89 | 1.50 | Very soft damp grey laminated clayey very sandy SILT. Sand is fine. | |
| 2 | | | B 3 | 2.20-2.30 | | | 34.79 | 2.60 | Soft damp grey laminated clayey very sandy SILT. Sand is fine. | |
| | | | | | | END | | | TP terminated at 2.60m bgl. Unable to keep TP open - sidewall collapse. | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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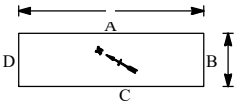
TRIALPIT DERRYADD WF 22 TPS FILE 1 JAN 4 2023.GPJ ID GINT AGS 4_0_4.GDT 6/1/23

| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-06 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 603,786.4 N 769,933.5 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 39.81m O.D. | **DATE:** 8.12.22 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 150°
**PIT DIMENSION:** 3.00m * 1.40
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 39.71 | 0.10 | Moss heather and saplings over soft dark brown very peaty CLAY with low cobble content. Cobbles are subangular to rounded of limestone. | |
| | | | B 1<br>D 2 | 0.20-0.30<br>0.20-0.30 | | | 39.31 | 0.50 | Firm damp brownish grey sandy gravelly silty CLAY with low cobble content and low boulder content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 250mm in length. | |
| 1 | | | B 3<br>D 4 | 1.30-1.40<br>1.30-1.40 | | | 38.11 | 1.70 | Soft damp grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. | |
| | | | | | | END | | | TP terminated at 1.70m bgl. Obstruction as boulders. | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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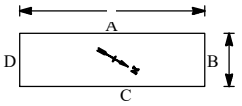
TRIALPIT DERRYADD WF 22 TPS FILE 1 JAN 4 2023.GPJ ID GINT AGS 4_0_4.GDT 6/1/23

| | |
|---|---|
| **PROJECT: Derryadd WF Phase 2** | **TRIALPIT: TP-07** |
| **LOCATION: Lanesborough, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 604,221.0 N 769,635.2 |
| **ENGINEER: Tobin** | **Rig: Zaxis 120** |
| | **Rev: DRAFT** |
| **Ground level: 42.07m O.D.** | **DATE: 8.12.22** |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION: 330°**
**PIT DIMENSION: 3.00m * 1.40**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 41.87 | 0.20 | Briars and tree litter over plastic black amorphous PEAT. H8 B1 F1 R0 W0 TV1 TH2 A0. | |
| | | | B 1 | 0.20-0.30 | | | | | Soft damp grey slightly sandy slightly gravelly organic silty CLAY with low cobble content and low boulder content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of sandstone. Cobbles are subrounded to rounded of sandstone. Boulders are subrounded to rounded of sandstone. Boulders are up to 250mm in length. | |
| | | | D 2 | 0.20-0.30 | 21 kN/m² | | | | | |
| | | | VANE | 0.50 | Rem 23 kN/m² 19mm vane | | | | | |
| 1 | | | B 3 | 0.90-1.00 | | | 41.07 | 1.00 | | |
| | | | D 4 | 0.90-1.00 | | | 40.87 | 1.20 | Stiff grey slightly gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of sandstone. Cobbles are subangular to rounded of sandstone. Boulders are subrounded to rounded of sandstone. Boulders are up to 350mm in length. | |
| | | | | | | END | | | TP terminated at 1.20m bgl. Obstruction as stiff clay and boulders. | |
| 2 | | | | | | | | | | |
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| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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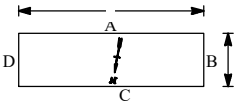
TRIALPIT DERRYADD WF 22 TPS FILE 1 JAN 4 2023.GPJ ID GINT AGS 4_0_4.GDT 6/1/23

| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-08 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 605,460.0 N 768,511.1 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 42.82m O.D. | **DATE:** 13.12.22 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 260°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 42.07 | 0.75 | Tree litter briars and saplings over spongy dark brownish black pseudo fibrous PEAT. H6 B1 F1 R1 W0 TV2 TH2 A0. | |
| 1 | | | B 1 VANE | 0.80-0.90 0.90 | 24 kN/m² Rem 23 kN/m² 19mm vane | | 41.52 | 1.30 | Very soft damp grey organic silty CLAY. | |
| | | | B 2 | 1.70-1.80 | | | 41.02 | 1.80 | Soft damp grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. | |
| 2 | | | | | | END | | | TP terminated at 1.80m bgl. Obstruction as boulders. | |
| 3 | | | | | | | | | | |
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| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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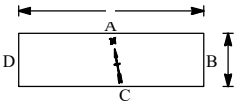
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-09 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 605,984.1 N 768,297.5 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 44.22m O.D. | **DATE:** 13.12.22 |

**GROUNDWATER**
**Water strikes:**
**1st:** 1.80m **Rose to after:** 20min 1.75m
**2nd:**
**3rd:**

**PIT DIRECTION:** 100°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | B 1 VANE | 0.50-0.60 0.60 | 17 kN/m² Rem 18 kN/m² 19mm vane | | 43.32 | 0.90 | Spongy dark blackish brown pseudo fibrous PEAT. H5 B1 F2 R2 W2 TV1 TH1 A1. | |
| 1 | | 1.7 | B 2 | 1.50-1.60 | | | 42.42 | 1.80 | Soft damp grey gravelly sandy clayey SILT with low cobble content and low boulder content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. | |
| 2 | | | | | | END | | | TP terminated at 1.80m bgl. Obstruction as cobbles and boulders. | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
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| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** Ingress of water at 1.80m bgl. TP backfilled with arisings.

**Scale:** 1:50

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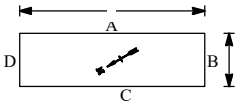
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-10 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 606,508.8 N 768,078.1 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 43.81m O.D. | **DATE:** 13.12.22 |

**GROUNDWATER**
**Water strikes:**
**1st:** 0.30m **Rose to after:** 20min 0.25m
**2nd:**
**3rd:**

**PIT DIRECTION:** 210°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | 1 | | | | | 43.51 | 0.30 | Grass and rushes over spongy dark brownish black pseudo fibrous PEAT. H6 B1 F1 R1 W0 TV2 TH2 A0. | |
| | | | B 1 VANE | 0.40-0.50 0.50 | 22 kN/m² Rem 24 kN/m² 19mm vane | | 42.81 | 1.00 | Very soft damp grey organic silty CLAY. | |
| 1 | | | B 2 | 1.40-1.50 | | | 42.01 | 1.80 | Soft damp grey slightly sandy gravelly silty CLAY with medium cobble content and low boulder content. Sand is fine to coarse. Gravel is angular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 350mm in length. | |
| 2 | | | | | | END | | | TP terminated at 1.80m bgl. Obstruction as cobbles and boulders. | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
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| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** Ingress of water at 0.30m bgl. TP backfilled with arisings.

**Scale:** 1:50

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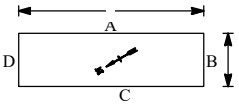
| | | |
|---|---|---|
| **PROJECT: Derryadd WF Phase 2** | | **TRIALPIT: TP-11** |
| **LOCATION: Lanesborough, Co. Longford** | | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** | **Rig: Zaxis 120** |
| **ENGINEER: Tobin** | **E 606,678.6 N 767,000.7** | **Rev: DRAFT** |
| **Ground level: 44.02m O.D.** | | **DATE: 13.12.22** |

**GROUNDWATER**
**Water strikes:**
**1st: 0.80m** **Rose to after: 20min 0.80m**
**2nd:**
**3rd:**

**PIT DIRECTION: 210°**
**PIT DIMENSION: 3.00m * 1.50**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit slightly unstable from g/l to 0.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | | |
| | | | VANE | 0.50 | 25 kN/m² Rem 22 kN/m² 19mm vane | | 43.22 | 0.80 | Spongy dark blackish brown pseudo fibrous PEAT. H6 B2 F2 R1 W2 TV1 TH1 A1. | |
| | | | B 1 | 0.80-0.90 | | | | | Soft damp grey slightly sandy gravelly silty CLAY with medium cobble content and low boulder content. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. | |
| 1 | | | | | | | | | | |
| | | | B 2 | 1.80-1.90 | | | | | | |
| 2 | | | | | | | 41.82 | 2.20 | | |
| | | | | | | END | | | TP terminated at 2.20m bgl. Obstruction as boulders. | |
| 3 | | | | | | | | | | |
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| 10 | | | | | | | | | | |

**Remarks:** Seepage of water at 0.80m bgl. TP backfilled with arisings.

**Scale: 1:50**

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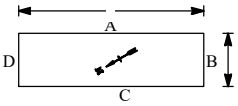
| | |
|---|---|
| **PROJECT: Derryadd WF Phase 2** | **TRIALPIT: TP-12** |
| **LOCATION: Lanesborough, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 606,428.0 N 766,263.7 |
| **ENGINEER: Tobin** | **Rig: Zaxis 120** |
| | **Rev: DRAFT** |
| **Ground level: 45.37m O.D.** | **DATE: 14.12.22** |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION: 210°**
**PIT DIMENSION: 3.00m * 1.50**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.00m to 1.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 45.07 | 0.30 | Saplings and tree litter over spongy dark brownish black pseudo fibrous PEAT with some rootlets. H7 B1 F1 R0 W0 TV1 TH1 A0. | |
| | | | B 1 VANE | 0.40-0.50 0.50 | 18 kN/m² 19mm vane 22 kN/m² 19mm vane 20 kN/m² 19mm vane | | 44.37 | 1.00 | Very soft damp brownish grey slightly sandy gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. | |
| 1 | | | B 2 | 1.40-1.50 | | | 43.57 | 1.80 | Very soft damp light grey slightly sandy gravelly silty CLAY with medium cobble content and low boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. | |
| 2 | | | | | | END | | | TP terminated at 1.80m bgl. Obstruction as cobbles and boulders. | |
| 3 | | | | | | | | | | |
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| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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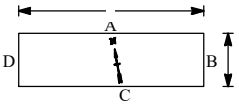
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-13 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 605,800.7 N 765,857.9 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 43.36m O.D. | **DATE:** 14.12.22 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 100°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 1.10m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE | 0.50 | 20 kN/m² Rem 22 kN/m² 19mm vane | | 42.66 | 0.70 | Rushes over spongy dark blackish brown pseudo fibrous PEAT. H6 B1 F1 R0 W2 TV1 TH1 A0. | |
| | | | B 1 VANE | 0.70-0.80 0.80 | 18 kN/m² Rem 20 kN/m² 19mm vane | | 42.26 | 1.10 | Very soft damp grey organic silty CLAY with some rootlets. | |
| | | | B 2 | 1.70-1.80 | | | 41.46 | 1.90 | Grey silty clayey subangular to subrounded fine to coarse limestone and sandstone GRAVEL with low cobble content and low boulder content. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 300mm in length. | |
| 2 | | | | | | END | | | TP terminated at 1.90m bgl. Obstruction as cobbles and boulders. | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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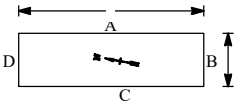
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-14 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 606,836.2 N 766,062.0 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 49.17m O.D. | **DATE:** 13.12.22 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 170°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 48.97 | 0.20 | Briars saplings and tree litter over spongy dark black clayey pseudo fibrous PEAT. H7 B1 F1 R0 W0 TV1 TH1 A0. | |
| | | | B 1 | 0.30-0.40 | | | 48.57 | 0.60 | Soft damp greyish orangish brown slightly gravelly sandy silty CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. | |
| | | | B 2 | 0.80-0.90 | | | | | | |
| 1 | | | | | | | 47.87 | 1.30 | Soft damp greyish brown gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 400mm in length. | |
| | | | | | | END | | | TP terminated at 1.30m bgl. Obstruction as boulders and cobbles. | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
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| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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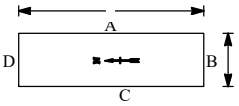
| | |
|---|---|
| **PROJECT: Derryadd WF Phase 2** | **TRIALPIT: TP-15** |
| **LOCATION: Lanesborough, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 605,927.5 N 765,408.9 |
| **ENGINEER: Tobin** | **Rig: Zaxis 120** |
| | **Rev: DRAFT** |
| **Ground level: 41.06m O.D.** | **DATE: 14.12.22** |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION: 180°**
**PIT DIMENSION: 3.00m * 1.50**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE<br>VANE<br>B 1 | 0.30<br>0.60<br>0.80-0.90 | 10 kN/m² Rem 12 kN/m² 19mm vane 8 kN/m² Rem 8 kN/m² 19mm vane | | 40.26 | 0.80 | Spongy dark blackish brown pseudo fibrous PEAT.<br>H5 B1 F2 R2 W2 TV1 TH1 A1.<br>0.00m to 0.30m: substrate dried out and compacted. | |
| 1 | | | B 2 | 1.80-1.90 | | | 39.26 | 1.80 | Very soft damp light creamish white laminated organic silty CLAY with rootlets.<br>Organic odour. | |
| 2 | | | | | | | 38.56 | 2.50 | Very soft damp dark brownish grey laminated organic silty CLAY with some 5mm wide gastropod shells and many rootlets. | |
| | | | | | | END | | | TP terminated at 2.50m bgl. Unable to keep TP open - sidewall collapse. | |
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**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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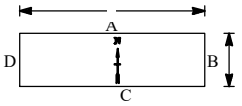
TRIALPIT DERRYADD WF 22 TPS FILE 1 JAN 4 2023.GPJ ID GINT AGS 4_0_4.GDT 6/1/23

| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-16 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 607,953.6 N 764,857.2 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 52.82m O.D. | **DATE:** 15.12.22 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 90°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE | 0.30 | 20 kN/m² Rem 21 kN/m² 19mm vane | | 52.22 | 0.60 | Birch saplings over spongy dark brownish black pseudo fibrous PEAT. H6 B1 F1 R2 W2 TV1 TH1 A1. | |
| | | | B 1 | 0.60-0.70 | 18 kN/m² Rem 17 kN/m² 19mm vane | | 51.72 | 1.10 | Very soft damp grey slightly gravelly organic silty CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. | |
| 1 | | | VANE | 0.80 | | | | | | |
| | | | B 2 | 1.60-1.70 | | | 51.12 | 1.70 | Light grey clayey silty angular to subrounded fine to coarse sandstone and limestone GRAVEL with medium cobble content and low boulder content. Cobbles are subangular to rounded of sandstone and limestone. Boulders are subrounded of sandstone and limestone. Boulders are up to 300mm in length. | |
| | | | | | | END | | | TP terminated at 1.70m bgl. Obstruction as cobbles and boulders. | |
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**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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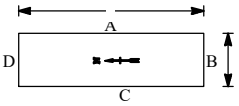
TRIALPIT DERRYADD WF 22 TPS FILE 1 JAN 4 2023.GPJ ID GINT AGS 4_0_4.GDT 6/1/23

| | | |
|---|---|---|
| **PROJECT:** Derryadd WF Phase 2 | | **TRIALPIT:** TP-17 |
| **LOCATION:** Lanesborough, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 608,185.0 N 764,440.4 | **Rig:** Zaxis 120 |
| **ENGINEER:** Tobin | | **Rev:** DRAFT |
| **Ground level:** 50.04m O.D. | | **DATE:** 15.12.22 |

**GROUNDWATER**
**Water strikes:**
**1st:** 1.90m **Rose to after:** 20min 1.80m
**2nd:**
**3rd:**

**PIT DIRECTION:** 180°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE | 0.50 | 19 kN/m² Rem 23 kN/m² 19mm vane | | | | Spongy dark blackish brown pseudo fibrous PEAT. H5 B1 F1 R2 W2 TV1 TH1 A1. | |
| 1 | | 1 | B 1 | 1.00-1.10 | | | 48.14 | 1.90 | | |
| 2 | | | B 2 | 2.10-2.20 | | | 47.04 | 3.00 | Very soft damp light whitish grey laminated silty very organic CLAY with much plant material and many 10mm long gastropod hells. Organic odour. | |
| 3 | | | | | | END | | | TP terminated at 3.00m bgl. Unable to keep TP open - sidewall collapse. | |
| 4 | | | | | | | | | | |
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**Remarks:** Ingress of water at 1.90m bgl. TP backfilled with arisings.

**Scale:** 1:50

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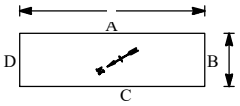
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-18 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 608,539.3 N 764,114.2 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 48.59m O.D. | **DATE:** 15.12.22 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 210°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE | 0.50 | 18 kN/m² Rem 16 kN/m² 19mm vane | | | | Spongy dark blackish brown pseudo fibrous PEAT. H6 B1 F1 R1 W1 TV1 TH1 A1. | |
| 1 | | | B 1 | 1.00-1.10 | | | | | | |
| | | | | | | | 46.59 | 2.00 | | |
| 2 | | | B 2 | 2.00-2.10 | | | | | Very soft damp light greyish white laminated silty very organic CLAY with much plant material. | |
| 3 | | | | | | | 45.29 | 3.30 | | |
| | | | | | | END | | | TP terminated at 3.30m bgl. Unable to keep TP open - sidewall collapse. | |
| 4 | | | | | | | | | | |
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| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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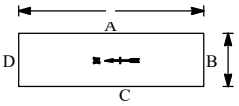
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-19 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 609,015.4 N 763,846.2 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 51.57m O.D. | **DATE:** 15.12.22 |

**GROUNDWATER**
**Water strikes:**
**1st:** 0.90m **Rose to after:** 20min 0.80m
**2nd:**
**3rd:**

**PIT DIRECTION:** 180°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE | 0.50 | 20 kN/m² Rem 22 kN/m² 19mm vane | | 50.67 | 0.90 | Spongy dark blackish brown pseudo fibrous PEAT. H6 B1 F1 R1 W1 TV1 TH1 A0. | |
| 1 | | | B 1 | 0.90-1.00 | | | 49.77 | 1.80 | Very soft grey silty very gravelly CLAY with medium cobble content and medium boulder content and low large boulder content. Gravel is angular to subrounded fine to coarse of limestone and sandstone. Cobbles are subangular to rounded of limestone and sandstone. Boulders are subangular to rounded of limestone and sandstone. Boulders are up to 700mm in length. | |
| | | | D 2 | 1.70-1.80 | | | | | | |
| 2 | | | | | | END | | | TP terminated at 1.80m bgl. Obstruction as cobbles and boulders. | |
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| 10 | | | | | | | | | | |

**Remarks:** Ingress of water at 0.90m bgl. TP backfilled with arisings.

**Scale:** 1:50

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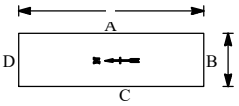
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-20 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 609,285.7 N 764,671.0 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 49.20m O.D. | **DATE:** 16.12.22 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 180°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 48.90 | 0.30 | Spongy dark black pseudo fibrous PEAT. H7 B1 F0 R1 W0 TV1 TH1 A1. | |
| | | | B 1 | 0.40-0.50 | | | 48.60 | 0.60 | Soft dark grey gravelly sandy clayey SILT with medium cobble content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. | |
| 1 | | | D 2 | 1.00-1.10 | | | 48.00 | 1.20 | Firm damp grey slightly sandy gravelly silty CLAY with low cobble content and low boulder content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. | |
| | | | | | | END | | | TP terminated at 1.20m bgl. Obstruction as cobbles and boulders. | |
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**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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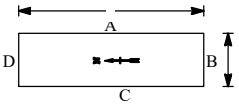
| | |
|---|---|
| **PROJECT: Derryadd WF Phase 2** | **TRIALPIT: TP-21** |
| **LOCATION: Lanesborough, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 609,854.9 N 765,242.5 |
| **ENGINEER: Tobin** | **Rig: Zaxis 120** |
| | **Rev: DRAFT** |
| **Ground level: 52.26m O.D.** | **DATE: 16.12.22** |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION: 180°**
**PIT DIMENSION: 3.00m * 1.50**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 51.96 | 0.30 | Spongy dark blackish brown pseudo fibrous PEAT. H6 B1 F1 R1 W2 TV1 TH1 A0. | |
| | | | | | | END | | | TP terminated at 0.30m bgl. TP-21 moved to TP-21A due to possible archaeological feature. | |
| 1 | | | | | | | | | | |
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| 10 | | | | | | | | | | |

**Remarks:** TP-21 moved to TP-21A due to possible archaeological feature. TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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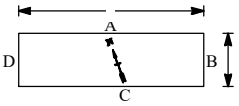
| | | |
|---|---|---|
| **PROJECT:** Derryadd WF Phase 2 | | **TRIALPIT:** TP-21A |
| **LOCATION:** Lanesborough, Co. Longford | | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 609,854.2 N 765,254.7 | **Rig:** Zaxis 120 |
| **ENGINEER:** Tobin | | **Rev:** DRAFT |
| **Ground level:** 52.66m O.D. | | **DATE:** 16.12.22 |

**GROUNDWATER**
**Water strikes:**
**1st:** 1.10m **Rose to after:** 20min 1.05m
**2nd:**
**3rd:**

**PIT DIRECTION:** 110°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Spongy dark blackish brown pseudo fibrous PEAT. H6 B1 F1 R1 W2 TV1 TH1 A0. | |
| | | | VANE | 0.50 | 23 kN/m² 19mm vane; 20 kN/m² 19mm vane; 25 kN/m² 19mm vane | | | | | |
| 1 | | 1 | B 1 | 1.10-1.20 | | | 51.56 | 1.10 | Very soft damp grey slightly sandy gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. | |
| | | | B 2 | 1.70-1.80 | | | 51.26 | 1.40 | Firm grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to subrounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Boulders are subrounded to rounded of limestone and sandstone. Boulders are up to 300mm in length. | |
| 2 | | | | | | END | 50.86 | 1.80 | TP terminated at 1.80m bgl. Obstruction as cobbles and boulders. | |
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| 10 | | | | | | | | | | |

**Remarks:** TP-21A moved from TP-21 due to possible archaeological feature. Ingress of water at 1.10m bgl. TP backfilled with arisings.

**Scale:** 1:50

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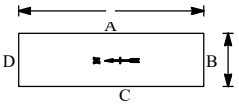
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-22 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 609,859.2 N 764,297.7 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 57.48m O.D. | **DATE:** 15.12.22 |

**GROUNDWATER**
**Water strikes:**
**1st:** 3.50m **Rose to after:** 20min 3.48m
**2nd:**
**3rd:**

**PIT DIRECTION:** 180°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 57.18 | 0.30 | Heather and rushes over spongy dark blackish brown clayey pseudo fibrous PEAT. H7 B1 F1 R0 W1 TV1 TH1 A0. | |
| | | | B 1 VANE | 0.40-0.50 0.50 | 18 kN/m² Rem 20 kN/m² 19mm vane | | 56.68 | 0.80 | Very soft damp brownish grey gravelly silty CLAY with low cobble content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. | |
| 1 | | | B 2 | 1.20-1.30 | | | 56.08 | 1.40 | Grey silty sandy clayey subangular to subrounded fine to coarse sandstone and limestone GRAVEL with medium cobble content and low boulder content. Cobbles are subangular to rounded of sandstone and limestone. Boulders are subrounded to rounded of sandstone and limestone. Boulders are up to 450mm in length. | |
| | | | | | | END | | | TP terminated at 1.40m bgl. Obstruction as cobbles and boulders. | |
| 2 | | | | | | | | | | |
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| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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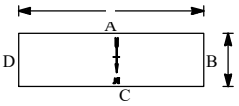
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-23 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 609,815.2 N 764,148.4 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 57.46m O.D. | **DATE:** 15.12.22 |

**GROUNDWATER**
**Water strikes:**
**1st:** 1.30m **Rose to after:** 20min 1.25m
**2nd:**
**3rd:**

**PIT DIRECTION:** 270°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE | 0.50 | 25 kN/m² 19mm vane 23 kN/m² 19mm vane 26 kN/m² 19mm vane | | 56.46 | 1.00 | Spongy dark blackish brown pseudo fibrous PEAT. H6 B1 F1 R1 W1 TV1 TH1 A0. | |
| 1 | | 1 | B 1 | 1.00-1.10 | | | 56.16 | 1.30 | Soft damp brownish grey slightly clayey gravelly sandy SILT with low cobble content. Sand is fine. Gravel is subangular to subrounded fine to coarse of sandstone and limestone. Cobbles are subrounded to rounded of sandstone and limestone. | |
| 2 | | | B 2 | 1.90-2.00 | | END | 55.46 | 2.00 | Grey slightly sandy silty clayey subangular to subrounded fine to coarse sandstone and limestone GRAVEL with medium cobble content and medium boulder content. Cobbles are subangular to rounded of sandstone and limestone. Boulders are subrounded to rounded of sandstone and limestone. Boulders are up to 450mm in length. TP terminated at 2.00m bgl. Obstruction as cobbles and boulders. | |
| 3 | | | | | | | | | | |
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| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** Ingress of water at 1.30m bgl. TP backfilled with arisings.

**Scale:** 1:50

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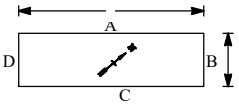
TRIALPIT DERRYADD WF 22 TPS FILE 1 JAN 4 2023.GPJ ID GINT AGS 4_0_4.GDT 6/1/23

| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-24 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 605,596.2 N 767,614.1 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 41.91m O.D. | **DATE:** 13.12.22 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 40°
**PIT DIMENSION:** 2.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 41.71 | 0.20 | Spongy black pseudo fibrous PEAT. H7 B1 F1 R0 W1 TV1 TH2 A0. | |
| | | | B 1 VANE | 0.30-0.40 0.40 | 24 kN/m² Rem 26 kN/m² 19mm vane | | | | Soft grey slightly gravelly sandy silty CLAY with low cobble content and some tree roots. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of limestone and sandstone. Cobbles are subrounded to rounded of limestone and sandstone. Tree roots are up to 100mm thick. | |
| 1 | | | | | | END | 40.91 | 1.00 | TP terminated at 1.00m bgl. Obstruction as boulders. | |
| 2 | | | | | | | | | | |
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| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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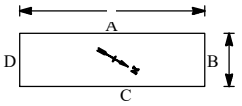
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-25 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 604,990.9 N 769,376.4 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 40.38m O.D. | **DATE:** 9.12.22 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 330°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | | |
| | | | VANE | 0.50 | 5 kN/m² Rem 10 kN/m² 19mm vane | | 39.58 | 0.80 | Spongy dark blackish brown pseudo fibrous PEAT. H6 B1 F1 R1 W2 TV1 TH1 A1. | |
| 1 | | | B 1 | 0.80-0.90 | | | 39.18 | 1.20 | Firm grey slightly gravelly organic silty CLAY with low cobble content and some plant material. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. | |
| 2 | | | B 2 | 1.80-1.90 | | | 37.78 | 2.60 | Soft damp grey gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. | |
| | | | | | | END | | | TP terminated at 2.60m bgl. Obstruction. | |
| 3 | | | | | | | | | | |
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| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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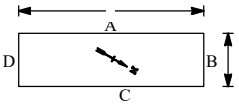
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-26 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 605,050.3 N 769,405.7 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 42.67m O.D. | **DATE:** 9.12.22 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 330°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Grass saplings and heather over spongy dark orangish brown pseudo fibrous PEAT. H4 B1 F3 R2 W1 TV1 TH1 A2. | |
| | | | VANE<br>B 1 | 0.50<br>0.60-0.70 | 16 kN/m²<br>19mm vane<br>18 kN/m²<br>19mm vane<br>21 kN/m²<br>19mm vane | | 41.57 | 1.10 | | |
| 1 | | | | | | | | | Spongy dark brown pseudo fibrous PEAT. H6 B1 F2 R2 W1 TV1 TH1 A2. | |
| | | | | | | | 40.77 | 1.90 | | |
| 2 | | | B 2 | 2.40-2.50 | | | 40.17 | 2.50 | Very soft damp grey sandy gravelly clayey SILT with low cobble content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. | |
| | | | | | | END | | | TP terminated at 2.50m bgl. Unable to keep TP open - sidewall collapse. | |
| 3 | | | | | | | | | | |
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| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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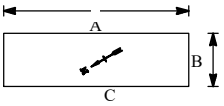
| | |
|---|---|
| **PROJECT: Derryadd WF Phase 2** | **TRIALPIT: TP-27** |
| **LOCATION: Lanesborough, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 605,025.9 N 769,296.8 |
| **ENGINEER: Tobin** | **Rig: Zaxis 120** |
| | **Rev: DRAFT** |
| **Ground level: 40.27m O.D.** | **DATE: 9.12.22** |

**GROUNDWATER**
**Water strikes:**
**1st: 2.50m** Rose to after: 20min 2.30m
**2nd:**
**3rd:**

**PIT DIRECTION: 210°**
**PIT DIMENSION: 4.00m * 1.50**
**LOGGED BY: PC**




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 40.17 | 0.10 | Rushes saplings and tree litter over spongy black slightly clayey pseudo fibrous PEAT. H7 B1 F1 R0 W0 TV1 TH1 A0. | |
| | | | B 1 | 0.30-0.40 | | | 39.77 | 0.50 | Firm damp grey gravelly sandy clayey SILT with medium cobble content and low boulder content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of sandstone and limestone. Cobbles are subangular to rounded of sandstone and limestone. Boulders are subrounded to rounded of sandstone and limestone. Boulders are up to 450mm in length. | |
| 1 | | | B 2 | 1.30-1.40 | | | | | Soft damp dark grey slightly sandy gravelly silty CLAY with medium cobble content and low boulder content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 250mm in length. | |
| 2 | | 1 | B 3 | 2.30-2.40 | | | 37.67 | 2.60 | | |
| | | | | | | END | | | TP terminated at 2.60m bgl. Obstruction as cobbles and boulders. | |
| 3 | | | | | | | | | | |
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| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** Ingress of water at 2.50m bgl. TP backfilled with arisings.

**Scale:** 1:50

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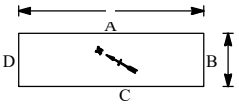
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-28 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 605,112.7 N 769,347.7 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 41.43m O.D. | **DATE:** 9.12.22 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 150°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse from 0.80m bgl.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 41.13 | 0.30 | Saplings and rushes over spongy dark brownish black clayey pseudo fibrous PEAT. H7 B1 F1 R0 W0 TV1 TH1 A0. | |
| | | | B 1 VANE | 0.40-0.50 0.50 | 17 kN/m² Rem 19 kN/m² 19mm vane | | 40.63 | 0.80 | Very soft damp grey slightly sandy slightly gravelly organic silty CLAY with low cobble content and some plant material. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Organic odour. | |
| 1 | | | | | | | | | Soft damp grey very gravelly silty CLAY with medium cobble content and low boulder content. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 350mm in length. | |
| 2 | | | B 2 | 2.10-2.20 | | | 38.53 | 2.90 | | |
| 3 | | | | | | END | | | TP terminated at 2.90m bgl. Obstruction. | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
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| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** Ingress of surface water. TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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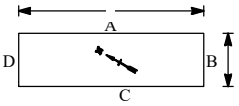
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-29 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 605,103.6 N 769,299.3 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 43.64m O.D. | **DATE:** 9.12.22 |

**GROUNDWATER**
**Water strikes:**
**1st:** 2.00m **Rose to after:** 20min 2.10m
**2nd:**
**3rd:**

**PIT DIRECTION:** 150°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit slightly unstable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Gorse heather and grass over spongy dark brownish black pseudo fibrous PEAT with some plastic. H4 B1 F3 R2 W2 TV1 TH1 A0. Substrate dried out and compacted. | |
| | | | VANE | 0.50 | 12 kN/m² 19mm vane | | 43.14 | 0.50 | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F3 R2 W2 TV1 TH1 A2. | |
| 1 | | | B 1 | 0.90-1.00 | 14 kN/m² 19mm vane 10 kN/m² 19mm vane | | | | | |
| 2 | | | | | | | 40.94 | 2.70 | | |
| | | | B 2 | 2.70-2.80 | | | 40.64 | 3.00 | Very soft damp grey organic silty CLAY with some plant material. Organic odour. | |
| 3 | | | B 3 | 3.10-3.20 | | END | 40.44 | 3.20 | Grey slightly clayey silty very sandy subangular to rounded fine and coarse limestone GRAVEL with medium cobble content and low boulder content. Cobbles are subrounded to rounded of limestone. Boulders are subrounded to rounded of limestone. Boulders are up to 400mm in length. | |
| 4 | | | | | | | | | TP terminated at 3.20m bgl. Obstruction. | |
| 5 | | | | | | | | | | |
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| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** Ingress of water at 2.00m bgl. TP backfilled with arisings.

**Scale:** 1:50

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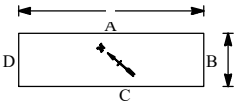
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-30 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 605,075.8 N 769,233.4 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 42.40m O.D. | **DATE:** 9.12.22 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 140°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | B 1 | 0.30-0.40 | | | | | Spongy dark brownish black pseudo fibrous PEAT. H4 B1 F3 R1 W2 TV2 TH2 A0. Substrate dried out and compacted. | |
| | | | VANE | 0.50 | 15 kN/m² 19mm vane | | 41.80 | 0.60 | | |
| | | | | | 25 kN/m² 19mm vane | | | | Spongy dark orangish brown pseudo fibrous PEAT. H4 B2 F3 R1 W2 TV1 TH1 A1. | |
| 1 | | | B 2 | 1.00-1.10 | 18 kN/m² 19mm vane | | 41.20 | 1.20 | | |
| | | | B 3 | 1.70-1.80 | | | 40.40 | 2.00 | Very soft damp light grey slightly gravelly sandy organic clayey SILT with low cobble content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. | |
| 2 | | | B 4 | 2.70-2.80 | | | 39.40 | 3.00 | Soft damp light grey slightly sandy gravelly silty CLAY with medium cobble content and low boulder content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subangular to rounded of limestone. | |
| 3 | | | | | | END | | | TP terminated at 3.00m bgl. Obstruction. | |
| 4 | | | | | | | | | | |
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| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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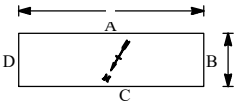
| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2 | **TRIALPIT:** TP-31 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 605,174.2 N 769,225.4 |
| **ENGINEER:** Tobin | **Rig:** Zaxis 120 |
| | **Rev:** DRAFT |
| **Ground level:** 44.38m O.D. | **DATE:** 9.12.22 |

**GROUNDWATER**
**Water strikes:**
1st: 3.20m Rose to after: 20min 3.10m
2nd:
3rd:

**PIT DIRECTION:** 240°
**PIT DIMENSION:** 3.00m * 1.50
**LOGGED BY:** PC




Shoring/Support: N/A
Stability: Pit unstable. Sidewall collapse.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | VANE | 0.50 | 8 kN/m² Rem 10 kN/m² 19mm vane | | | | Firm dark orangish brown fibrous PEAT. H3 B2 F3 R3 W1 TV0 TH0 A1. | |
| 1 | | | B 1 | 0.80-0.90 | | | 42.58 | 1.80 | | |
| 2 | | | B 2 | 2.80-2.90 | | | 41.18 | 3.20 | Spongy dark brownish black pseudo fibrous PEAT. H6 B1 F2 R1 W1 TV1 TH1 A2. | |
| 3 | | 1 | B 3 | 3.30-3.40 | | | 40.78 | 3.60 | Very soft damp grey gravelly sandy clayey SILT with low cobble content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of limestone. Cobbles are subrounded to rounded of limestone. | |
| 4 | | | | | | END | | | TP terminated at 3.60m bgl. Unable to keep TP open - sidewall collapse. | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** Ingress of water at 3.20m bgl. TP backfilled with arisings.

**Scale:** 1:50

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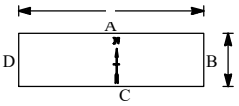
TRIALPIT DERRYADD WF 22 TPS FILE 1 JAN 4 2023.GPJ ID GINT AGS 4_0_4.GDT 6/1/23

| | |
|---|---|
| **PROJECT:** Derryadd WF Phase 2, Additional Works 2023 | **TRIALPIT:** TP-01 |
| **LOCATION:** Lanesborough, Co. Longford | **Sheet** 1 of 1 |
| **CLIENT:** Bord na Mona | **Co-ordinates:** E 603,273.0 N 771,269.3 |
| **ENGINEER:** Tobin | **Rig:** Hyundai Robex |
| | **Rev:** DRAFT |
| **Ground level:** 37.24m O.D. | **DATE:** 24.2.23 |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION:** 90°
**PIT DIMENSION:** 4.00m * 2.00
**LOGGED BY:** DF




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 36.84 | 0.40 | Grass over plastic black amorphous PEAT. H8. | |
| | | | | | | | 36.04 | 1.20 | Firm orangish brown fibrous PEAT. H3. | |
| 1 | | | B 1 | 1.20-1.40 | | | 35.74 | 1.50 | Soft brown peaty SILT. | |
| | | | B 2 / D 3 | 1.50-1.70 / 1.50-1.70 | | | 35.44 | 1.80 | Soft grey gravelly SILT. Gravel is angular to subangular fine to coarse. | |
| 2 | | | B 4 | 2.00-2.20 | | | 34.94 | 2.30 | Stiff grey gravelly SILT with medium cobble content and medium boulder content. Gravel is angular to subangular fine to coarse. Cobbles are subangular to rounded. Boulders are subangular to rounded. | |
| | | | | | | END | | | TP terminated at 2.30m bgl. | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
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| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** Ingress of water at 1.50m bgl. TP backfilled with arisings.

**Scale:** 1:50

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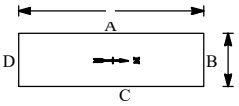
TRIALPIT DERRYADD WF 23 TPS FILE 1 MARCH 8 2023.GPJ ID GINT AGS 4_0_4.GDT 8/3/23

| | |
|---|---|
| **PROJECT: Derryadd WF Phase 2, Additional Works 2023** | **TRIALPIT: TP-02** |
| **LOCATION: Lanesborough, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 603,935.3 N 771,597.7 |
| **ENGINEER: Tobin** | **Rig: Hyundai Robex** |
| | **Rev: DRAFT** |
| **Ground level: 39.41m O.D.** | **DATE: 24.2.23** |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION: 0°**
**PIT DIMENSION: 4.00m * 2.00**
**LOGGED BY: DF**




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Heather over plastic black amorphous PEAT. H8. | |
| | | | | | | | 38.81 | 0.60 | | |
| | | | B 1 | 0.80-1.00 | | | | | Firm orangish brown fibrous PEAT. | |
| 1 | | | | | | | | | | |
| 2 | | | | | | | 37.01 | 2.40 | | |
| | | | B 2<br>D 3 | 2.40-2.60<br>2.40-2.60 | | | | | Soft bluish grey slightly sandy fibrous SILT. | |
| 3 | | | | | | | | | 2.90m: becoming firm. | |
| | | | | | | | 36.21 | 3.20 | | |
| | | | B 4 | 3.20-3.40 | | | 36.01 | 3.40 | Wet light grey silty SAND and GRAVEL. | |
| | | | B 5 | 3.50-3.70 | | | 35.71 | 3.70 | Stiff light grey sandy gravelly SILT with medium cobble content and low boulder content. Gravel is angular to subangular fine to coarse. Cobbles are angular to rounded. Boulders are subrounded to rounded. Boulders are up to 500mm in length. | |
| | | | | | | END | | | TP terminated at 3.70m bgl. | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
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| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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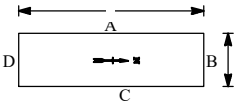
TRIALPIT DERRYADD WF 23 TPS FILE 1 MARCH 8 2023.GPJ ID GINT AGS 4_0_4.GDT 8/3/23

| | |
|---|---|
| **PROJECT: Derryadd WF Phase 2, Additional Works 2023** | **TRIALPIT: TP-X** |
| **LOCATION: Lanesborough, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 603,267.1 N 771,202.0 |
| **ENGINEER: Tobin** | **Rig: Hyundai Robex** |
| | **Rev: DRAFT** |
| **Ground level: 38.15m O.D.** | **DATE: 23.2.23** |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION: 0°**
**PIT DIMENSION: 4.00m * 2.00**
**LOGGED BY: DF**




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 37.25 | 0.90 | Plastic black amorphous PEAT. H8. | |
| 1 | | | | | | | 36.75 | 1.40 | Firm orangish brown fibrous PEAT. | |
| | | | B 1 | 1.40-1.55 | | | 36.25 | 1.90 | Soft bluish grey slightly gravelly sandy SILT. Gravel is subrounded fine to coarse. | |
| 2 | | | B 2<br>D 3 | 2.00-2.20<br>2.00-2.20 | | | | | Stiff grey gravelly SILT with high cobble content and low boulder content. Gravel is angular to subrounded fine to coarse. Cobbles are subangular to subrounded. Boulders are subangular to subrounded. Boulders are up to 500mm in length. Increase in cobble content with depth. | |
| 3 | | | B 4 | 3.00-3.20 | | | 34.85 | 3.30 | | |
| | | | | | | END | | | TP terminated at 3.30m bgl. | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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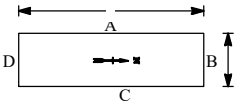
| | |
|---|---|
| **PROJECT: Derryadd WF Phase 2, Additional Works 2023** | **TRIALPIT: TP-Y** |
| **LOCATION: Lanesborough, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 603,285.2 N 771,167.8 |
| **ENGINEER: Tobin** | **Rig: Hyundai Robex** |
| | **Rev: DRAFT** |
| **Ground level: 38.40m O.D.** | **DATE: 23.2.23** |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION: 0°**
**PIT DIMENSION: 3.80m * 2.00**
**LOGGED BY: DF**




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | Plastic black amorphous PEAT. | |
| | | | | | | | 37.45 | 0.95 | | |
| 1 | | | B 1 | 0.95-1.10 | | | 37.30 | 1.10 | Grey slightly silty gravelly sandy SAND with low cobble content. Gravel is subrounded medium to coarse. Cobbles are subrounded. | |
| | | | B 2 | 1.20-1.40 | | | | | Soft grey slightly gravelly sandy SILT with medium cobble content. Gravel is subrounded fine to coarse. Cobbles are subrounded. | |
| | | | D 3 | 1.20-1.40 | | | | | Increase in cobble and boulder content with depth. | |
| | | | | | | | | | 1.50m: with low boulder content. Boulders are subrounded. | |
| | | | | | | | | | 1.80m: becoming stiff. | |
| 2 | | | B 4 | 2.20-2.40 | | | | | | |
| | | | | | | | 35.40 | 3.00 | | |
| 3 | | | | | | END | | | TP terminated at 3.00m bgl. | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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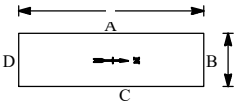
| | |
|---|---|
| **PROJECT: Derryadd WF Phase 2, Additional Works 2023** | **TRIALPIT: TP-Z** |
| **LOCATION: Lanesborough, Co. Longford** | **Sheet 1 of 1** |
| **CLIENT: Bord na Mona** | **Co-ordinates:** E 603,239.8 N 771,252.0 |
| **ENGINEER: Tobin** | **Rig: Hyundai Robex** |
| | **Rev: DRAFT** |
| **Ground level: 37.88m O.D.** | **DATE: 23.2.23** |

**GROUNDWATER**
**Water strikes:** **Rose to after:**
**1st:** dry
**2nd:**
**3rd:**

**PIT DIRECTION: 0°**
**PIT DIMENSION: 4.20m * 2.00**
**LOGGED BY: DF**




Shoring/Support: N/A
Stability: Pit stable.

| Depth (m) | Date | Water | Samples | Depth (m) | SPT (N) / In Situ Vane Tests | LEGEND | Elevation m O.D. | Depth (m) | DESCRIPTION | Instrument/ Backfill |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 36.98 | 0.90 | Plastic black amorphous PEAT. H9. | |
| 1 | | | | | | | 35.78 | 2.10 | Firm orangish brown fibrous PEAT. H1 | |
| 2 | | | B 1<br>D 2 | 2.10-2.30<br>2.10-2.30 | | | 34.68 | 3.20 | Soft bluish grey SILT. | |
| 3 | | | B 3 | 3.30-3.50 | | | 34.08 | 3.80 | Stiff greenish grey slightly sandy slightly gravelly SILT with high cobble content and medium boulder content. Gravel is subrounded to rounded fine to coarse. Cobbles are subrounded of limestone. Boulders are subrounded. Boulders are up to 450mm in length. | |
| 4 | | | | | | END | | | TP terminated at 3.80m bgl. | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |

**Remarks:** TP dry on excavation. TP backfilled with arisings.

**Scale:** 1:50

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# Appendix 9-1.11- GDG Peat Probes Nov. 2023

**Derryadd Wind Farm - Peat probing 2023**

Peat probing was carried out by GDG between 8/11/2023 and 10/11/2023.

Probing was carried out at locations where limited peat depth data was available, especially in areas where proposed infrastructure is located.

The locations of the peat probes was informed by the updated layout received by GDG on 21/4/2023 (doc reference DWF-BNM-CAD-0200-P10.dwg).

| Date | lat | lon | alt | acc | Name | No. of Probes | Depth (m) | Notes |
|---|---|---|---|---|---|---|---|---|
| 08/11/2023 | 53.67158 | -7.92819 | 42 | 3.9 | Pp39 | 0.1 | 0.09 | |
| 08/11/2023 | 53.67178 | -7.92564 | 44 | 3.9 | Pp40 | 2.1 | 1.89 | |
| 08/11/2023 | 53.67307 | -7.9213 | 46 | 3.9 | Pp38 | 2.7 | 2.43 | |
| 08/11/2023 | 53.67409 | -7.92202 | 42 | 3.9 | Pp36 | 1.7 | 1.53 | |
| 08/11/2023 | 53.6747 | -7.92515 | 46 | 3.9 | Pp34 | 0.6 | 0.54 | |
| 08/11/2023 | 53.67636 | -7.92629 | 38 | 3.9 | Pp33 | 0.2 | 0.18 | |
| 08/11/2023 | 53.67461 | -7.92621 | 39 | 3.9 | Pp37 | 0.1 | 0.09 | |
| 08/11/2023 | 53.67485 | -7.92673 | 40 | 3.9 | Pp35 | 1.4 | 1.26 | |
| 08/11/2023 | 53.67348 | -7.92574 | 41 | 3.9 | Pp 94 | 0.3 | 0.27 | |
| 08/11/2023 | 53.67182 | -7.93009 | 41 | 3.9 | Pp28 | 1.7 | 1.53 | |
| 08/11/2023 | 53.67251 | -7.93156 | 42 | 3.9 | Pp27 | 0.3 | 0.27 | |
| 08/11/2023 | 53.67412 | -7.93331 | 41 | 3.9 | Pp27 | 0.7 | 0.63 | |
| 08/11/2023 | 53.67449 | -7.9328 | 45 | 3.9 | Pp26 | 0 | 0 | Not exact location |
| 08/11/2023 | 53.67491 | -7.93622 | 39 | 3.9 | Pp23 | 1.8 | 1.62 | |
| 08/11/2023 | 53.67416 | -7.93893 | 40 | 3.9 | Pp24 | 0.6 | 0.54 | |
| 08/11/2023 | 53.67592 | -7.93639 | 40 | 3.9 | Pp21 | 1 | 0.9 | |
| 08/11/2023 | 53.67596 | -7.93486 | 46 | 3.9 | Pp22 | 0.6 | 0.54 | |
| 08/11/2023 | 53.69297 | -7.95308 | 33 | 3.9 | Pp02 | 0 | 0 | Actual location under water. No peat at this location |
| 08/11/2023 | 53.69096 | -7.95133 | 34 | 3.9 | Pp01 | 0.6 | 0.54 | Deep drain prevents access to PP01, see photos. Location not exact. Pp03 is also not accessible for same reason |
| 08/11/2023 | 53.68676 | -7.94733 | 36 | 3.9 | Pp14, 15, 16 | | 0 | Couldn’t gain access to exact location of Pp14 pp15 and pp16 and t03 due to deep drain. Pictures show approx 0.1 or 0.2 of peat |
| 08/11/2023 | 53.67911 | -7.94252 | 37 | 3.9 | Pp19 | 0 | 0 | |
| 08/11/2023 | 53.67899 | -7.94311 | 35 | 3.9 | Pp20 | 1.3 | 1.17 | |
| 08/11/2023 | 53.67856 | -7.94221 | 37 | 3.9 | Pp18 | 0.4 | 0.36 | |
| 08/11/2023 | 53.67869 | -7.94033 | 33 | 3.9 | Pp17 | 0.7 | 0.63 | Exact location not accessible due to standing water |
| 08/11/2023 | 53.68044 | -7.94158 | 34 | 3.9 | Pp25 | 0.8 | 0.72 | |

| Date | lat | lon | alt | acc | Name | No. of Probes | Depth (m) | Notes |
|---|---|---|---|---|---|---|---|---|
| 08/11/2023 | 53.69728 | -7.94475 | 36 | 3.9 | Pp06 | 1.1 | 0.99 | Exact location not accessible. This is closest point that is accessible |
| 09/11/2023 | 53.62689 | -7.8586 | 48 | 3.9 | Pp83 | 4 | 3.6 | |
| 09/11/2023 | 53.62739 | -7.85405 | 57 | 3.9 | P85 | 0.3 | 0.27 | |
| 09/11/2023 | 53.62747 | -7.85178 | 58 | 3.9 | Pp86 | 1.2 | 1.08 | |
| 09/11/2023 | 53.62711 | -7.85138 | 57 | 3.9 | Pp84 | 1.2 | 1.08 | |
| 09/11/2023 | 53.63504 | -7.85579 | 52 | 3.9 | Pp88 | 0.8 | 0.72 | |
| 09/11/2023 | 53.63609 | -7.85321 | 49 | 3.9 | Pp89 | 0.7 | 0.63 | |
| 09/11/2023 | 53.63174 | -7.8582 | 52 | 3.9 | Pp93 | 0.6 | 0.54 | |
| 09/11/2023 | 53.63206 | -7.85963 | 53 | 3.9 | Pp87 | 0.8 | 0.72 | |
| 09/11/2023 | 53.62471 | -7.86446 | 50 | 3.9 | P80 | 0.6 | 0.54 | |
| 09/11/2023 | 53.62503 | -7.86531 | 49 | 3.9 | Pp81 | 2 | 1.8 | |
| 09/11/2023 | 53.62582 | -7.86711 | 50 | 3.9 | Pp82 | 3 | 2.7 | |
| 09/11/2023 | 53.62611 | -7.87133 | 50 | 3.9 | Pp73 | 3.5 | 3.15 | |
| 09/11/2023 | 53.62674 | -7.87167 | 47 | 3.9 | Pp72 | 4.6 | 4.14 | |
| 09/11/2023 | 53.62719 | -7.87143 | 47 | 3.9 | Pp71 | 3.3 | 2.97 | |
| 09/11/2023 | 53.62519 | -7.87453 | 48 | 3.9 | Pp70 | 0.9 | 0.81 | |
| 09/11/2023 | 53.6251 | -7.87913 | 52 | 3.9 | Pp69 | 0.9 | 0.81 | |
| 09/11/2023 | 53.63093 | -7.89979 | 45 | 3.9 | Pp67 and 68. | 4 | 3.6 | Couldn't access exact location due to deep drains |
| 09/11/2023 | 53.63427 | -7.90534 | 41 | 3.9 | Pp65 | 1 | 0.9 | |
| 09/11/2023 | 53.63861 | -7.90936 | 42 | 3.9 | Pp63 | 2.1 | 1.89 | |
| 09/11/2023 | 53.63898 | -7.90989 | 41 | 3.9 | Pp64 | 2.2 | 1.98 | |
| 09/11/2023 | 53.64255 | -7.91234 | 45 | 3.9 | Pp60 | 0.5 | 0.45 | |
| 09/11/2023 | 53.64308 | -7.91211 | 46 | 3.9 | Pp61 | 0 | 0 | |
| 09/11/2023 | 53.64266 | -7.91139 | 43 | 3.9 | Pp59 | 0.3 | 0.27 | rock outcrop around this turbine |
| 09/11/2023 | 53.64322 | -7.90667 | 42 | 3.9 | Pp62 | 2 | 1.8 | |
| 09/11/2023 | 53.63329 | -7.87826 | 51 | 3.9 | Pp78 | 0.6 | 0.54 | |
| 09/11/2023 | 53.63312 | -7.87925 | 49 | 3.9 | Pp77 | 1 | 0.9 | |
| 09/11/2023 | 53.63129 | -7.87674 | 50 | 3.9 | Pp79 | 1 | 0.9 | |
| 09/11/2023 | 53.62963 | -7.87631 | 47 | 3.9 | Pp75 | 2.5 | 2.25 | |
| 09/11/2023 | 53.62919 | -7.87565 | 47 | 3.9 | Pp76 | 0.7 | 0.63 | |
| 09/11/2023 | 53.65189 | -7.89976 | 38 | 3.9 | Pp91 | 0.6 | 0.54 | Standing water present |
| 09/11/2023 | 53.6447 | -7.89754 | 50 | 3.9 | Pp92 | 1.4 | 1.26 | |
| 09/11/2023 | 53.64604 | -7.90392 | 43 | 3.9 | Pp55 | 1.5 | 1.35 | |
| 10/11/2023 | 53.66293 | -7.90175 | 45 | 3.45 | Pp52 | 0.1 | 0.09 | |

| Date | lat | lon | alt | acc | Name | No. of Probes | Depth (m) | Notes |
|---|---|---|---|---|---|---|---|---|
| 10/11/2023 | 53.66252 | -7.90208 | 45 | 3.9 | Pp53 | 0.3 | 0.27 | |
| 10/11/2023 | 53.66326 | -7.9028 | 44 | 3.45 | Pp54 | 0.2 | 0.18 | |
| 10/11/2023 | 53.66407 | -7.90307 | 46 | 3.9 | Pp51 | 0.1 | 0.09 | |
| 10/11/2023 | 53.66497 | -7.90687 | 42 | 3.9 | Pp50 | 0.4 | 0.36 | |
| 10/11/2023 | 53.66488 | -7.9094 | 44 | 3.45 | Pp49 | 0.8 | 0.72 | |
| 10/11/2023 | 53.66834 | -7.9263 | 42 | 3.9 | Pp41 | 0 | 0 | |
| 10/11/2023 | 53.66727 | -7.92563 | 43 | 3.9 | Pp43 | 1.9 | 1.71 | |
| 10/11/2023 | 53.66915 | -7.92283 | 40 | 3.9 | Pp42 | 1.3 | 1.17 | |
| 10/11/2023 | 53.66897 | -7.91898 | 39 | 3.9 | Pp44 | 0.1 | 0.09 | Rock outcrop |
| 10/11/2023 | 53.66896 | -7.91778 | 41 | 3.47 | Pp45 | 0 | 0 | no peat.rocky |
| 10/11/2023 | 53.66598 | -7.91724 | 40 | 3.3 | Pp46 | 0.3 | 0.27 | T08 in trees |
| 10/11/2023 | 53.66542 | -7.9177 | 39 | 3.47 | Pp47 | 0.1 | 0.09 | |
| 10/11/2023 | 53.66381 | -7.91579 | 43 | 3.9 | Pp48 | 1.5 | 1.35 | |
| 10/11/2023 | 53.66197 | -7.91534 | 41 | 3.9 | Pp55 | 0.9 | 0.81 | |