

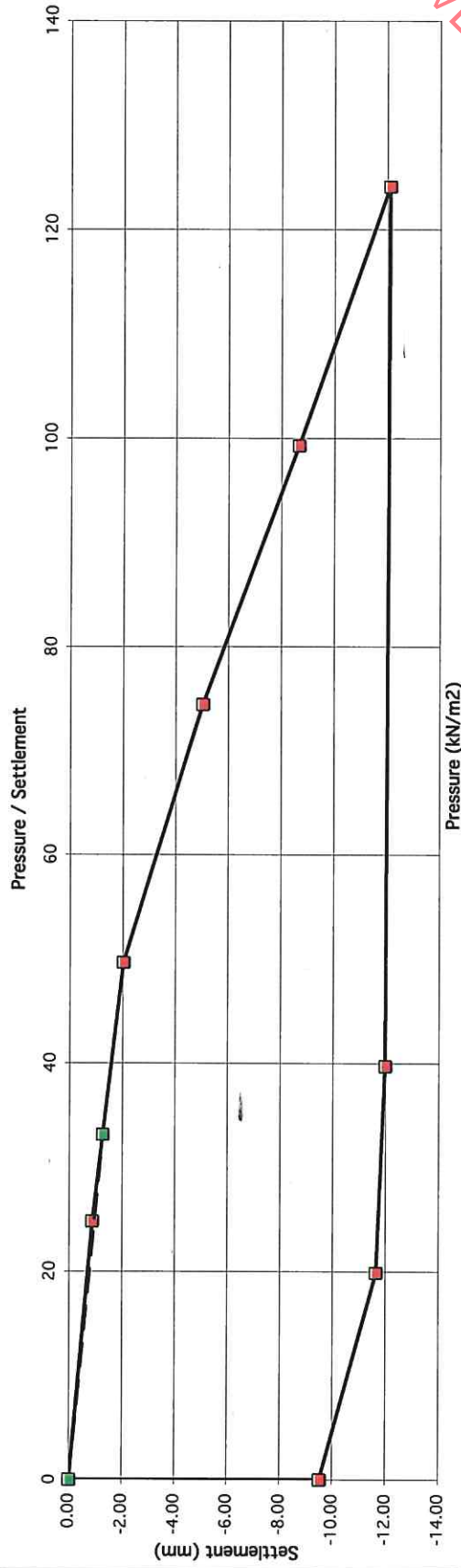
PLATE TEST REPORT SHEET (F3.1)

Applied Pressure/Settlement Curve

Reference No. R112865
 Contract 22611 - Rathgowan, Mullingar
 Test No. CBR10 - Reload
 Location See Map for Reference
 Depth 0.5mbgl
 Client Glenveagh Properties
 Plate Diameter: 450 mm
 Test Method BS 1377: Part 9: 1990 Test4 - Incremental Loading Test
 Technician S.Cunningham
 Authorised by
 Date 09/07/2020

Description of soil under test
 (natural soil, placed fill, sub-base)
 Brown sandy slightly gravelly CLAY

Sample Ref No. _____ m bgl
 Depth _____ m bgl



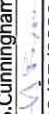


Gradient at 1.25 mm settlement intersection = 27
 Modulus of subgrade reaction = 17 MPa/m
 Correction factor applied = 0.64 as per HD 25-26/10

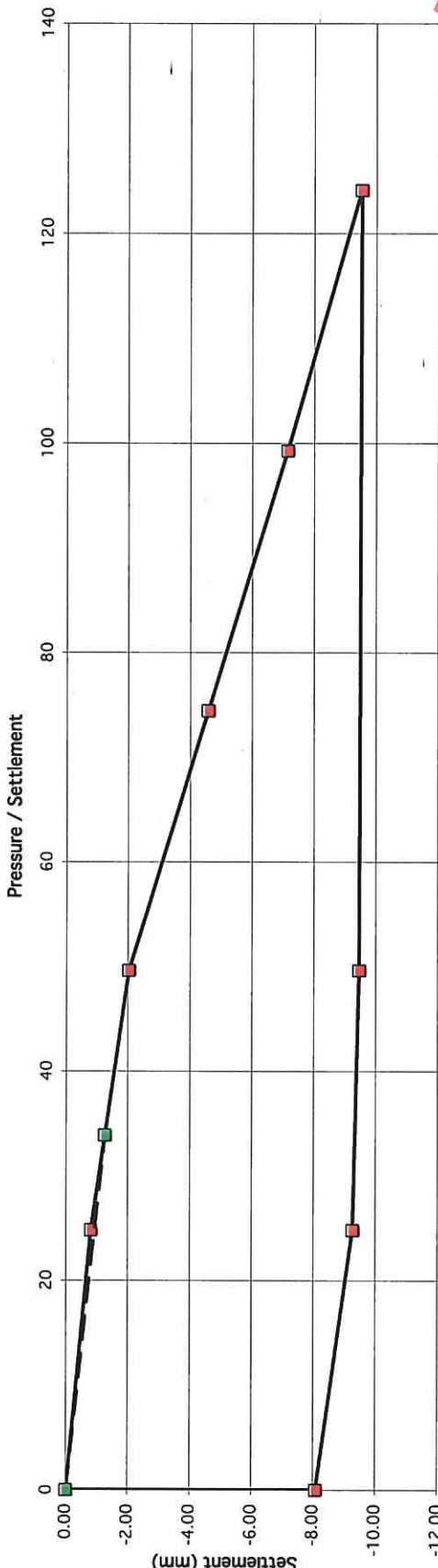
Equivalent CBR value in accordance with NRA HD25-26/10

1.3 %

RECEIVED: 24/08/2023

| PLATE TEST REPORT SHEET (F3.1) | | Applied Pressure/Settlement Curve | |
|--------------------------------|---|---|--|
| Reference No. | R112866 | | |
| Contract | 22611 - Rathgowan, Mullingar | Description of soil under test (natural soil, placed fill, sub-base) Brown mottled grey sandy slightly gravely silty CLAY | |
| Test No. | CBR11 - Load | | |
| Location | See Map for Reference | Sample Ref No. _____ m bgl Depth _____ | |
| Depth | 0.5mbgl | | |
| Client | Glenveagh Properties | IGSL Ltd.  | |
| Plate Diameter: | 450 mm | | |
| Test Method | BS 1377: Part 9: 1990 Test4 - Incremental Loading Test |  | |
| Technician | S. Cunningham | | |
| Authorised by |  | | |
| Date | 09/07/2020 | | |

Pressure / Settlement



Pressure (kN/m²)

Equivalent CBR value in accordance with NRA HD25-26/10

1.4 %

Gradient at 1.25 mm settlement intersection = 27
 Modulus of subgrade reaction = 17 MPa/m
 Correction factor applied = 0.64 as per HD 25-26/10

RECEIVED: 24/08/2023

| PLATE TEST REPORT SHEET (F3.1) | | Applied Pressure/Settlement Curve | |
|--------------------------------|--|--|--|
| Reference No. | R112866 | | |
| Contract | 22611 - Rathgowan, Mullingar | Description of soil under test (natural soil, placed fill, sub-base) Brown mottled grey sandy slightly gravelly silty CLAY | |
| Test No. | CBR11 - Reload | | |
| Location | See Map for Reference | Sample Ref No. _____ m bgl Depth _____ | |
| Depth | 0.5mbgl | | |
| Client | Glenveagh Properties | IGSL Ltd. <small>ISO 9001:2015 NAB ACCREDITED TESTING</small> | |
| Plate Diameter: | 450 mm | | |
| Test Method | BS 1377: Part 9: 1990 Test4 - Incremental Loading Test | | |
| Technician | S. Cunningham | | |
| Authorised by | <i>[Signature]</i> | | |
| Date | 09/07/2020 | | |

Pressure / Settlement

| Pressure (kN/m ²) | Settlement (mm) |
|-------------------------------|-----------------|
| 0 | 0.00 |
| 25 | -0.75 |
| 50 | -1.10 |
| 75 | -1.30 |
| 100 | -1.50 |
| 125 | -2.50 |
| 140 | -2.90 |

Equivalent CBR value in accordance with NRA HD25-26/10

2.9 %

Gradient at 1.25 mm settlement intersection = 42

Modulus of subgrade reaction = 27 MPa/m

Correction factor applied = 0.64 as per HD 25-26/10

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Appendix IV BRE Digest 365 Tests

Soakaway Design f -value from field tests (F2C) IGSL

| | | |
|--------------------------------|--------------|-------|
| Contract: Rathgowan, Mullingar | Contract No: | 22611 |
| Test No. SA01 - Cycle 1 | | |
| Client Glenveagh Properties | | |
| Date: 05/07/2020 | | |

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|---|--------------|
| 0.00 | 0.25 | TOPSOIL | Dry |
| 0.25 | 0.80 | Grey mottled brown sandy gravelly SILT/CLAY | |
| 0.80 | 1.50 | Light brown sandy gravelly SILT/CLAY | |

Notes: 2 Cycles Carried Out
CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 0.97 | 0.00 |
| 0.97 | 1.00 |
| 0.97 | 2.00 |
| 0.97 | 3.00 |
| 0.98 | 4.00 |
| 0.98 | 5.00 |
| 0.98 | 10.00 |
| 0.98 | 15.00 |
| 0.99 | 20.00 |
| 0.99 | 25.00 |
| 0.99 | 30.00 |
| 0.99 | 35.00 |
| 1.00 | 40.00 |
| 1.00 | 50.00 |
| 1.00 | 60.00 |

Field Test

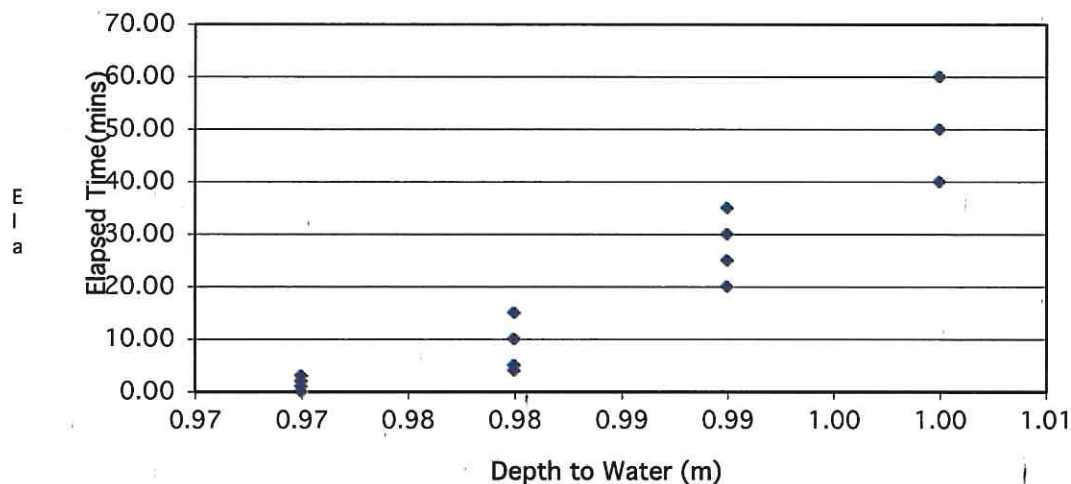
| | | |
|--------------------------|-------|---|
| Depth of Pit (D) | 1.50 | m |
| Width of Pit (B) | 0.60 | m |
| Length of Pit (L) | 1.50 | m |
| Initial depth to Water = | 0.97 | m |
| Final depth to water = | 1.00 | m |
| Elapsed time (mins)= | 60.00 | |
| Top of permeable soil | | m |
| Base of permeable soil | | m |

| | | |
|--|-------|----------------|
| Base area= | 0.9 | m ² |
| *Av. side area of permeable stratum over test period | 2.163 | m ² |
| Total Exposed area = | 3.063 | m ² |

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

f= 0.00015 m/min or 2.449E-06 m/sec

Depth of water vs Elapsed Time (mins)



Soakaway Design f -value from field tests (F2C) IGSL

Contract: Rathgowan, Mullingar
 Test No. SA01 - Cycle 2
 Client Glenveagh Properties
 Date: 05/07/2020

Contract No: 22611

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|---|--------------|
| 0.00 | 0.25 | TOPSOIL | Dry |
| 0.25 | 0.80 | Grey mottled brown sandy gravelly SILT/CLAY | |
| 0.80 | 1.50 | Light brown sandy gravelly SILT/CLAY | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 1.15 | 0.00 |
| 1.15 | 1.00 |
| 1.15 | 2.00 |
| 1.15 | 3.00 |
| 1.15 | 4.00 |
| 1.15 | 5.00 |
| 1.15 | 10.00 |
| 1.16 | 15.00 |
| 1.16 | 20.00 |
| 1.16 | 25.00 |
| 1.17 | 30.00 |
| 1.17 | 35.00 |
| 1.17 | 40.00 |
| 1.18 | 50.00 |
| 1.18 | 60.00 |

Field Test

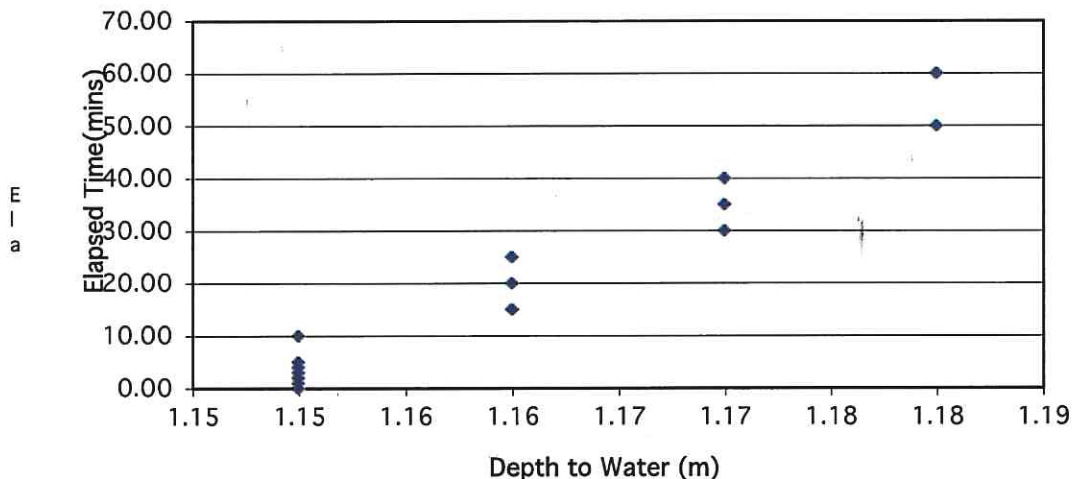
| | | |
|--------------------------|-------|---|
| Depth of Pit (D) | 1.50 | m |
| Width of Pit (B) | 0.60 | m |
| Length of Pit (L) | 1.50 | m |
| Initial depth to Water = | 1.15 | m |
| Final depth to water = | 1.18 | m |
| Elapsed time (mins)= | 60.00 | |
| Top of permeable soil | | m |
| Base of permeable soil | | m |

| | | |
|--|-------|----------------|
| Base area= | 0.9 | m ² |
| *Av. side area of permeable stratum over test period | 1.407 | m ² |
| Total Exposed area = | 2.307 | m ² |

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

$f = 0.0002 \text{ m/min}$ or $3.251\text{E-}06 \text{ m/sec}$

Depth of water vs Elapsed Time (mins)



Soakaway Design f -value from field tests (F2C) IGSL

Contract: Rathgowan, Mullingar
 Test No. SA02 - Cycle 1
 Client Glenveagh Properties
 Date: 08/07/2020

Contract No: 22611

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|---|--------------|
| 0.00 | 0.25 | TOPSOIL | Dry |
| 0.25 | 0.80 | Grey mottled brown sandy gravelly SILT/CLAY | |
| 0.80 | 1.50 | Light brown sandy gravelly SILT/CLAY | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 0.71 | 0.00 |
| 0.75 | 1.00 |
| 0.77 | 2.00 |
| 0.79 | 3.00 |
| 0.80 | 4.00 |
| 0.82 | 5.00 |
| 0.87 | 10.00 |
| 0.90 | 15.00 |
| 0.92 | 20.00 |
| 0.95 | 25.00 |
| 0.98 | 30.00 |
| 1.00 | 35.00 |
| 1.03 | 40.00 |
| 1.06 | 50.00 |
| 1.08 | 60.00 |

Field Test

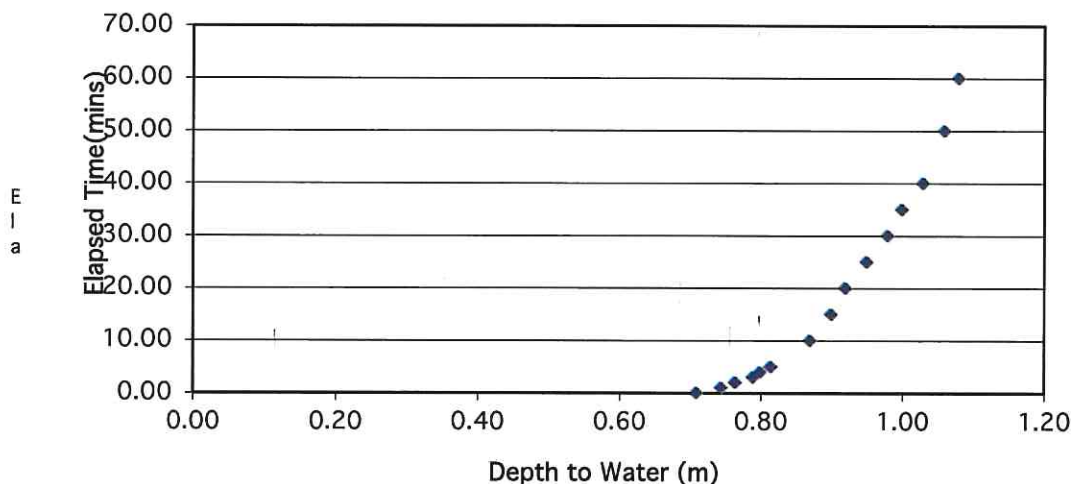
| | | |
|--------------------------|-------|---|
| Depth of Pit (D) | 1.50 | m |
| Width of Pit (B) | 0.60 | m |
| Length of Pit (L) | 1.10 | m |
| Initial depth to Water = | 0.71 | m |
| Final depth to water = | 1.08 | m |
| Elapsed time (mins)= | 60.00 | |
| Top of permeable soil | | m |
| Base of permeable soil | | m |

| | | |
|--|-------|----------------|
| Base area= | 0.66 | m ² |
| *Av. side area of permeable stratum over test period | 2.057 | m ² |
| Total Exposed area = | 2.717 | m ² |

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

$f = 0.0015 \text{ m/min}$ or $2.497\text{E-}05 \text{ m/sec}$

Depth of water vs Elapsed Time (mins)



Soakaway Design f -value from field tests (F2C) IGSL

Contract: Rathgowan, Mullingar
 Test No. SA02 - Cycle 2
 Client Glenveagh Properties
 Date: 08/07/2020

Contract No: 22611

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|---|--------------|
| 0.00 | 0.25 | TOPSOIL | Dry |
| 0.25 | 0.80 | Grey mottled brown sandy gravelly SILT/CLAY | |
| 0.80 | 1.50 | Light brown sandy gravelly SILT/CLAY | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 0.44 | 0.00 |
| 0.47 | 1.00 |
| 0.49 | 2.00 |
| 0.51 | 3.00 |
| 0.53 | 4.00 |
| 0.54 | 5.00 |
| 0.60 | 10.00 |
| 0.66 | 15.00 |
| 0.70 | 20.00 |
| 0.75 | 25.00 |
| 0.78 | 30.00 |
| 0.82 | 35.00 |
| 0.85 | 40.00 |
| 0.88 | 50.00 |
| 0.93 | 60.00 |

Field Test

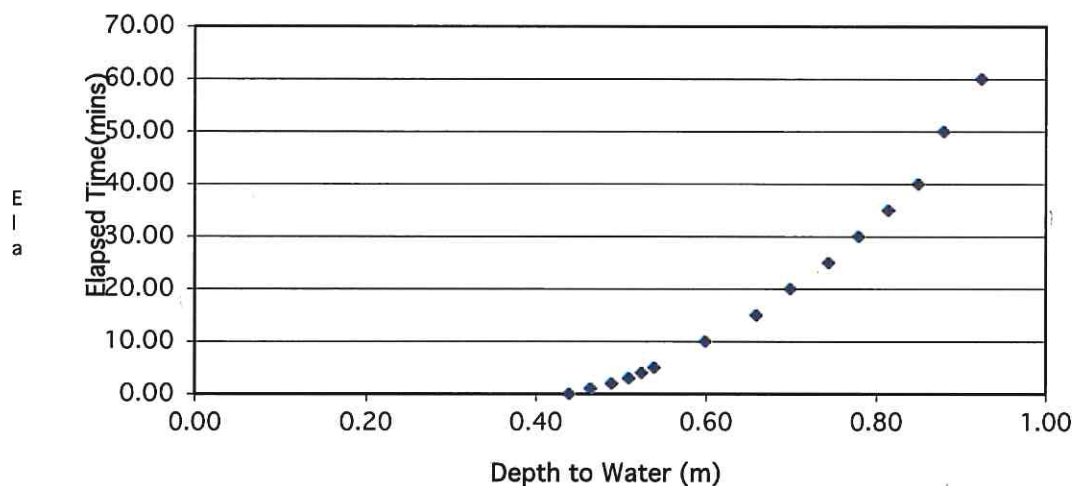
| | | |
|--------------------------|-------|---|
| Depth of Pit (D) | 1.50 | m |
| Width of Pit (B) | 0.60 | m |
| Length of Pit (L) | 1.10 | m |
| Initial depth to Water = | 0.44 | m |
| Final depth to water = | 0.93 | m |
| Elapsed time (mins)= | 60.00 | |
| Top of permeable soil | | m |
| Base of permeable soil | | m |

| | | |
|--|-------|----------------|
| Base area= | 0.66 | m ² |
| *Av. side area of permeable stratum over test period | 2.771 | m ² |
| Total Exposed area = | 3.431 | m ² |

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

f = 0.00157 m/min or 2.618E-05 m/sec

Depth of water vs Elapsed Time (mins)



Soakaway Design f-value from field tests (F2C) IGSL

Contract: Rathgowan, Mullingar
 Test No. SA03 - Cycle 1
 Client Glenveagh Properties
 Date: 03/07/2020

Contract No: 22611

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|---|--------------|
| 0.00 | 0.30 | TOPSOIL | Dry |
| 0.30 | 1.50 | Firm brown very sandy very gravelly SILT/CLAY with a low cobble con | |
| | | | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 0.99 | 0.00 |
| 1.01 | 1.00 |
| 1.02 | 2.00 |
| 1.03 | 3.00 |
| 1.04 | 4.00 |
| 1.06 | 5.00 |
| 1.10 | 10.00 |
| 1.14 | 15.00 |
| 1.20 | 20.00 |
| 1.23 | 25.00 |
| 1.27 | 30.00 |
| 1.31 | 35.00 |
| 1.35 | 40.00 |
| 1.39 | 50.00 |
| 1.43 | 60.00 |

Field Test

Depth of Pit (D) = 1.50 m
 Width of Pit (B) = 0.60 m
 Length of Pit (L) = 1.30 m

Initial depth to Water = 0.99 m
 Final depth to water = 1.43 m
 Elapsed time (mins) = 60.00

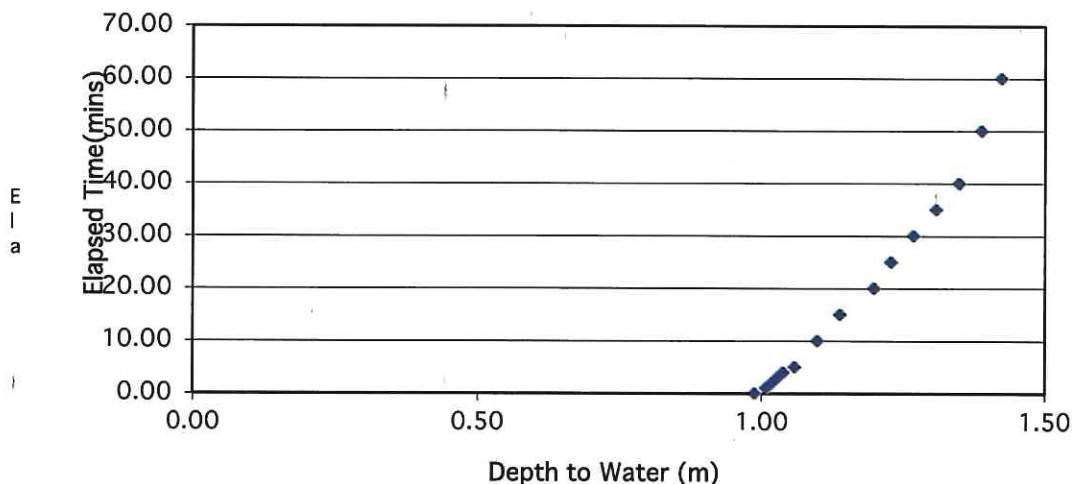
Top of permeable soil = m
 Base of permeable soil = m

Base area = 0.78 m²
 *Av. side area of permeable stratum over test period = 1.102 m²
 Total Exposed area = 1.882 m²

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

f = 0.00304 m/min or 5.066E-05 m/sec

Depth of water vs Elapsed Time (mins)



Soakaway Design f -value from field tests (F2C) IGSL

Contract: Rathgowan, Mullingar Contract No: 22611
 Test No. SA03 - Cycle 2
 Client Glenveagh Properties
 Date: 03/07/2020

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|---|--------------|
| 0.00 | 0.30 | TOPSOIL | Dry |
| 0.30 | 1.50 | Firm brown very sandy very gravelly SILT/CLAY with a low cobble con | |
| | | | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 0.83 | 0.00 |
| 0.85 | 1.00 |
| 0.86 | 2.00 |
| 0.88 | 3.00 |
| 0.90 | 4.00 |
| 0.92 | 5.00 |
| 0.97 | 10.00 |
| 1.04 | 15.00 |
| 1.09 | 20.00 |
| 1.13 | 25.00 |
| 1.17 | 30.00 |
| 1.20 | 35.00 |
| 1.23 | 40.00 |
| 1.25 | 50.00 |
| 1.27 | 60.00 |
| | |
| | |
| | |

Field Test

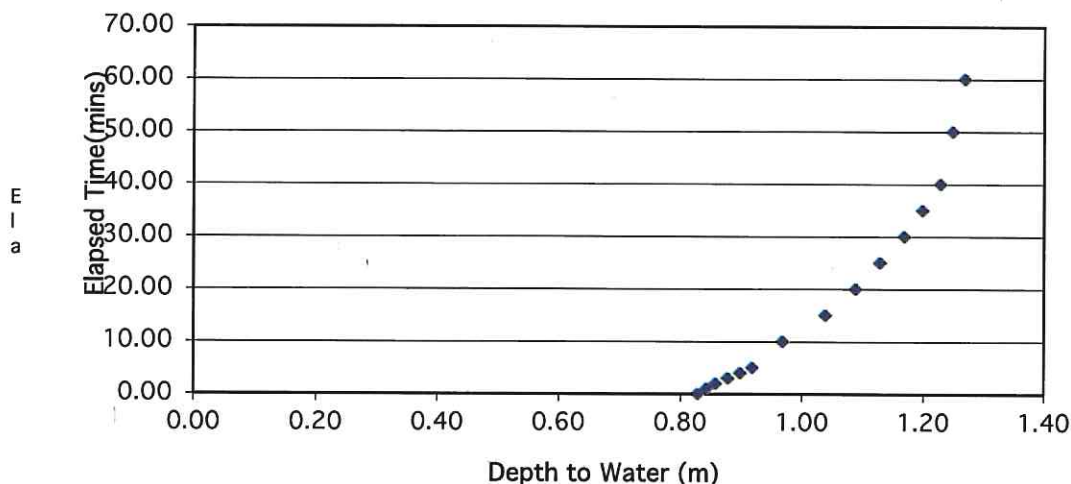
| | | |
|--------------------------|-------|---|
| Depth of Pit (D) | 1.50 | m |
| Width of Pit (B) | 0.60 | m |
| Length of Pit (L) | 1.30 | m |
| | | |
| Initial depth to Water = | 0.83 | m |
| Final depth to water = | 1.27 | m |
| Elapsed time (mins)= | 60.00 | |
| | | |
| Top of permeable soil | | m |
| Base of permeable soil | | m |

| | | |
|--|------|----------------|
| Base area= | 0.78 | m ² |
| *Av. side area of permeable stratum over test period | 1.71 | m ² |
| Total Exposed area = | 2.49 | m ² |

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

f = 0.0023 m/min or 3.829E-05 m/sec

Depth of water vs Elapsed Time (mins)



Soakaway Design f -value from field tests (F2C) IGSL

Contract: Rathgowan, Mullingar
 Test No. SA04 - Cycle 1
 Client Glenveagh Properties
 Date: 03/07/2020

Contract No: 22611

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|---|--------------|
| 0.00 | 0.25 | TOPSOIL | Dry |
| 0.25 | 1.60 | Firm grey mottled brown slightly sandy gravelly SILT/CLAY | |
| | | | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 0.89 | 0.00 |
| 0.89 | 1.00 |
| 0.90 | 2.00 |
| 0.90 | 3.00 |
| 0.90 | 4.00 |
| 0.90 | 5.00 |
| 0.90 | 10.00 |
| 0.90 | 15.00 |
| 0.91 | 20.00 |
| 0.91 | 25.00 |
| 0.91 | 30.00 |
| 0.92 | 35.00 |
| 0.92 | 40.00 |
| 0.92 | 50.00 |
| 0.93 | 60.00 |

Field Test

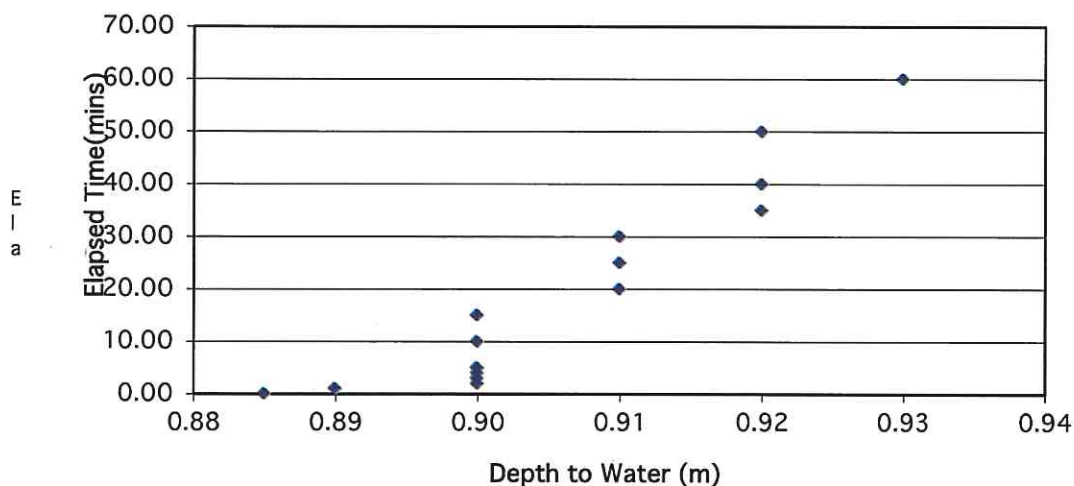
| | | |
|--------------------------|-------|---|
| Depth of Pit (D) | 1.60 | m |
| Width of Pit (B) | 0.60 | m |
| Length of Pit (L) | 1.10 | m |
| Initial depth to Water = | 0.89 | m |
| Final depth to water = | 0.93 | m |
| Elapsed time (mins)= | 60.00 | |
| Top of permeable soil | | m |
| Base of permeable soil | | m |

| | | |
|--|--------|----------------|
| Base area= | 0.66 | m ² |
| *Av. side area of permeable stratum over test period | 2.3545 | m ² |
| Total Exposed area = | 3.0145 | m ² |

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

f = 0.00016 m/min or 2.737E-06 m/sec

Depth of water vs Elapsed Time (mins)



Soakaway Design f -value from field tests (F2C) IGSL

Contract: Rathgowan, Mullingar
 Test No. SA04 - Cycle 2
 Client Glenveagh Properties
 Date: 03/07/2020

Contract No: 22611

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|---|--------------|
| 0.00 | 0.25 | TOPSOIL | Dry |
| 0.25 | 1.60 | Firm grey mottled brown slightly sandy gravelly SILT/CLAY | |
| | | | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 0.48 | 0.00 |
| 0.48 | 1.00 |
| 0.49 | 2.00 |
| 0.49 | 3.00 |
| 0.49 | 4.00 |
| 0.49 | 5.00 |
| 0.49 | 10.00 |
| 0.50 | 15.00 |
| 0.50 | 20.00 |
| 0.51 | 25.00 |
| 0.51 | 30.00 |
| 0.51 | 35.00 |
| 0.52 | 40.00 |
| 0.52 | 50.00 |
| 0.52 | 60.00 |

Field Test

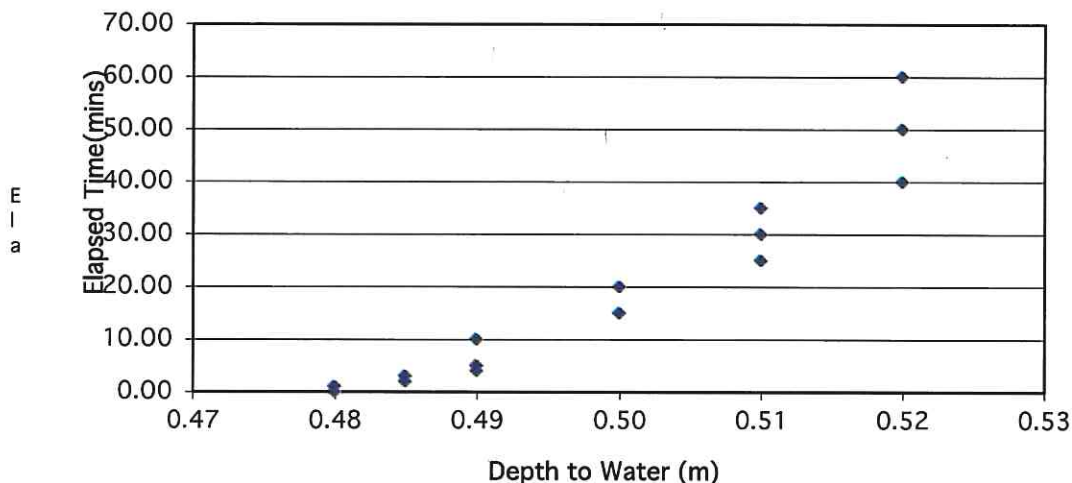
| | | |
|--------------------------|-------|---|
| Depth of Pit (D) | 1.60 | m |
| Width of Pit (B) | 0.60 | m |
| Length of Pit (L) | 1.10 | m |
| Initial depth to Water = | 0.48 | m |
| Final depth to water = | 0.52 | m |
| Elapsed time (mins)= | 60.00 | |
| Top of permeable soil | | m |
| Base of permeable soil | | m |

| | | |
|--|------|----------------|
| Base area= | 0.66 | m ² |
| *Av. side area of permeable stratum over test period | 3.74 | m ² |
| Total Exposed area = | 4.4 | m ² |

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

f = 0.0001 m/min or 1.667E-06 m/sec

Depth of water vs Elapsed Time (mins)



Soakaway Design f-value from field tests (F2C) IGSL

Contract: Rathgowan, Mullingar
 Test No. SA05 - Cycle 1
 Client Glenveagh Properties
 Date: 03/07/2020

Contract No: 22611

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|--|--------------|
| 0.00 | 0.25 | TOPSOIL | Dry |
| 0.25 | 0.95 | Brown mottled grey sightly sandy slightly gravelly CLAY. | |
| 0.95 | 1.50 | Firm grey slightly sandy gravelly SILT/CLAY | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 1.12 | 0.00 |
| 1.12 | 1.00 |
| 1.12 | 2.00 |
| 1.12 | 3.00 |
| 1.12 | 4.00 |
| 1.12 | 5.00 |
| 1.12 | 10.00 |
| 1.13 | 15.00 |
| 1.13 | 20.00 |
| 1.13 | 25.00 |
| 1.13 | 30.00 |
| 1.13 | 35.00 |
| 1.13 | 40.00 |
| 1.13 | 50.00 |
| 1.13 | 60.00 |

Field Test

Depth of Pit (D) = 1.50 m
 Width of Pit (B) = 0.60 m
 Length of Pit (L) = 1.20 m

Initial depth to Water = 1.12 m
 Final depth to water = 1.13 m
 Elapsed time (mins) = 60.00

Top of permeable soil = m
 Base of permeable soil = m

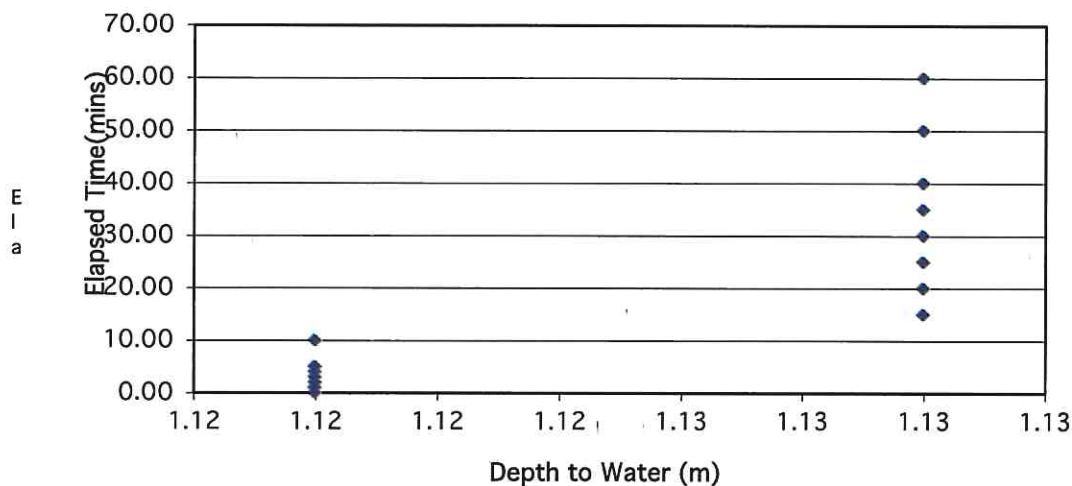
Base area = 0.72 m²
 *Av. side area of permeable stratum over test period = 1.35 m²
 Total Exposed area = 2.07 m²

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

f = 0 m/min or 0 m/sec

No fall in water after 10 minutes - test failed

Depth of water vs Elapsed Time (mins)



Soakaway Design f-value from field tests (F2C) IGSL

Contract: Rathgowan, Mullingar
 Test No. SA05 - Cycle 2
 Client Glenveagh Properties
 Date: 03/07/2020

Contract No: 22611

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|--|--------------|
| 0.00 | 0.25 | TOPSOIL | Dry |
| 0.25 | 0.95 | Brown mottled grey sightly sandy slightly gravelly CLAY. | |
| 0.95 | 1.50 | Firm grey slightly sandy gravelly SILT/CLAY | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 0.81 | 0.00 |
| 0.81 | 1.00 |
| 0.81 | 2.00 |
| 0.81 | 3.00 |
| 0.81 | 4.00 |
| 0.81 | 5.00 |
| 0.81 | 10.00 |
| 0.81 | 15.00 |
| 0.82 | 20.00 |
| 0.82 | 25.00 |
| 0.82 | 30.00 |
| 0.82 | 35.00 |
| 0.82 | 40.00 |
| 0.82 | 50.00 |
| 0.82 | 60.00 |

Field Test

| | | |
|--------------------------|-------|---|
| Depth of Pit (D) | 1.50 | m |
| Width of Pit (B) | 0.60 | m |
| Length of Pit (L) | 1.20 | m |
| Initial depth to Water = | 0.81 | m |
| Final depth to water = | 0.82 | m |
| Elapsed time (mins)= | 60.00 | |
| Top of permeable soil | | m |
| Base of permeable soil | | m |

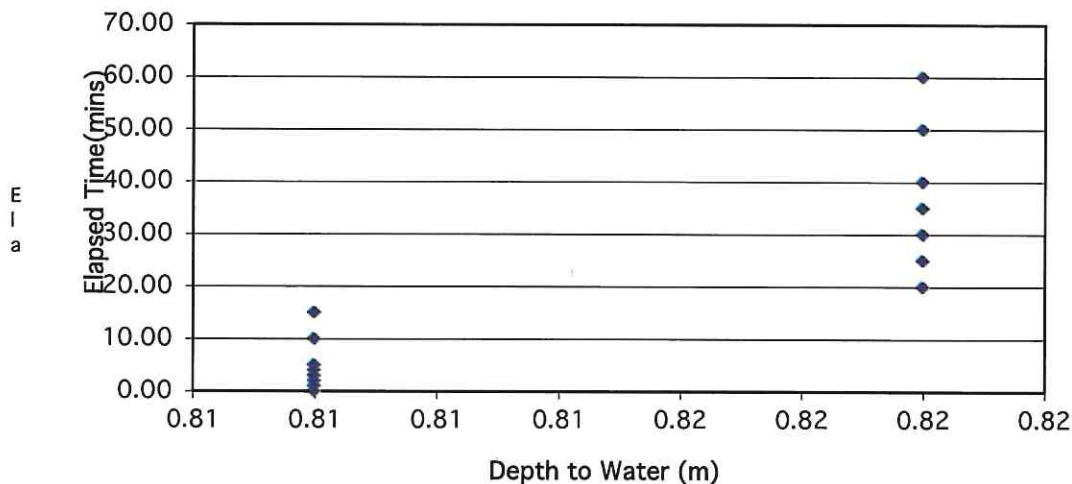
| | | |
|--|-------|----------------|
| Base area= | 0.72 | m ² |
| *Av. side area of permeable stratum over test period | 2.466 | m ² |
| Total Exposed area = | 3.186 | m ² |

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

f= 3.8E-05 m/min or 6.277E-07 m/sec

No fall in water after 20 minutes - test failed

Depth of water vs Elapsed Time (mins)



Soakaway Design f -value from field tests (F2C) IGSL

Contract: Rathgowan, Mullingar
 Test No. SA06 - Cycle 1
 Client Glenveagh Properties
 Date: 04/07/2020

Contract No: 22611

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|--|--------------|
| 0.00 | 0.30 | TOPSOIL | Dry |
| 0.30 | 0.80 | Brown mottled grey sightly sandy slightly gravelly CLAY. | |
| 0.80 | 1.50 | Firm grey slightly sandy gravelly SILT/CLAY | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 0.93 | 0.00 |
| 0.93 | 1.00 |
| 0.93 | 2.00 |
| 0.93 | 3.00 |
| 0.93 | 4.00 |
| 0.93 | 5.00 |
| 0.94 | 10.00 |
| 0.94 | 15.00 |
| 0.94 | 20.00 |
| 0.94 | 25.00 |
| 0.95 | 30.00 |
| 0.95 | 35.00 |
| 0.96 | 40.00 |
| 0.96 | 50.00 |
| 0.97 | 60.00 |

Field Test

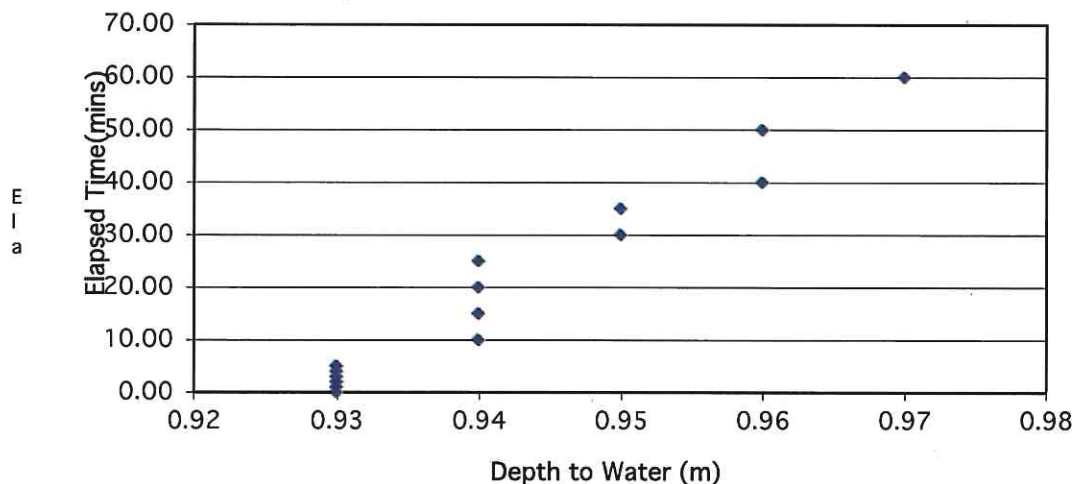
| | | |
|--------------------------|-------|---|
| Depth of Pit (D) | 1.50 | m |
| Width of Pit (B) | 0.60 | m |
| Length of Pit (L) | 1.10 | m |
| Initial depth to Water = | 0.93 | m |
| Final depth to water = | 0.97 | m |
| Elapsed time (mins)= | 60.00 | |
| Top of permeable soil | | m |
| Base of permeable soil | | m |

| | | |
|--|------|----------------|
| Base area= | 0.66 | m ² |
| *Av. side area of permeable stratum over test period | 1.87 | m ² |
| Total Exposed area = | 2.53 | m ² |

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

f = 0.00017 m/min or 2.899E-06 m/sec

Depth of water vs Elapsed Time (mins)



Soakaway Design f -value from field tests (F2C) IGSL

Contract: Rathgowan, Mullingar Contract No: 22611
 Test No. SA06 - Cycle 2
 Client Glenveagh Properties
 Date: 04/07/2020

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|--|--------------|
| 0.00 | 0.30 | TOPSOIL | Dry |
| 0.30 | 0.80 | Brown mottled grey sightly sandy slightly gravelly CLAY. | |
| 0.80 | 1.50 | Firm grey slightly sandy gravelly SILT/CLAY | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 0.68 | 0.00 |
| 0.68 | 1.00 |
| 0.68 | 2.00 |
| 0.68 | 3.00 |
| 0.68 | 4.00 |
| 0.68 | 5.00 |
| 0.69 | 10.00 |
| 0.69 | 15.00 |
| 0.69 | 20.00 |
| 0.70 | 25.00 |
| 0.70 | 30.00 |
| 0.70 | 35.00 |
| 0.71 | 40.00 |
| 0.71 | 50.00 |
| 0.72 | 60.00 |

Field Test

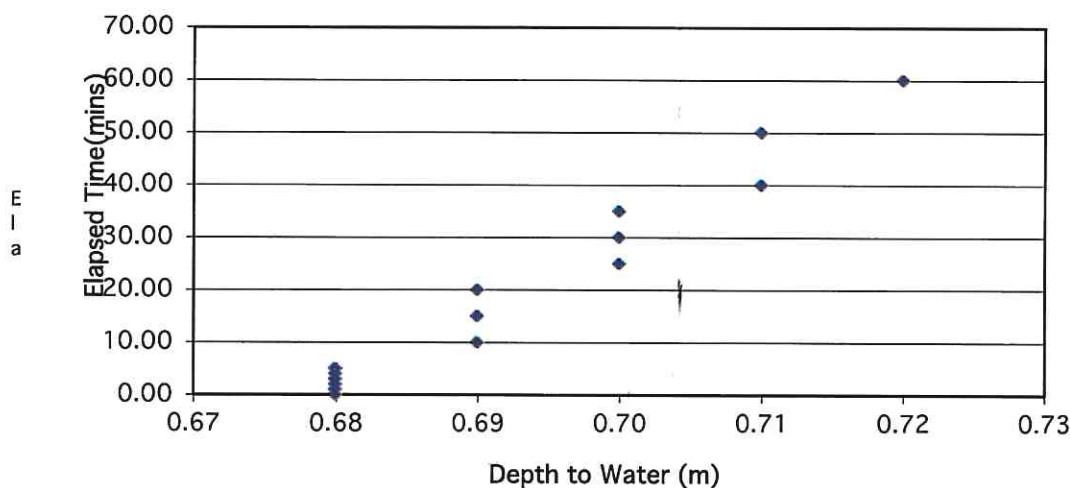
| | | |
|--------------------------|-------|---|
| Depth of Pit (D) | 1.50 | m |
| Width of Pit (B) | 0.60 | m |
| Length of Pit (L) | 1.10 | m |
| Initial depth to Water = | 0.68 | m |
| Final depth to water = | 0.72 | m |
| Elapsed time (mins)= | 60.00 | |
| Top of permeable soil | | m |
| Base of permeable soil | | m |

| | | |
|--|------|----------------|
| Base area= | 0.66 | m ² |
| *Av. side area of permeable stratum over test period | 2.72 | m ² |
| Total Exposed area = | 3.38 | m ² |

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

f= 0.00013 m/min or 2.17E-06 m/sec

Depth of water vs Elapsed Time (mins)



Soakaway Design f -value from field tests (F2C) IGSL

Contract: Rathgowan, Mullingar
 Test No. SA07 - Cycle 1
 Client Glenveagh Properties
 Date: 10/07/2020

Contract No: 22611

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|--|--------------|
| 0.00 | 0.30 | TOPSOIL | Dry |
| 0.30 | 0.80 | Brown mottled grey sightly sandy slightly gravelly CLAY. | |
| 0.80 | 1.50 | Firm grey slightly sandy gravelly SILT/CLAY | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation
 Pit drained before 60minutes. - high permeability - see photographs

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 1.04 | 0.00 |
| 1.05 | 1.00 |
| 1.06 | 2.00 |
| 1.07 | 3.00 |
| 1.08 | 4.00 |
| 1.09 | 5.00 |
| 1.13 | 10.00 |
| 1.16 | 15.00 |
| 1.20 | 20.00 |
| 1.25 | 25.00 |
| 1.30 | 30.00 |
| 1.34 | 35.00 |
| 1.38 | 40.00 |
| 1.46 | 50.00 |
| 1.50 | 60.00 |

Field Test

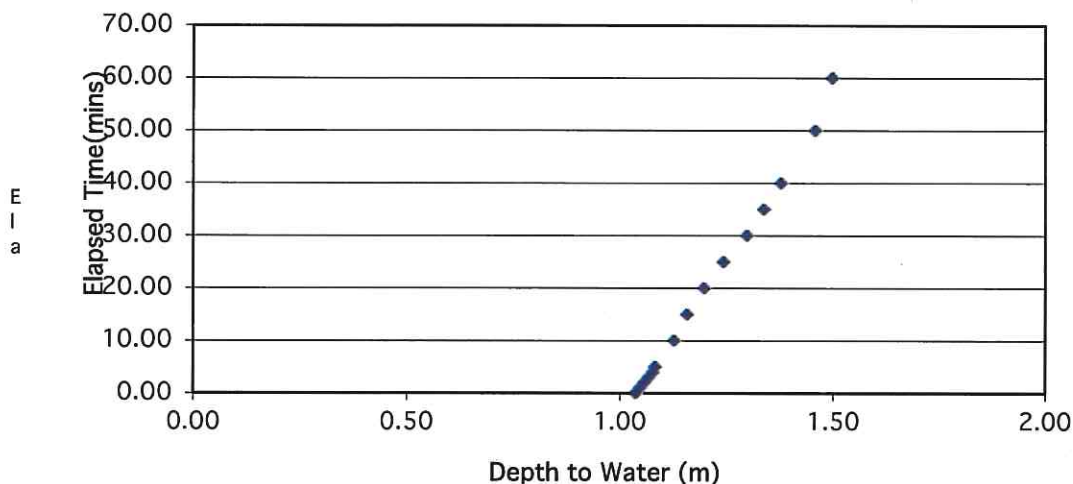
| | | |
|--------------------------|-------|---|
| Depth of Pit (D) | 1.50 | m |
| Width of Pit (B) | 0.60 | m |
| Length of Pit (L) | 1.40 | m |
| Initial depth to Water = | 1.04 | m |
| Final depth to water = | 1.50 | m |
| Elapsed time (mins)= | 60.00 | |
| Top of permeable soil | | m |
| Base of permeable soil | | m |

| | | |
|--|------|----------------|
| Base area= | 0.84 | m ² |
| *Av. side area of permeable stratum over test period | 0.92 | m ² |
| Total Exposed area = | 1.76 | m ² |

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

f= 0.00366 m/min or 6.098E-05 m/sec

Depth of water vs Elapsed Time (mins)



Soakaway Design

f -value from field tests

(F2C) IGSL

Contract: Rathgowan, Mullingar
 Test No. SA07 - Cycle 2
 Client Glenveagh Properties
 Date: 10/07/2020

Contract No: 22611

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|--|--------------|
| 0.00 | 0.30 | TOPSOIL | Dry |
| 0.30 | 0.80 | Brown mottled grey sightly sandy slightly gravelly CLAY. | |
| 0.80 | 1.50 | Firm grey slightly sandy gravelly SILT/CLAY | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 0.87 | 0.00 |
| 0.88 | 1.00 |
| 0.89 | 2.00 |
| 0.89 | 3.00 |
| 0.90 | 4.00 |
| 0.90 | 5.00 |
| 0.92 | 10.00 |
| 0.94 | 15.00 |
| 0.97 | 20.00 |
| 0.98 | 25.00 |
| 1.00 | 30.00 |
| 1.01 | 35.00 |
| 1.02 | 40.00 |
| 1.05 | 50.00 |
| 1.09 | 60.00 |

Field Test

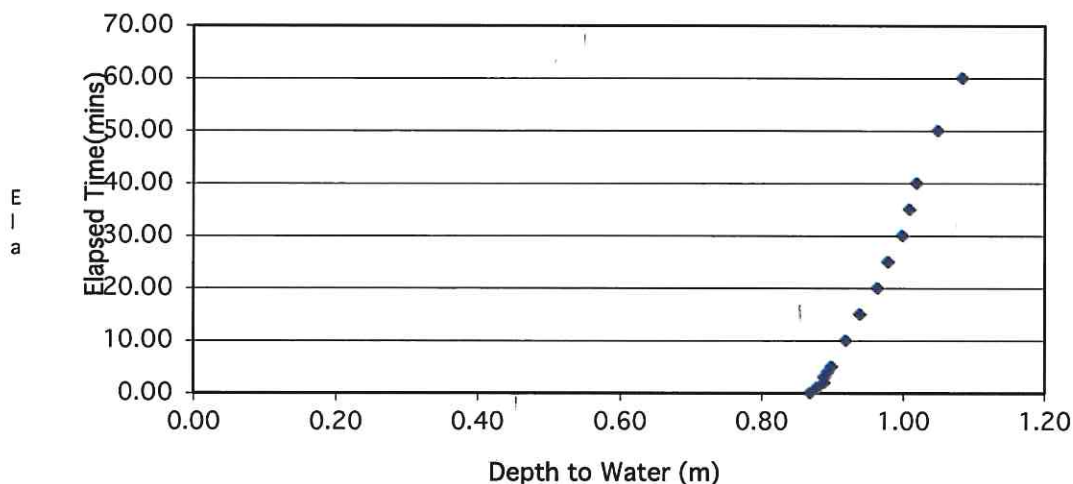
| | | |
|--------------------------|-------|---|
| Depth of Pit (D) | 1.50 | m |
| Width of Pit (B) | 0.60 | m |
| Length of Pit (L) | 1.40 | m |
| Initial depth to Water = | 0.87 | m |
| Final depth to water = | 1.09 | m |
| Elapsed time (mins)= | 60.00 | |
| Top of permeable soil | | m |
| Base of permeable soil | | m |

| | | |
|--|------|----------------|
| Base area = | 0.84 | m ² |
| *Av. side area of permeable stratum over test period = | 2.08 | m ² |
| Total Exposed area = | 2.92 | m ² |

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

f = 0.00105 m/min or 1.758E-05 m/sec

Depth of water vs Elapsed Time (mins)



Soakaway Design f -value from field tests (F2C) IGSL

Contract: Rathgowan, Mullingar
 Test No. SA08 - Cycle 1
 Client Glenveagh Properties
 Date: 05/07/2020

Contract No: 22611

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|--|--------------|
| 0.00 | 0.25 | TOPSOIL | Dry |
| 0.25 | 0.80 | Brown mottled grey sightly sandy slightly gravelly CLAY. | |
| 0.80 | 1.50 | Firm greyish brown slightly sandy gravelly SILT/CLAY | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 1.06 | 0.00 |
| 1.07 | 1.00 |
| 1.07 | 2.00 |
| 1.07 | 3.00 |
| 1.07 | 4.00 |
| 1.08 | 5.00 |
| 1.09 | 10.00 |
| 1.09 | 15.00 |
| 1.10 | 20.00 |
| 1.10 | 25.00 |
| 1.11 | 30.00 |
| 1.12 | 35.00 |
| 1.13 | 40.00 |
| 1.14 | 50.00 |
| 1.15 | 60.00 |

Field Test

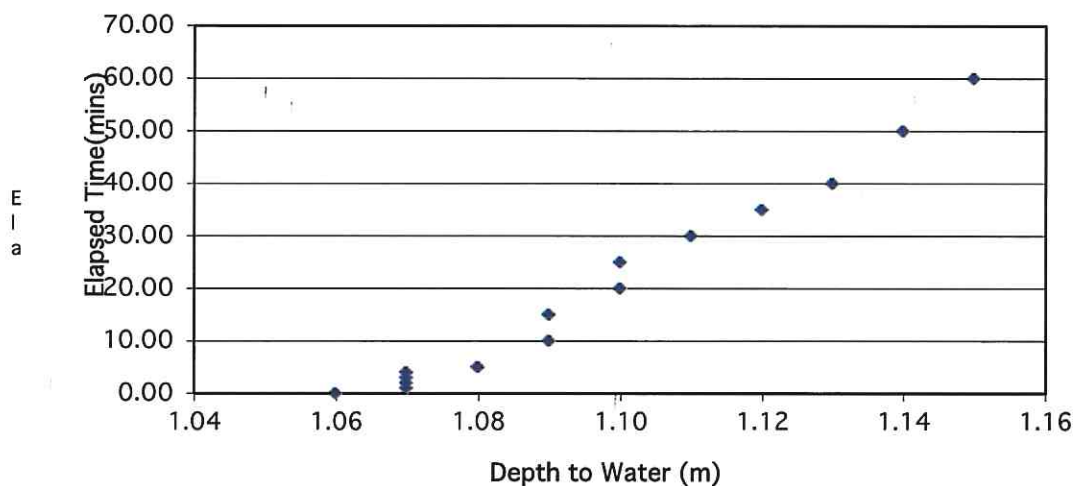
| | | |
|--------------------------|-------|---|
| Depth of Pit (D) | 1.50 | m |
| Width of Pit (B) | 0.60 | m |
| Length of Pit (L) | 1.10 | m |
| Initial depth to Water = | 1.06 | m |
| Final depth to water = | 1.15 | m |
| Elapsed time (mins)= | 60.00 | |
| Top of permeable soil | | m |
| Base of permeable soil | | m |

| | | |
|--|-------|----------------|
| Base area= | 0.66 | m ² |
| *Av. side area of permeable stratum over test period | 1.343 | m ² |
| Total Exposed area = | 2.003 | m ² |

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

f = 0.00049 m/min or 8.238E-06 m/sec

Depth of water vs Elapsed Time (mins)



Soakaway Design f -value from field tests (F2C) IGSL

Contract: Rathgowan, Mullingar
 Test No. SA08 - Cycle 2
 Client Glenveagh Properties
 Date: 05/07/2020

Contract No: 22611

Summary of ground conditions

| from | to | Description | Ground water |
|------|------|---|--------------|
| 0.00 | 0.25 | TOPSOIL | Dry |
| 0.25 | 0.80 | Brown mottled grey slightly sandy slightly gravelly CLAY. | |
| 0.80 | 1.50 | Firm greyish brown slightly sandy gravelly SILT/CLAY | |

Notes: 2 Cycles Carried Out
 CAT Scanned prior to excavation

Field Data

| Depth to Water (m) | Elapsed Time (min) |
|--------------------|--------------------|
| 0.83 | 0.00 |
| 0.84 | 1.00 |
| 0.84 | 2.00 |
| 0.85 | 3.00 |
| 0.86 | 4.00 |
| 0.87 | 5.00 |
| 0.88 | 10.00 |
| 0.89 | 15.00 |
| 0.90 | 20.00 |
| 0.91 | 25.00 |
| 0.92 | 30.00 |
| 0.94 | 35.00 |
| 0.96 | 40.00 |
| 0.97 | 50.00 |
| 0.99 | 60.00 |

Field Test

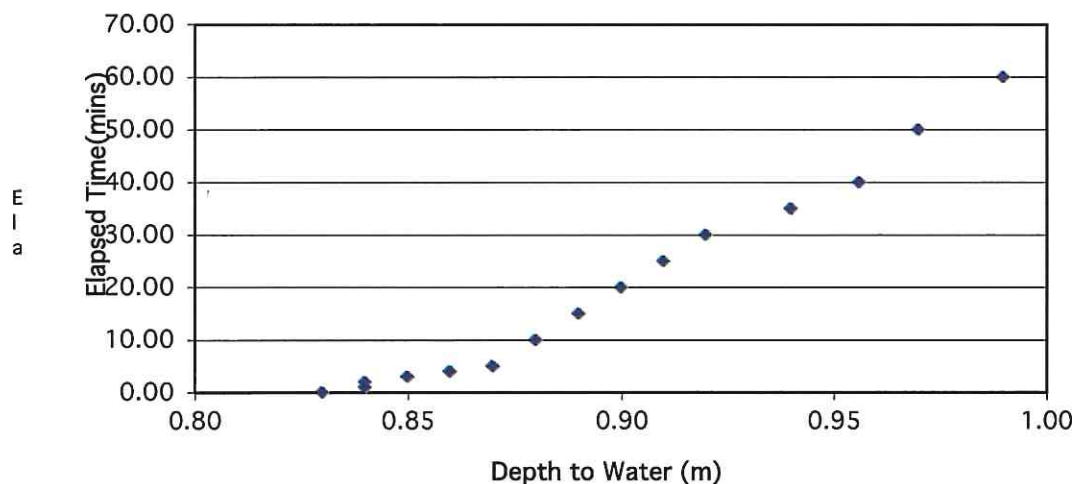
| | | |
|--------------------------|-------|---|
| Depth of Pit (D) | 1.50 | m |
| Width of Pit (B) | 0.60 | m |
| Length of Pit (L) | 1.10 | m |
| Initial depth to Water = | 0.83 | m |
| Final depth to water = | 0.99 | m |
| Elapsed time (mins)= | 60.00 | |
| Top of permeable soil | | m |
| Base of permeable soil | | m |

| | | |
|--|-------|----------------|
| Base area= | 0.66 | m ² |
| *Av. side area of permeable stratum over test period | 2.006 | m ² |
| Total Exposed area = | 2.666 | m ² |

Infiltration rate (f) = Volume of water used/unit exposed area / unit time

f= 0.00066 m/min or 1.1E-05 m/sec


Depth of water vs Elapsed Time (mins)




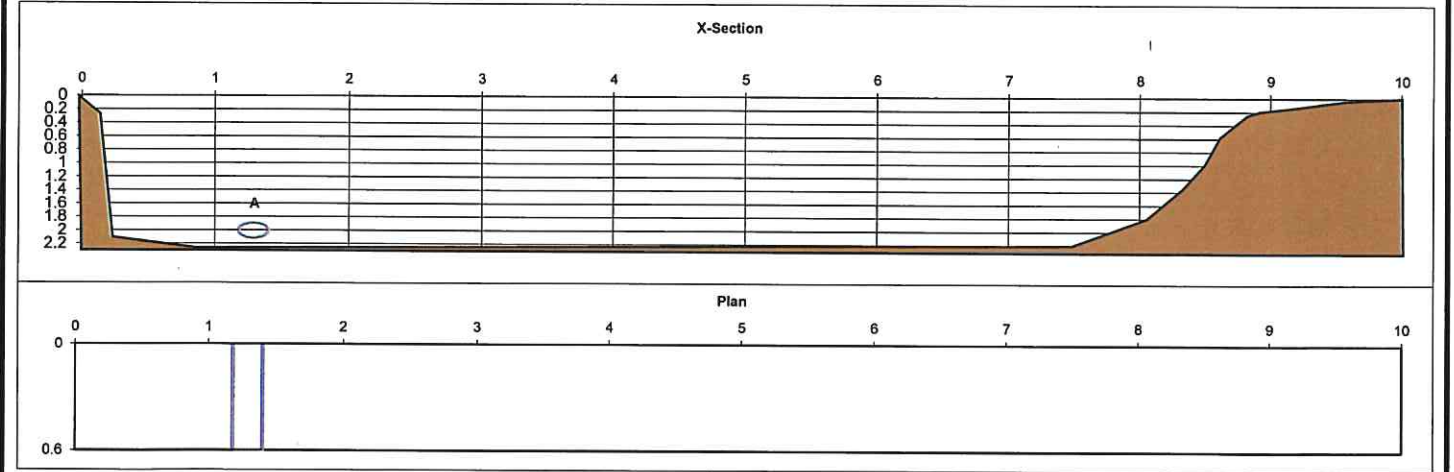
RECEIVED: 24/08/2023

Appendix V Slit Trench

| | | | |
|--|--|---|--|
| Project: Rathgowan, Mullingar Engineer: Glenveagh Properties Client: Tobins C.E Crew: S.C & NGH | | Survey Easting (m) 642421.157 Northing (m) 753415.569 Elevation (mOD) 100.195 Start of Trench 642421.78 753423.2 100.1 End of Trench | Slit Trench No. Sheet 1 of 1 Date Commenced 10/07/2020 Date Completed 10/07/2020 |
|--|--|---|--|

| From (m) | To (m) | Soil Description | Photograph |
|----------|--------|---|---|
| 0 | 0.3 | TOPSOIL |  |
| 0.3 | 2 | MADE GROUND - Possible backfill material - Firm brown sandy gravelly CLAY with wood fragments | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Trench Dimensions | | Location | Excavation Quantities | | |
|-------------------|------|--|----------------------------------|--------------|----------|
| LHS of Trench (m) | 0.0 |  | Surface | Length (m) | Material |
| RHS of Trench (m) | 10.0 | | Road | | |
| Trench Depth (m) | 2.0 | | Path (LHS) | | |
| Trench Width (m) | 0.6 | | Path (RHS) | | |
| Facing Direction | | | Grass Verge (LHS) | | |
| Facing Features | | | Grass Verge (RHS) | 10 | MG |
| Groundwater | | | Other | | |
| None: Dry | | | SAMPLES | Total Length | 10.0 |
| | | | Zero Metres Taken As: Hedge, RHS | | |



| | Diameter (mm) | Material | Description | Distance (m) | Depth to crown (m) | Angle (deg.) | |
|-----------|---------------|----------|--|--------------|--------------------|--------------|--|
| Service A | 225 | PVC | Orange PVC Duct - Foul Sewer - Duct was surrounded in P-Gravel which came in at 1.8mbgl. | 1.3 | 1.9 | 90 | |
| Service B | | | | | | | |
| Service C | | | | | | | |
| Service D | | | | | | | |
| Service E | | | | | | | |
| Service F | | | | | | | |
| Service G | | | | | | | |
| Service H | | | | | | | |
| Service I | | | | | | | |
| Service J | | | | | | | |
| Service K | | | | | | | |
| Service L | | | | | | | |
| Service M | | | | | | | |

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Appendix VI Dynamic Probes



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP01

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

DATE LOGGED 05/10/2020

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH

| Depth (m) | Geotechnical Description | Legend | Depth (m) | Elevation (mOD) | Water | Depth (m) | Probe Readings (Blows/Increment) | Graphic Probe Record |
|-----------|--------------------------|--------|-----------|-----------------|-------|-----------|----------------------------------|----------------------|
| 0.0 | | | | | | 0.00 | 0 | |
| | | | | | | 0.10 | 1 | |
| | | | | | | 0.20 | 3 | |
| | | | | | | 0.30 | 3 | |
| | | | | | | 0.40 | 4 | |
| | | | | | | 0.50 | 2 | |
| | | | | | | 0.60 | 1 | |
| | | | | | | 0.70 | 3 | |
| | | | | | | 0.80 | 5 | |
| | | | | | | 0.90 | 12 | |
| | | | | | | 1.00 | 18 | |
| | | | | | | 1.10 | 23 | |
| | | | | | | 1.20 | 25 | |
| | End of Probe at 1.30 m | | | | | | | |
| 1.0 | | | | | | | | |
| 2.0 | | | | | | | | |
| 3.0 | | | | | | | | |
| 4.0 | | | | | | | | |

GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20

PROBING: 24/08/2023



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar , Co.Westmeath

PROBE NO. DP02

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE FILLED 30/09/2020

DATE LOGGED 05/10/2020

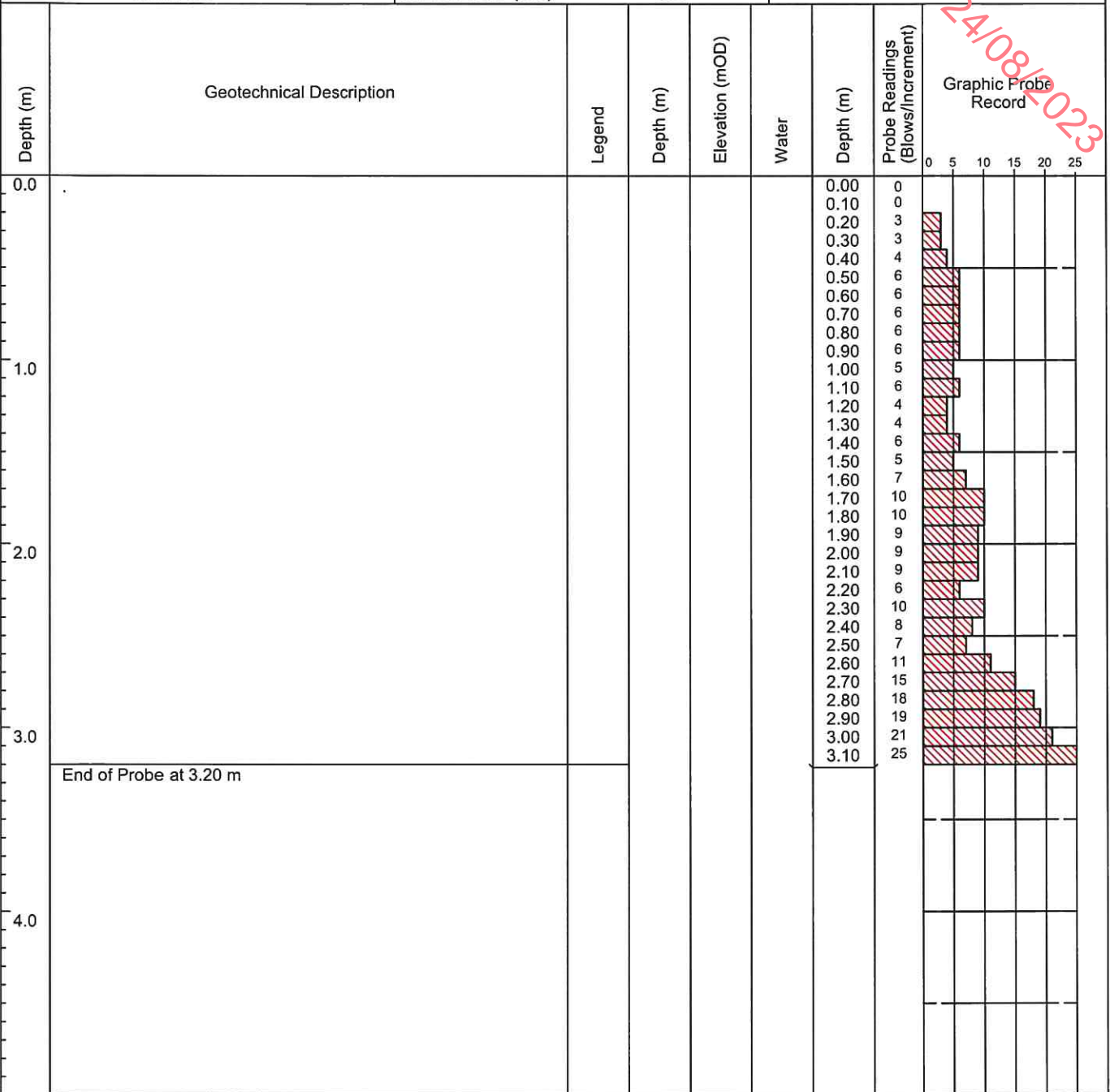
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



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Graphic Probe Record

GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP03

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE FILLED 30/09/2020

DATE LOGGED 05/10/2020

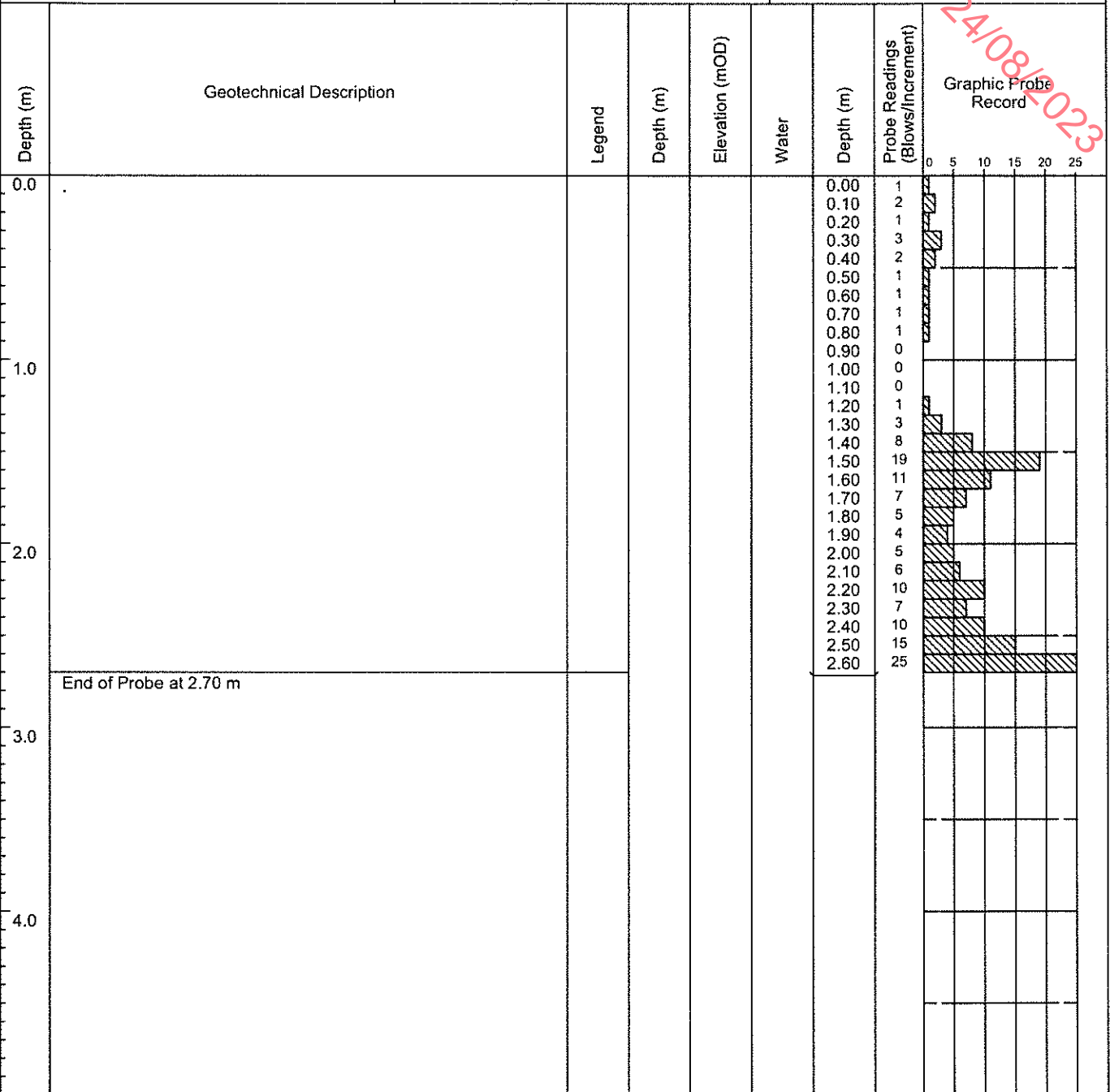
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



PROBING: 24/08/2023

GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP04

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH

| Depth (m) | Geotechnical Description | Legend | Depth (m) | Elevation (mOD) | Water | Depth (m) | Probe Readings (Blows/Increment) |
|-----------|--------------------------|--------|-----------|-----------------|-------|-----------|----------------------------------|
| 0.0 | | | | | | 0.00 | 0 |
| | | | | | | 0.10 | 1 |
| | | | | | | 0.20 | 4 |
| | | | | | | 0.30 | 6 |
| | | | | | | 0.40 | 5 |
| | | | | | | 0.50 | 5 |
| | | | | | | 0.60 | 6 |
| | | | | | | 0.70 | 6 |
| | | | | | | 0.80 | 6 |
| | | | | | | 0.90 | 8 |
| 1.0 | | | | | | 1.00 | 7 |
| | | | | | | 1.10 | 10 |
| | | | | | | 1.20 | 10 |
| | | | | | | 1.30 | 10 |
| | | | | | | 1.40 | 10 |
| | | | | | | 1.50 | 11 |
| | | | | | | 1.60 | 15 |
| | | | | | | 1.70 | 16 |
| | | | | | | 1.80 | 16 |
| 2.0 | | | | | | 1.90 | 17 |
| | | | | | | 2.00 | 18 |
| | | | | | | 2.10 | 25 |
| | End of Probe at 2.20 m | | | | | | |
| 3.0 | | | | | | | |
| 4.0 | | | | | | | |

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Graphic Probe Record

0 5 10 15 20 25

GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP05

SHEET Sheet 1 of 1

CO-ORDINATES

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

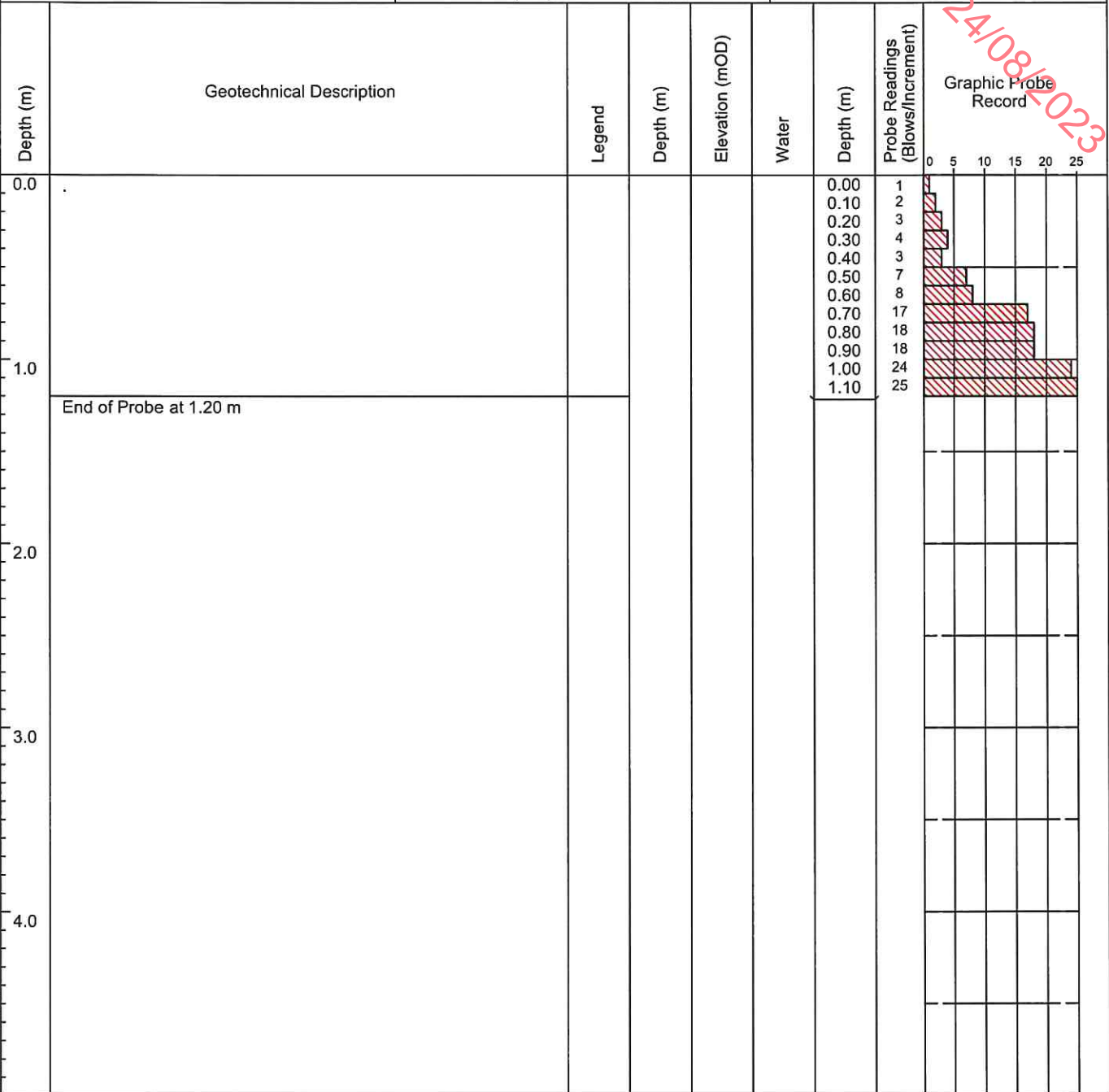
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



RECEIVED: 24/08/2023

GROUNDWATER OBSERVATIONS

REMARKS



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP06

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

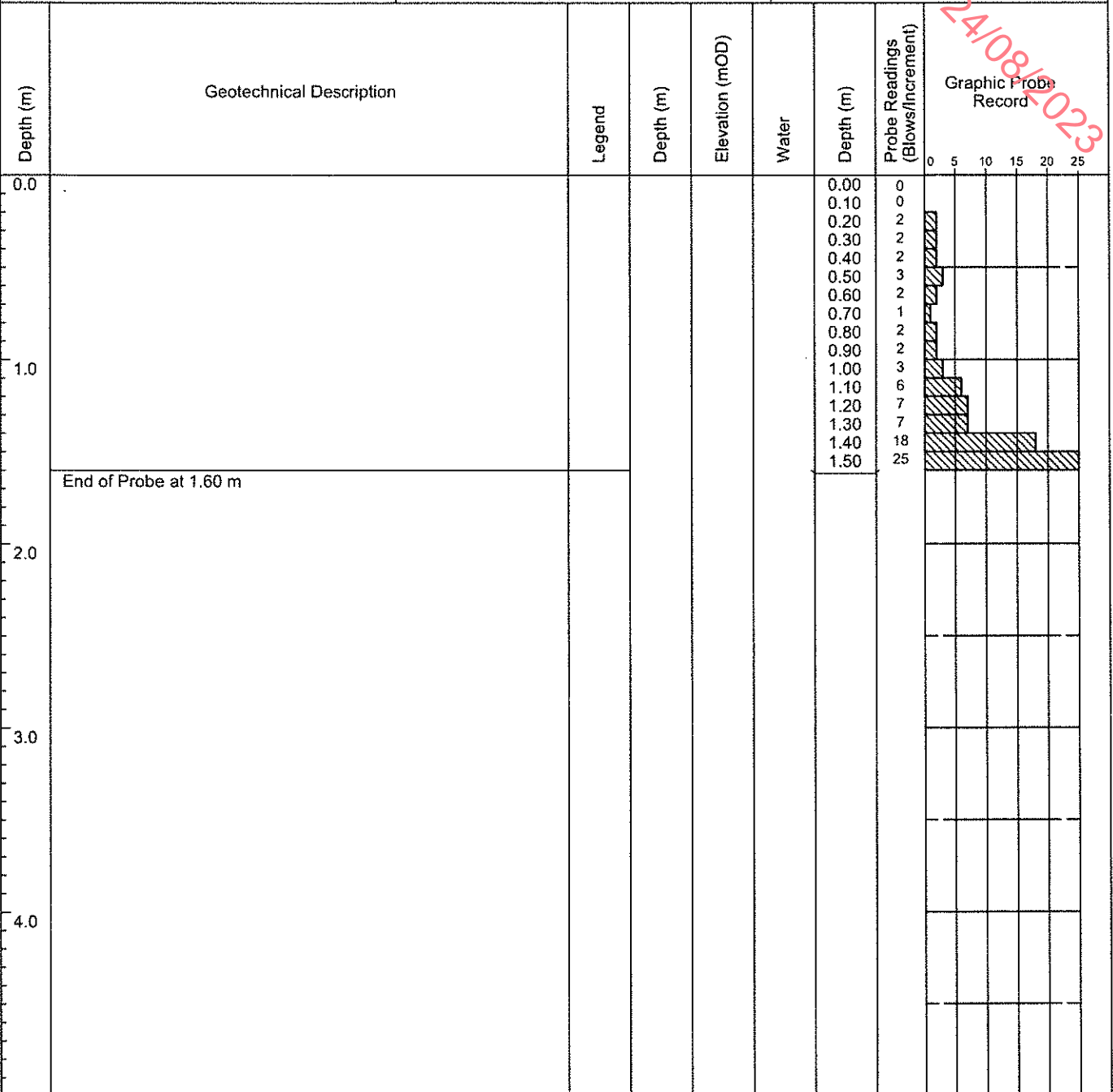
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar , Co.Westmeath

PROBE NO. DP07

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

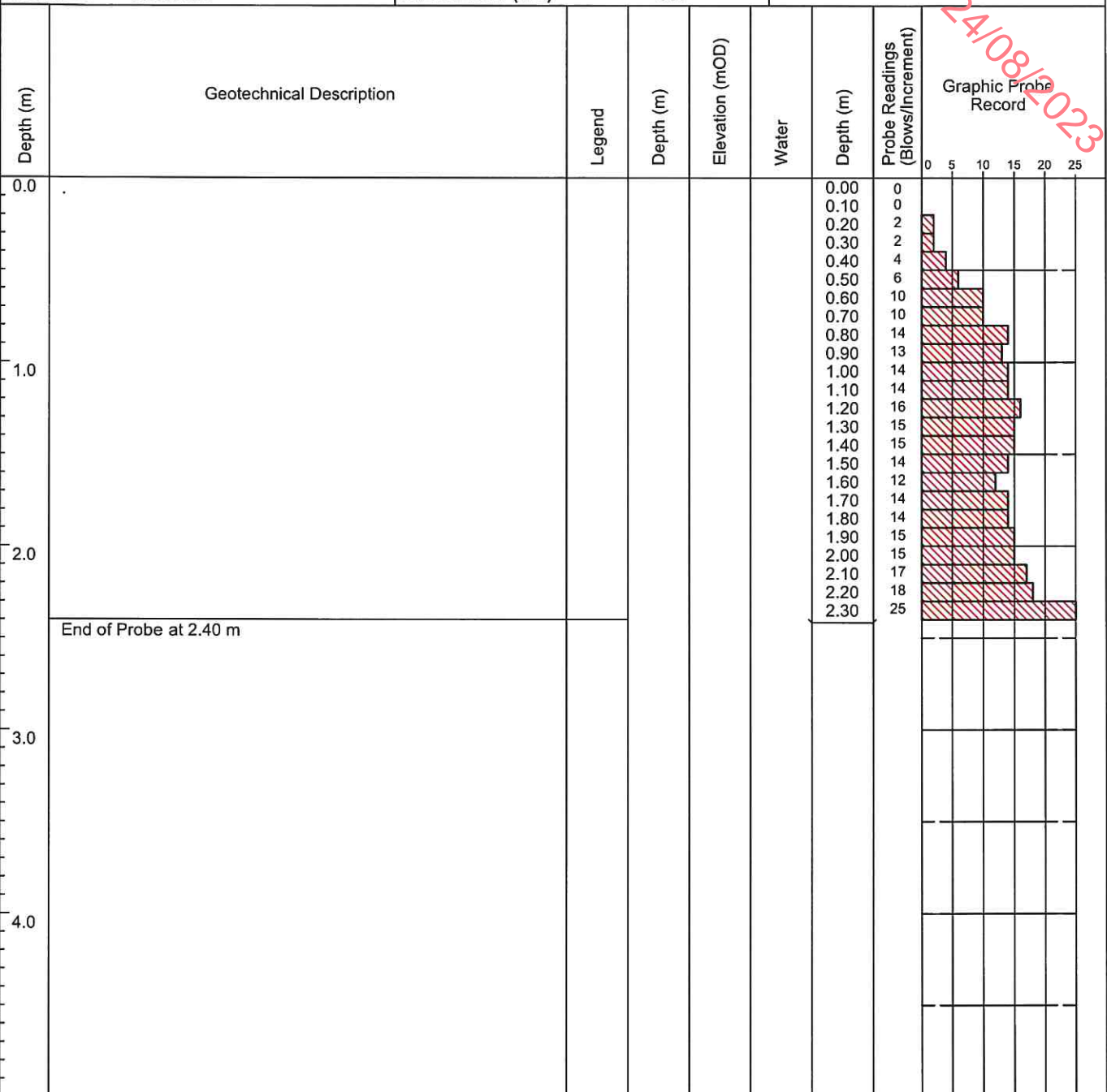
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



GROUNDWATER OBSERVATIONS

REMARKS



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. **DP08**

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

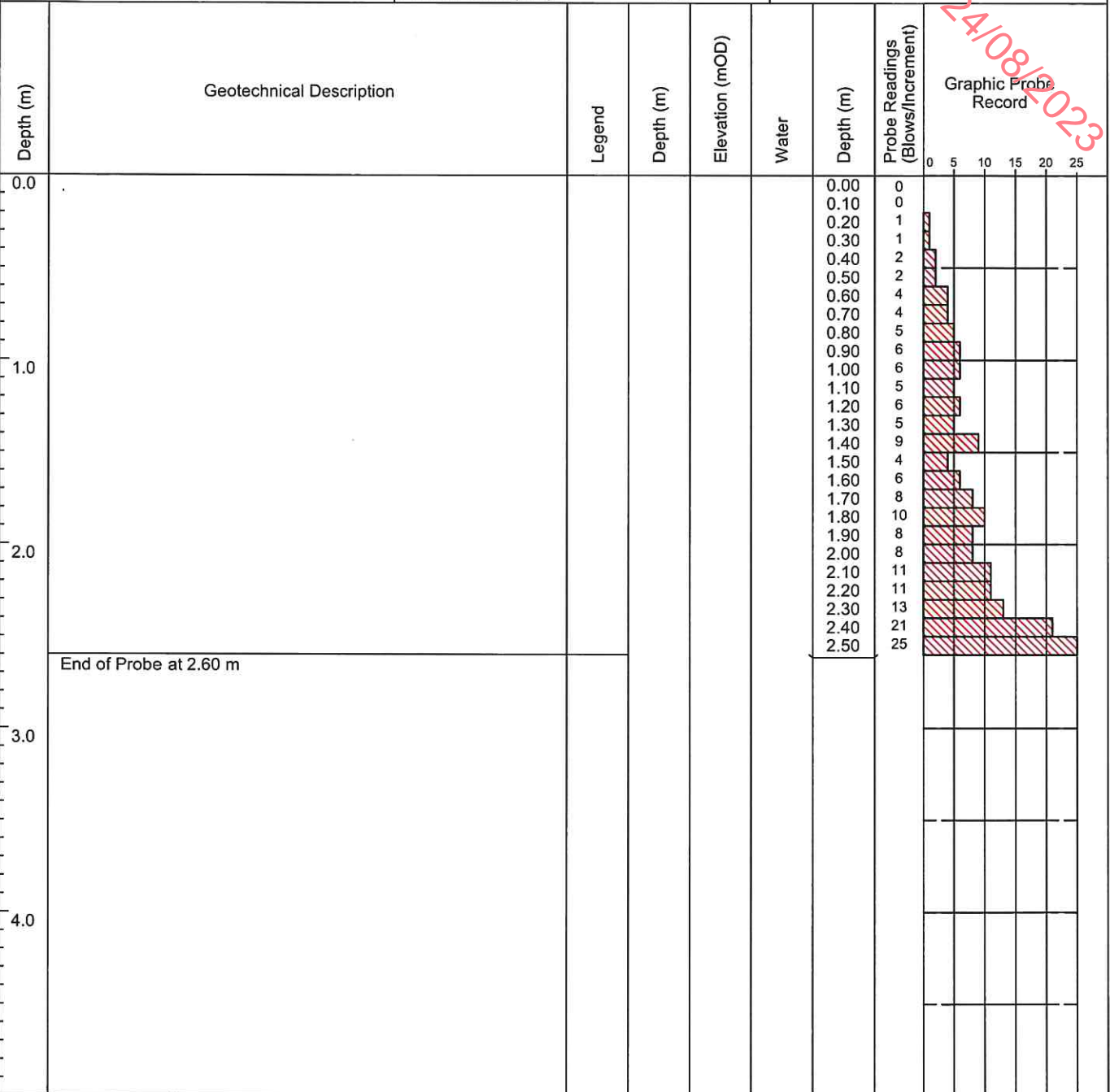
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

PROBE TYPE DPH

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500



RECORDED: 24/08/2023

Graphic Probe Record

GROUNDWATER OBSERVATIONS

REMARKS



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP09

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

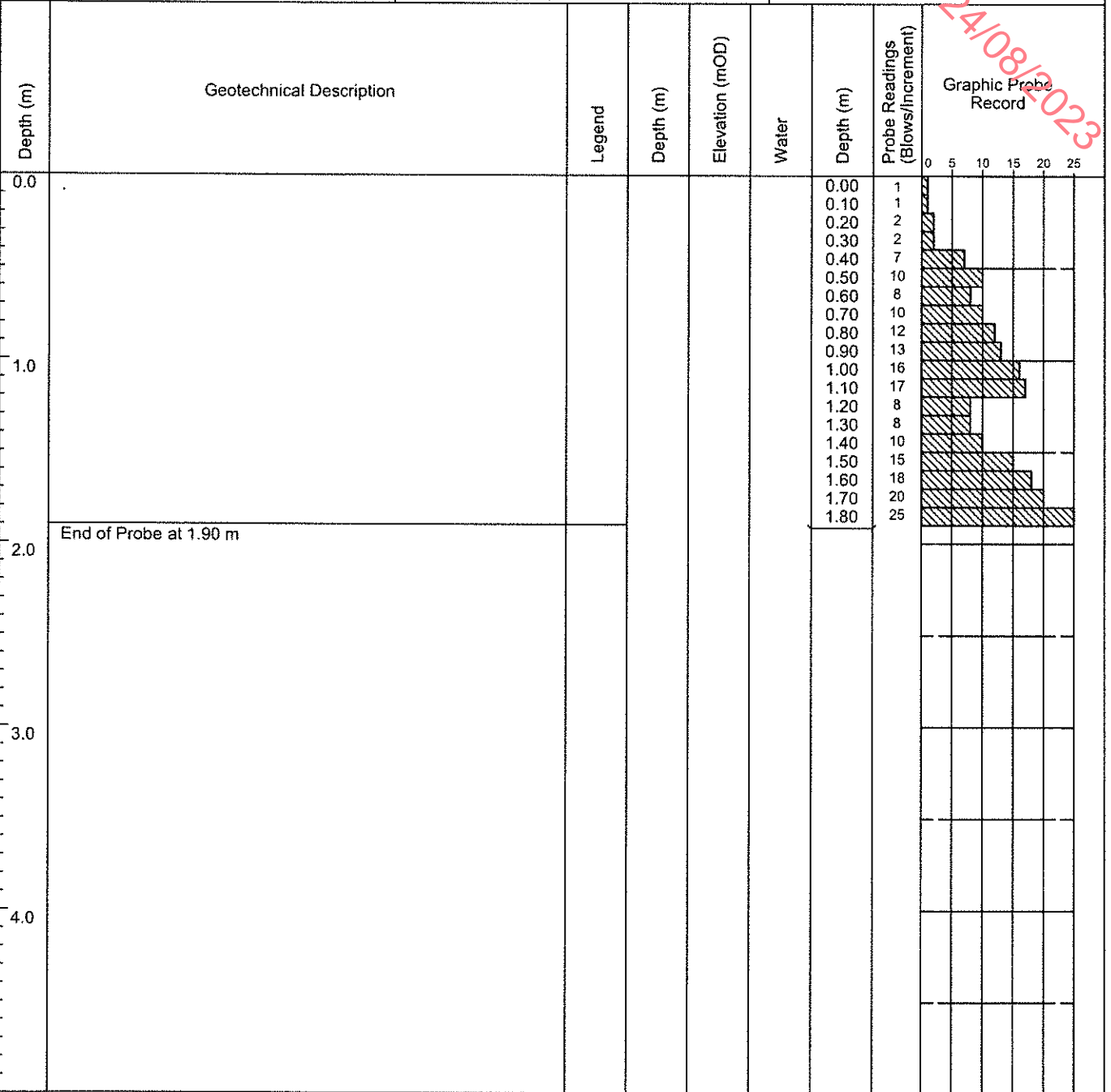
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

PROBE TYPE DPH

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500



RECEIVED: 24/08/2023

GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/19/20



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP10

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

PROBE TYPE DPH

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

| Depth (m) | Geotechnical Description | Legend | Depth (m) | Elevation (mOD) | Water | Depth (m) | Probe Readings (Blows/Increment) | Graphic Probe Record | | | | | |
|-----------|--------------------------|--------|-----------|-----------------|-------|-----------|----------------------------------|----------------------|---|----|----|----|----|
| | | | | | | | | 0 | 5 | 10 | 15 | 20 | 25 |
| 0.0 | | | | | | 0.00 | 0 | | | | | | |
| | | | | | | 0.10 | 0 | | | | | | |
| | | | | | | 0.20 | 1 | | | | | | |
| | | | | | | 0.30 | 1 | | | | | | |
| | | | | | | 0.40 | 7 | | | | | | |
| | | | | | | 0.50 | 8 | | | | | | |
| | | | | | | 0.60 | 7 | | | | | | |
| | | | | | | 0.70 | 8 | | | | | | |
| | | | | | | 0.80 | 8 | | | | | | |
| | | | | | | 0.90 | 6 | | | | | | |
| 1.0 | | | | | | 1.00 | 6 | | | | | | |
| | | | | | | 1.10 | 7 | | | | | | |
| | | | | | | 1.20 | 6 | | | | | | |
| | | | | | | 1.30 | 4 | | | | | | |
| | | | | | | 1.40 | 4 | | | | | | |
| | | | | | | 1.50 | 6 | | | | | | |
| | | | | | | 1.60 | 5 | | | | | | |
| | | | | | | 1.70 | 6 | | | | | | |
| 2.0 | End of Probe at 1.90 m | | | | | 1.80 | 25 | | | | | | |

PROCESSED: 24/08/2023

GROUNDWATER OBSERVATIONS

REMARKS

IGSL_DP_LOG_100MM_INCREMENTALS_22611B.GPJ IGSL_GDT_7/10/20



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar , Co.Westmeath

PROBE NO. DP11

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

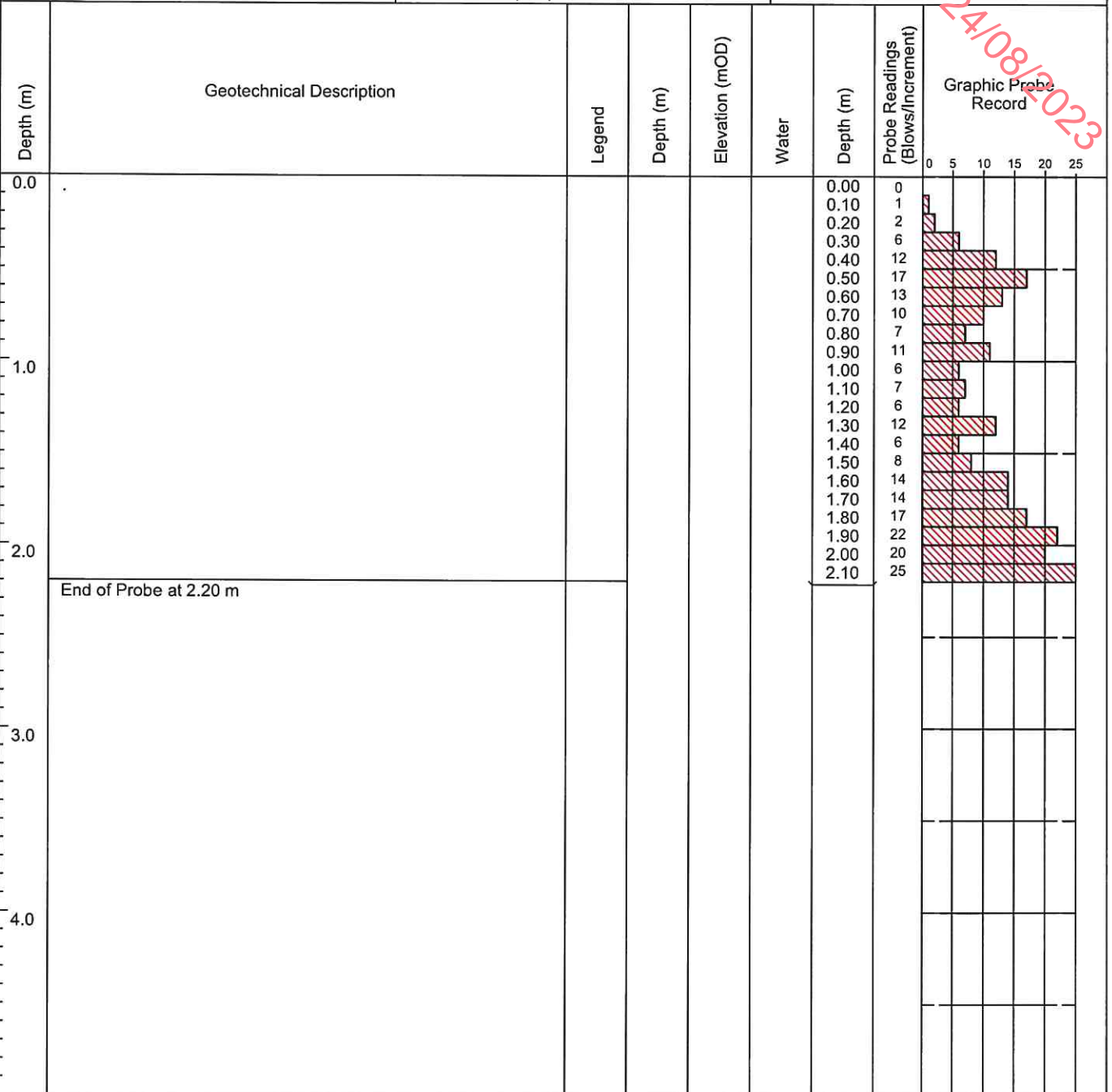
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

PROBE TYPE DPH

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500



PROCESSED: 24/08/2023

Graphic Probe Record

0 5 10 15 20 25

GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar , Co.Westmeath

PROBE NO. DP12

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

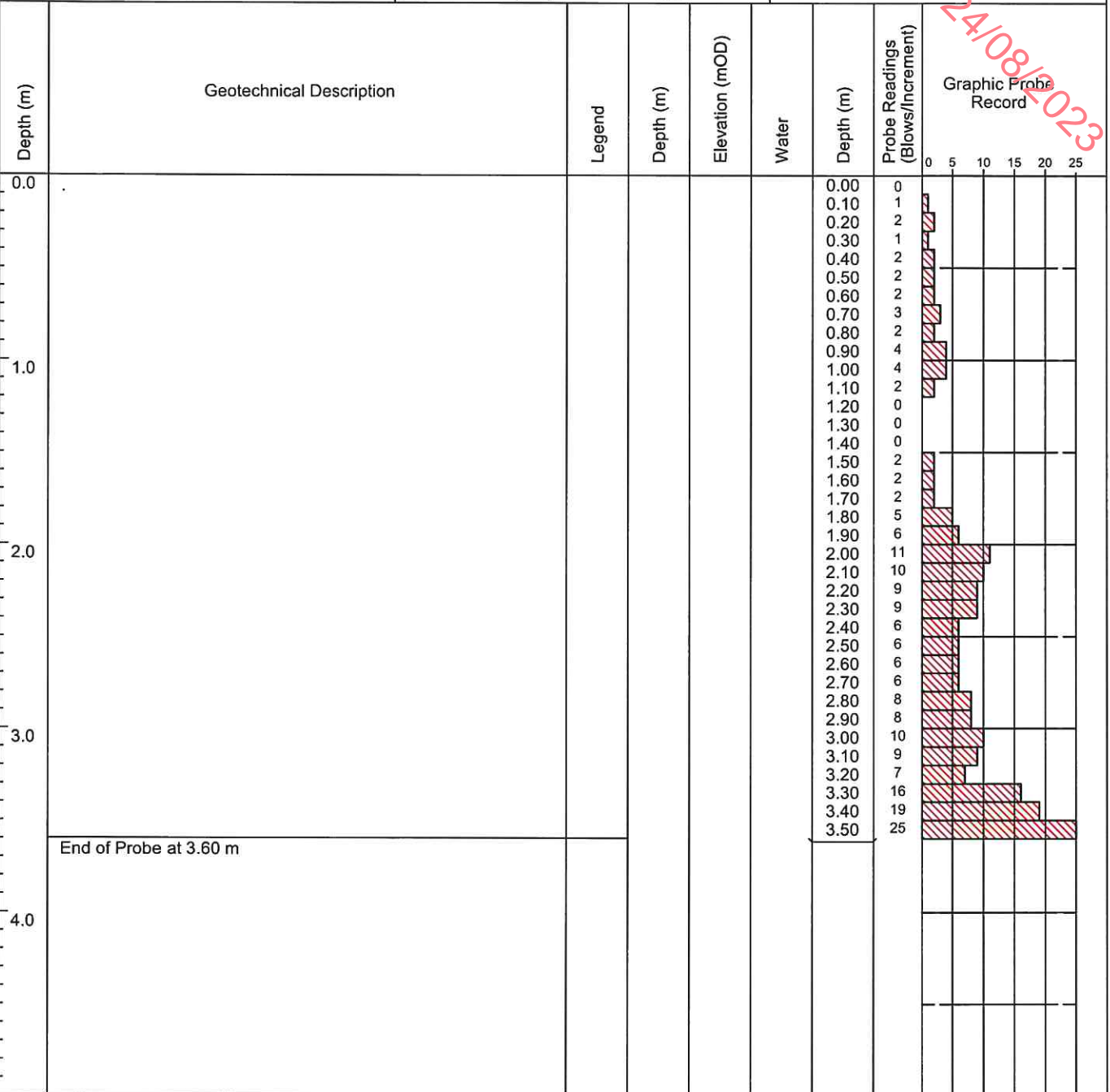
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



RECORDED: 24/08/2023

Graphic Probe Record

GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP13

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

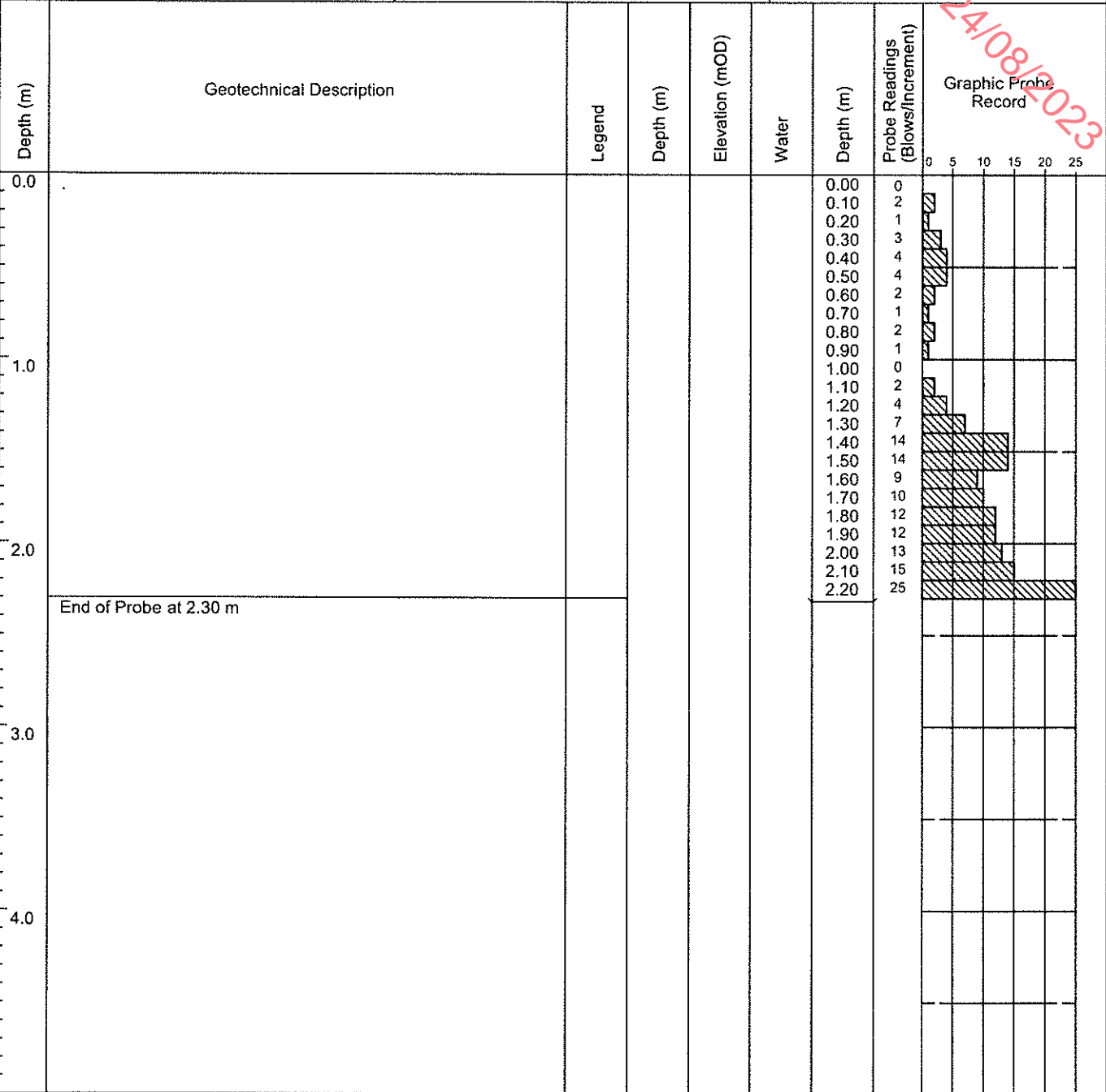
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

PROBE TYPE DPH

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500



GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP14

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

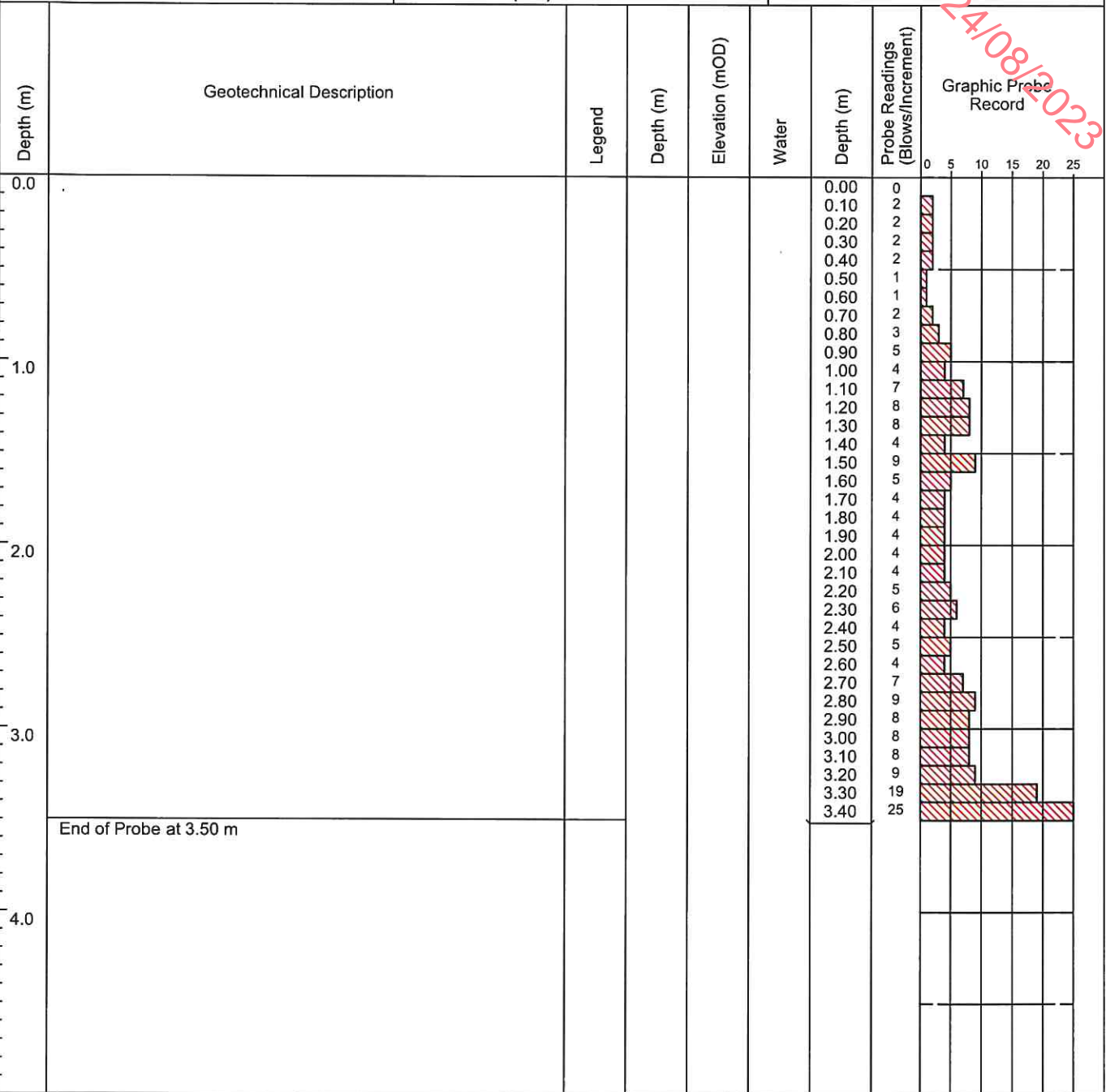
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20

PROCESSED: 24/08/2023



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP15

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

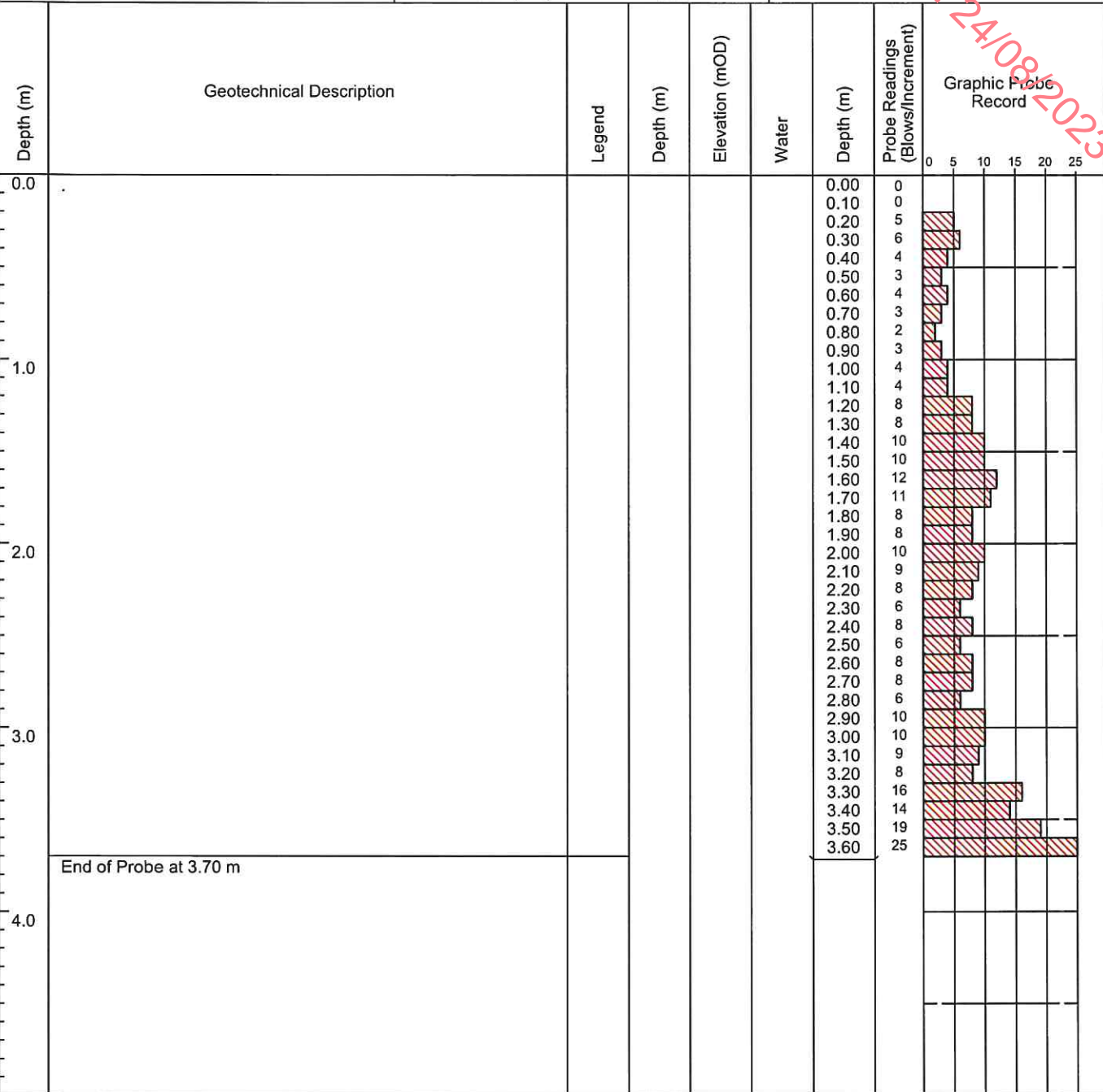
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



RECEIVED 24/08/2023

Graphic Probe Record

GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar , Co.Westmeath

PROBE NO. DP16

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

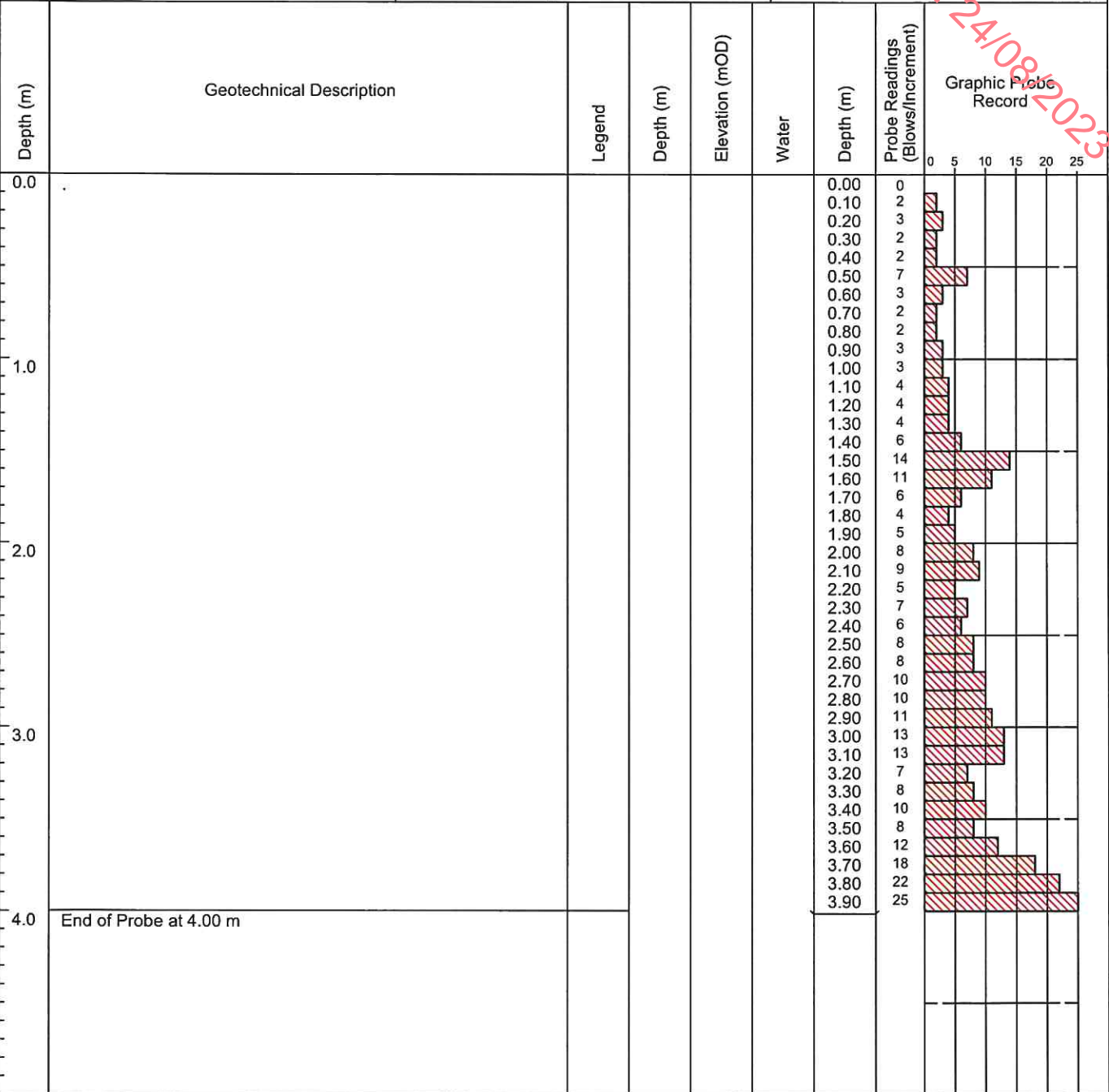
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



RECEIVED 24/08/2023

GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP18

SHEET Sheet 1 of 1

CO-ORDINATES

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

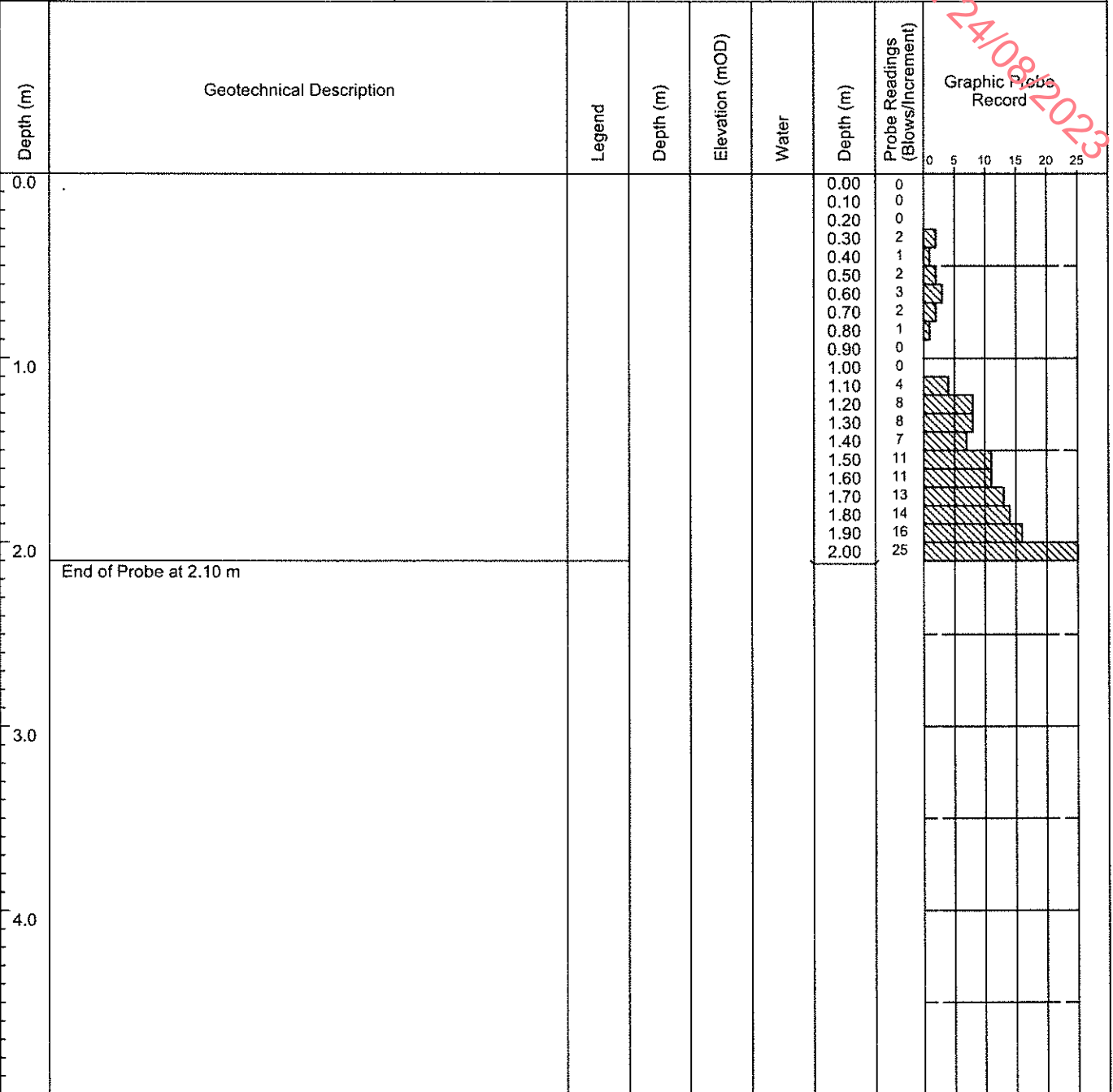
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



RECORDED 24/09/2023

Graphic Probe Record

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20

GROUNDWATER OBSERVATIONS

REMARKS



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP19

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH

| Depth (m) | Geotechnical Description | Legend | Depth (m) | Elevation (mOD) | Water | Depth (m) | Probe Readings (Blows/Increment) | Graphic Probe Record | | | | | | | |
|-----------|--------------------------|--------|-----------|-----------------|-------|-----------|----------------------------------|----------------------|---|---|----|----|----|----|--|
| 0.0 | | | | | | 0.00 | 0 | | 0 | 5 | 10 | 15 | 20 | 25 | |
| | | | | | | 0.10 | 1 | | | | | | | | |
| | | | | | | 0.20 | 1 | | | | | | | | |
| | | | | | | 0.30 | 1 | | | | | | | | |
| | | | | | | 0.40 | 1 | | | | | | | | |
| | | | | | | 0.50 | 1 | | | | | | | | |
| | | | | | | 0.60 | 2 | | | | | | | | |
| | | | | | | 0.70 | 0 | | | | | | | | |
| | | | | | | 0.80 | 0 | | | | | | | | |
| | | | | | | 0.90 | 0 | | | | | | | | |
| | | | | | | 1.00 | 0 | | | | | | | | |
| | | | | | | 1.10 | 0 | | | | | | | | |
| | | | | | | 1.20 | 7 | | | | | | | | |
| | | | | | | 1.30 | 10 | | | | | | | | |
| | | | | | | 1.40 | 20 | | | | | | | | |
| | | | | | | 1.50 | 25 | | | | | | | | |
| 1.60 | End of Probe at 1.60 m | | | | | | | | | | | | | | |

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20

GROUNDWATER OBSERVATIONS

REMARKS



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP20

SHEET Sheet 1 of 1

CO-ORDINATES

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH

| Depth (m) | Geotechnical Description | Legend | Depth (m) | Elevation (mOD) | Water | Depth (m) | Probe Readings (Blows/Increment) | Graphic Probe Record |
|-----------|--------------------------|--------|-----------|-----------------|-------|-----------|----------------------------------|----------------------|
| 0.0 | | | | | | 0.00 | 1 | |
| | | | | | | 0.10 | 1 | |
| | | | | | | 0.20 | 2 | |
| | | | | | | 0.30 | 1 | |
| | | | | | | 0.40 | 1 | |
| | | | | | | 0.50 | 2 | |
| | | | | | | 0.60 | 2 | |
| | | | | | | 0.70 | 2 | |
| | | | | | | 0.80 | 6 | |
| | | | | | | 0.90 | 5 | |
| 1.0 | | | | | | 1.00 | 6 | |
| | | | | | | 1.10 | 6 | |
| | | | | | | 1.20 | 5 | |
| | | | | | | 1.30 | 6 | |
| | | | | | | 1.40 | 3 | |
| | | | | | | 1.50 | 5 | |
| | | | | | | 1.60 | 4 | |
| | | | | | | 1.70 | 3 | |
| | | | | | | 1.80 | 4 | |
| | | | | | | 1.90 | 4 | |
| 2.0 | | | | | | 2.00 | 4 | |
| | | | | | | 2.10 | 4 | |
| | | | | | | 2.20 | 5 | |
| | | | | | | 2.30 | 4 | |
| | | | | | | 2.40 | 4 | |
| | | | | | | 2.50 | 4 | |
| | | | | | | 2.60 | 8 | |
| | | | | | | 2.70 | 11 | |
| 3.0 | End of Probe at 2.90 m | | | | | 2.80 | 25 | |

IGSL DP LOG 100MM INCREMENTS 22611B.GP.I IGSL_GDT_7/10/20

GROUNDWATER OBSERVATIONS

REMARKS

RECEIVED 24/08/2023



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar , Co.Westmeath

PROBE NO. DP21

SHEET Sheet 1 of 1

CO-ORDINATES

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

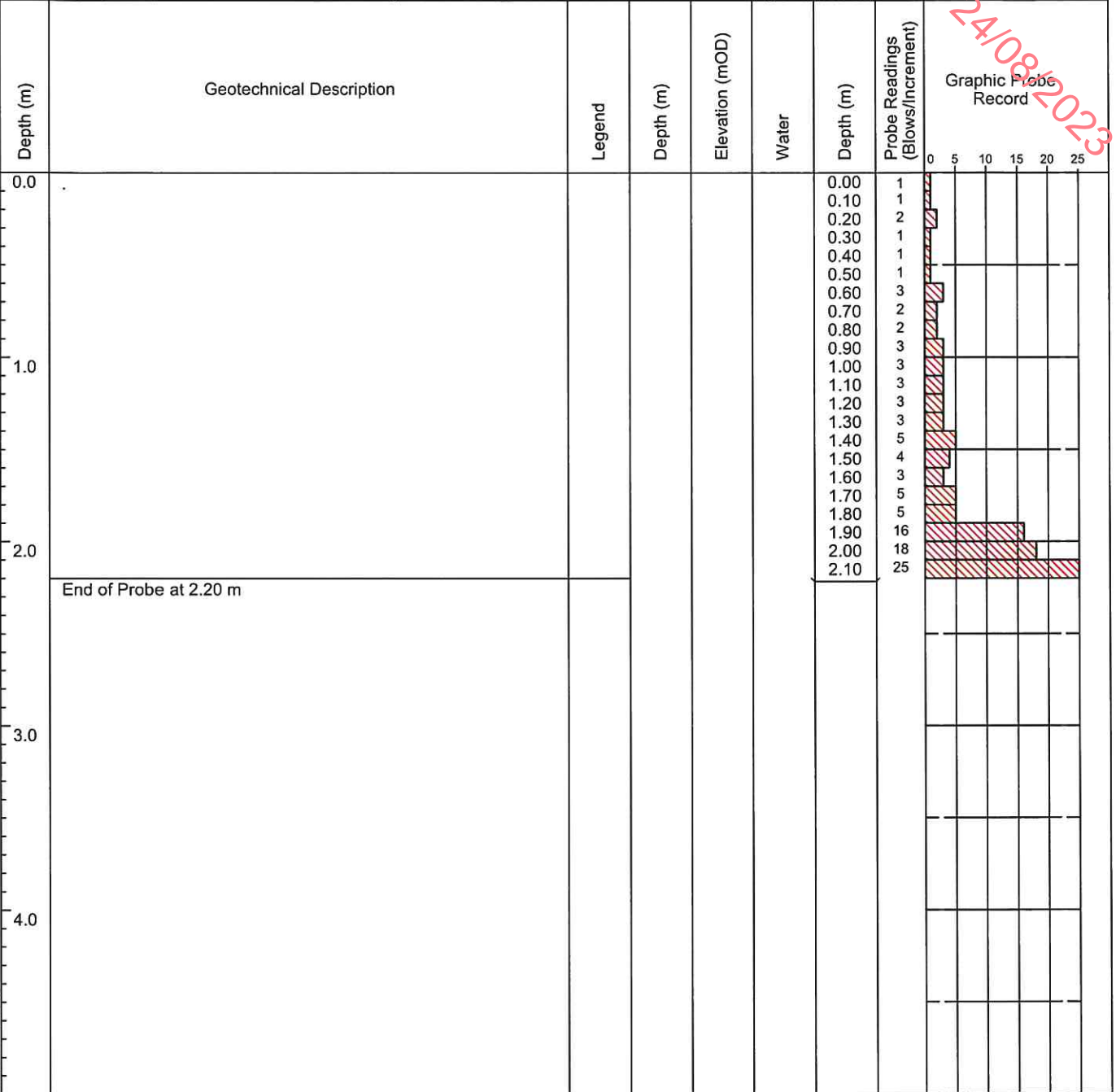
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL_GDT_7/10/20

GROUNDWATER OBSERVATIONS

REMARKS

RECEIVED 24/08/2023



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar , Co.Westmeath

PROBE NO. DP22

SHEET Sheet 1 of 1

CO-ORDINATES

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

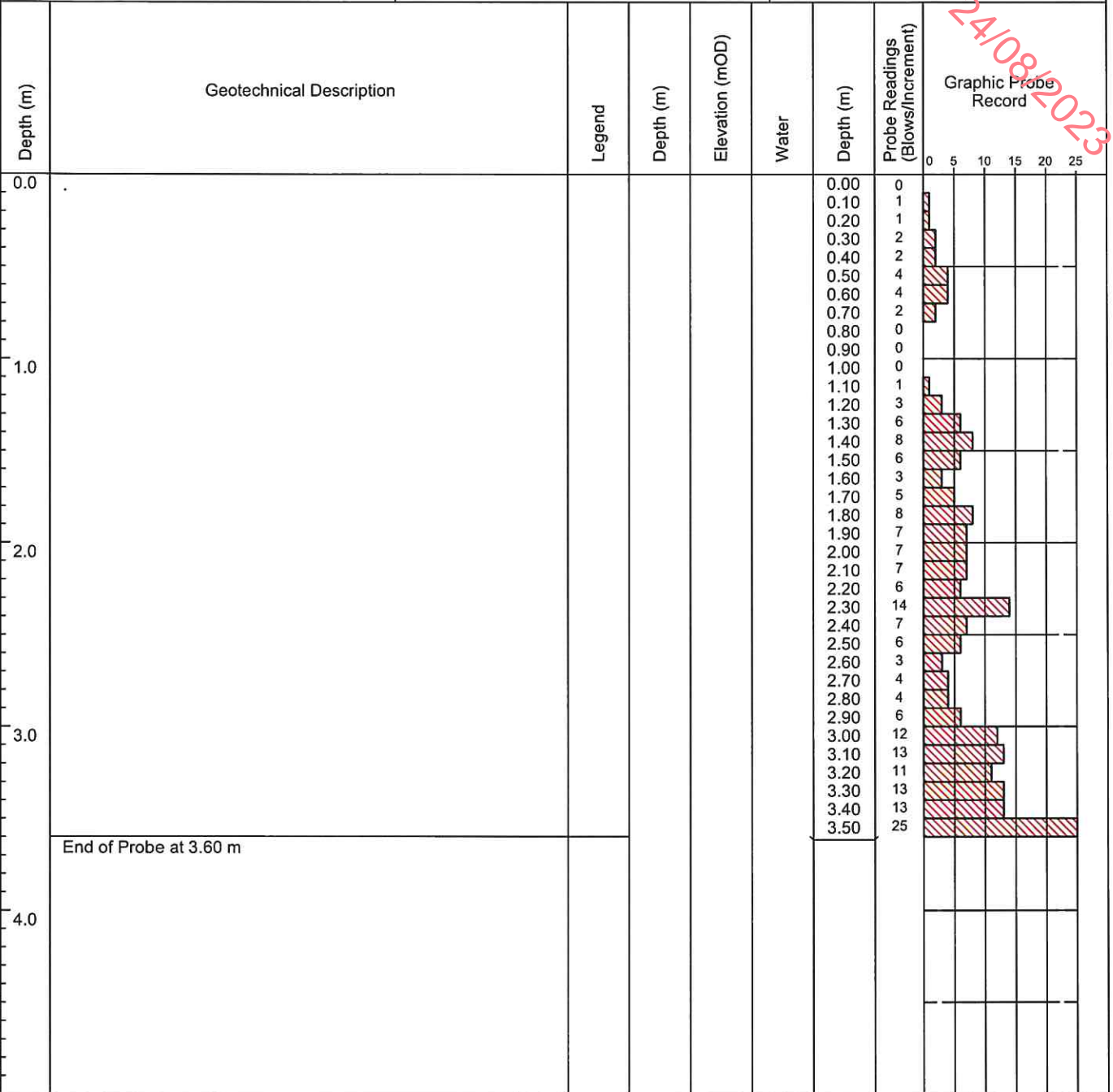
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL_GDT_7/10/20

GROUNDWATER OBSERVATIONS

REMARKS

RECEIVED 24/08/2023



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP23

SHEET Sheet 1 of 1

CO-ORDINATES

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

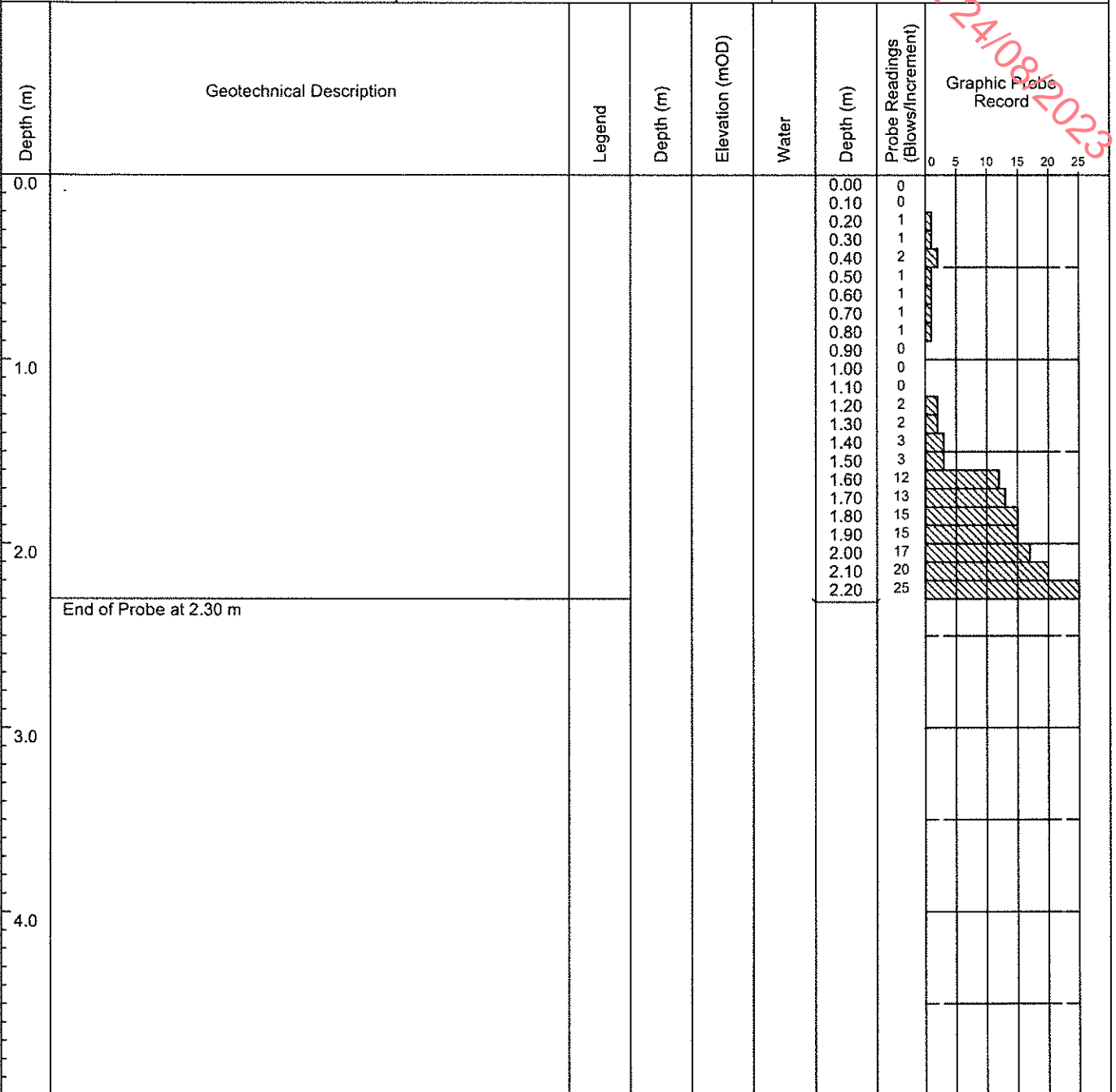
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL_GDT_7/10/20

GROUNDWATER OBSERVATIONS

REMARKS



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP24

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

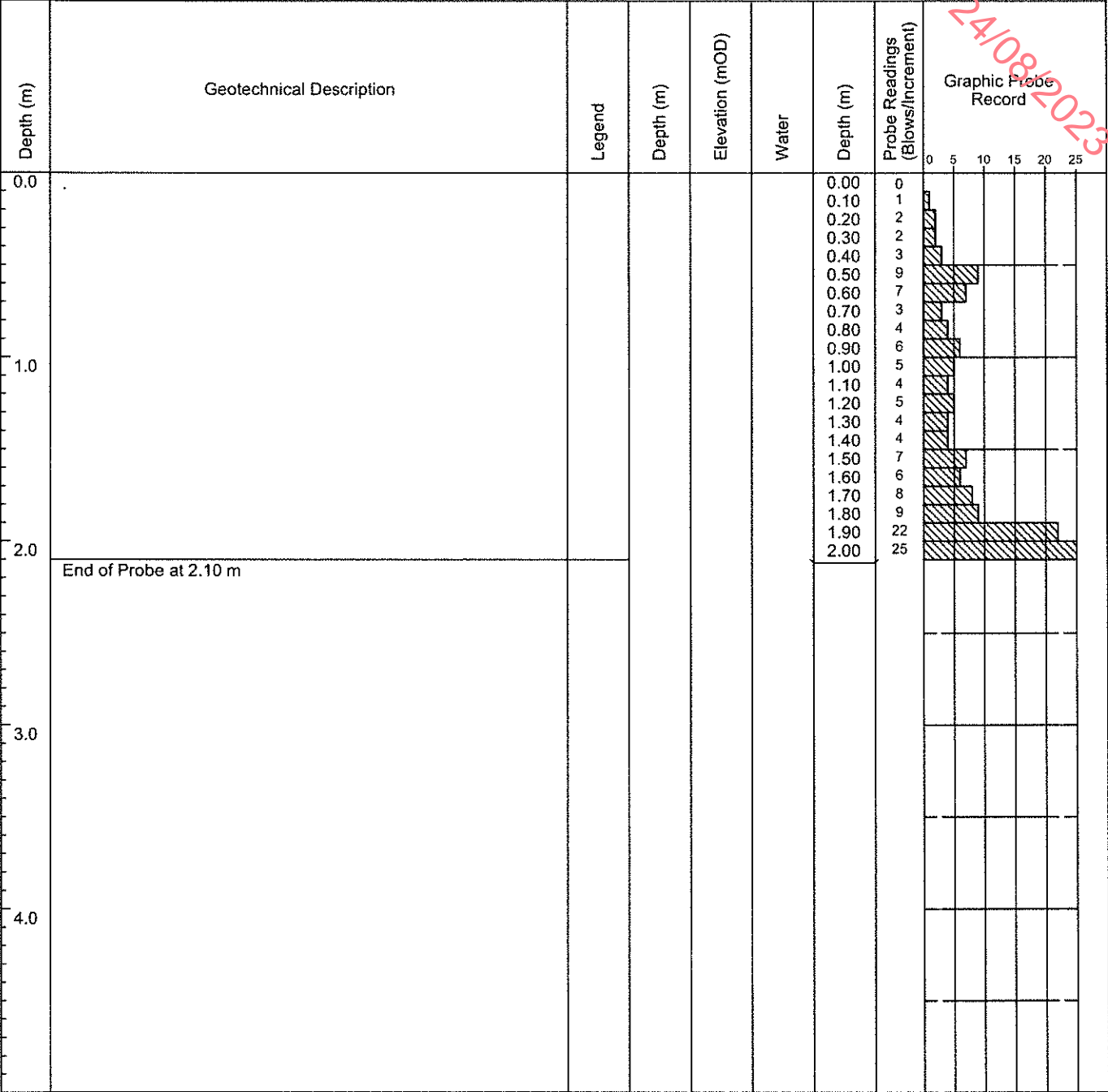
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20

GROUNDWATER OBSERVATIONS

REMARKS

RECEIVED 24/08/2023



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP25

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH

| Depth (m) | Geotechnical Description | Legend | Depth (m) | Elevation (mOD) | Water | Depth (m) | Probe Readings (Blows/Increment) | Graphic Probe Record | | | | | |
|-----------|--------------------------|--------|-----------|-----------------|-------|-----------|----------------------------------|----------------------|--|--|--|--|--|
| 0.0 | | | | | | 0.00 | 1 | | | | | | |
| | | | | | | 0.10 | 1 | | | | | | |
| | | | | | | 0.20 | 1 | | | | | | |
| | | | | | | 0.30 | 0 | | | | | | |
| | | | | | | 0.40 | 0 | | | | | | |
| | | | | | | 0.50 | 0 | | | | | | |
| | | | | | | 0.60 | 0 | | | | | | |
| | | | | | | 0.70 | 0 | | | | | | |
| | | | | | | 0.80 | 0 | | | | | | |
| | | | | | | 0.90 | 3 | | | | | | |
| | | | | | | 1.00 | 4 | | | | | | |
| | | | | | | 1.10 | 4 | | | | | | |
| | | | | | | 1.20 | 5 | | | | | | |
| | | | | | | 1.30 | 4 | | | | | | |
| | | | | | | 1.40 | 4 | | | | | | |
| | | | | | | 1.50 | 9 | | | | | | |
| | | | | | | 1.60 | 5 | | | | | | |
| | | | | | | 1.70 | 9 | | | | | | |
| | | | | | | 1.80 | 9 | | | | | | |
| | | | | | | 1.90 | 9 | | | | | | |
| | | | | | | 2.00 | 12 | | | | | | |
| | | | | | | 2.10 | 9 | | | | | | |
| | | | | | | 2.20 | 8 | | | | | | |
| | | | | | | 2.30 | 8 | | | | | | |
| | | | | | | 2.40 | 8 | | | | | | |
| | | | | | | 2.50 | 6 | | | | | | |
| | | | | | | 2.60 | 6 | | | | | | |
| | | | | | | 2.70 | 11 | | | | | | |
| | | | | | | 2.80 | 19 | | | | | | |
| | | | | | | 2.90 | 20 | | | | | | |
| | | | | | | 3.00 | 25 | | | | | | |
| 3.0 | End of Probe at 3.10 m | | | | | | | | | | | | |
| 4.0 | | | | | | | | | | | | | |

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20

GROUNDWATER OBSERVATIONS

REMARKS



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP26

SHEET Sheet 1 of 1

CO-ORDINATES

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

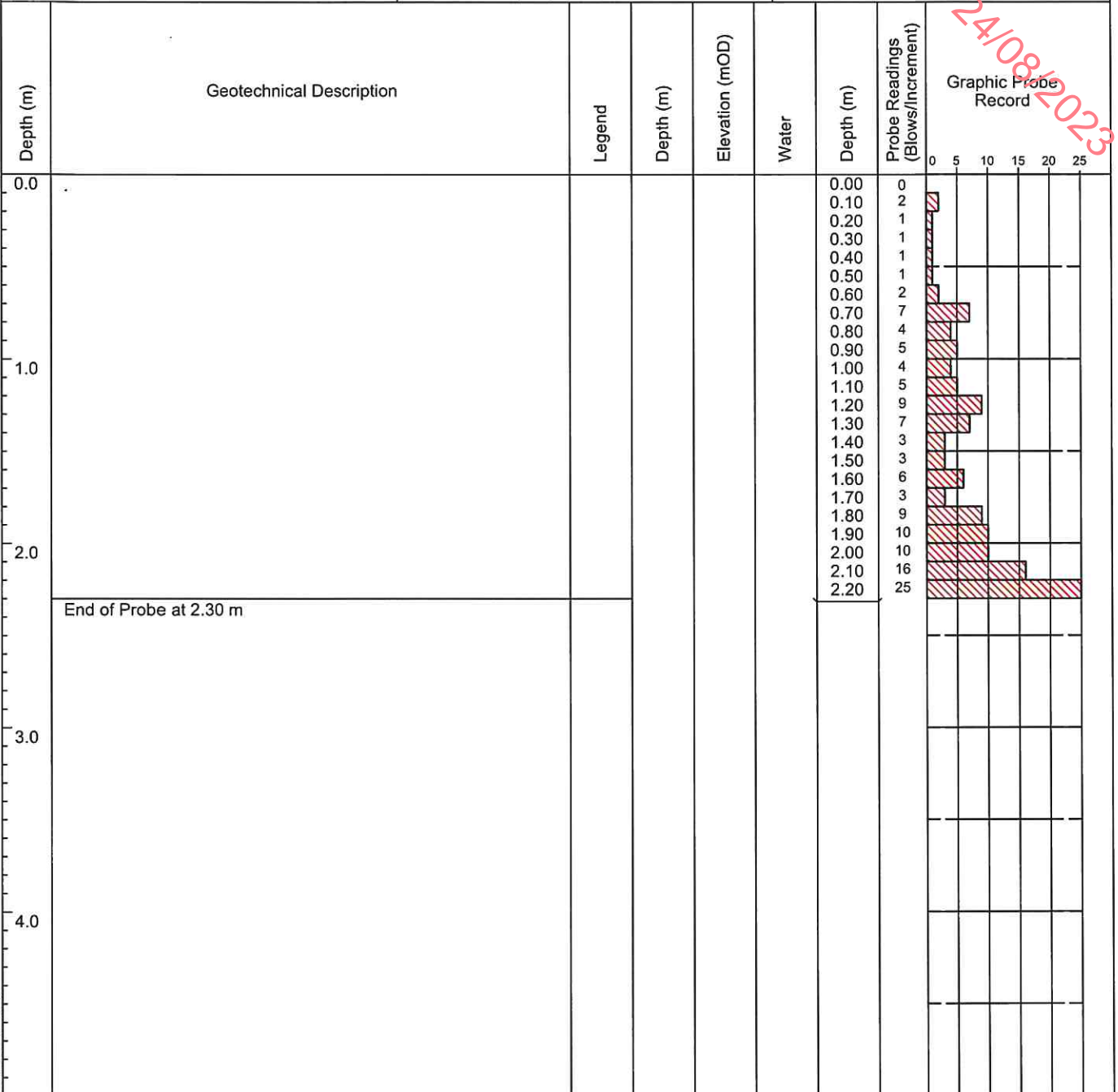
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL_GDT_7/10/20

GROUNDWATER OBSERVATIONS

REMARKS

RECEIVED 24/08/2023



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar , Co.Westmeath

PROBE NO. DP27

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

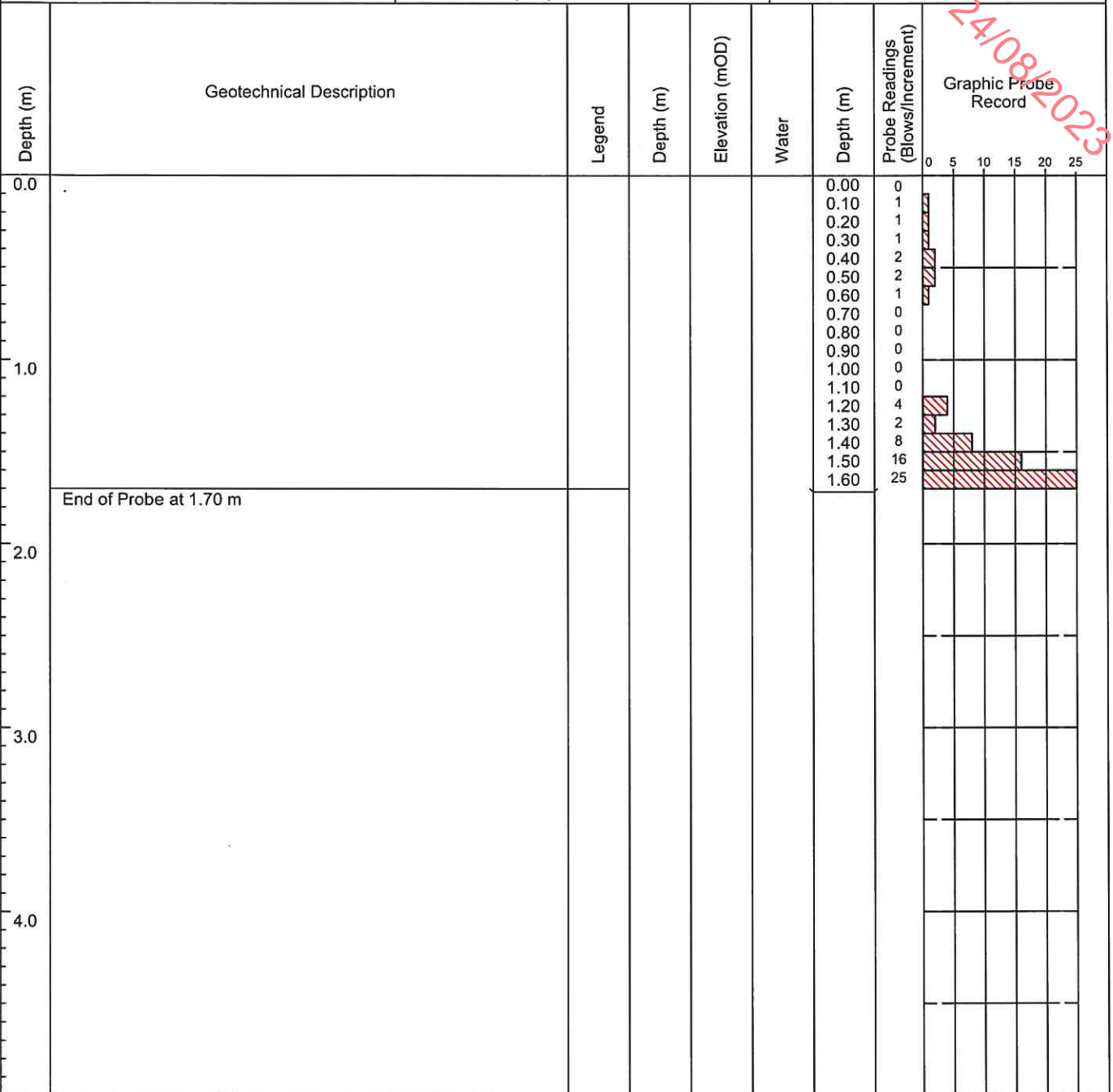
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL_GDT_7/10/20

GROUNDWATER OBSERVATIONS

REMARKS

RECEIVED: 24/08/2023



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar , Co.Westmeath

PROBE NO. DP28

SHEET Sheet 1 of 1

CO-ORDINATES

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

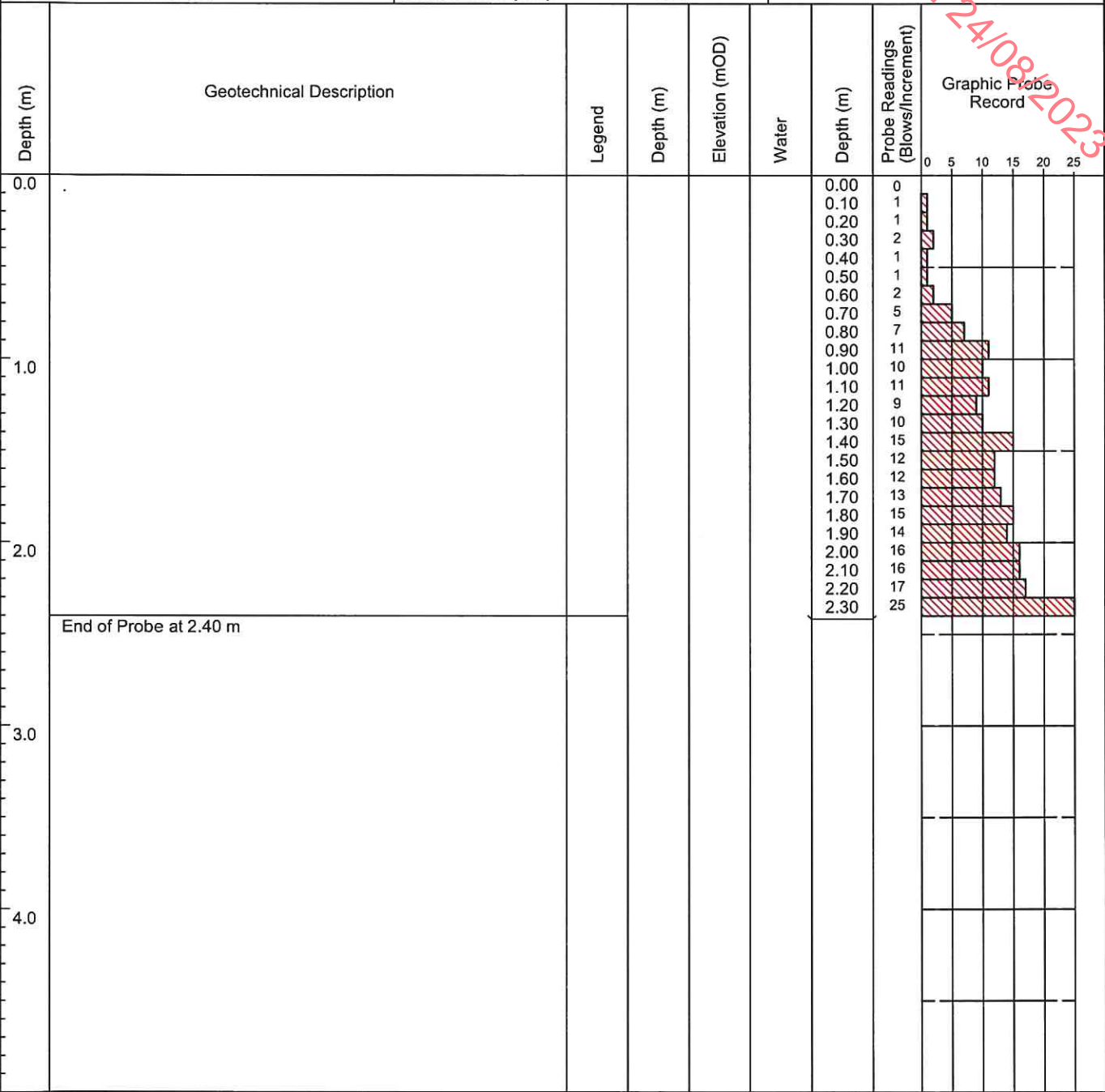
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20

GROUNDWATER OBSERVATIONS

REMARKS



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar , Co.Westmeath

PROBE NO. DP29

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

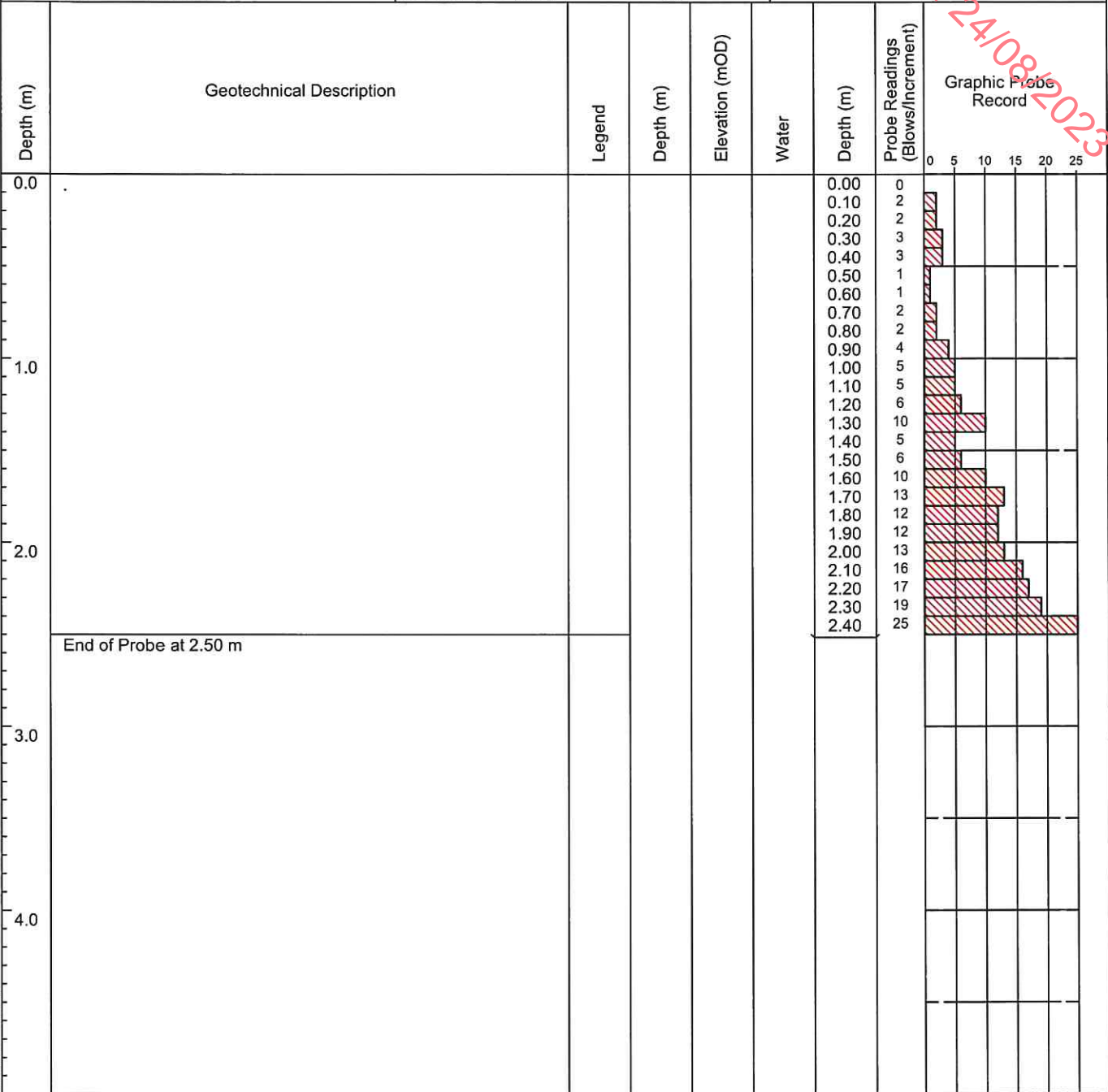
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



RECEIVED 24/08/2023

GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL_GDT 7/10/20



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP30

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

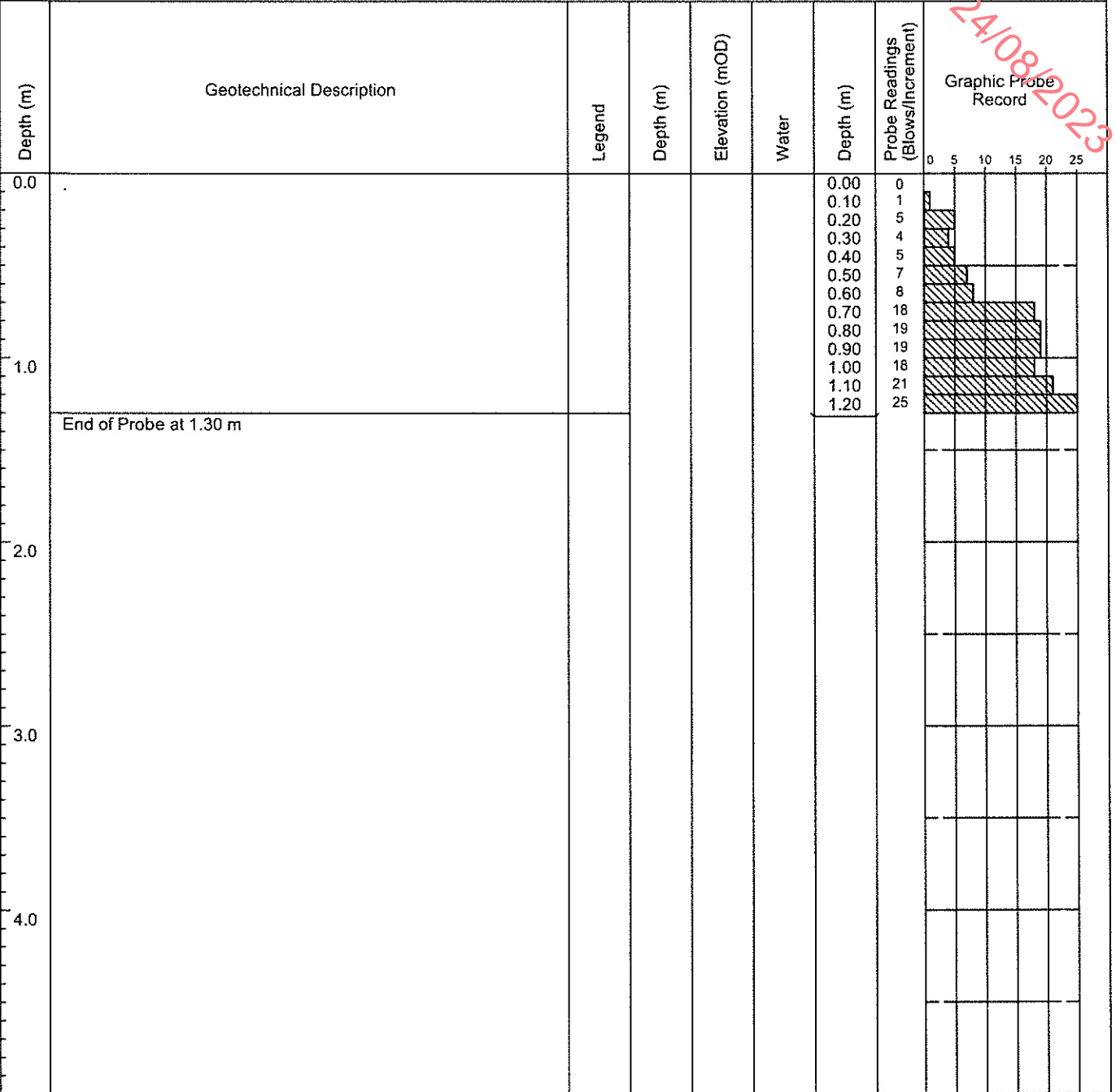
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL_GDT_7/10/20

GROUNDWATER OBSERVATIONS

REMARKS

RECEIVED 24/08/2023



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP31

SHEET Sheet 1 of 1

CO-ORDINATES

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

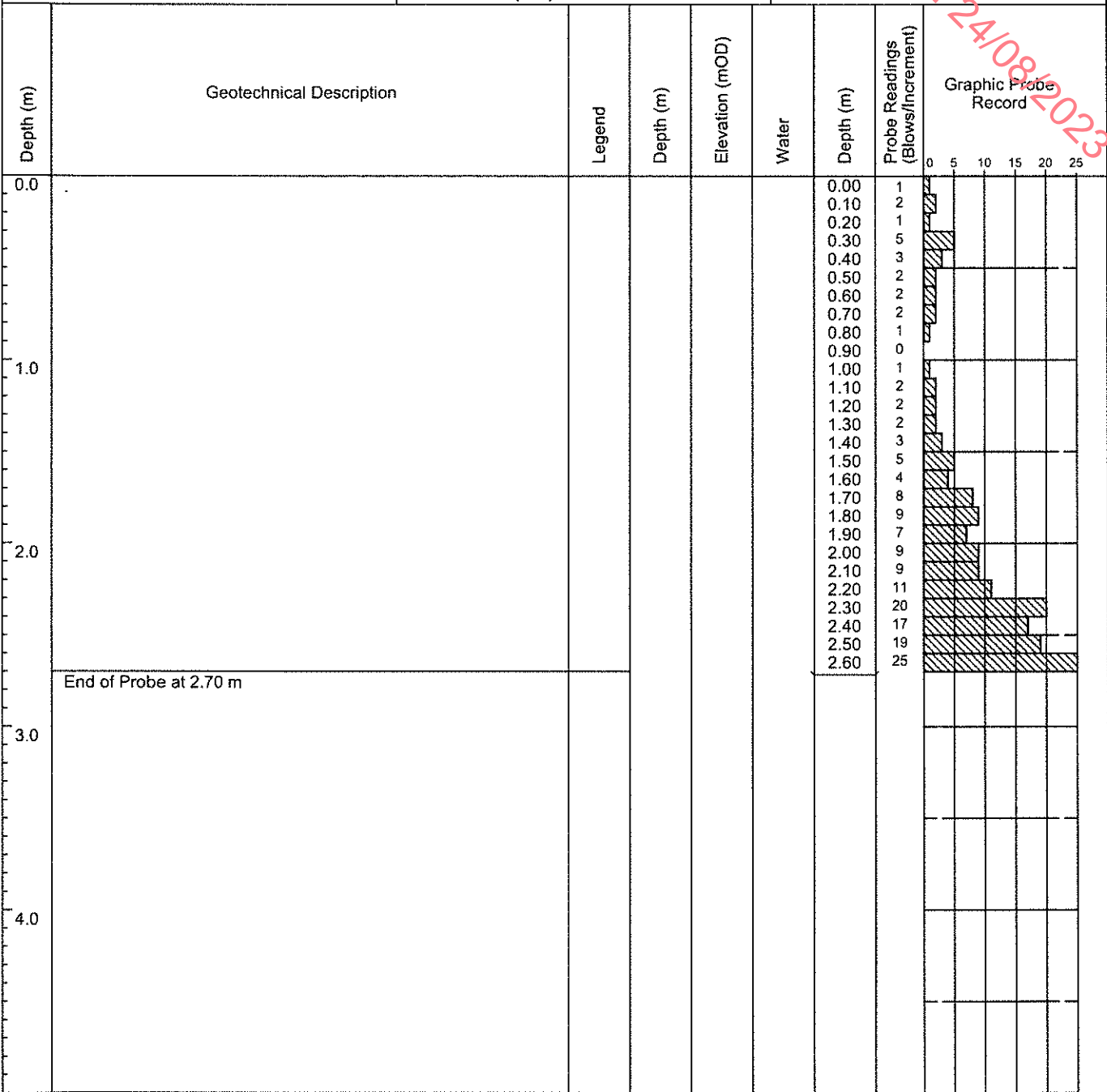
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20

GROUNDWATER OBSERVATIONS

REMARKS



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP32

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

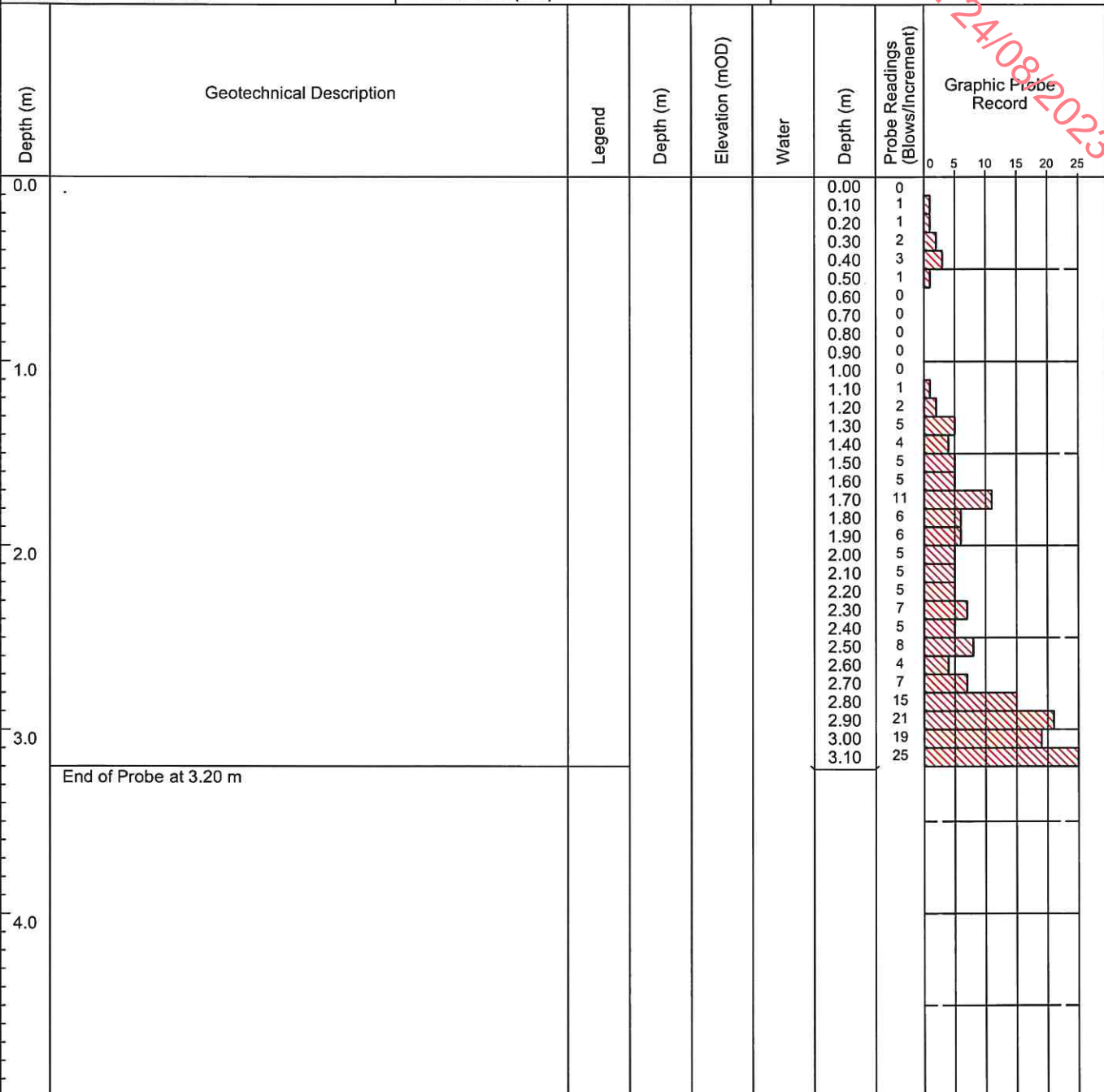
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



RECEIVED 24/08/2023

GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL_GDT_7/10/20



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar , Co.Westmeath

PROBE NO. DP33

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

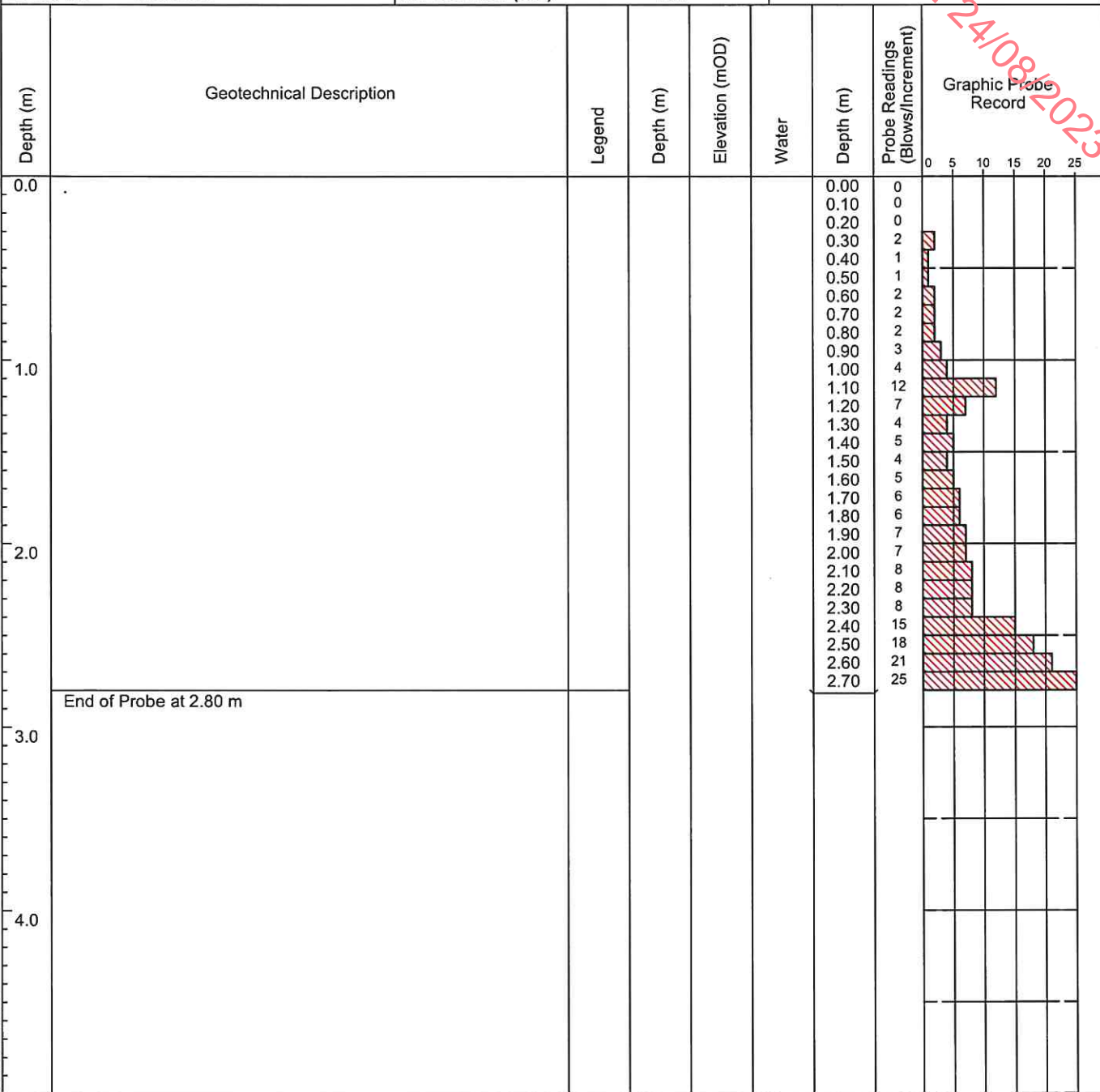
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



RECEIVED 24/08/2023

GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL_GDT_7/10/20



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP34

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH

| Depth (m) | Geotechnical Description | Legend | Depth (m) | Elevation (mOD) | Water | Depth (m) | Probe Readings (Blows/Increment) | Graphic Probe Record |
|-----------|--------------------------|--------|-----------|-----------------|-------|-----------|----------------------------------|----------------------|
| 0.0 | | | | | | 0.00 | 0 | |
| | | | | | | 0.10 | 1 | |
| | | | | | | 0.20 | 2 | |
| | | | | | | 0.30 | 1 | |
| | | | | | | 0.40 | 0 | |
| | | | | | | 0.50 | 0 | |
| | | | | | | 0.60 | 2 | |
| | | | | | | 0.70 | 3 | |
| | | | | | | 0.80 | 5 | |
| | | | | | | 0.90 | 6 | |
| 1.0 | | | | | | 1.00 | 8 | |
| | | | | | | 1.10 | 14 | |
| | | | | | | 1.20 | 17 | |
| | | | | | | 1.30 | 16 | |
| | | | | | | 1.40 | 18 | |
| | | | | | | 1.50 | 25 | |
| | End of Probe at 1.60 m | | | | | | | |
| 2.0 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 3.0 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4.0 | | | | | | | | |
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RECEIVED 24/08/2023

IGSL DP LOG 100MM INCREMENTS 22611B.GR.I IGSL.GDI 7/10/20

GROUNDWATER OBSERVATIONS

REMARKS



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar , Co.Westmeath

PROBE NO. DP35

SHEET Sheet 1 of 1

CO-ORDINATES

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

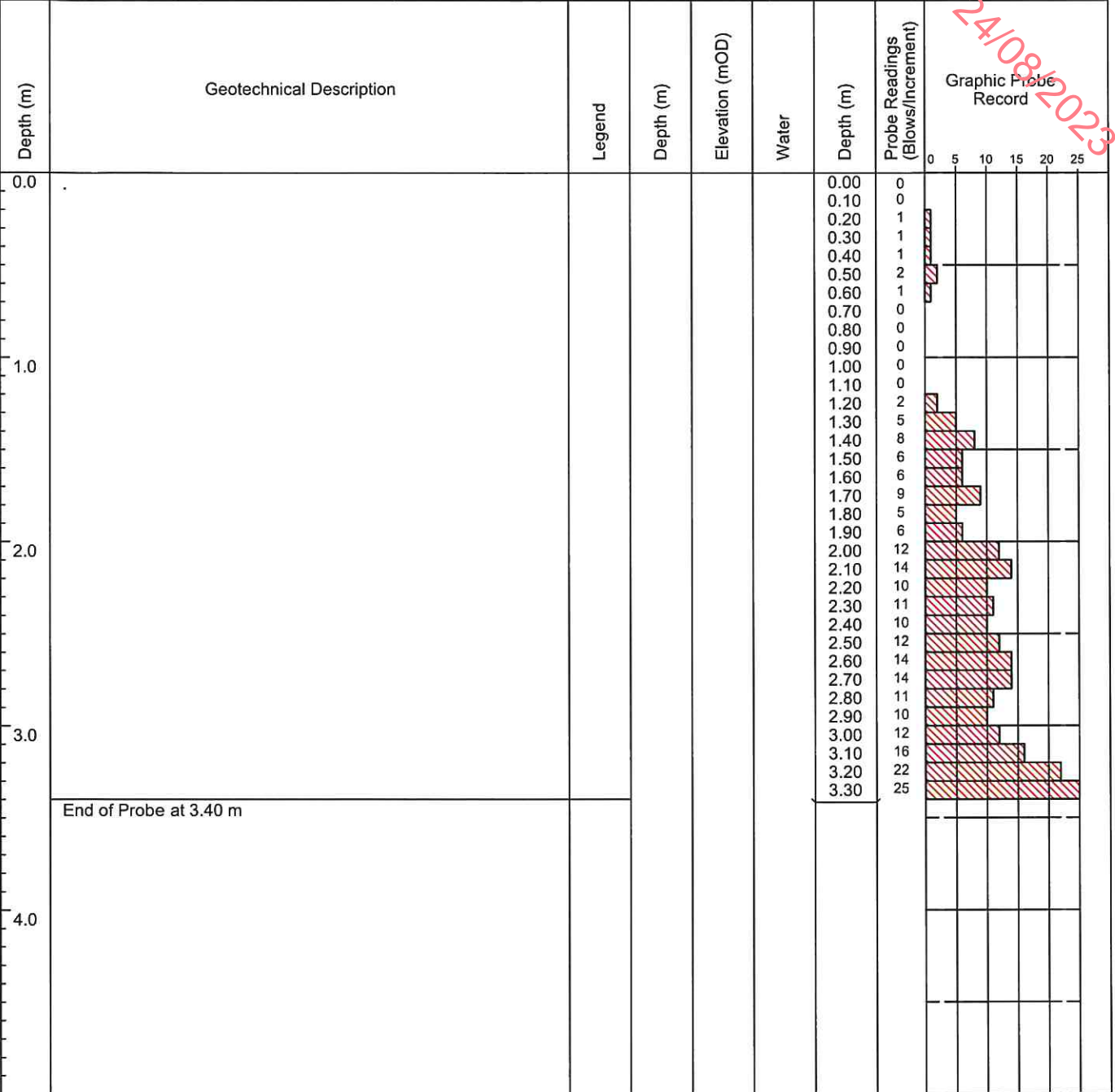
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL_GDT_7/10/20

GROUNDWATER OBSERVATIONS

REMARKS



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP36

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

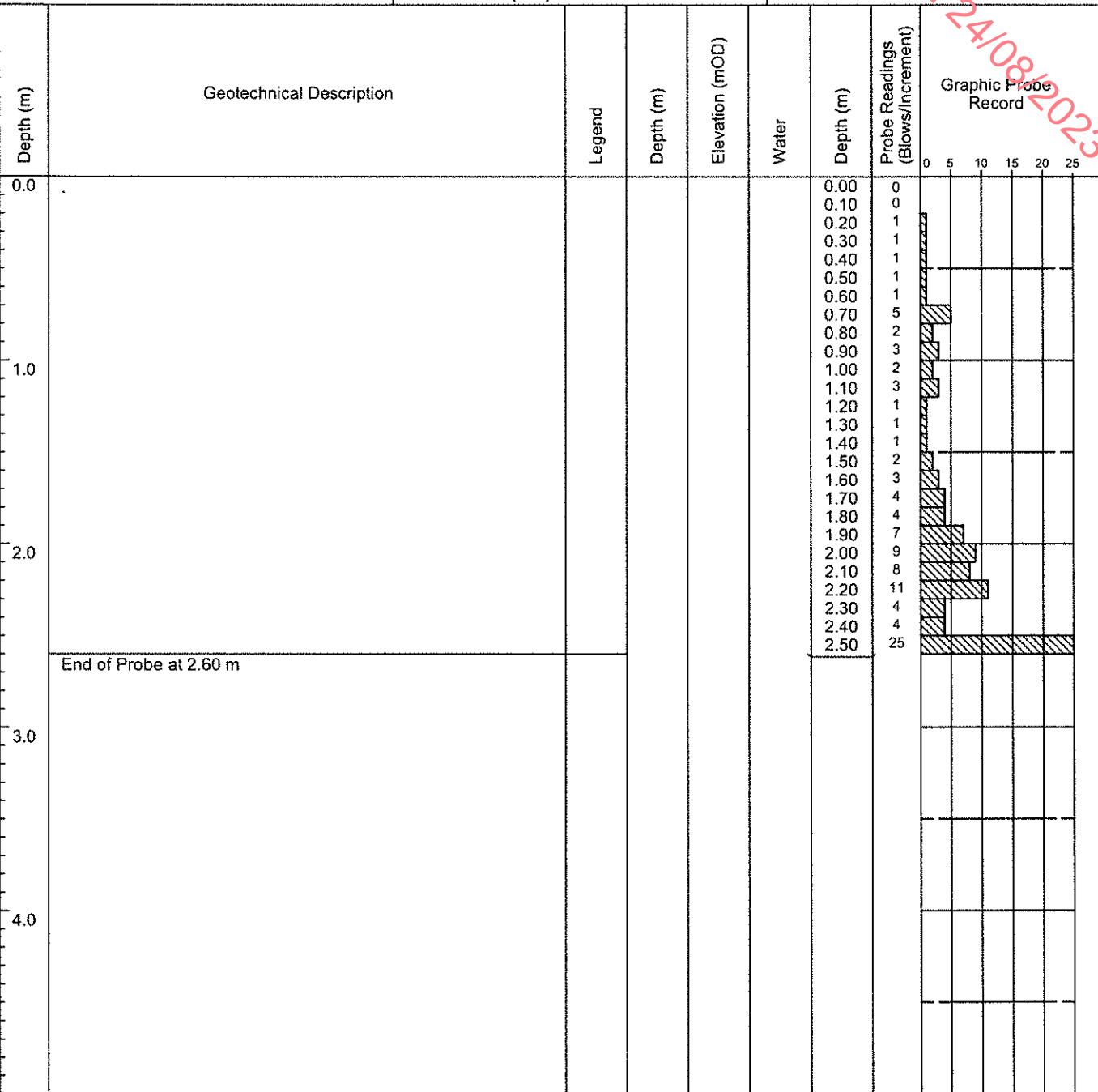
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL.GDT 7/10/20

GROUNDWATER OBSERVATIONS

REMARKS

RECEIVED 24/08/2023



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP37

SHEET Sheet 1 of 1

CO-ORDINATES

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

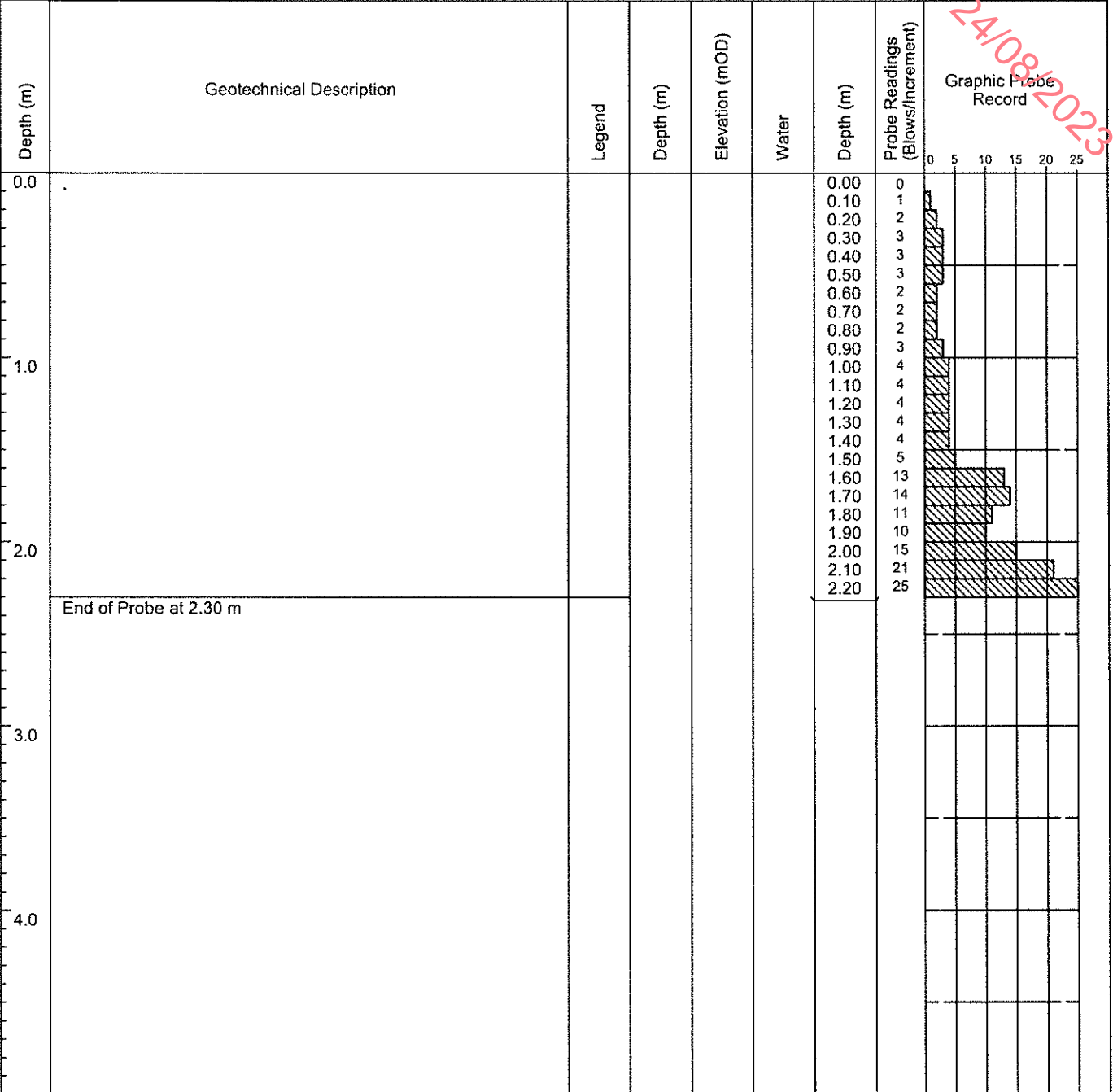
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL_GDT_7/10/20

GROUNDWATER OBSERVATIONS

REMARKS



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP38

SHEET Sheet 1 of 1

CO-ORDINATES

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

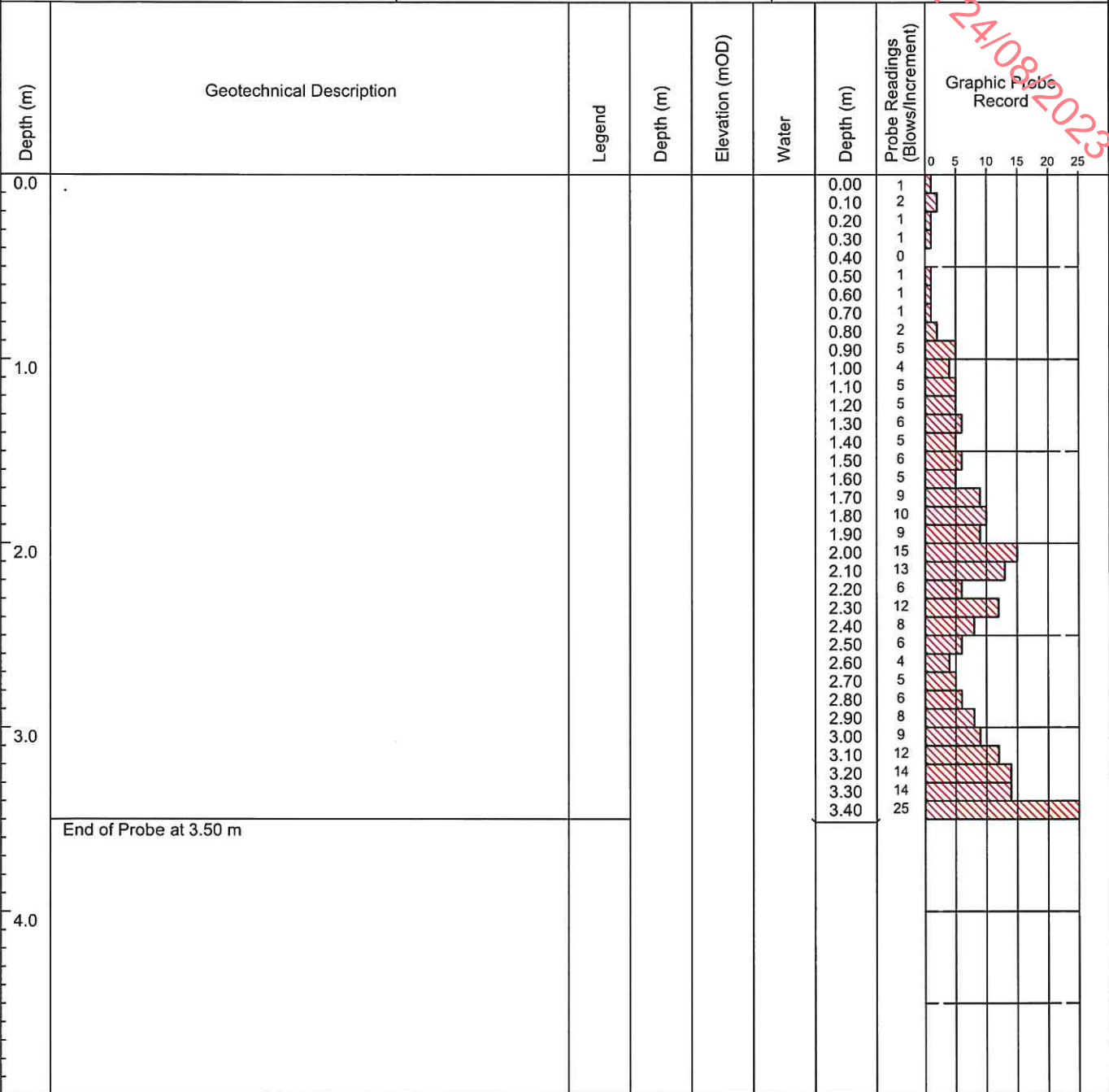
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



RECEIVED 24/08/2023

Graphic Probe Record

GROUNDWATER OBSERVATIONS

REMARKS



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar , Co. Westmeath

PROBE NO. DP39

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

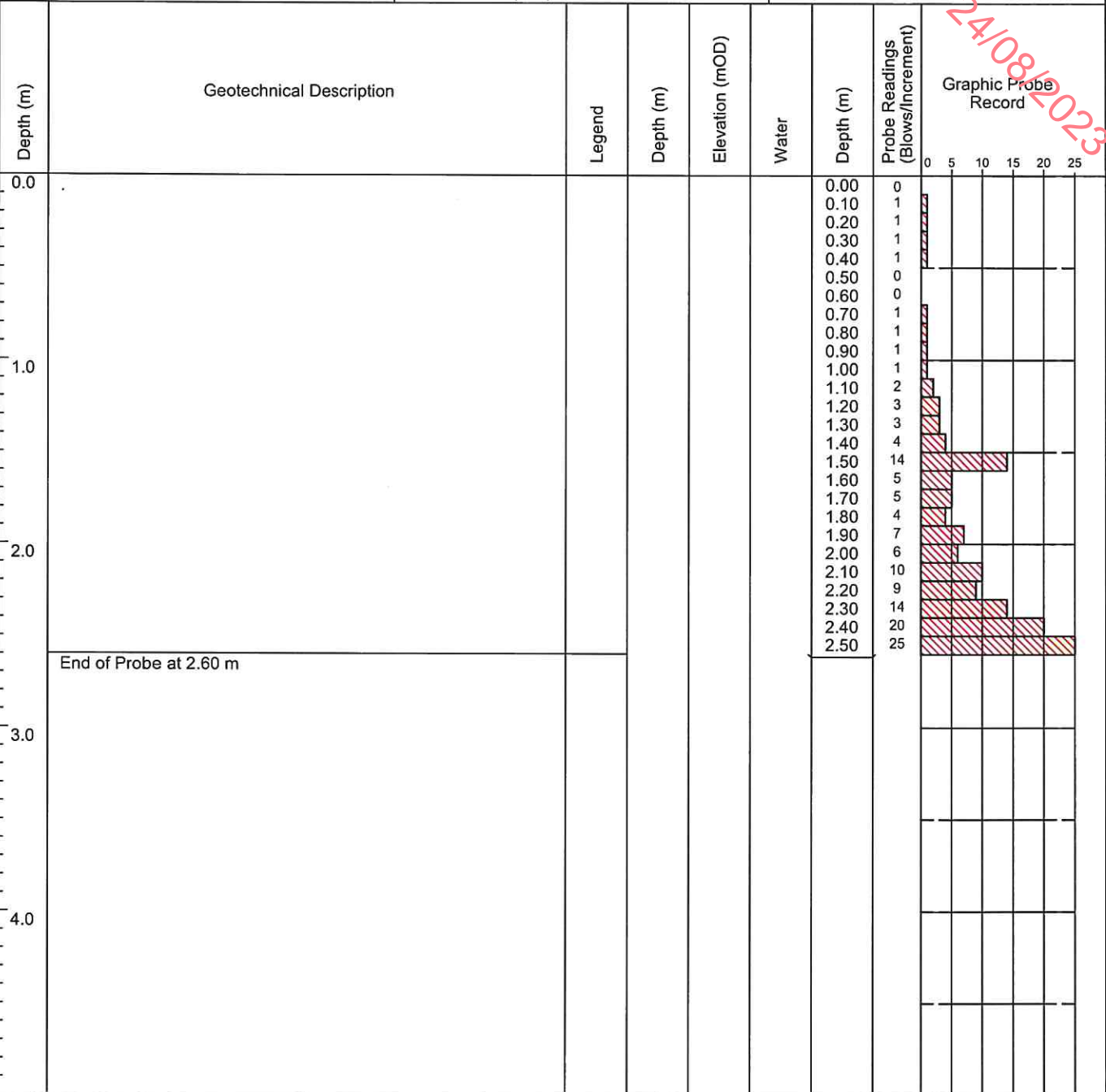
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



RECEIVED: 24/08/2023

Graphic Probe Record

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL_GDT_7/10/20

GROUNDWATER OBSERVATIONS

REMARKS



DYNAMIC PROBE RECORD

REPORT NUMBER

22611

CONTRACT Mullingar, Co. Westmeath

PROBE NO. DP40

CO-ORDINATES

SHEET Sheet 1 of 1

GROUND LEVEL (mOD)

HAMMER MASS (kg) 50

DATE DRILLED 30/09/2020

DATE LOGGED 05/10/2020

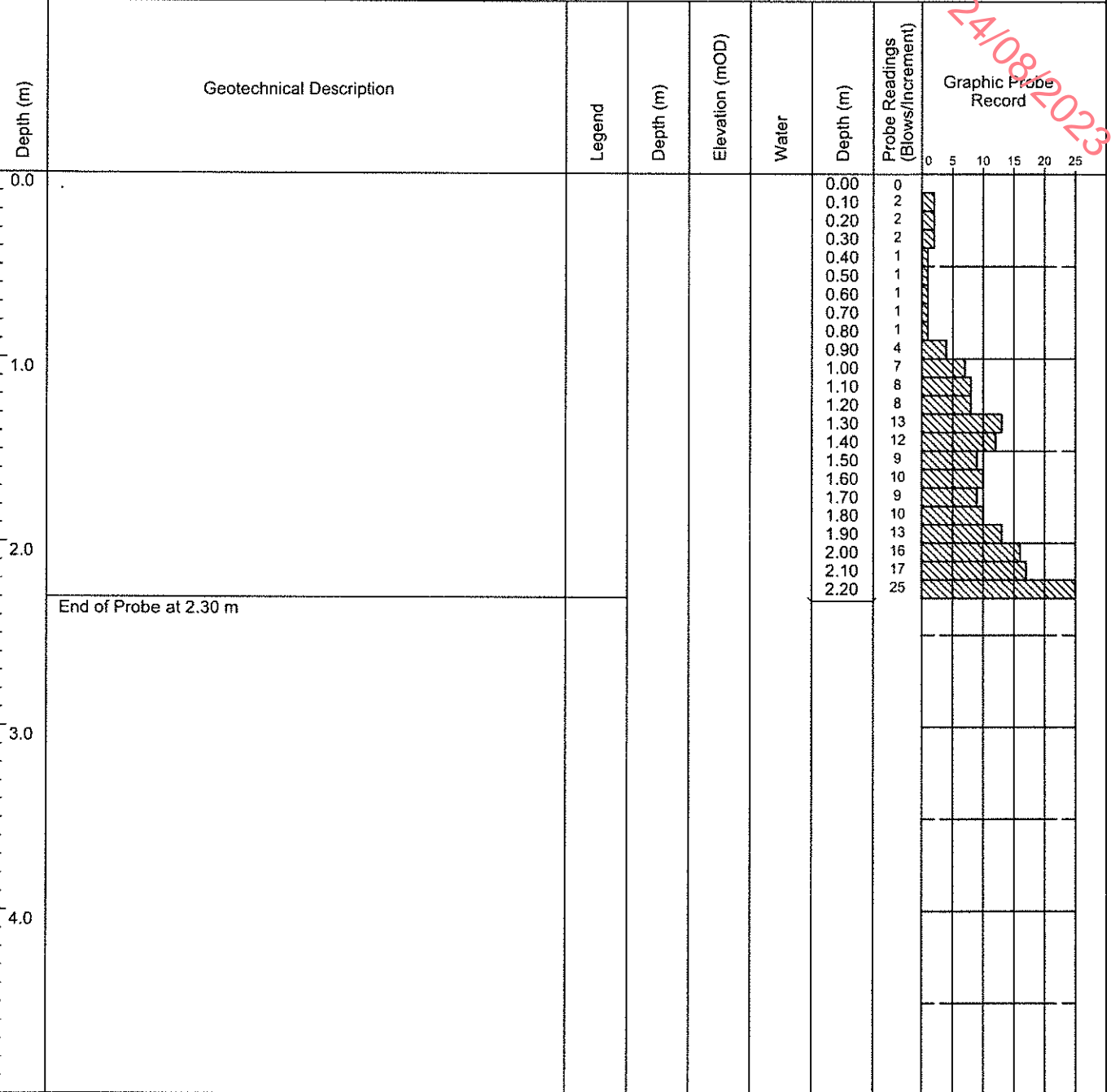
CLIENT Glenveagh Homes

INCREMENT SIZE (mm) 100

ENGINEER Tobins C.E

FALL HEIGHT (mm) 500

PROBE TYPE DPH



GROUNDWATER OBSERVATIONS

REMARKS

IGSL DP LOG 100MM INCREMENTS 22611B.GPJ IGSL_GDT 7/10/20

RECEIVED: 24/08/2023

Appendix VII Laboratory

a. Geotechnical

IGSL Ltd
Materials Laboratory
Unit J5, M7 Business Park
Newhall, Naas
Co. Kildare
045 846176

Test Report

Determination of Moisture Content, Liquid & Plastic Limits

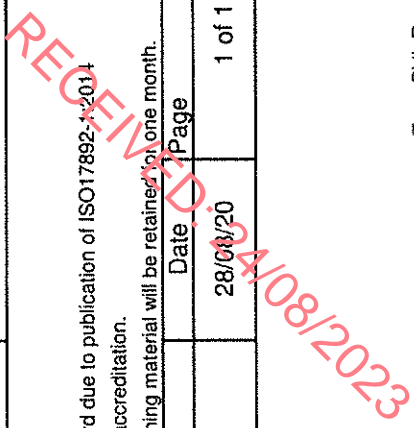
Tested in accordance with BS1377:Part 2:1990, clauses 3.2*, 4.3, 4.4 & 5.3



Report No. **R113992** Contract No. **22611** Contract Name: **Mullingar, Co. Westmeath**
 Customer **Tobins C.E** Date Tested: **20/08/20**
 Samples Received: **27/07/20**

| BH/TP | Sample No. | Depth (m) | Lab. Ref | Sample Type | Moisture Content % | Liquid Limit % | Plastic Limit % | Plasticity Index | % <425µm | Preparation | Liquid Limit Clause | Classification (BS5930) | Description |
|-------|------------|-----------|----------|-------------|--------------------|----------------|-----------------|------------------|----------|-------------|---------------------|-------------------------|--|
| TP01 | AA134352 | 1.1 | A20/3699 | B | 11 | 24 | NP | NP | 53 | WS | 4.4 | | Brown sandy gravelly SILT |
| TP03 | AA134356 | 2.4 | A20/3701 | B | 10 | 26 | NP | NP | 66 | WS | 4.4 | | Brown slightly sandy, gravelly, SILT with some cobbles |
| TP04 | AA134370 | 1.2 | A20/3702 | B | 11 | 26 | NP | NP | 44 | WS | 4.4 | | Brown sandy gravelly SILT |
| TP05 | AA134362 | 1.7 | A20/3703 | B | 16 | 27 | NP | NP | 64 | WS | 4.4 | | Brown slightly sandy, slightly gravelly, SILT |
| TP07 | AA134365 | 1.5 | A20/3705 | B | 20 | 37 | NP | NP | 59 | WS | 4.4 | | Brown sandy gravelly SILT |
| TP08 | AA134390 | 2.3 | A20/3706 | B | 12 | 24 | NP | NP | 51 | WS | 4.4 | | Brown sandy gravelly SILT |
| TP11 | AA134374 | 0.8 | A20/3708 | B | 12 | 23 | 15 | 8 | 56 | WS | 4.4 | C L | Brown sandy gravelly CLAY |
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Notes: Preparation: WS - Wet sieved
 AR - As received
 NP - Non plastic
 Liquid Limit Clause: 4-3 Cone Penetrometer definitive method
 4-4 Cone Penetrometer one point method
 Sample Type: B - Bulk Disturbed
 U - Undisturbed
 Remarks: Results apply to the sample as received.
 NOTE: *Clause 3.2 of BS1377 is a "withdrawn" standard due to publication of ISO17892-1:2014
 Opinions and interpretations are outside the scope of accreditation.
 The results relate to the specimens tested. Any remaining material will be retained for one month.





| BH/TP | Sample No. | Depth (m) | Lab. Ref | Sample Type | Moisture Content % | Liquid Limit % | Plastic Limit % | Plasticity Index | % <425µm | Preparation | Liquid Limit Clause | Classification (BS5920) | Description |
|-------|------------|-----------|----------|-------------|--------------------|----------------|-----------------|------------------|----------|-------------|---------------------|-------------------------|---|
| BH01 | AA130924 | 1.0 | A20/3672 | B | 14 | 27 | 14 | 13 | 48 | WS | 4.4 | C L | Brown sandy gravelly CLAY |
| BH01 | AA130926 | 3.0 | A20/3673 | B | 9.8 | 24 | NP | NP | 50 | WS | 4.4 | | Brown slightly sandy, slightly gravelly, SILT with some cobbles |
| BH01 | AA130929 | 6.0 | A20/3674 | B | 16 | 29 | NP | NP | 51 | WS | 4.4 | | Brown sandy gravelly SILT |
| BH02 | AA130920 | 2.0 | A20/3675 | B | 14 | 30 | 14 | 16 | 62 | WS | 4.4 | C L | Brown sandy gravelly CLAY |
| BH03 | AA130130 | 1.0 | A20/3676 | B | 14 | 28 | NP | NP | 53 | WS | 4.4 | | Brown sandy gravelly SILT |
| BH03A | AA131710 | 2.0 | A20/3677 | B | 15 | 26 | NP | NP | 60 | WS | 4.4 | | Brown slightly sandy, gravelly, SILT |
| BH03A | AA131713 | 5.0 | A20/3678 | B | 11 | 24 | NP | NP | 42 | WS | 4.4 | | Brown sandy gravelly SILT |
| BH04 | AA130936 | 2.0 | A20/3679 | B | 12 | 29 | NP | NP | 42 | WS | 4.4 | | Brown sandy gravelly SILT |
| BH04 | AA130938 | 4.0 | A20/3680 | B | 7.3 | 27 | NP | NP | 41 | WS | 4.4 | | Brown silty, sandy, GRAVEL with many cobbles |
| BH05 | AA130946 | 2.0 | A20/3681 | B | 12 | 28 | NP | NP | 29 | WS | 4.4 | | Brown sandy gravelly SILT |
| BH05 | AA130948 | 4.0 | A20/3682 | B | 9.8 | 24 | NP | NP | 39 | WS | 4.4 | | Brown slightly sandy, gravelly, SILT |
| BH06 | AA130941 | 1.0 | A20/3683 | B | 12 | 29 | NP | NP | 52 | WS | 4.4 | | Brown sandy gravelly SILT |
| BH07 | AA135920 | 1.0 | A20/3685 | B | 29 | 46 | NP | NP | 82 | WS | 4.4 | | Brown sandy gravelly SILT |
| BH07 | AA135922 | 3.0 | A20/3686 | B | 12 | 29 | NP | NP | 38 | WS | 4.4 | | Brown slightly sandy, gravelly, SILT |
| BH08 | AA135925 | 2.0 | A20/3687 | B | 8.1 | 31 | 15 | 16 | 38 | WS | 4.4 | C L | Brown sandy gravelly CLAY |

Report No. **R113993** Contract No. **22611** Contract Name: **Mullingar, Co. Westmeath**

Customer **Tobins C.E** Date Tested: **19/08/20**

Samples Received: **27/07/20**

Notes: Preparation: WS - Wet sieved
AR - As received
NP - Non plastic
Liquid Limit 4.3 Cone Penetrometer definitive method
Clause: 4.4 Cone Penetrometer one point method

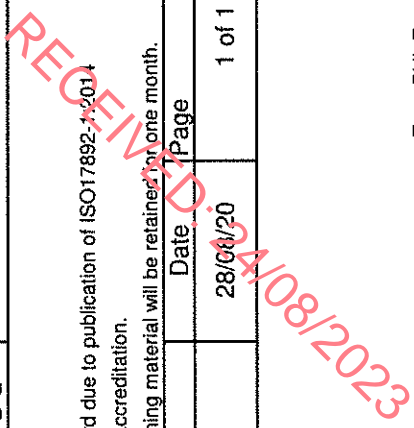
Sample Type: B - Bulk Disturbed
U - Undisturbed

Remarks: Results apply to the sample as received.
NOTE: *Clause 3.2 of BS1377 is a "withdrawn" standard due to publication of ISO17892-1:2014
Options and interpretations are outside the scope of accreditation.
The results relate to the specimens tested. Any remaining material will be retained for one month.

Approved by: *H Byrne* Date: **28/08/20** Page: **1 of 1**

Persons authorized to approve reports: **H Byrne (Laboratory Manager)**

IGSL Ltd Materials Laboratory



IGSL Ltd
Materials Laboratory
Unit J5, M7 Business Park
Newhall, Naas
Co. Kildare
045 846176

Test Report

Determination of Moisture Content, Liquid & Plastic Limits

Tested in accordance with BS1377:Part 2:1990, clauses 3.2*, 4.3, 4.4 & 5.3



Report No. **R113994** Contract No. 22611 Contract Name: Mullingar, Co. Westmeath

Customer Tobins C.E

Samples Received: 27/07/20 Date Tested: 20/08/20

| BH/TP | Sample No. | Depth (m) | Lab. Ref | Sample Type | Moisture Content % | Liquid Limit % | Plastic Limit % | Plasticity Index | % <425µm | Preparation | Liquid Limit Clause | Classification (BS5920) | Description |
|-------|------------|-----------|----------|-------------|--------------------|----------------|-----------------|------------------|----------|-------------|---------------------|-------------------------|--|
| BH09 | AA135916 | 1.0 | A20/3689 | B | 17 | 34 | 15 | 19 | 54 | WS | 4.4 | C L | Brown sandy gravelly CLAY |
| BH10 | AA135901 | 1.0 | A20/3691 | B | 27 | 38 | NP | NP | 49 | WS | 4.4 | | Brown sandy gravelly SILT |
| BH11 | AA135904 | 2.0 | A20/3692 | B | 24 | 29 | 18 | 11 | 53 | WS | 4.4 | C L | Brown slightly sandy, slightly gravelly, CLAY |
| BH12 | AA135907 | 1.0 | A20/3694 | B | 15 | 32 | NP | NP | 54 | WS | 4.4 | | Brown sandy gravelly SILT |
| BH12 | AA135909 | 3.0 | A20/3695 | B | 9.5 | 26 | NP | NP | 53 | WS | 4.4 | | Brown slightly sandy, gravelly, SILT with some cobbles |
| BH13 | AA135912 | 1.0 | A20/3697 | B | 13 | 30 | NP | NP | 52 | WS | 4.4 | | Brown sandy gravelly SILT |
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Notes: Preparation: WS - Wet sieved
AR - As received
NP - Non plastic
Liquid Limit 4.3 Cone Penetrometer definitive method
Clause: 4.4 Cone Penetrometer one point method

Sample Type: B - Bulk Disturbed
U - Undisturbed

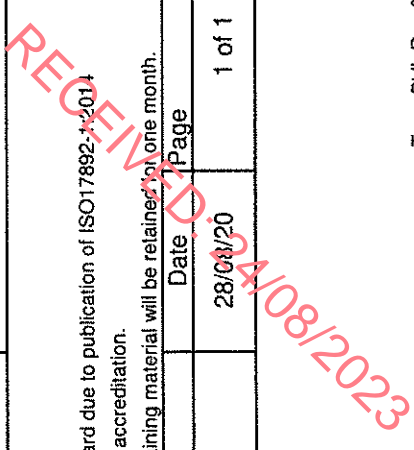
Remarks:
Results apply to the sample as received.
NOTE: *Clause 3.2 of BS1377 is a "withdrawn" standard due to publication of ISO17892.1:2014
Opinions and interpretations are outside the scope of accreditation.
The results relate to the specimens tested. Any remaining material will be retained for one month.

IGSL Ltd Materials Laboratory

H Byrne (Laboratory Manager)

Persons authorized to approve reports

Approved by: *[Signature]*
Date: 28/08/20 Page: 1 of 1



TEST REPORT

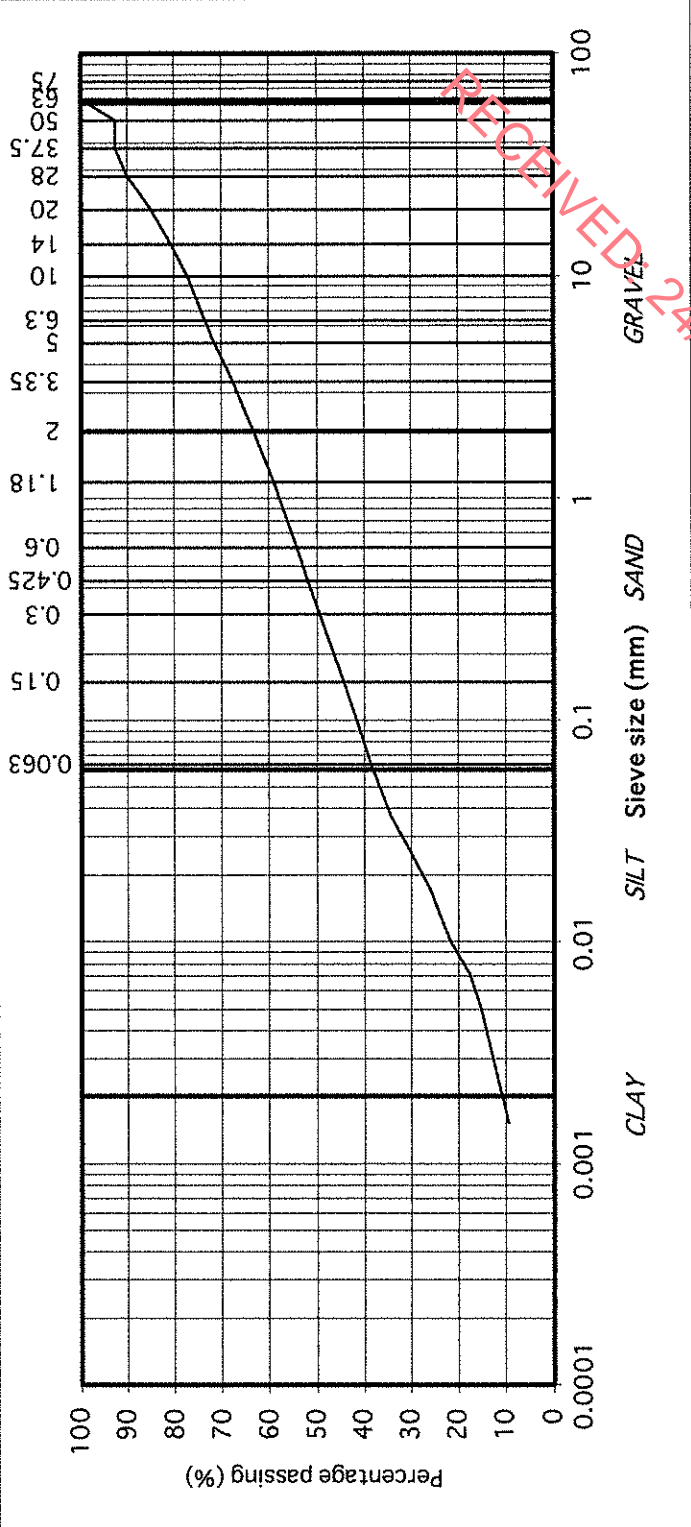
Determination of Particle Size Distribution

Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



| | | | |
|----------------|--|----------------------|------------|
| Contract No. | 22611 | Report No. | R114001 |
| Contract Name: | Mullingar, Co. Westmeath | | |
| BH/TP: | TP02 | | |
| Sample No. | AA134359 | Lab. Sample No. | A20/3700 |
| Sample Type: | B | | |
| Depth (m) | 2.50 | Customer: | Tobins C.E |
| Date Received | 27/07/2020 | Date Testing started | 19/08/2020 |
| Description: | Brown slightly sandy, gravelly, SILT/CLAY with occasional cobbles | | |
| Remarks | Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by BS07892-4:2016. Results apply to sample as received. | | |

| particle size | % passing |
|---------------|-----------|
| 75 | 100 |
| 63 | 100 |
| 50 | 93 |
| 37.5 | 93 |
| 28 | 90 |
| 20 | 85 |
| 14 | 81 |
| 10 | 77 |
| 6.3 | 74 |
| 5 | 71 |
| 3.35 | 68 |
| 2 | 63 |
| 1.18 | 59 |
| 0.6 | 54 |
| 0.425 | 52 |
| 0.3 | 49 |
| 0.15 | 44 |
| 0.063 | 38 |
| 0.037 | 34 |
| 0.027 | 31 |
| 0.017 | 26 |
| 0.010 | 22 |
| 0.007 | 18 |
| 0.005 | 15 |
| 0.002 | 9 |



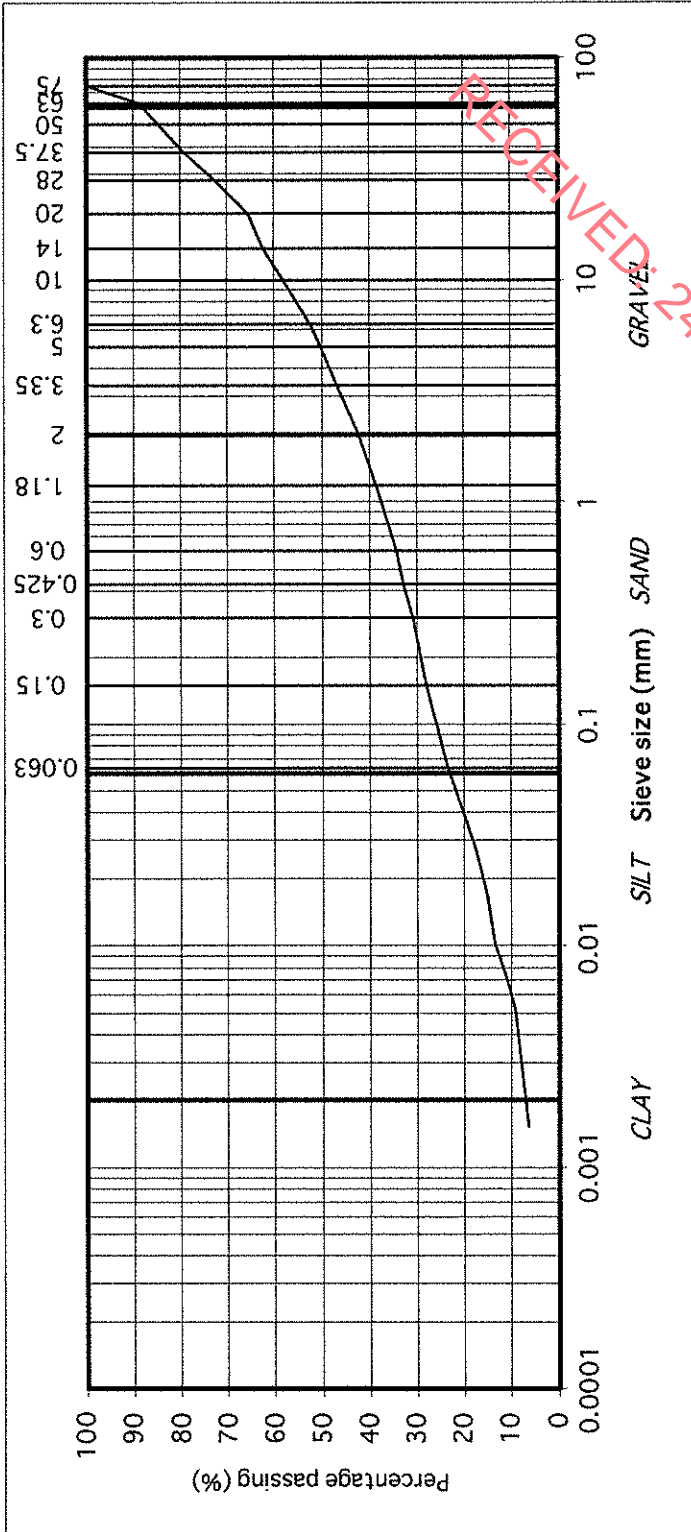
TEST REPORT

Determination of Particle Size Distribution

Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



| | | | |
|----------------|--|----------------------|------------|
| Contract No. | 22611 | Report No. | R114002 |
| Contract Name: | Mullingar, Co. Westmeath | | |
| BH/TP: | TP03 | | |
| Sample No. | AA134356 | Lab. Sample No. | A20/3701 |
| Sample Type: | B | | |
| Depth (m) | 2.40 | Customer: | Tobins C.E |
| Date Received | 27/07/2020 | Date Testing started | 20/08/2020 |
| Description: | Brown slightly sandy, gravelly, SILT with some cobbles | | |
| Remarks | Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by BS1377:Part 2:2016. Results apply to sample as received. Sample size did not meet the requirements of BS1377. | | |



| particle size | % passing |
|---------------|-----------|
| 75 | 100 |
| 63 | 89 |
| 50 | 85 |
| 37.5 | 79 |
| 28 | 73 |
| 20 | 66 |
| 14 | 62 |
| 10 | 58 |
| 6.3 | 52 |
| 5 | 50 |
| 3.35 | 47 |
| 2 | 42 |
| 1.18 | 38 |
| 0.6 | 34 |
| 0.425 | 33 |
| 0.3 | 31 |
| 0.15 | 28 |
| 0.063 | 23 |
| 0.038 | 20 |
| 0.027 | 18 |
| 0.017 | 15 |
| 0.010 | 13 |
| 0.007 | 11 |
| 0.005 | 9 |
| 0.002 | 6 |

TEST REPORT

Determination of Particle Size Distribution

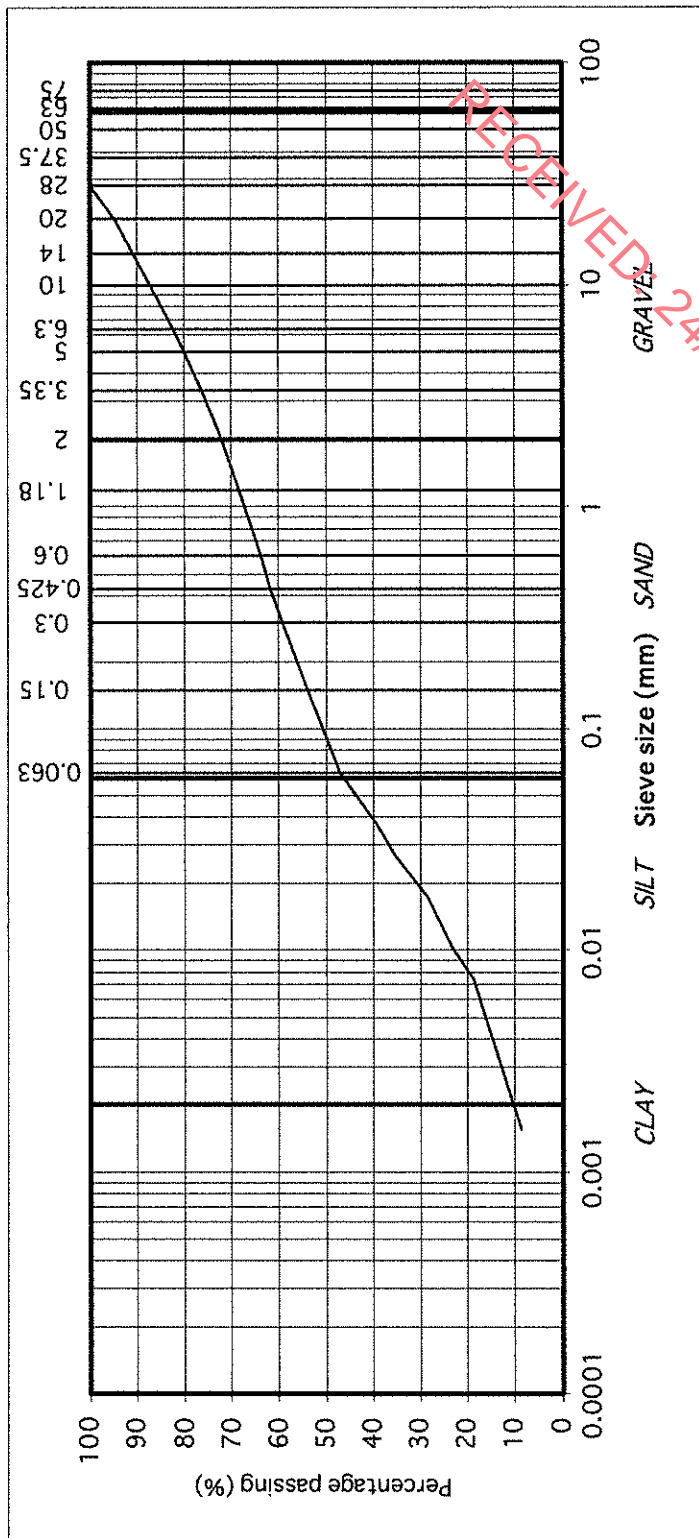
Tested in accordance with: BS1377:Part 2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



Contract No. 22611 Report No. R114003
 Contract Name: Mullingar, Co. Westmeath
 BH/TP: TP05
 Sample No. AA134362 Lab. Sample No. A20/3703
 Sample Type: B
 Depth (m) 1.70 Customer: Tobins C.E
 Date Received 27/07/2020 Date Testing started 19/08/2020
 Description: Brown slightly sandy, slightly gravelly, SILT

Remarks: Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by BS1377:1990. Results apply to sample as received.

| particle size | % passing |
|---------------|-----------|
| 75 | 100 |
| 63 | 100 |
| 50 | 100 |
| 37.5 | 100 |
| 28 | 100 |
| 20 | 95 |
| 14 | 91 |
| 10 | 87 |
| 6.3 | 82 |
| 5 | 80 |
| 3.35 | 76 |
| 2 | 72 |
| 1.18 | 68 |
| 0.6 | 64 |
| 0.425 | 62 |
| 0.3 | 59 |
| 0.15 | 54 |
| 0.063 | 47 |
| 0.038 | 39 |
| 0.027 | 35 |
| 0.017 | 29 |
| 0.010 | 23 |
| 0.007 | 19 |
| 0.005 | 17 |
| 0.002 | 9 |



Approved by: *J Barrett*

Date: 28/08/20
Page no: 1 of 1

IGSL Ltd Materials Laboratory

TEST REPORT

Determination of Particle Size Distribution

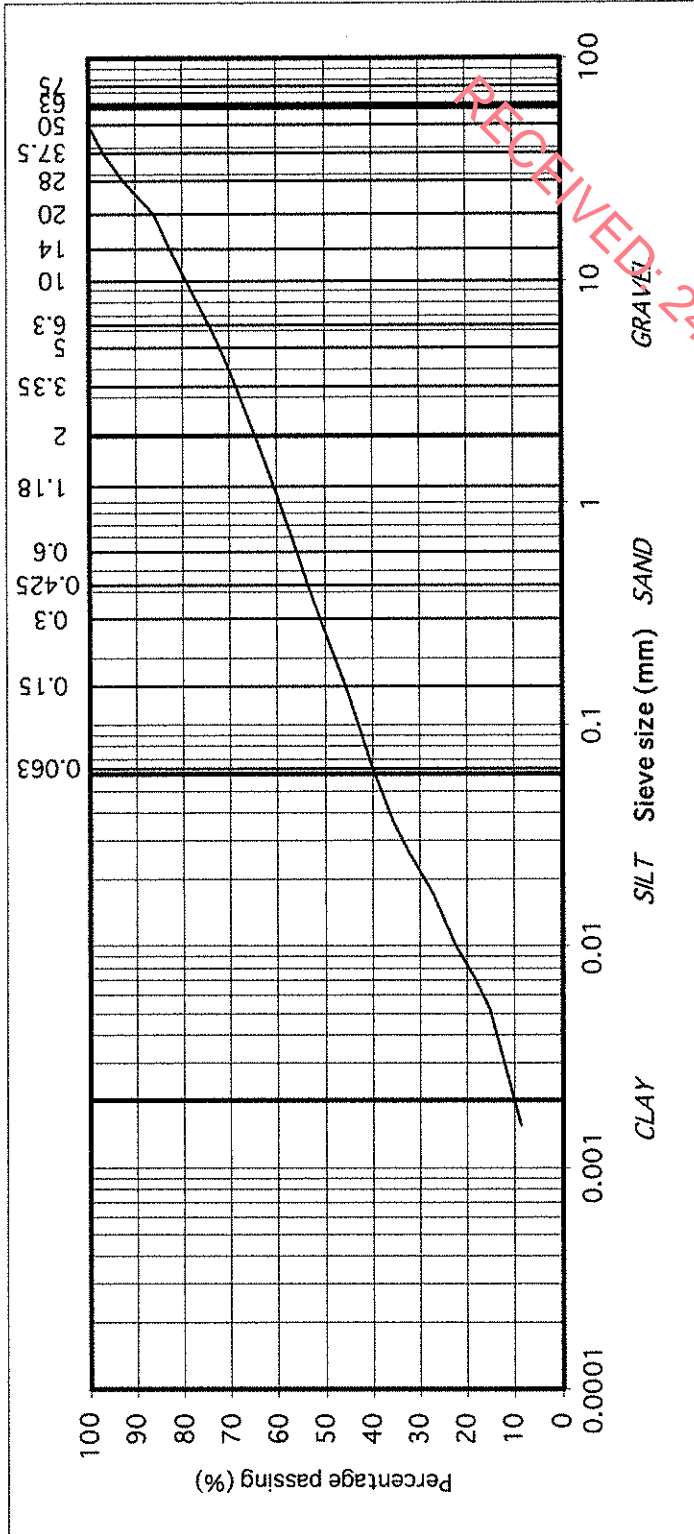
Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



Contract No. 22611 Report No. R114004
 Contract Name: Mullingar, Co. Westmeath
 BH/TP: TP06
 Sample No. AA134368 Lab. Sample No. A20/3704
 Sample Type: B
 Depth (m) 2.20 Customer: Tobins C.E
 Date Received 27/07/2020 Date Testing started 19/08/2020
 Description: Brown slightly sandy, gravelly, SILT/CLAY

Remarks: Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by BS17892-4:2016. Results apply to sample as received.

| particle size | % passing | |
|---------------|-----------|-----------|
| 75 | 100 | COBBLES |
| 63 | 100 | |
| 50 | 100 | |
| 37.5 | 97 | |
| 28 | 93 | |
| 20 | 86 | |
| 14 | 83 | |
| 10 | 79 | GRAVEL |
| 6.3 | 74 | |
| 5 | 72 | |
| 3.35 | 69 | |
| 2 | 65 | |
| 1.18 | 61 | |
| 0.6 | 56 | |
| 0.425 | 54 | SAND |
| 0.3 | 51 | |
| 0.15 | 46 | |
| 0.063 | 40 | |
| 0.037 | 36 | |
| 0.027 | 32 | |
| 0.017 | 27 | SILT/CLAY |
| 0.010 | 23 | |
| 0.007 | 18 | |
| 0.005 | 15 | |
| 0.002 | 9 | |



Approved by: *H. Byrne*

Date: 24/08/20

Page no: 1 of 1

IGSL Ltd Materials Laboratory

Persons authorised to approve report: J Barrett (Quality Manager) H Byrne (Laboratory Manager)

TEST REPORT

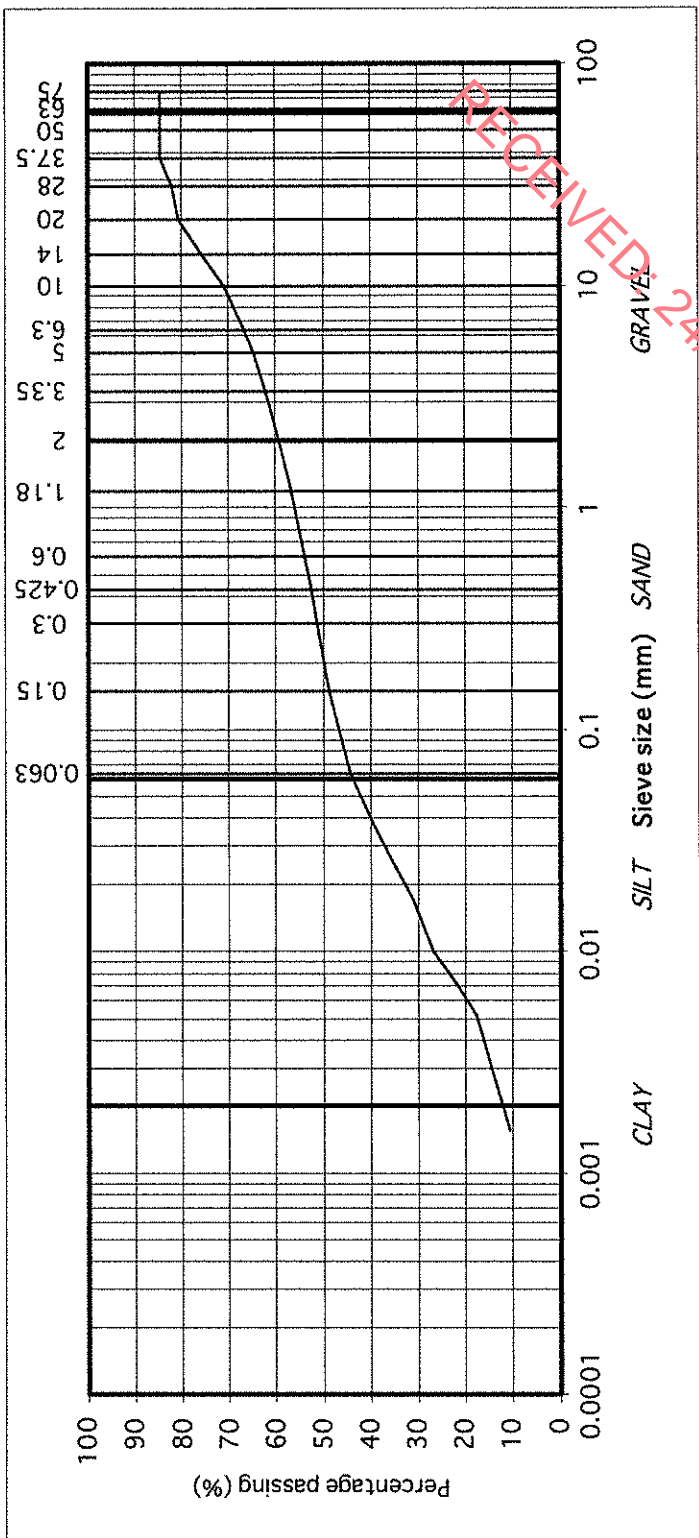
Determination of Particle Size Distribution

Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



| | | | |
|----------------|---|----------------------|------------|
| Contract No. | 22611 | Report No. | R114325 |
| Contract Name: | Mullingar, Co. Westmeath | | |
| BH/TP: | TP09 | | |
| Sample No. | AA134387 | Lab. Sample No. | A20/3707 |
| Sample Type: | B | | |
| Depth (m) | 2.30 | Customer: | Tobins C.E |
| Date Received | 27/07/2020 | Date Testing started | 20/08/2020 |
| Description: | Brown slightly sandy, slightly gravelly, SILT/CLAY with some cobbles | | |
| Remarks | <p>Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by BS17892-4:2016. Results apply to sample as received.</p> <p>Sample size did not meet the requirements of BS1377.</p> | | |

| particle size | % passing |
|---------------|-----------|
| 75 | 85 |
| 63 | 85 |
| 50 | 85 |
| 37.5 | 85 |
| 28 | 82 |
| 20 | 81 |
| 14 | 76 |
| 10 | 71 |
| 6.3 | 67 |
| 5 | 65 |
| 3.35 | 62 |
| 2 | 59 |
| 1.18 | 57 |
| 0.6 | 54 |
| 0.425 | 53 |
| 0.3 | 51 |
| 0.15 | 49 |
| 0.063 | 44 |
| 0.037 | 39 |
| 0.027 | 36 |
| 0.017 | 31 |
| 0.010 | 27 |
| 0.007 | 22 |
| 0.005 | 18 |
| 0.002 | 11 |



TEST REPORT

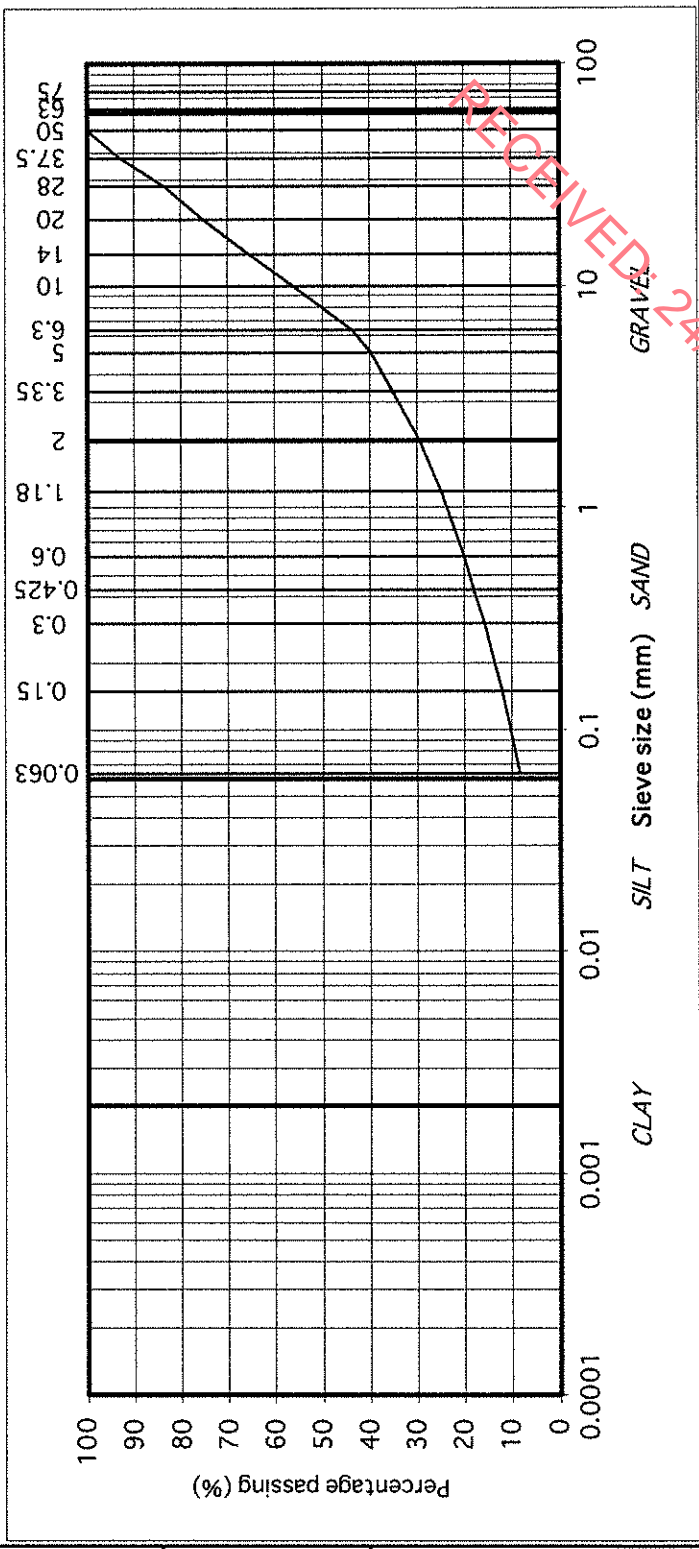
Determination of Particle Size Distribution

Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



| | | | |
|----------------|--|----------------------|------------|
| Contract No. | 22611 | Report No. | R114005 |
| Contract Name: | Mullingar, Co. Westmeath | | |
| BH/TP: | TP13 | | |
| Sample No. | AA134376 | Lab. Sample No. | A20/3709 |
| Sample Type: | B | | |
| Depth (m) | 0.80 | Customer: | Tobins C.E |
| Date Received | 27/07/2020 | Date Testing started | 20/08/2020 |
| Description: | Brown clayey/silty, very sandy, GRAVEL | | |

Remarks: Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by BS17692:42016. Results apply to sample as received.



| particle size | % passing | Classification |
|---------------|-----------|----------------|
| 75 | 100 | COBBLES |
| 63 | 100 | |
| 50 | 100 | |
| 37.5 | 93 | GRAVEL |
| 28 | 84 | |
| 20 | 75 | |
| 14 | 65 | SAND |
| 10 | 56 | |
| 6.3 | 44 | SILT/CLAY |
| 5 | 40 | |
| 3.35 | 35 | |
| 2 | 29 | |
| 1.18 | 25 | |
| 0.6 | 20 | |
| 0.425 | 18 | |
| 0.3 | 16 | |
| 0.15 | 12 | |
| 0.063 | 8 | |

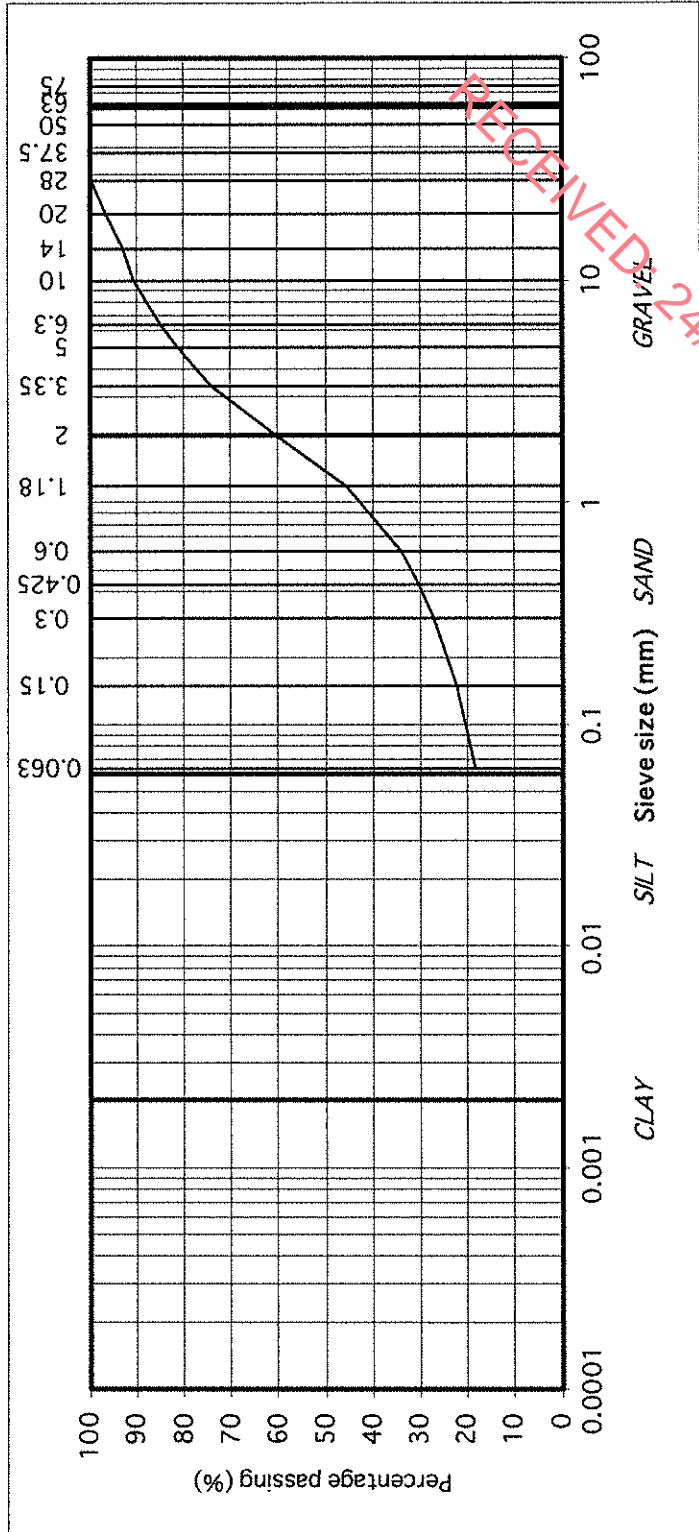
TEST REPORT

Determination of Particle Size Distribution

Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



| | | | | |
|--|----------------|---|----------------------|------------|
| | Contract No. | 22611 | Report No. | R114006 |
| | Contract Name: | Mullingar, Co. Westmeath | | |
| | BH/TP: | TP13 | | |
| | Sample No. | AA134377 | Lab. Sample No. | A20/3710 |
| | Sample Type: | B | | |
| | Depth (m) | 2.00 | Customer: | Tobins C.E |
| | Date Received | 27/07/2020 | Date Testing started | 19/08/2020 |
| | Description: | Brown clayey/silty, very gravelly, SAND | | |
| | Remarks | <p style="font-size: small;">Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by BS1377:Part 2:2016. Results apply to sample as received.</p> | | |



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| | | |
|--|--------------|-------------------|
| | Approved by: | <i>J. Barrett</i> |
| | Date: | 28/08/20 |
| IGSL Ltd Materials Laboratory | | Page no: 1 of 1 |
| Persons authorised to approve report: J Barrett (Quality Manager) H Byrne (Laboratory Manager) | | |

TEST REPORT

Determination of Particle Size Distribution

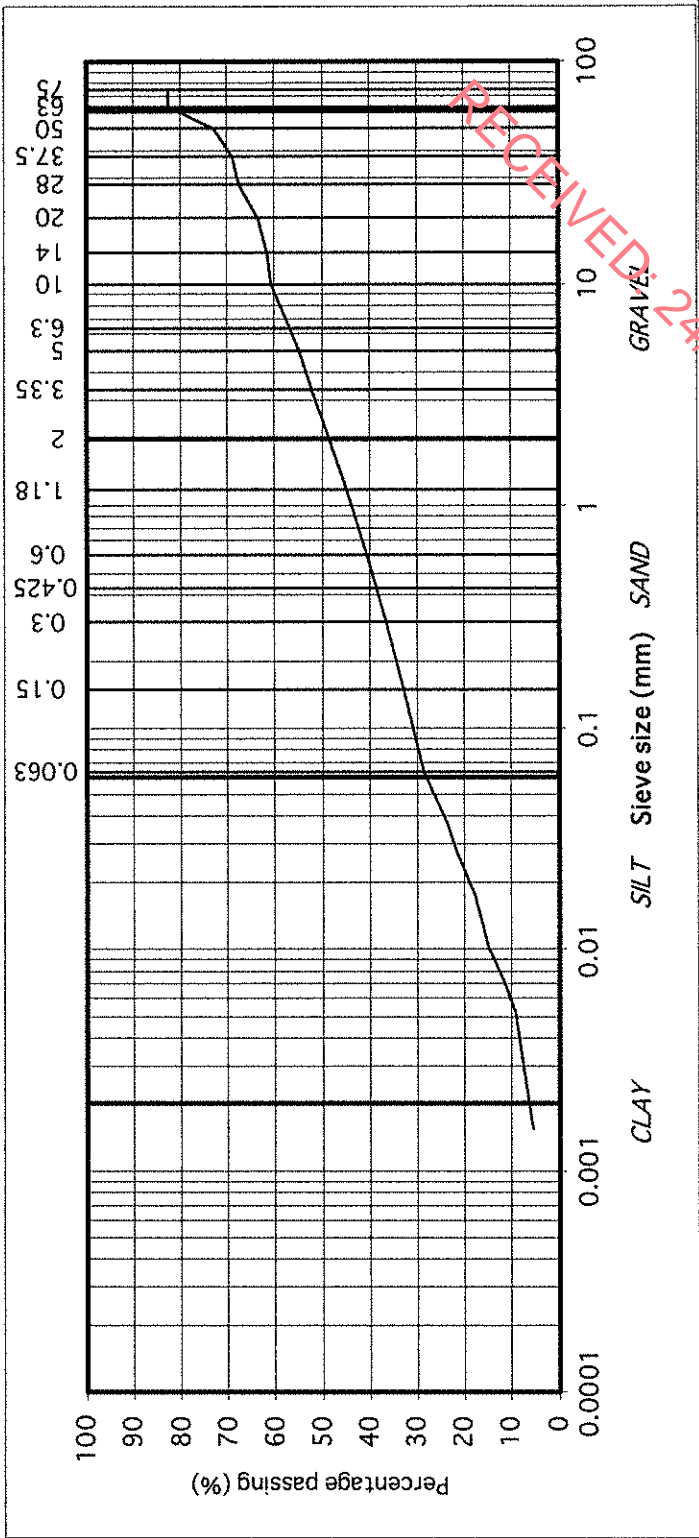
Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



Contract No. 22611 Report No. R113995
 Contract Name: Mullingar, Co. Westmeath
 BH/TP: BH01
 Sample No. AA130926 Lab. Sample No. A20/3673
 Sample Type: B
 Depth (m) 3.00 Customer: Tobins C.E
 Date Received 27/07/2020 Date Testing started 19/08/2020
 Description: Brown slightly sandy, slightly gravelly, SILT with some cobbles

Remarks: Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by BS1377:Part 2:2016. Results apply to sample as received. Sample size did not meet the requirements of BS1377.

| particle size | % passing |
|---------------|-----------|
| 75 | 83 |
| 63 | 83 |
| 50 | 73 |
| 37.5 | 69 |
| 28 | 67 |
| 20 | 64 |
| 14 | 61 |
| 10 | 61 |
| 6.3 | 57 |
| 5 | 55 |
| 3.35 | 52 |
| 2 | 48 |
| 1.18 | 45 |
| 0.6 | 41 |
| 0.425 | 39 |
| 0.3 | 37 |
| 0.15 | 33 |
| 0.063 | 29 |
| 0.038 | 24 |
| 0.027 | 21 |
| 0.017 | 18 |
| 0.010 | 15 |
| 0.007 | 12 |
| 0.005 | 9 |
| 0.002 | 6 |



TEST REPORT

Determination of Particle Size Distribution

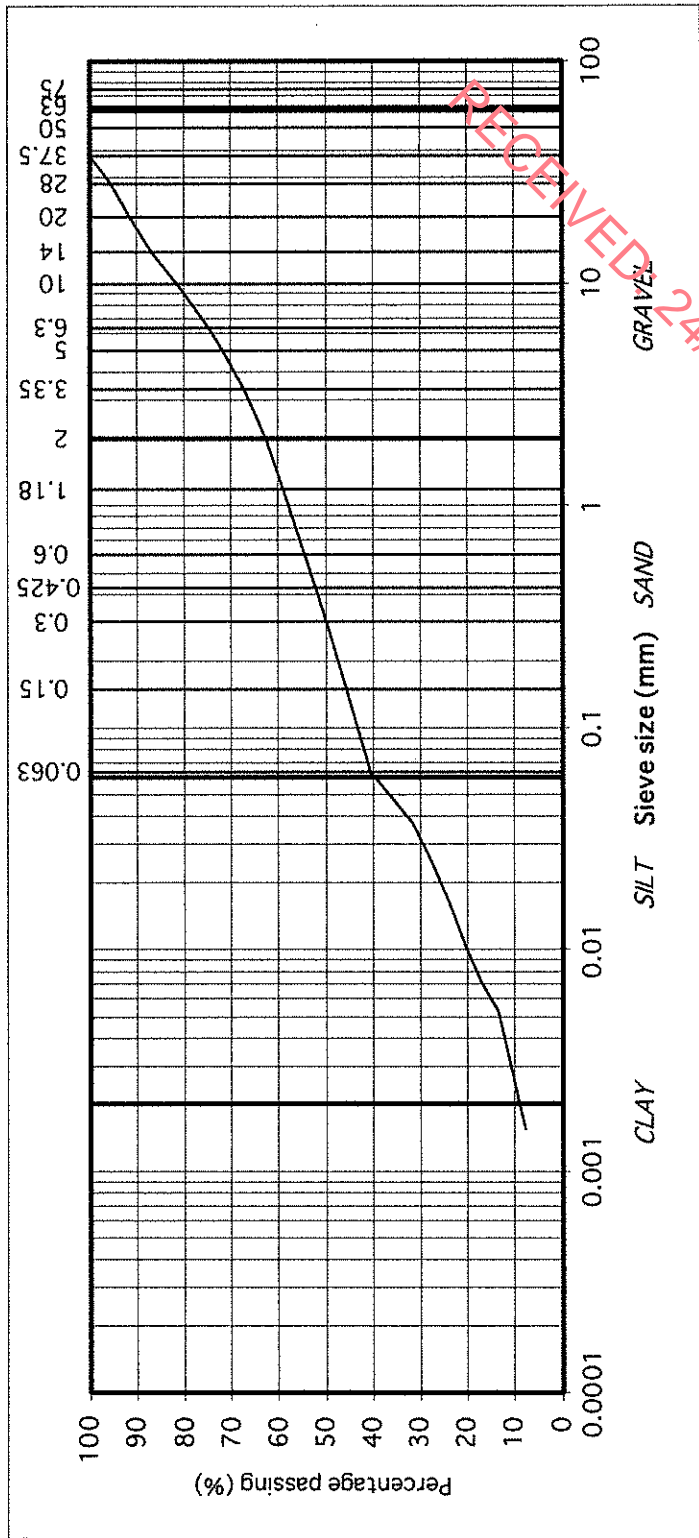
Tested in accordance with: BS1377:Part 2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



Contract No. 22611 Report No. R113996
 Contract Name: Mullingar, Co. Westmeath
 BH/TP: BH03A
 Sample No. AA131710 Lab. Sample No. A20/3677
 Sample Type: B
 Depth (m) 2.00 Customer: Tobins C.E
 Date Received 27/07/2020 Date Testing started 19/08/2020
 Description: Brown slightly sandy, gravelly, SILT

Remarks: Note: Clause 9.2 and Clause 9.5 of BS1377 Part 2:1990 have been superseded by BS07892-4:2016. Results apply to sample as received.

| particle size | % passing |
|---------------|-----------|
| 75 | 100 |
| 63 | 100 |
| 50 | 100 |
| 37.5 | 100 |
| 28 | 95 |
| 20 | 91 |
| 14 | 87 |
| 10 | 82 |
| 6.3 | 75 |
| 5 | 72 |
| 3.35 | 67 |
| 2 | 63 |
| 1.18 | 59 |
| 0.6 | 54 |
| 0.425 | 52 |
| 0.3 | 50 |
| 0.15 | 46 |
| 0.063 | 41 |
| 0.037 | 32 |
| 0.027 | 28 |
| 0.017 | 24 |
| 0.010 | 20 |
| 0.007 | 17 |
| 0.005 | 14 |
| 0.002 | 8 |



TEST REPORT

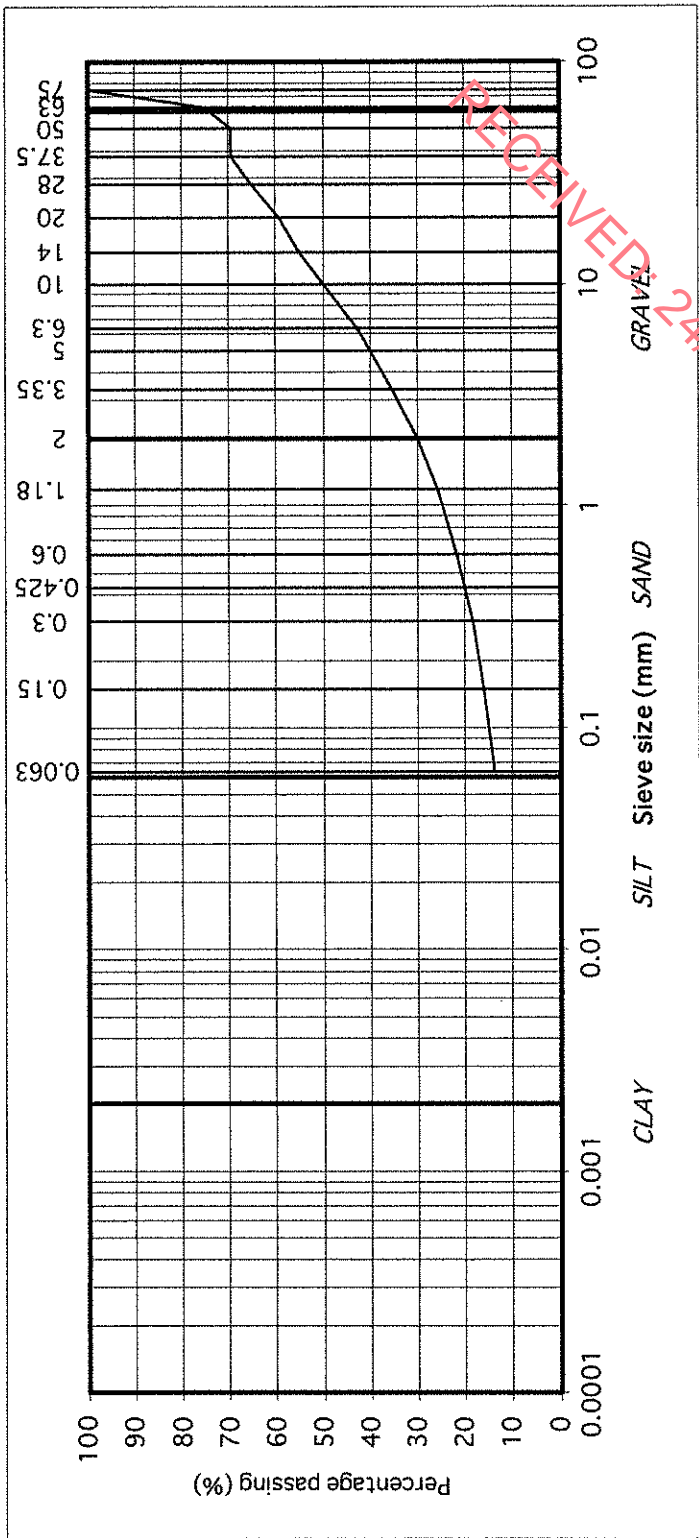
Determination of Particle Size Distribution

Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



| | | | | |
|--|----------------|--|----------------------|------------|
| | Contract No. | 22611 | Report No. | R114326 |
| | Contract Name: | Mullingar, Co. Westmeath | | |
| | BH/TP: | BH04 | | |
| | Sample No. | AA130938 | Lab. Sample No. | A20/3680 |
| | Sample Type: | B | | |
| | Depth (m) | 4.00 | Customer: | Tobins C.E |
| | Date Received | 27/07/2020 | Date Testing started | 20/08/2020 |
| | Description: | Brown silty, sandy, GRAVEL with many cobbles | | |
| Remarks | | | | |
| Note: Clause 9.2 and Clause 9.5 of BS1377 Part 2:1990 have been superseded by BS1377:2016. Results apply to sample as received. Sample size did not meet the requirements of BS1377. | | | | |

| particle size | % passing |
|---------------|-----------|
| 75 | 100 |
| 63 | 75 |
| 50 | 70 |
| 37.5 | 70 |
| 28 | 65 |
| 20 | 59 |
| 14 | 55 |
| 10 | 50 |
| 6.3 | 43 |
| 5 | 40 |
| 3.35 | 35 |
| 2 | 30 |
| 1.18 | 26 |
| 0.6 | 22 |
| 0.425 | 20 |
| 0.3 | 18 |
| 0.15 | 16 |
| 0.063 | 14 |



TEST REPORT

Determination of Particle Size Distribution

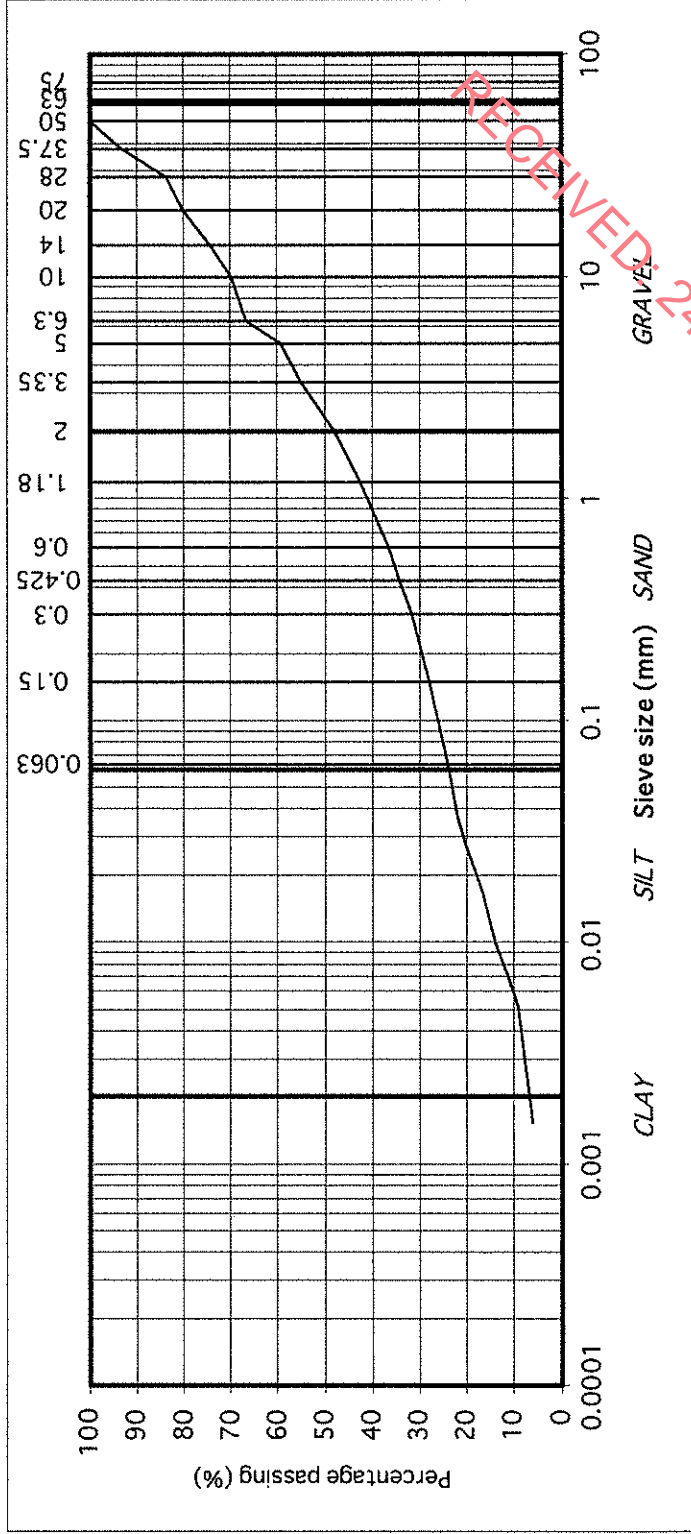
Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



Contract No. 22611 Report No. R114327
 Contract Name: Mullingar, Co. Westmeath
 BH/TP: BH05
 Sample No. AA130948 Lab. Sample No. A20/3682
 Sample Type: B
 Depth (m) 4.00 Customer: Tobins C.E
 Date Received 27/07/2020 Date Testing started 20/08/2020
 Description: Brown slightly sandy, gravelly, SILT

Remarks: Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by ISO 7892-4:2016. Results apply to sample as received.

| particle size | % passing | |
|---------------|-----------|-----------|
| 75 | 100 | COBBLES |
| 63 | 100 | |
| 50 | 100 | |
| 37.5 | 93 | |
| 28 | 84 | |
| 20 | 80 | |
| 14 | 74 | GRAVEL |
| 10 | 70 | |
| 6.3 | 67 | |
| 5 | 59 | |
| 3.35 | 55 | |
| 2 | 48 | |
| 1.18 | 42 | |
| 0.6 | 36 | SAND |
| 0.425 | 34 | |
| 0.3 | 32 | |
| 0.15 | 28 | |
| 0.063 | 24 | |
| 0.037 | 22 | |
| 0.027 | 20 | |
| 0.017 | 17 | SILT/CLAY |
| 0.010 | 14 | |
| 0.007 | 12 | |
| 0.005 | 9 | |
| 0.002 | 6 | |



TEST REPORT

Determination of Particle Size Distribution

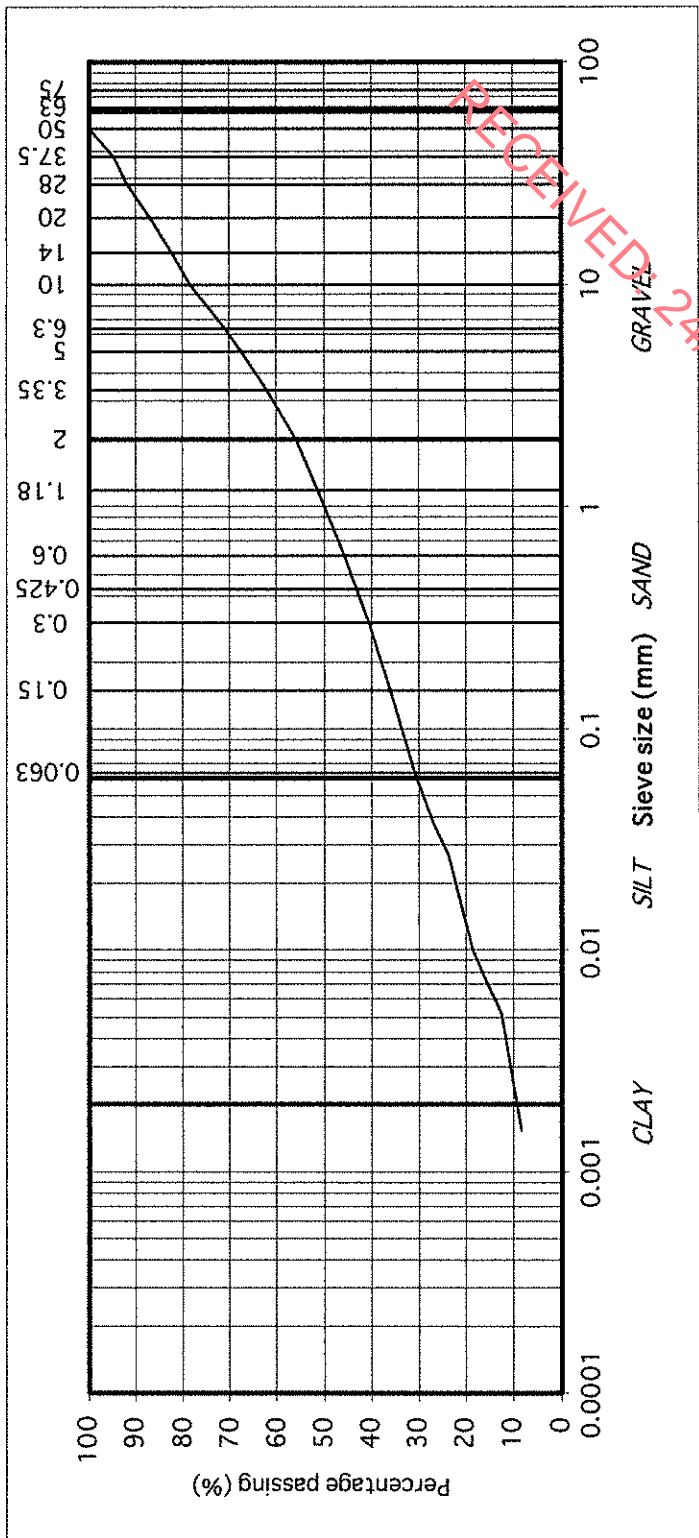
Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



Contract No. 22611 Report No. R114328
 Contract Name: Mullingar, Co. Westmeath
 BH/TP: BH06
 Sample No. AA130943 Lab. Sample No. A20/3676
 Sample Type: B
 Depth (m) 3.00 Customer: Tobins C.E
 Date Received 27/07/2020 Date Testing started 20/08/2020
 Description: Brown slightly sandy, gravelly, SILT/CLAY

Remarks: Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by BS17892-1:2016. Results apply to sample as received.

| particle size | % passing |
|---------------|-----------|
| 75 | 100 |
| 63 | 100 |
| 50 | 100 |
| 37.5 | 95 |
| 28 | 92 |
| 20 | 87 |
| 14 | 82 |
| 10 | 78 |
| 6.3 | 71 |
| 5 | 67 |
| 3.35 | 62 |
| 2 | 56 |
| 1.18 | 51 |
| 0.6 | 45 |
| 0.425 | 43 |
| 0.3 | 41 |
| 0.15 | 36 |
| 0.063 | 31 |
| 0.037 | 27 |
| 0.027 | 24 |
| 0.017 | 22 |
| 0.010 | 19 |
| 0.007 | 16 |
| 0.005 | 13 |
| 0.002 | 8 |



TEST REPORT

Determination of Particle Size Distribution

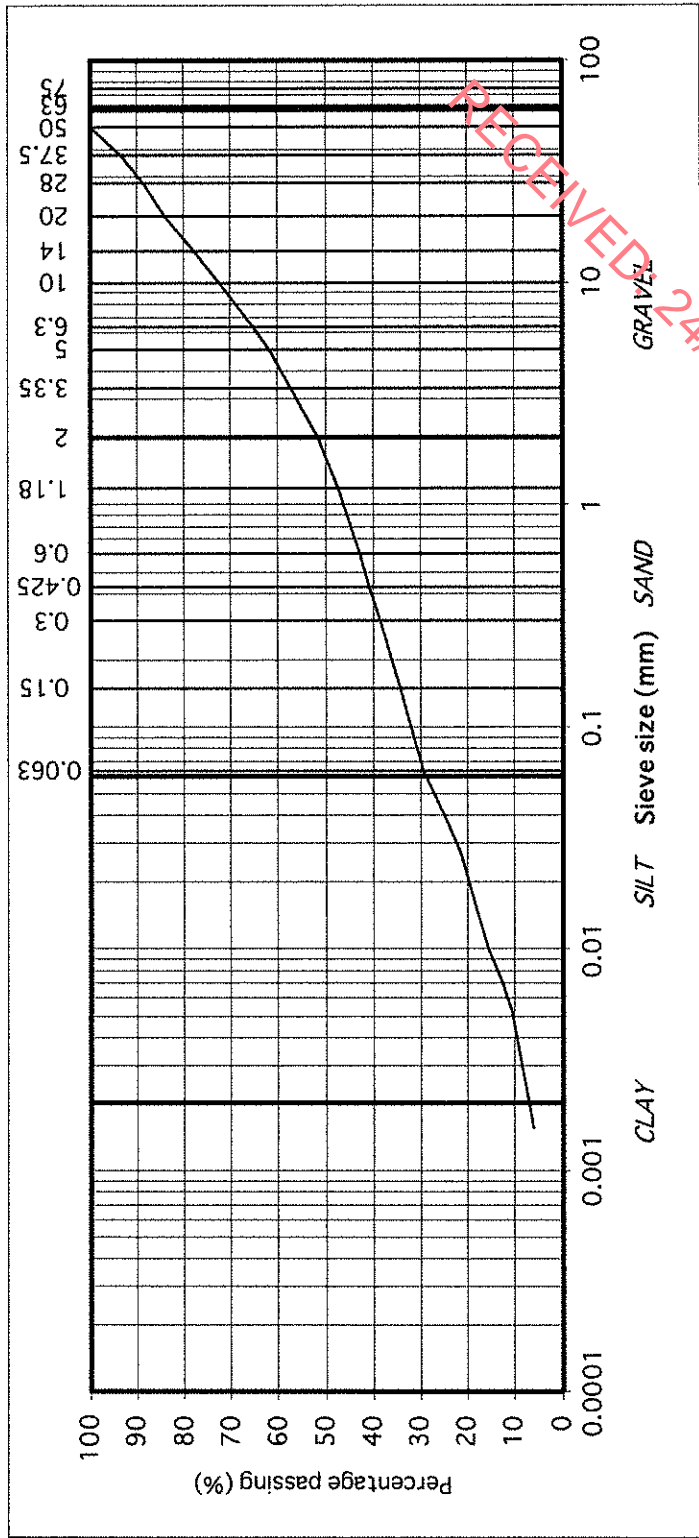
Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



Contract No. 22611 Report No. R114329
 Contract Name: Mullingar, Co. Westmeath
 BH/TP: BH07
 Sample No. AA135922 Lab. Sample No. A20/3686
 Sample Type: B
 Depth (m) 3.00 Customer: Tobins C.E
 Date Received 27/07/2020 Date Testing started 20/08/2020
 Description: Brown slightly sandy, gravelly, SILT

Remarks: Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by BS1377:Part 2:2015. Results apply to sample as received.

| particle size | % passing | |
|---------------|-----------|-----------|
| 75 | 100 | COBBLES |
| 63 | 100 | |
| 50 | 100 | |
| 37.5 | 93 | |
| 28 | 88 | |
| 20 | 84 | |
| 14 | 78 | |
| 10 | 72 | GRAVEL |
| 6.3 | 65 | |
| 5 | 62 | |
| 3.35 | 57 | |
| 2 | 51 | |
| 1.18 | 47 | |
| 0.6 | 43 | |
| 0.425 | 41 | SAND |
| 0.3 | 38 | |
| 0.15 | 34 | |
| 0.063 | 29 | |
| 0.037 | 24 | |
| 0.027 | 22 | |
| 0.017 | 19 | |
| 0.010 | 16 | SILT/CLAY |
| 0.007 | 13 | |
| 0.005 | 11 | |
| 0.002 | 6 | |



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 20/09/20

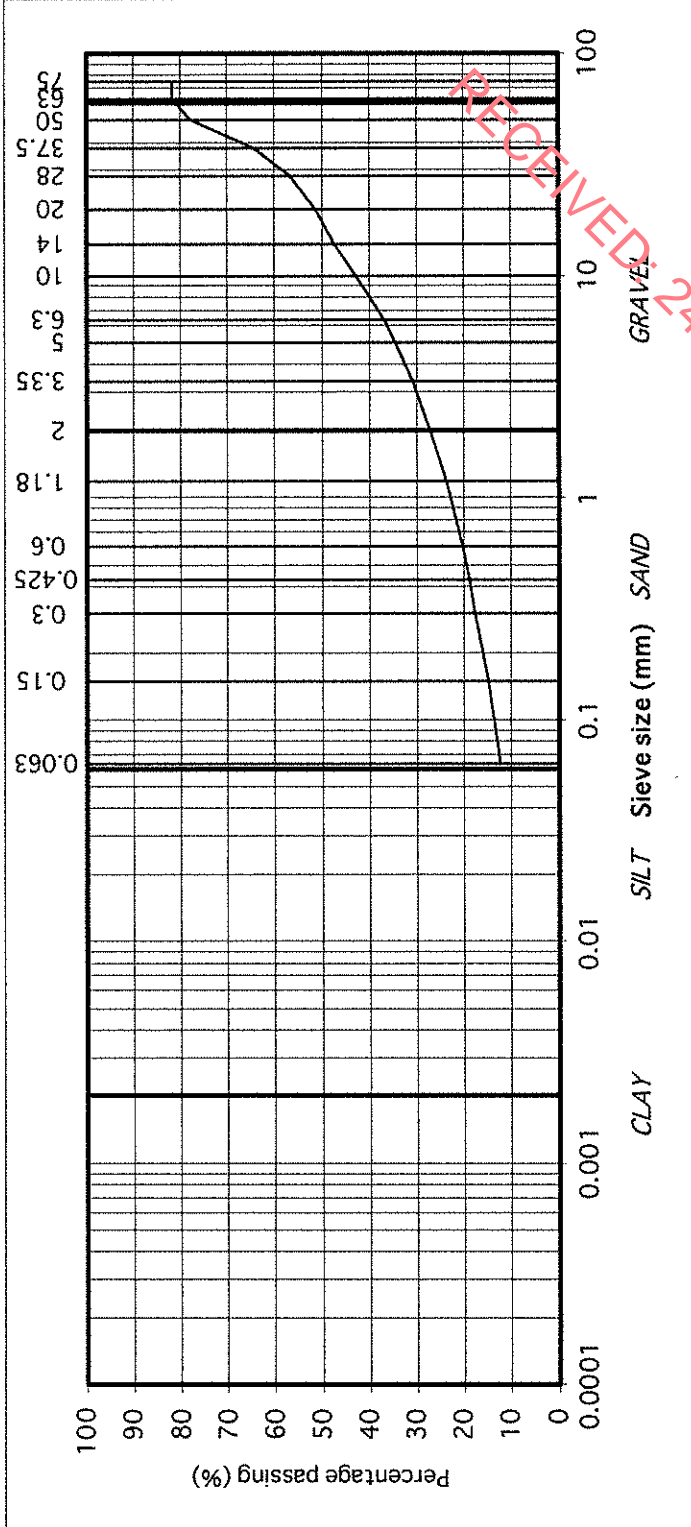
TEST REPORT

Determination of Particle Size Distribution

Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



| | | | | | |
|---------------|-----------|----------------|---|----------------------|------------|
| particle size | % passing | Contract No. | 22611 | Report No. | R114330 |
| 75 | 82 | Contract Name: | Mullingar, Co. Westmeath | BH/TP: | BH08 |
| 63 | 82 | Sample No. | AA135926 | Lab. Sample No. | A20/3688 |
| 50 | 78 | Sample Type: | B | Depth (m) | 3.00 |
| 37.5 | 64 | Date Received | 27/07/2020 | Date Testing started | 20/08/2020 |
| 28 | 57 | Description: | Brown clayey/silty, sandy, GRAVEL with some cobbles | | |
| 20 | 51 | Remarks | Note: Clause 9.2 and Clause 9.5 of BS1377 Part 2:1990 have been superseded by ISO 7892-4:2016. Results apply to sample as received. | | |
| 14 | 47 | | | | |
| 10 | 43 | | | | |
| 6.3 | 37 | | | | |
| 5 | 34 | | | | |
| 3.35 | 31 | | | | |
| 2 | 27 | | | | |
| 1.18 | 24 | | | | |
| 0.6 | 20 | | | | |
| 0.425 | 19 | | | | |
| 0.3 | 18 | | | | |
| 0.15 | 15 | | | | |
| 0.063 | 12 | | | | |





TEST REPORT

Determination of Particle Size Distribution

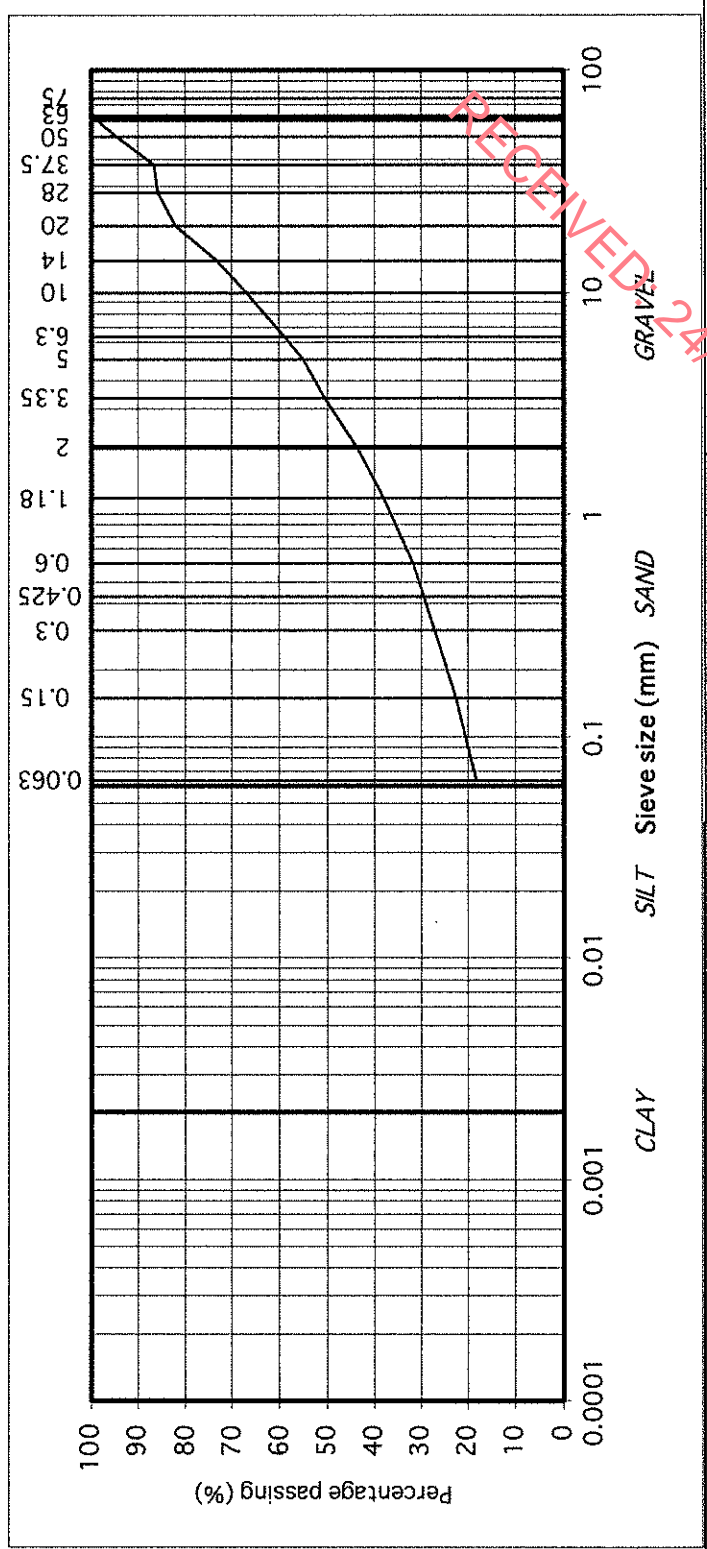
Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)

Contract No. 22611 Report No. R113997
 Contract Name: Mullingar, Co. Westmeath
 BH/TP: BH09
 Sample No. AA135918 Lab. Sample No. A20/3690
 Sample Type: B
 Depth (m) 3.00 Customer: Tobins C.E
 Date Received 27/07/2020 Date Testing started 19/08/2020
 Description: Brown clayey/silty, very sandy, GRAVEL

Remarks

Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by BS1377:Part 2:1990-42016. Results apply to sample as received.

| particle size | % passing | |
|---------------|-----------|-----------|
| 75 | 100 | COBBLES |
| 63 | 100 | |
| 50 | 95 | |
| 37.5 | 87 | |
| 28 | 86 | |
| 20 | 82 | |
| 14 | 73 | GRAVEL |
| 10 | 67 | |
| 6.3 | 59 | |
| 5 | 55 | |
| 3.35 | 50 | |
| 2 | 44 | |
| 1.18 | 38 | |
| 0.6 | 32 | |
| 0.425 | 29 | SAND |
| 0.3 | 27 | |
| 0.15 | 23 | |
| 0.063 | 18 | SILT/CLAY |



Approved by: *J Barrett* Date: 28/08/20 Page no: 1 of 1

IGSL Ltd Materials Laboratory

Persons authorised to approve report: J Barrett (Quality Manager) H Byrne (Laboratory Manager)

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TEST REPORT

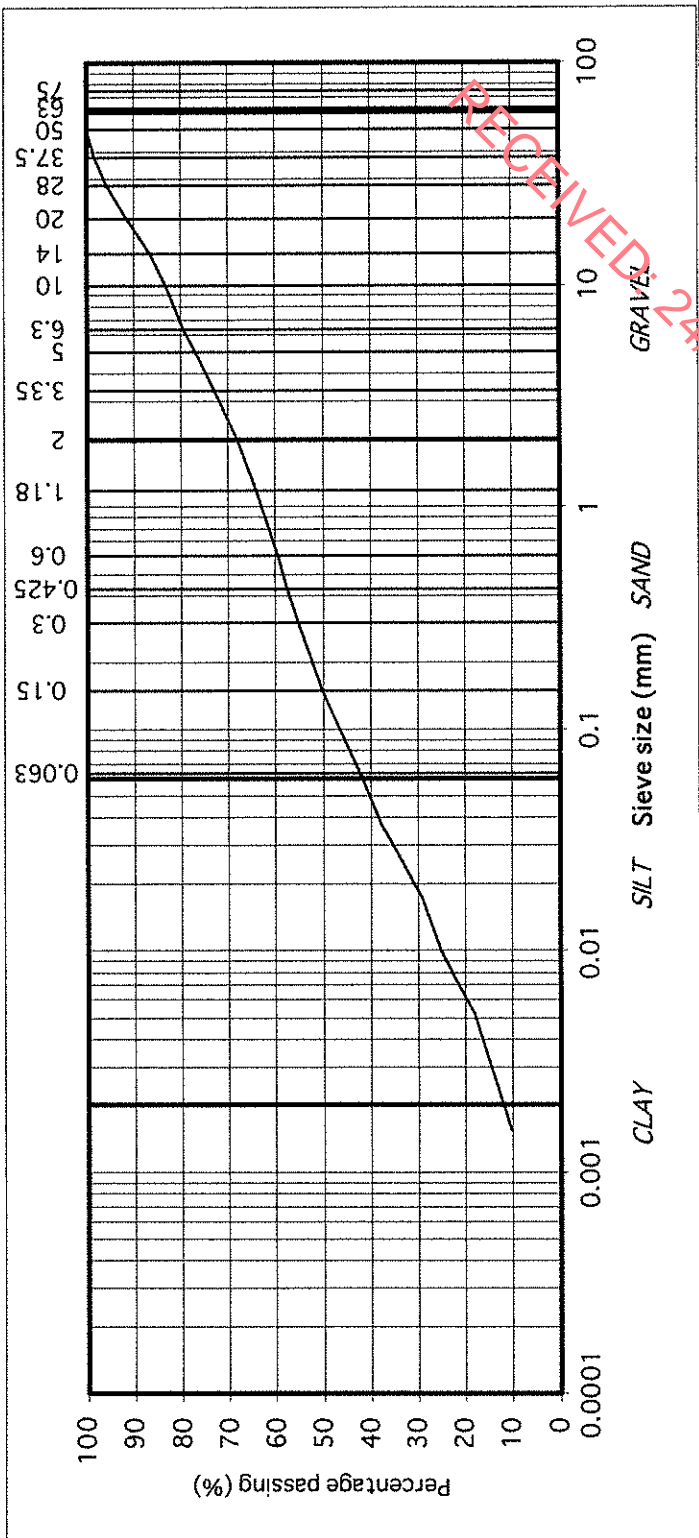
Determination of Particle Size Distribution

Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



| | | | |
|----------------|--|----------------------|------------|
| Contract No. | 22611 | Report No. | R113998 |
| Contract Name: | Mullingar, Co. Westmeath | | |
| BH/TP: | BH11 | | |
| Sample No. | AA135904 | Lab. Sample No. | A20/3692 |
| Sample Type: | B | | |
| Depth (m) | 2.00 | Customer: | Tobins C.E |
| Date Received | 27/07/2020 | Date Testing started | 19/08/2020 |
| Description: | Brown slightly sandy, slightly gravelly, CLAY | | |
| Remarks | Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by BS1377:Part 2:2016. Results apply to sample as received. | | |

| particle size | % passing | Classification |
|---------------|-----------|----------------|
| 75 | 100 | COBBLES |
| 63 | 100 | |
| 50 | 100 | GRAVEL |
| 37.5 | 98 | |
| 28 | 96 | |
| 20 | 92 | SAND |
| 14 | 87 | |
| 10 | 83 | |
| 6.3 | 79 | |
| 5 | 77 | SILT/CLAY |
| 3.35 | 73 | |
| 2 | 68 | |
| 1.18 | 64 | |
| 0.6 | 60 | |
| 0.425 | 57 | |
| 0.3 | 55 | |
| 0.15 | 50 | |
| 0.063 | 42 | |
| 0.037 | 38 | |
| 0.027 | 34 | |
| 0.017 | 29 | |
| 0.010 | 25 | |
| 0.007 | 22 | |
| 0.005 | 18 | |
| 0.002 | 10 | |



TEST REPORT

Determination of Particle Size Distribution

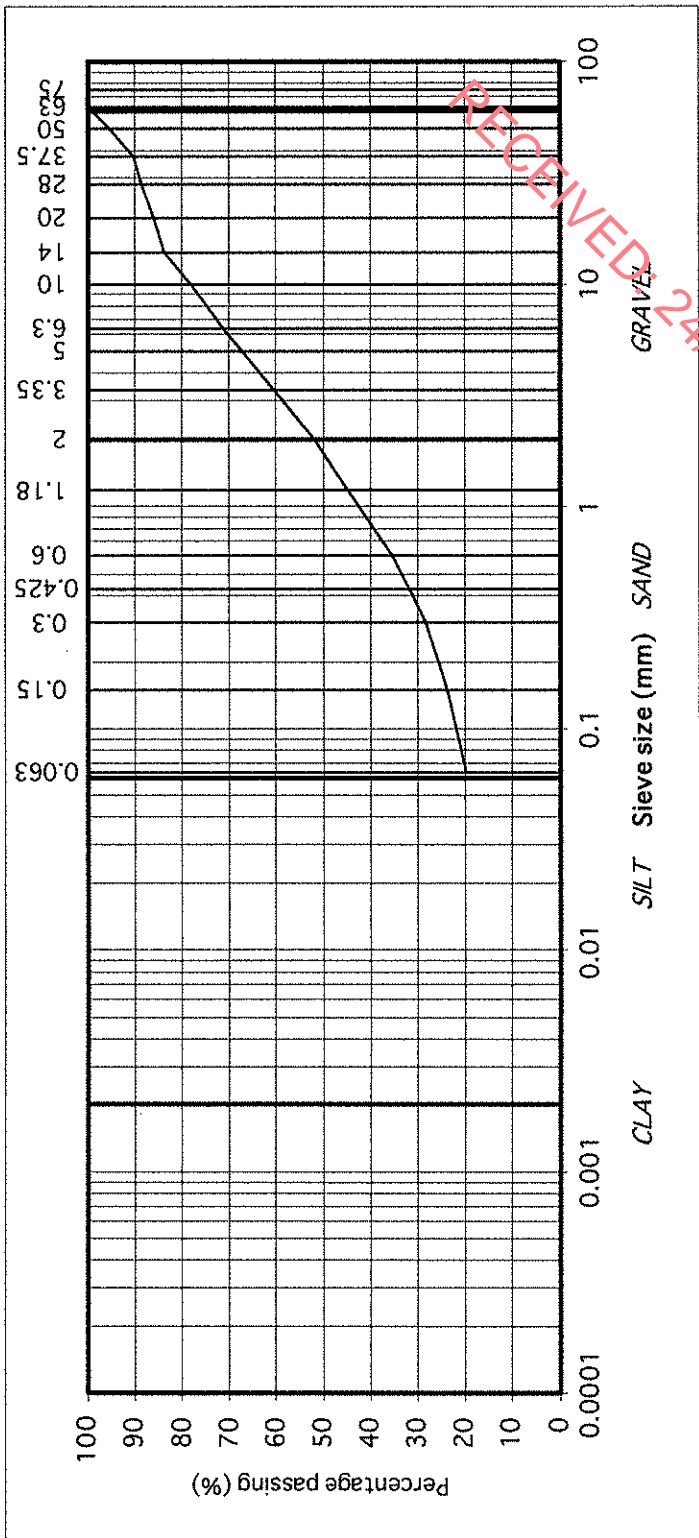
Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



Contract No. 22611 Report No. R114331
 Contract Name: Mullingar, Co. Westmeath
 BH/TP: BH11
 Sample No. AA135906 Lab. Sample No. A20/3693
 Sample Type: B
 Depth (m) 4.00 Customer: Tobins C.E
 Date Received 27/07/2020 Date Testing started 20/08/2020
 Description: Brown clayey/silty, very sandy, GRAVEL

Remarks: Note: Clause 9.2 and Clause 9.5 of BS1377 Part 2:1990 have been superseded by BS1377:2016. Results apply to sample as received.

| particle size | % passing |
|---------------|-----------|
| 75 | 100 |
| 63 | 100 |
| 50 | 95 |
| 37.5 | 90 |
| 28 | 89 |
| 20 | 86 |
| 14 | 84 |
| 10 | 78 |
| 6.3 | 71 |
| 5 | 67 |
| 3.35 | 60 |
| 2 | 52 |
| 1.18 | 45 |
| 0.6 | 35 |
| 0.425 | 32 |
| 0.3 | 28 |
| 0.15 | 24 |
| 0.063 | 20 |



IGSL Ltd Materials Laboratory

Approved by: *[Signature]* Date: 24/09/20 Page no: 1 of 1

Persons authorised to approve report: J Barrett (Quality Manager) H Byrne (Laboratory Manager)

TEST REPORT

Determination of Particle Size Distribution

Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)

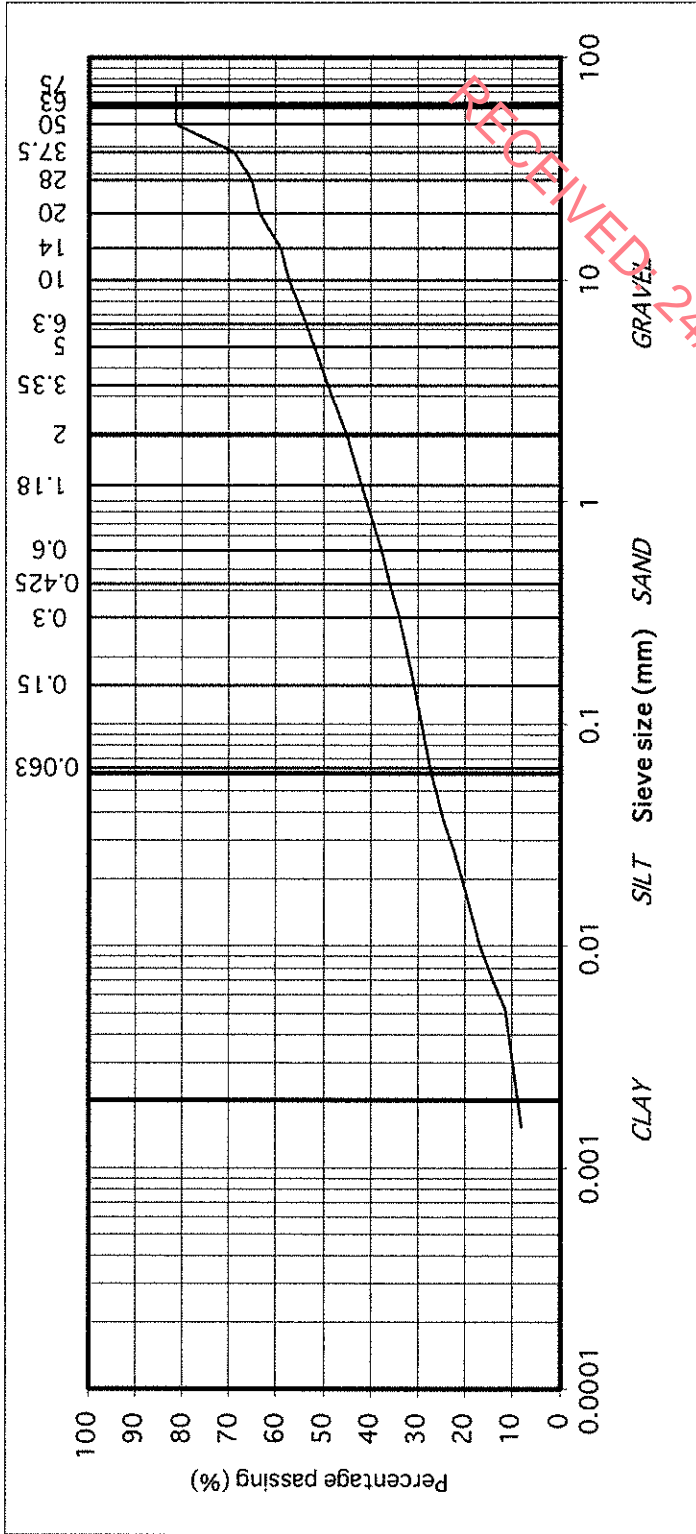


Contract No. 22611 Report No. R113999
 Contract Name: Mullingar, Co. Westmeath
 BH/TP: BH12
 Sample No. AA135909 Lab. Sample No. A20/3695
 Sample Type: B
 Depth (m) 3.00 Customer: Tobins C.E
 Date Received 27/07/2020 Date Testing started 19/08/2020
 Description: Brown slightly sandy, gravelly, SILT with some cobbles

Remarks: Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by BS17692-4:2016. Results apply to sample as received.

Sample size did not meet the requirements of BS1377

| particle size | % passing | |
|---------------|-----------|-----------|
| 75 | 82 | COBBLES |
| 63 | 82 | |
| 50 | 82 | |
| 37.5 | 69 | |
| 28 | 65 | |
| 20 | 64 | |
| 14 | 59 | |
| 10 | 57 | GRAVEL |
| 6.3 | 54 | |
| 5 | 52 | |
| 3.35 | 49 | |
| 2 | 45 | |
| 1.18 | 42 | |
| 0.6 | 38 | |
| 0.425 | 36 | SAND |
| 0.3 | 34 | |
| 0.15 | 31 | |
| 0.063 | 27 | |
| 0.037 | 25 | |
| 0.027 | 22 | |
| 0.017 | 20 | SILT/CLAY |
| 0.010 | 17 | |
| 0.007 | 14 | |
| 0.005 | 12 | |
| 0.002 | 8 | |



TEST REPORT

Determination of Particle Size Distribution

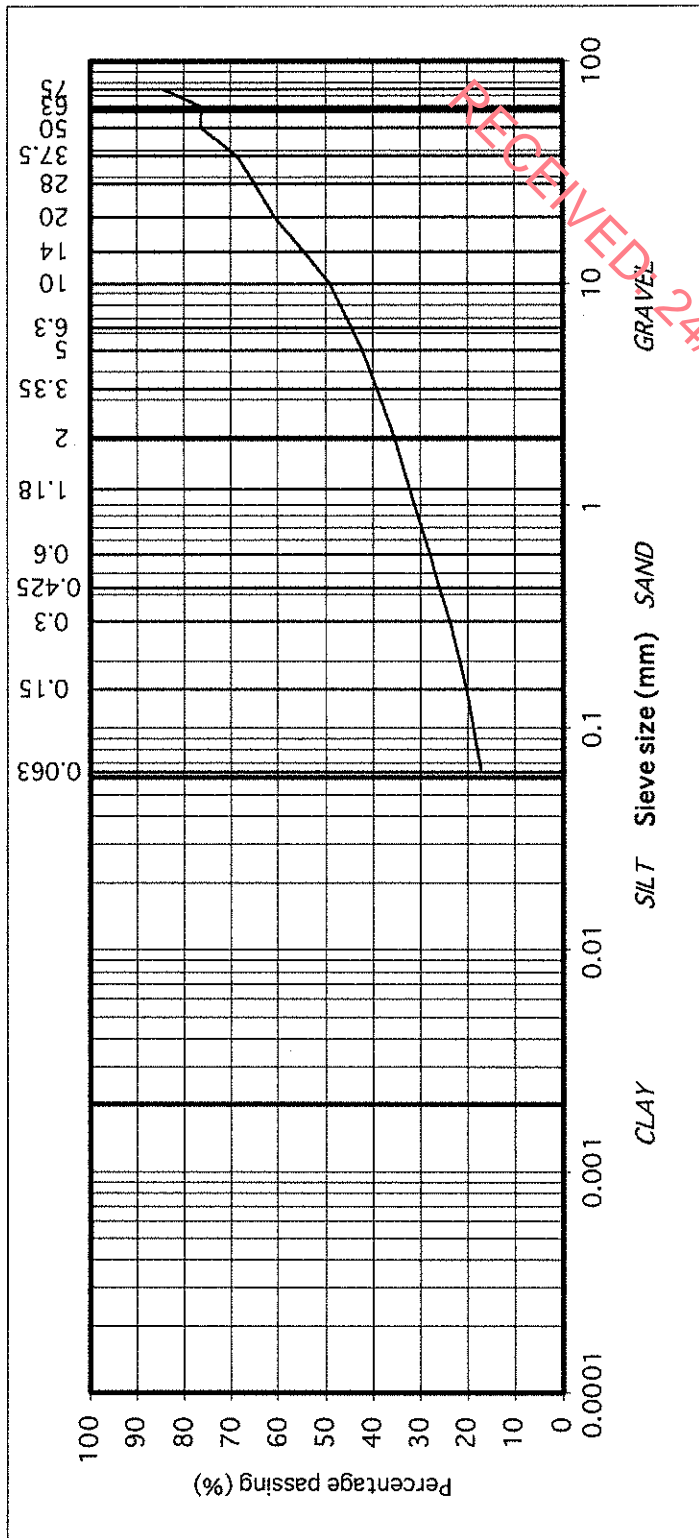
Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)



Contract No. 22611 Report No. R114332
 Contract Name: Mullingar, Co. Westmeath
 BH/TP: BH12
 Sample No. AA135911 Lab. Sample No. A20/3696
 Sample Type: B
 Depth (m) 5.00 Customer: Tobins C.E
 Date Received 27/07/2020 Date Testing started 20/08/2020
 Description: Brown clayey/silty, sandy, GRAVEL with many cobbles

Remarks: Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by BS17892-4:2016. Results apply to sample as received. Sample size did not meet the requirements of BS1377

| particle size | % passing | |
|---------------|-----------|-----------|
| 75 | 85 | COBBLES |
| 63 | 76 | |
| 50 | 76 | |
| 37.5 | 69 | |
| 28 | 65 | |
| 20 | 61 | |
| 14 | 54 | GRAVEL |
| 10 | 49 | |
| 6.3 | 44 | |
| 5 | 42 | |
| 3.35 | 39 | |
| 2 | 35 | |
| 1.18 | 32 | |
| 0.6 | 28 | |
| 0.425 | 26 | SAND |
| 0.3 | 24 | |
| 0.15 | 20 | |
| 0.063 | 17 | SILT/CLAY |



TEST REPORT

Determination of Particle Size Distribution

Tested in accordance with: BS1377:Part2:1990, clause 9.2 & 9.5
(note: Sedimentation stage not accredited)

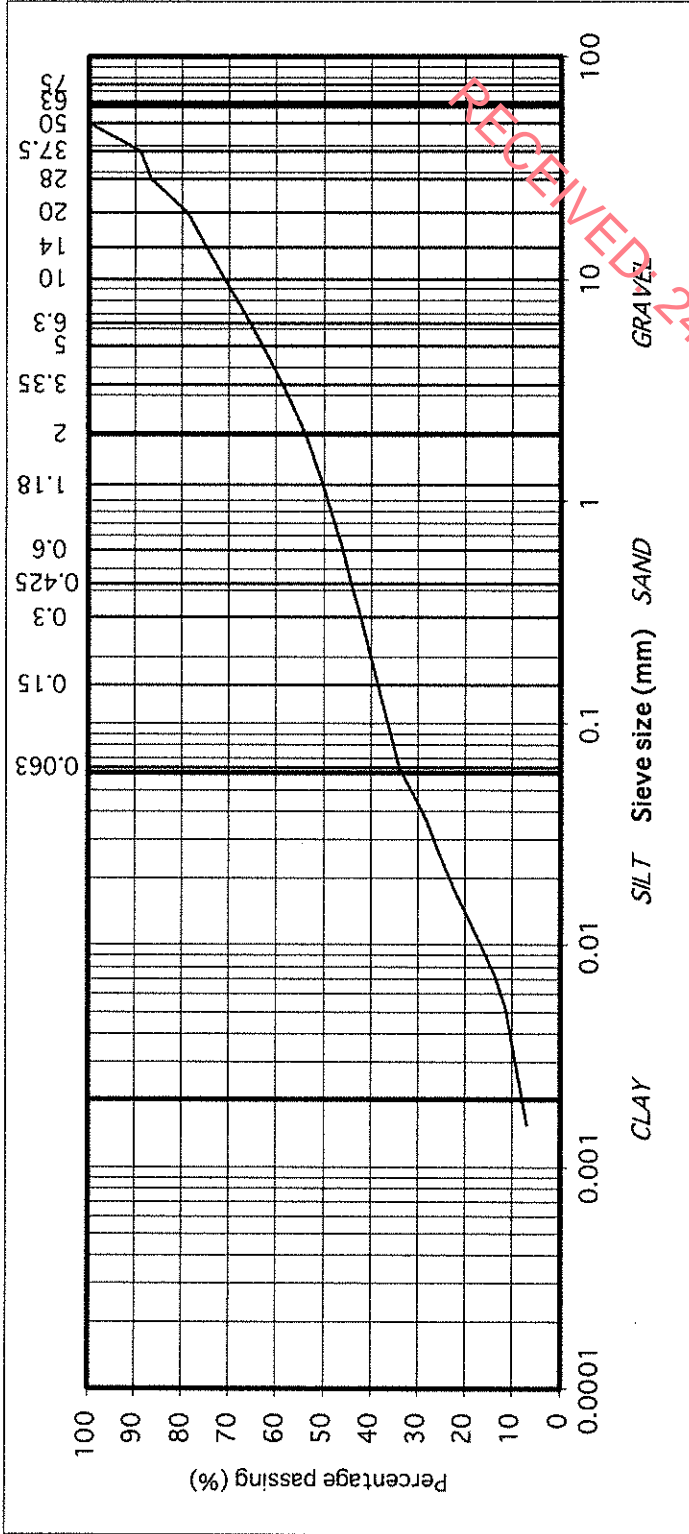


Contract No. 22611 Report No. R114000
 Contract Name: Mullingar, Co. Westmeath
 BH/TP: BH13
 Sample No. AA135914 Lab. Sample No. A20/3698
 Sample Type: B
 Depth (m) 3.00 Customer: Tobins C.E
 Date Received 27/07/2020 Date Testing started 19/08/2020
 Description: Brown slightly sandy, gravelly, SILT/CLAY with occasional cobbles

Remarks

Note: Clause 9.2 and Clause 9.5 of BS1377:Part 2:1990 have been superseded by ISO 17892-4:2016. Results apply to sample as received.

| particle size | % passing | |
|---------------|-----------|-----------|
| 75 | 100 | COBBLES |
| 63 | 100 | |
| 50 | 100 | |
| 37.5 | 89 | |
| 28 | 87 | |
| 20 | 79 | |
| 14 | 75 | |
| 10 | 71 | GRAVEL |
| 6.3 | 65 | |
| 5 | 63 | |
| 3.35 | 59 | |
| 2 | 54 | |
| 1.18 | 50 | |
| 0.6 | 46 | |
| 0.425 | 44 | SAND |
| 0.3 | 42 | |
| 0.15 | 39 | |
| 0.063 | 34 | |
| 0.037 | 28 | |
| 0.027 | 26 | |
| 0.017 | 22 | SILT/CLAY |
| 0.010 | 17 | |
| 0.007 | 14 | |
| 0.005 | 12 | |
| 0.002 | 7 | |



Approved by: *J Barrett*

Date: 28/08/20

Page no: 1 of 1

IGSL Ltd Materials Laboratory

Persons authorised to approve report: J Barrett (Quality Manager) H Byrne (Laboratory Manager)

RECEIVED: 24/08/2023

Appendix VII Laboratory

b. Environmental



Final Report

Report No.: 20-20040-1
Initial Date of Issue: 12-Aug-2020
Client: IGSL
Client Address: M7 Business Park
Naas
County Kildare
Ireland
Contact(s): Darren Keogh
Project: 22611 Mullingar Westmeath (Tobin)
Quotation No.: Q19-18246
Order No.:
No. of Samples: 7
Turnaround (Wkdays): 7
Date Approved: 12-Aug-2020

| | |
|-------------------------|-------------|
| Date Received: | 31-Jul-2020 |
| Date Instructed: | 31-Jul-2020 |
| Results Due: | 10-Aug-2020 |

Approved By:

Details: Glynn Harvey, Technical Manager

RECEIVED: 24/08/2023

Results - Leachate

Project: 22611 Mullingar Westmeath (Tobin)

| Client: IGSL | | Chemtest Job No.: 20-20040 | | 20-20040 | | |
|--------------------------|---------|------------------------------|------|----------|-------|---------|
| Quotation No.: Q19-18246 | | Chemtest Sample ID.: 1041460 | | 1041463 | | |
| Order No.: | | Client Sample Ref.: AA134354 | | AA134371 | | |
| | | Sample Location: TP03 | | TP10 | | |
| | | Sample Type: SOIL | | SOIL | | |
| | | Top Depth (m): 0.60 | | 0.60 | | |
| | | Bottom Depth (m): 0.60 | | 0.60 | | |
| Determinand | Accred. | SOP | Type | Units | LOD | |
| pH | U | 1010 | 10:1 | | N/A | 8.2 |
| Ammonium | U | 1220 | 10:1 | mg/l | 0.050 | 0.051 |
| Ammonium | N | 1220 | 10:1 | mg/kg | 0.10 | 0.55 |
| Boron (Dissolved) | U | 1450 | 10:1 | mg/kg | 0.20 | < 0.20 |
| Benzofluoranthene | N | 1800 | 10:1 | µg/l | 0.010 | < 0.010 |

RECEIVED: 24/08/2023

Results - Soil

RECEIVED: 24/08/2023

Project: 22611 Mullingar Westmeath (Tobin)

| Determiand | Accred. | SOP | Units | LOD | Chemtest Job No.: | | Chemtest Sample ID.: | | 20-20040 | | 20-20040 | | 20-20040 | | 20-20040 | | 20-20040 | | |
|-------------------------------------|---------|------|-------|-------|-------------------|------|----------------------|---|----------|---------|----------|---------|----------|---------|----------|---------|----------|---------|---------|
| | | | | | U | 2192 | N/A | U | 2192 | 1041459 | 1041460 | 1041461 | 1041462 | 1041463 | 1041464 | 1041465 | 1041466 | 1041467 | 1041468 |
| Client: IGSL | | | | | | | | | | | | | | | | | | | |
| Quotation No.: Q19-18246 | | | | | | | | | | | | | | | | | | | |
| Order No.: | | | | | | | | | | | | | | | | | | | |
| Client Sample Ref.: | | | | | | | | | | | | | | | | | | | |
| Sample Location: | | | | | | | | | | | | | | | | | | | |
| Sample Type: | | | | | | | | | | | | | | | | | | | |
| Top Depth (m): | | | | | | | | | | | | | | | | | | | |
| Bottom Depth (m): | | | | | | | | | | | | | | | | | | | |
| Asbestos Lab: | | | | | | | | | | | | | | | | | | | |
| Asbestos Lab: | | | | | | | | | | | | | | | | | | | |
| ACM Type | U | 2192 | | | | | | | | | | | | | | | | | |
| Asbestos Identification | U | 2192 | % | 0.001 | | | | | | | | | | | | | | | |
| ACM Detection Stage | U | 2192 | | N/A | | | | | | | | | | | | | | | |
| Asbestos By Fibre Counting | U | 2192 | % | 0.001 | | | | | | | | | | | | | | | |
| Moisture | N | 2030 | % | 0.020 | | | | | | | | | | | | | | | |
| pH (2.5:1) | N | 2010 | | 4.0 | | | | | | | | | | | | | | | |
| Boron (Hot Water Soluble) | U | 2120 | mg/kg | 0.40 | | | | | | | | | | | | | | | |
| Magnesium (Water Soluble) | N | 2120 | g/l | 0.010 | | | | | | | | | | | | | | | |
| Sulphate (2:1 Water Soluble) as SO4 | U | 2120 | g/l | 0.010 | | | | | | | | | | | | | | | |
| Total Sulphur | U | 2175 | % | 0.010 | | | | | | | | | | | | | | | |
| Sulphur (Elemental) | U | 2180 | mg/kg | 1.0 | | | | | | | | | | | | | | | |
| Chloride (Water Soluble) | U | 2220 | g/l | 0.010 | | | | | | | | | | | | | | | |
| Nitrate (Water Soluble) | N | 2220 | g/l | 0.010 | | | | | | | | | | | | | | | |
| Cyanide (Total) | U | 2300 | mg/kg | 0.50 | | | | | | | | | | | | | | | |
| Sulphide (Easily Liberatable) | N | 2325 | mg/kg | 0.50 | | | | | | | | | | | | | | | |
| Ammonium (Water Soluble) | U | 2120 | g/l | 0.01 | | | | | | | | | | | | | | | |
| Sulphate (Acid Soluble) | U | 2430 | % | 0.010 | | | | | | | | | | | | | | | |
| Arsenic | U | 2450 | mg/kg | 1.0 | | | | | | | | | | | | | | | |
| Barium | U | 2450 | mg/kg | 10 | | | | | | | | | | | | | | | |
| Cadmium | U | 2450 | mg/kg | 0.10 | | | | | | | | | | | | | | | |
| Chromium | U | 2450 | mg/kg | 1.0 | | | | | | | | | | | | | | | |
| Molybdenum | U | 2450 | mg/kg | 2.0 | | | | | | | | | | | | | | | |
| Antimony | N | 2450 | mg/kg | 2.0 | | | | | | | | | | | | | | | |
| Copper | U | 2450 | mg/kg | 0.50 | | | | | | | | | | | | | | | |
| Mercury | U | 2450 | mg/kg | 0.10 | | | | | | | | | | | | | | | |
| Nickel | U | 2450 | mg/kg | 0.50 | | | | | | | | | | | | | | | |
| Lead | U | 2450 | mg/kg | 0.50 | | | | | | | | | | | | | | | |
| Selenium | U | 2450 | mg/kg | 0.20 | | | | | | | | | | | | | | | |
| Zinc | U | 2450 | mg/kg | 0.50 | | | | | | | | | | | | | | | |
| Chromium (Trivalent) | N | 2490 | mg/kg | 1.0 | | | | | | | | | | | | | | | |
| Chromium (Hexavalent) | N | 2490 | mg/kg | 0.50 | | | | | | | | | | | | | | | |
| Mineral Oil | N | 2670 | mg/kg | 10 | | | | | | | | | | | | | | | |
| Aliphatic TPH >C5-C6 | N | 2680 | mg/kg | 1.0 | | | | | | | | | | | | | | | |
| Aliphatic TPH >C6-C8 | N | 2680 | mg/kg | 1.0 | | | | | | | | | | | | | | | |
| Aliphatic TPH >C8-C10 | U | 2680 | mg/kg | 1.0 | | | | | | | | | | | | | | | |
| Aliphatic TPH >C10-C12 | U | 2680 | mg/kg | 1.0 | | | | | | | | | | | | | | | |
| Aliphatic TPH >C12-C16 | U | 2680 | mg/kg | 1.0 | | | | | | | | | | | | | | | |

Results - Soil

RECEIVED: 24/08/2023

| Project: 22611 Mullingar Westmeath (Tobin) | | Chemtest Job No.: | 20-20040 | 20-20040 | 20-20040 | 20-20040 | 20-20040 | 20-20040 | 20-20040 | 20-20040 |
|--|----------------------|-------------------|----------|----------|-------------|-------------|-------------|-------------|-------------|-------------|
| Client: IGS | Chemtest Sample ID.: | 1041459 | 1041460 | 1041461 | 1041462 | 1041463 | 1041464 | 1041465 | 1041466 | 1041467 |
| Quotation No.: Q19-18246 | Client Sample Ref.: | AA134352 | AA134354 | AA134367 | AA134388 | AA134371 | AA134374 | AA134379 | AA134374 | AA134379 |
| Order No.: | Sample Location: | TP01 | TP03 | TP06 | TP08 | TP10 | TP11 | TP14 | TP11 | TP14 |
| | Sample Type: | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | Top Depth (m): | 1.10 | 0.60 | 1.60 | 0.45 | 0.60 | 0.80 | 0.40 | 0.80 | 0.40 |
| | Bottom Depth (m): | 1.10 | 0.60 | 1.60 | 0.45 | 0.60 | 0.80 | 0.40 | 0.80 | 0.40 |
| | Asbestos Lab: | | COVENTRY | | | COVENTRY | | | | |
| Determinand | Accred. | SOP | Units | LOD | | | | | | |
| Aliphatic TPH >C16-C21 | U | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aliphatic TPH >C21-C35 | U | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aliphatic TPH >C35-C44 | N | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Total Aliphatic Hydrocarbons | N | 2680 | mg/kg | 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 |
| Aromatic TPH >C5-C7 | N | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aromatic TPH >C7-C8 | N | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aromatic TPH >C8-C10 | U | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aromatic TPH >C10-C12 | U | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aromatic TPH >C12-C16 | U | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aromatic TPH >C16-C21 | U | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aromatic TPH >C21-C35 | U | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aromatic TPH >C35-C44 | N | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Total Aromatic Hydrocarbons | N | 2680 | mg/kg | 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 |
| Total Petroleum Hydrocarbons | N | 2680 | mg/kg | 10.0 | [A] < 10 | [A] < 10 | [A] < 10 | [A] < 10 | [A] < 10 | [A] < 10 |
| Benzene | U | 2760 | µg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Toluene | U | 2760 | µg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Ethylbenzene | U | 2760 | µg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| m & p-Xylene | U | 2760 | µg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| o-Xylene | U | 2760 | µg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Methyl Tert-Butyl Ether | U | 2760 | µg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Naphthalene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Acenaphthylene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Acenaphthene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Fluorene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Phenanthrene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Anthracene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Fluoranthene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Pyrene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Benzo[a]anthracene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Chrysene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Benzo[b]fluoranthene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Benzo[k]fluoranthene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Benzo[a]pyrene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Indeno[1,2,3-c,d]Pyrene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Dibenz[a,h]Anthracene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Benzo[g,h,i]perylene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Coronene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Total Of 17 PAH's | N | 2800 | mg/kg | 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 |

Results - Soil

Project: 22811 Mullingar Westmeath (Tobin)

| Client: IGSL | | Chemtest Job No.: 20-20040 | | 20-20040 | | 20-20040 | | 20-20040 | | 20-20040 | | 20-20040 | |
|--------------------------|---------|------------------------------|-------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Quotation No.: Q19-18246 | | Chemtest Sample ID.: 1041460 | | 1041461 | | 1041462 | | 1041463 | | 1041464 | | 1041465 | |
| Order No.: | | Client Sample Ref.: AA134354 | | AA134367 | | AA134388 | | AA134371 | | AA134374 | | AA134379 | |
| | | Sample Location: TP01 | | TP06 | | TP08 | | TP10 | | TP11 | | TP14 | |
| | | Sample Type: SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | | Top Depth (m): 1.10 | | 1.60 | | 0.45 | | 0.60 | | 0.80 | | 0.40 | |
| | | Bottom Depth (m): 1.10 | | 1.60 | | 0.45 | | 0.60 | | 0.80 | | 0.40 | |
| | | Asbestos Lab: | | COVENTRY | | COVENTRY | | COVENTRY | | COVENTRY | | COVENTRY | |
| Determinand | Accred. | SOP | Units | LOD | | | | | | | | | |
| Total Of 17 PAH's | N | 2800 | mg/kg | 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 |
| PCB 28 | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| PCB 52 | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| PCB 90+101 | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| PCB 118 | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| PCB 153 | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| PCB 138 | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| PCB 180 | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| Total PCBs (7 congeners) | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| Total PCBs (7 congeners) | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| Total Phenols | U | 2920 | mg/kg | 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 |

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Results - Single Stage WAC

Project: 22611 Mullingar Westmeath (Tobin)

| Determinand | SOP | Accred. | Units | Landfill Waste Acceptance Criteria | | |
|------------------------------|----------|---------|--------|------------------------------------|--|--------------------------|
| | | | | Inert Waste Landfill | Stable, Non-reactive hazardous waste in non-hazardous Landfill | Hazardous Waste Landfill |
| Chemtest Job No: | 20-20040 | | | | | |
| Chemtest Sample ID: | 1041460 | | | | | |
| Sample Ref: | AA134354 | | | | | |
| Sample ID: | TP03 | | | | | |
| Sample Location: | 0.60 | | | | | |
| Top Depth(m): | 0.60 | | | | | |
| Bottom Depth(m): | | | | | | |
| Sampling Date: | | | | | | |
| Total Organic Carbon | 2625 | U | % | [A] 0.28 | 3 | 5 |
| Loss On Ignition | 2610 | U | % | 1.0 | -- | -- |
| Total BTEX | 2760 | U | mg/kg | [A] < 0.010 | 6 | -- |
| Total PCBs (7 congeners) | | | | | 1 | -- |
| TPH Total WAC (Mineral Oil) | 2670 | U | mg/kg | [A] < 10 | 500 | -- |
| Total (of 17) PAHs | | | | | 100 | -- |
| pH | 2010 | U | | 8.5 | -- | -- |
| Acid Neutralisation Capacity | 2015 | N | mol/kg | 0.090 | -- | -- |
| Eluate Analysis | | | | 10:1 Eluate | Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg | |
| Arsenic | 1450 | U | mg/l | < 0.0010 | 0.5 | 2 |
| Barium | 1450 | U | | 0.0047 | 20 | 100 |
| Cadmium | 1450 | U | | < 0.00010 | 0.04 | 1 |
| Chromium | 1450 | U | | < 0.0010 | 0.5 | 10 |
| Copper | 1450 | U | | < 0.0010 | 2 | 50 |
| Mercury | 1450 | U | | < 0.00050 | 0.01 | 0.2 |
| Molybdenum | 1450 | U | | < 0.0010 | 0.5 | 10 |
| Nickel | 1450 | U | | < 0.0010 | 0.4 | 10 |
| Lead | 1450 | U | | < 0.0010 | 0.5 | 10 |
| Antimony | 1450 | U | | < 0.0010 | 0.06 | 0.7 |
| Selenium | 1450 | U | | < 0.0010 | 0.1 | 0.5 |
| Zinc | 1450 | U | | 0.0016 | 4 | 50 |
| Chloride | 1220 | U | | < 1.0 | 800 | 15000 |
| Fluoride | 1220 | U | | 0.21 | 10 | 150 |
| Sulphate | 1220 | U | | < 1.0 | 1000 | 20000 |
| Total Dissolved Solids | 1020 | N | | 640 | 4000 | 60000 |
| Phenol Index | 1920 | U | | < 0.030 | 1 | -- |
| Dissolved Organic Carbon | 1610 | U | | 3.6 | 500 | 800 |

| Solid Information | |
|-----------------------------|-------|
| Dry mass of test portion/kg | 0.090 |
| Moisture (%) | 7.8 |

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Results - Single Stage WAC

Project: 22611 Mullingar Westmeath (Tobin)

Chemtest Job No: 20-20040

Chemtest Sample ID: 1041463

Sample Ref: AA134371

Sample ID: TP10

Top Depth(m): 0.60

Bottom Depth(m): 0.60

Sampling Date:

| Determinand | SOP | Accred. | Units | Landfill Waste Acceptance Criteria Limits | | |
|------------------------------|------|---------|------------------|--|--|--------------------------|
| | | | | Inert Waste Landfill | Stable, Non-reactive hazardous waste in non-hazardous Landfill | Hazardous Waste Landfill |
| Total Organic Carbon | 2625 | U | % | 3 | 5 | 6 |
| Loss On Ignition | 2610 | U | % | -- | -- | 10 |
| Total BTEX | 2760 | U | mg/kg | 6 | -- | -- |
| Total PCBs (7 congeners) | | | | 1 | -- | -- |
| TPH Total WAC (Mineral Oil) | 2670 | U | mg/kg | 500 | -- | -- |
| Total (of 17) PAHs | | | | 100 | -- | -- |
| pH | 2010 | U | | -- | >6 | -- |
| Acid Neutralisation Capacity | 2015 | N | mol/kg | -- | To evaluate | To evaluate |
| Eluate Analysis | | | 10:1 Eluate mg/l | Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg | | |
| Arsenic | 1450 | U | < 0.0010 | 0.5 | 2 | 25 |
| Barium | 1450 | U | 0.0053 | 20 | 100 | 300 |
| Cadmium | 1450 | U | < 0.00010 | 0.04 | 1 | 5 |
| Chromium | 1450 | U | < 0.0010 | 0.5 | 10 | 70 |
| Copper | 1450 | U | 0.0021 | 2 | 50 | 100 |
| Mercury | 1450 | U | < 0.00050 | 0.01 | 0.2 | 2 |
| Molybdenum | 1450 | U | 0.0016 | 0.5 | 10 | 30 |
| Nickel | 1450 | U | < 0.0010 | 0.4 | 10 | 40 |
| Lead | 1450 | U | < 0.0010 | 0.5 | 10 | 50 |
| Antimony | 1450 | U | < 0.0010 | 0.06 | 0.7 | 5 |
| Selenium | 1450 | U | < 0.0010 | 0.1 | 0.5 | 7 |
| Zinc | 1450 | U | 0.0020 | 4 | 50 | 200 |
| Chloride | 1220 | U | < 1.0 | 800 | 15000 | 25000 |
| Fluoride | 1220 | U | 0.28 | 10 | 150 | 500 |
| Sulphate | 1220 | U | < 1.0 | 1000 | 20000 | 50000 |
| Total Dissolved Solids | 1020 | N | 120 | 4000 | 60000 | 100000 |
| Phenol Index | 1920 | U | < 0.030 | 1 | -- | -- |
| Dissolved Organic Carbon | 1610 | U | 11 | 500 | 800 | 1000 |

| Solid Information | |
|-----------------------------|-------|
| Dry mass of test portion/kg | 0.090 |
| Moisture (%) | 13 |

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

| Sample: | Sample Ref: | Sample ID: | Sample Location: | Sampled Date: | Deviation Code(s): | Containers Received: |
|---------|-------------|------------|------------------|---------------|--------------------|----------------------|
| 1041459 | AA134352 | | TP01 | | A | Amber Glass 250ml |
| 1041459 | AA134352 | | TP01 | | A | Plastic Tub 500g |
| 1041460 | AA134354 | | TP03 | | A | Amber Glass 250ml |
| 1041460 | AA134354 | | TP03 | | A | Plastic Tub 500g |
| 1041461 | AA134367 | | TP06 | | A | Amber Glass 250ml |
| 1041461 | AA134367 | | TP06 | | A | Plastic Tub 500g |
| 1041462 | AA134388 | | TP08 | | A | Amber Glass 250ml |
| 1041462 | AA134388 | | TP08 | | A | Plastic Tub 500g |
| 1041463 | AA134371 | | TP10 | | A | Amber Glass 250ml |
| 1041463 | AA134371 | | TP10 | | A | Plastic Tub 500g |
| 1041464 | AA134374 | | TP11 | | A | Amber Glass 250ml |
| 1041464 | AA134374 | | TP11 | | A | Plastic Tub 500g |
| 1041465 | AA134379 | | TP14 | | A | Amber Glass 250ml |
| 1041465 | AA134379 | | TP14 | | A | Plastic Tub 500g |

Test Methods

| SOP | Title | Parameters included | Method summary |
|------|--|--|--|
| 1010 | pH Value of Waters | pH | pH Meter |
| 1020 | Electrical Conductivity and Total Dissolved Solids (TDS) in Waters | Electrical Conductivity and Total Dissolved Solids (TDS) in Waters | Conductivity Meter |
| 1220 | Anions, Alkalinity & Ammonium in Waters | Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium | Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser. |
| 1450 | Metals in Waters by ICP-MS | Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc | Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS). |
| 1610 | Total/Dissolved Organic Carbon in Waters | Organic Carbon | TOC Analyser using Catalytic Oxidation |
| 1800 | Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS | Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene | Pentane extraction / GCMS detection |
| 1920 | Phenols in Waters by HPLC | Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded. | Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection. |
| 2010 | pH Value of Soils | pH | pH Meter |
| 2015 | Acid Neutralisation Capacity | Acid Reserve | Titration |
| 2030 | Moisture and Stone Content of Soils(Requirement of MCERTS) | Moisture content | Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C. |
| 2040 | Soil Description(Requirement of MCERTS) | Soil description | As received soil is described based upon BS5930 |
| 2120 | Water Soluble Boron, Sulphate, Magnesium & Chromium | Boron; Sulphate; Magnesium; Chromium | Aqueous extraction / ICP-OES |
| 2175 | Total Sulphur in Soils | Total Sulphur | Determined by high temperature combustion under oxygen, using an Eltra elemental analyser. |
| 2180 | Sulphur (Elemental) in Soils by HPLC | Sulphur | Dichloromethane extraction / HPLC with UV detection |
| 2192 | Asbestos | Asbestos | Polarised light microscopy / Gravimetry |
| 2220 | Water soluble Chloride in Soils | Chloride | Aqueous extraction and measurement by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate. |
| 2300 | Cyanides & Thiocyanate in Soils | Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate | Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser. |
| 2325 | Sulphide in Soils | Sulphide | Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine. |
| 2430 | Total Sulphate in soils | Total Sulphate | Acid digestion followed by determination of sulphate in extract by ICP-OES. |
| 2450 | Acid Soluble Metals in Soils | Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc | Acid digestion followed by determination of metals in extract by ICP-MS. |
| 2490 | Hexavalent Chromium in Soils | Chromium [VI] | Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide. |

Test Methods

| SOP | Title | Parameters included | Method summary |
|------|--|---|--|
| 2610 | Loss on Ignition | loss on ignition (LOI) | Determination of the proportion by mass that is lost from a soil by ignition at 550°C. |
| 2625 | Total Organic Carbon in Soils | Total organic Carbon (TOC) | Determined by high temperature combustion under oxygen, using an Eltra elemental analyser. |
| 2670 | Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID | TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40 | Dichloromethane extraction / GC-FID |
| 2680 | TPH A/A Split | Aliphatics: >C5–C6, >C6–C8, >C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35–C44 Aromatics: >C5–C7, >C7–C8, >C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35–C44 | Dichloromethane extraction / GCxGC FID detection |
| 2760 | Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS | Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)*please refer to UKAS schedule | Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds. |
| 2800 | Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS | Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene* | Dichloromethane extraction / GC-MS |
| 2815 | Polychlorinated Biphenyls (PCB) ICES7 Congeners in Soils by GC-MS | ICES7 PCB congeners | Acetone/Hexane extraction / GC-MS |
| 2920 | Phenols in Soils by HPLC | Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and Trimethylphenols Note: chlorophenols are excluded. | 60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection. |
| 640 | Characterisation of Waste (Leaching C10) | Waste material including soil, sludges and granular waste | Compliance Test for Leaching of Granular Waste Material and Sludge |

Report Information

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Key

| | |
|-----|---|
| U | UKAS accredited |
| M | MCERTS and UKAS accredited |
| N | Unaccredited |
| S | This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis |
| SN | This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis |
| T | This analysis has been subcontracted to an unaccredited laboratory |
| I/S | Insufficient Sample |
| U/S | Unsuitable Sample |
| N/E | not evaluated |
| < | "less than" |
| > | "greater than" |

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis
The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols
For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

-
- A - Date of sampling not supplied
 - B - Sample age exceeds stability time (sampling to extraction)
 - C - Sample not received in appropriate containers
 - D - Broken Container
 - E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



Final Report

Report No.: 20-20044-1

Initial Date of Issue: 13-Aug-2020

Client: IGSL

Client Address: M7 Business Park
Naas
County Kildare
Ireland

Contact(s): Darren Keogh

Project: 22611 Mullingar Westmeath (Tobin)

Quotation No.: Q20-19951

Date Received: 31-Jul-2020

Order No.:

Date Instructed: 31-Jul-2020

No. of Samples: 11

Turnaround (Wkdays): 7

Results Due: 10-Aug-2020

Date Approved: 13-Aug-2020

Approved By:

Details: Glynn Harvey, Technical Manager

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Results - Leachate

Project: 22611 Mullingar Westmeath (Tobin)

| Client: IGSL | Chemtest Job No.: | 20-20044 | 20-20044 | 20-20044 | 20-20044 | 20-20044 | 20-20044 |
|--------------------------|----------------------|----------|----------|----------|----------|----------|----------|
| Quotation No.: Q20-19951 | Chemtest Sample ID.: | 1041479 | 1041479 | 1041481 | 1041481 | 1041484 | 1041484 |
| Order No.: | Client Sample Ref.: | AA130935 | AA130935 | AA130941 | AA130941 | AA135903 | AA135903 |
| | Sample Location: | BH01 | BH04 | BH06 | BH06 | BH11 | BH11 |
| | Sample Type: | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | Top Depth (m): | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Determinand | Accred. | SOP | Type | Units | LOD | | |
| pH | U | 1010 | 10:1 | | N/A | 8.2 | 8.2 |
| Ammonium | U | 1220 | 10:1 | mg/l | 0.050 | 0.066 | 0.066 |
| Ammonium | N | 1220 | 10:1 | mg/kg | 0.10 | 0.72 | 0.72 |
| Boron (Dissolved) | U | 1450 | 10:1 | mg/kg | 0.20 | < 0.20 | < 0.20 |
| Benzofluoranthene | N | 1800 | 10:1 | µg/l | 0.010 | < 0.010 | < 0.010 |

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Results - Soil

Project: 22611 Mullingar Westmeath (Tobin)

| Client: IGSL | Chemtest Job No.: | | 20-20044 | | 20-20044 | | 20-20044 | | 20-20044 | | 20-20044 | | 20-20044 | | 20-20044 | |
|-------------------------------------|--------------------------|----------------------|----------|----------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|
| | Quotation No.: Q20-19951 | Chemtest Sample ID.: | 1041476 | 1041477 | 1041478 | 1041479 | 1041480 | 1041481 | 1041482 | 1041483 | 1041484 | 1041485 | 1041486 | 1041487 | 1041488 | 1041489 |
| Order No.: | Client Sample Ref.: | AA130924 | AA130920 | AAA13130 | AA130935 | AA130946 | AA130941 | AA135920 | AA135916 | AA135903 | AA135903 | AA135903 | AA135903 | AA135903 | AA135903 | AA135903 |
| | Sample Location: | BH01 | BH02 | BH03 | BH04 | BH05 | BH06 | BH07 | BH09 | BH11 | BH11 | BH11 | BH11 | BH11 | BH11 | BH11 |
| | Sample Type: | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | Top Depth (m): | 1.00 | 2.00 | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Asbestos Lab: | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY |
| Determinand | Accred. | SOP | Units | LOD | | | | | | | | | | | | |
| ACM Type | U | 2192 | | N/A | | | | | | | | | | | | |
| Asbestos Identification | U | 2192 | % | 0.001 | No Asbestos Detected | | | | | | | | | | | |
| ACM Detection Stage | U | 2192 | | N/A | | | | | | | | | | | | |
| Moisture | N | 2030 | % | 0.020 | 8.7 | 13 | 13 | 14 | 8.2 | 9.6 | 21 | 20 | 10 | | | |
| pH (2.5:1) | N | 2010 | | 4.0 | < 0.40 | [A] 8.6 | [A] 8.4 | < 0.40 | [A] 8.3 | < 0.40 | [A] 7.9 | [A] 8.3 | < 0.40 | | | |
| Boron (Hot Water Soluble) | U | 2120 | mg/kg | 0.40 | < 0.40 | < 0.010 | < 0.010 | < 0.40 | < 0.010 | < 0.40 | < 0.010 | < 0.010 | < 0.40 | | | |
| Magnesium (Water Soluble) | N | 2120 | g/l | 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | | | |
| Sulphate (2:1 Water Soluble) as SO4 | U | 2120 | g/l | 0.010 | [A] 0.052 | [A] 0.036 | [A] 0.036 | [A] 0.054 | [A] 0.054 | [A] 0.021 | [A] 0.021 | [A] 0.021 | [A] 0.021 | | | |
| Total Sulphur | U | 2175 | % | 0.010 | [A] 1.2 | [A] 1.2 | [A] 1.2 | [A] 1.2 | [A] 1.2 | [A] 1.2 | [A] 1.2 | [A] 1.2 | [A] 1.2 | | | |
| Sulphur (Elemental) | U | 2180 | mg/kg | 1.0 | [A] 1.2 | [A] 1.2 | [A] 1.2 | [A] 1.2 | [A] 1.2 | [A] 1.2 | [A] 1.2 | [A] 1.2 | [A] 1.2 | | | |
| Chloride (Water Soluble) | U | 2220 | g/l | 0.010 | [A] 0.010 | [A] 0.010 | [A] 0.010 | [A] 0.010 | [A] 0.010 | [A] 0.010 | [A] 0.010 | [A] 0.010 | [A] 0.010 | | | |
| Nitrate (Water Soluble) | N | 2220 | g/l | 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | < 0.010 | | | |
| Cyanide (Total) | U | 2300 | mg/kg | 0.50 | [A] 0.50 | [A] 0.50 | [A] 0.50 | [A] 0.50 | [A] 0.50 | [A] 0.50 | [A] 0.50 | [A] 0.50 | [A] 0.50 | | | |
| Sulphide (Easily Liberatable) | N | 2325 | mg/kg | 0.50 | [A] 8.1 | [A] 8.1 | [A] 8.1 | [A] 8.1 | [A] 8.1 | [A] 8.1 | [A] 8.1 | [A] 8.1 | [A] 8.1 | | | |
| Ammonium (Water Soluble) | U | 2120 | g/l | 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | | | |
| Sulphate (Acid Soluble) | U | 2430 | % | 0.010 | [A] 0.028 | [A] 0.026 | [A] 0.013 | [A] 0.023 | [A] 0.019 | [A] 0.018 | [A] 0.010 | [A] 0.023 | [A] 0.017 | | | |
| Arsenic | U | 2450 | mg/kg | 1.0 | 18 | 13 | 14 | 23 | 14 | 20 | 18 | 18 | 18 | | | |
| Barium | U | 2450 | mg/kg | 10 | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 | | | |
| Cadmium | U | 2450 | mg/kg | 0.10 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | | | |
| Chromium | U | 2450 | mg/kg | 1.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | | | |
| Molybdenum | U | 2450 | mg/kg | 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | | | |
| Antimony | N | 2450 | mg/kg | 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | | | |
| Copper | U | 2450 | mg/kg | 0.50 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | | | |
| Mercury | U | 2450 | mg/kg | 0.10 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | | | |
| Nickel | U | 2450 | mg/kg | 0.50 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | | | |
| Lead | U | 2450 | mg/kg | 0.50 | 8.4 | 8.4 | 8.4 | 8.4 | 8.4 | 8.4 | 8.4 | 8.4 | 8.4 | | | |
| Selenium | U | 2450 | mg/kg | 0.20 | < 0.20 | < 0.20 | < 0.20 | < 0.20 | < 0.20 | < 0.20 | < 0.20 | < 0.20 | < 0.20 | | | |
| Zinc | U | 2450 | mg/kg | 0.50 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | | | |
| Chromium (Trivalent) | N | 2490 | mg/kg | 1.0 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | | | |
| Chromium (Hexavalent) | N | 2490 | mg/kg | 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | < 0.50 | | | |
| Mineral Oil | N | 2670 | mg/kg | 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 | | | |
| Aliphatic TPH >C5-C6 | N | 2680 | mg/kg | 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | | | |
| Aliphatic TPH >C6-C8 | N | 2680 | mg/kg | 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | | | |
| Aliphatic TPH >C8-C10 | U | 2680 | mg/kg | 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | | | |
| Aliphatic TPH >C10-C12 | U | 2680 | mg/kg | 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | | | |
| Aliphatic TPH >C12-C16 | U | 2680 | mg/kg | 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | | | |
| Aliphatic TPH >C16-C21 | U | 2680 | mg/kg | 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | | | |
| Aliphatic TPH >C21-C35 | U | 2680 | mg/kg | 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | [A] 1.0 | | | |

REVIEWED
 22/10/2023

Results - Soil

Project: 22811 Mullingar Westmeath (Tobin)

| Client: IGSL | Chemtest Job No.: | | 20-20044 | | 20-20044 | | 20-20044 | | 20-20044 | | 20-20044 | | 20-20044 | |
|------------------------------|--------------------------|----------------------|----------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | Quotation No.: Q20-19951 | Chemtest Sample ID.: | 1041477 | 1041478 | 1041479 | 1041480 | 1041481 | 1041482 | 1041483 | 1041484 | 1041485 | 1041486 | 1041487 | 1041488 |
| Order No.: | Client Sample Ref.: | AA130924 | AAA13130 | AA130935 | AA130946 | AA130941 | AA135920 | AA135916 | AA135903 | | | | | |
| | Sample Location: | BH01 | BH02 | BH03 | BH04 | BH05 | BH06 | BH07 | BH09 | BH11 | | | | |
| | Sample Type: | SOIL | | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | Top Depth (m): | 1.00 | | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Asbestos Lab: | COVENTRY | | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY | COVENTRY |
| Determinand | Accred. | SOP | Units | LOD | | | | | | | | | | |
| Aliphatic TPH >C35-C44 | N | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Total Aliphatic Hydrocarbons | N | 2680 | mg/kg | 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 |
| Aromatic TPH >C5-C7 | N | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aromatic TPH >C7-C8 | N | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aromatic TPH >C8-C10 | U | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aromatic TPH >C10-C12 | U | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aromatic TPH >C12-C16 | U | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aromatic TPH >C16-C21 | U | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aromatic TPH >C21-C35 | U | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Aromatic TPH >C35-C44 | N | 2680 | mg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Total Aromatic Hydrocarbons | N | 2680 | mg/kg | 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 | [A] < 5.0 |
| Total Petroleum Hydrocarbons | N | 2680 | mg/kg | 10.0 | [A] < 10 | [A] < 10 | [A] < 10 | [A] < 10 | [A] < 10 | [A] < 10 | [A] < 10 | [A] < 10 | [A] < 10 | [A] < 10 |
| Benzene | U | 2760 | µg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Toluene | U | 2760 | µg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Ethylbenzene | U | 2760 | µg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| m & p-Xylene | U | 2760 | µg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| o-Xylene | U | 2760 | µg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Methyl Tert-Butyl Ether | U | 2760 | µg/kg | 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 | [A] < 1.0 |
| Naphthalene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Acenaphthylene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Acenaphthene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Fluorene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Phenanthrene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Anthracene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Fluoranthene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Pyrene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Benzo[a]anthracene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Chrysene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Benzo[b]fluoranthene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Benzo[k]fluoranthene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Benzo[a]pyrene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Indeno[1,2,3-c,d]Pyrene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Dibenz[a,h]Anthracene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Benzo[g,h,i]perylene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Coronene | N | 2800 | mg/kg | 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 | [A] < 0.010 |
| Total Of 17 PAH's | N | 2800 | mg/kg | 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 | [A] < 0.20 |
| Total Of 17 PAH's | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| PCB 28 | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| PCB 52 | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |

D. D. 24/08/2023

Results - Soil

Project: 22611 Mullingar Westmeath (Tobin)

| Client: IGSL | Chemtest Job No.: | | 20-20044 | | 20-20044 | | 20-20044 | | 20-20044 | | 20-20044 | | 20-20044 | | 20-20044 | | 20-20044 | |
|--------------------------|--------------------------|----------------------|----------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | Quotation No.: Q20-19951 | Chemtest Sample ID.: | 1041476 | 1041477 | 1041478 | 1041479 | 1041480 | 1041481 | 1041482 | 1041483 | 1041484 | 1041485 | 1041486 | 1041487 | 1041488 | 1041489 | 1041490 | 1041491 |
| Order No.: | Client Sample Ref.: | AA130924 | AA130920 | AAA13130 | AA130935 | AA130946 | AA130941 | AA130920 | AA130920 | AA130916 | AA130903 | AA130903 | AA130903 | AA130903 | AA130903 | AA130903 | AA130903 | AA130903 |
| | Sample Location: | BH01 | BH02 | BH03 | BH04 | BH05 | BH06 | BH07 | BH08 | BH09 | BH10 | BH11 | BH12 | BH13 | BH14 | BH15 | BH16 | BH17 |
| | Sample Type: | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | Top Depth (m): | 1.00 | 2.00 | 1.00 | 1.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Asbestos Lab: | COVENTRY | | | COVENTRY | | COVENTRY | | COVENTRY | | COVENTRY | | COVENTRY | | COVENTRY | | COVENTRY | |
| Determinand | Accred. | SOP | Units | LOD | | | | | | | | | | | | | | |
| PCB 90+101 | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| PCB 118 | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| PCB 153 | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| PCB 138 | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| PCB 180 | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| Total PCBs (7 congeners) | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| Total PCBs (7 congeners) | N | 2815 | mg/kg | 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 | [A] < 0.0010 |
| Total Phenols | U | 2920 | mg/kg | 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 | < 0.30 |

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Results - Soil

RECEIVED: 24/08/2023

Project: 22611 Mullingar Westmeath (Tobin)

| Client: IGSL | | Chemtest Job No.: 20-20044 | | 20-20044 | |
|-------------------------------------|---------|------------------------------|-------|----------|-------------|
| Quotation No.: Q20-19951 | | Chemtest Sample ID.: 1041485 | | 1041485 | |
| Order No.: | | Client Sample Ref.: AA135907 | | AA135912 | |
| | | Sample Location: BH12 | | BH13 | |
| | | Sample Type: SOIL | | SOIL | |
| | | Top Depth (m): 1.00 | | 1.00 | |
| | | Asbestos Lab: | | | |
| Determinand | Accred. | SOP | Units | LOD | |
| ACM Type | U | 2192 | | N/A | |
| Asbestos Identification | U | 2192 | % | 0.001 | |
| ACM Detection Stage | U | 2192 | % | N/A | |
| Moisture | N | 2030 | % | 0.020 | 12 |
| pH (2.5:1) | N | 2010 | | 4.0 | [A] 8.4 |
| Boron (Hot Water Soluble) | U | 2120 | mg/kg | 0.40 | [A] 8.3 |
| Magnesium (Water Soluble) | N | 2120 | g/l | 0.010 | < 0.010 |
| Sulphate (2:1 Water Soluble) as SO4 | U | 2120 | g/l | 0.010 | < 0.010 |
| Total Sulphur | U | 2175 | % | 0.010 | [A] 0.034 |
| Sulphur (Elemental) | U | 2180 | mg/kg | 1.0 | [A] 0.067 |
| Chloride (Water Soluble) | U | 2220 | g/l | 0.010 | [A] < 0.010 |
| Nitrate (Water Soluble) | N | 2220 | g/l | 0.010 | 0.011 |
| Cyanide (Total) | U | 2300 | mg/kg | 0.50 | |
| Sulphide (Easily Liberatable) | N | 2325 | mg/kg | 0.50 | |
| Ammonium (Water Soluble) | U | 2120 | g/l | 0.01 | < 0.01 |
| Sulphate (Acid Soluble) | U | 2430 | % | 0.010 | [A] 0.021 |
| Arsenic | U | 2450 | mg/kg | 1.0 | [A] 0.027 |
| Barium | U | 2450 | mg/kg | 10 | |
| Cadmium | U | 2450 | mg/kg | 0.10 | |
| Chromium | U | 2450 | mg/kg | 1.0 | |
| Molybdenum | U | 2450 | mg/kg | 2.0 | |
| Antimony | N | 2450 | mg/kg | 2.0 | |
| Copper | U | 2450 | mg/kg | 0.50 | |
| Mercury | U | 2450 | mg/kg | 0.10 | |
| Nickel | U | 2450 | mg/kg | 0.50 | |
| Lead | U | 2450 | mg/kg | 0.50 | |
| Selenium | U | 2450 | mg/kg | 0.20 | |
| Zinc | U | 2450 | mg/kg | 0.50 | |
| Chromium (Trivalent) | N | 2490 | mg/kg | 1.0 | |
| Chromium (Hexavalent) | N | 2490 | mg/kg | 0.50 | |
| Mineral Oil | N | 2670 | mg/kg | 10 | |
| Aliphatic TPH >C5-C6 | N | 2680 | mg/kg | 1.0 | |
| Aliphatic TPH >C6-C8 | N | 2680 | mg/kg | 1.0 | |
| Aliphatic TPH >C8-C10 | U | 2680 | mg/kg | 1.0 | |
| Aliphatic TPH >C10-C12 | U | 2680 | mg/kg | 1.0 | |
| Aliphatic TPH >C12-C16 | U | 2680 | mg/kg | 1.0 | |
| Aliphatic TPH >C16-C21 | U | 2680 | mg/kg | 1.0 | |
| Aliphatic TPH >C21-C35 | U | 2680 | mg/kg | 1.0 | |

Results - Soil

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| Project: 22611 Mullingar Westmeath (Tobin) | | Chemtest Job No.: | 20-20044 | 20-20044 |
|--|---------|----------------------|----------|----------|
| Client: IGSL | | Chemtest Sample ID.: | 1041485 | 1041486 |
| Quotation No.: Q20-19951 | | Client Sample Ref.: | AA135907 | AA135912 |
| Order No.: | | Sample Location: | BH12 | BH13 |
| | | Sample Type: | SOIL | SOIL |
| | | Top Depth (m): | 1.00 | 1.00 |
| | | Asbestos Lab: | | |
| Determinand | Accred. | SOP | Units | LOD |
| Aliphatic TPH >C35-C44 | N | 2680 | mg/kg | 1.0 |
| Total Aliphatic Hydrocarbons | N | 2680 | mg/kg | 5.0 |
| Aromatic TPH >C5-C7 | N | 2680 | mg/kg | 1.0 |
| Aromatic TPH >C7-C8 | N | 2680 | mg/kg | 1.0 |
| Aromatic TPH >C8-C10 | U | 2680 | mg/kg | 1.0 |
| Aromatic TPH >C10-C12 | U | 2680 | mg/kg | 1.0 |
| Aromatic TPH >C12-C16 | U | 2680 | mg/kg | 1.0 |
| Aromatic TPH >C16-C21 | U | 2680 | mg/kg | 1.0 |
| Aromatic TPH >C21-C35 | U | 2680 | mg/kg | 1.0 |
| Aromatic TPH >C35-C44 | N | 2680 | mg/kg | 1.0 |
| Total Aromatic Hydrocarbons | N | 2680 | mg/kg | 5.0 |
| Total Petroleum Hydrocarbons | N | 2680 | mg/kg | 10.0 |
| Benzene | U | 2760 | µg/kg | 1.0 |
| Toluene | U | 2760 | µg/kg | 1.0 |
| Ethylbenzene | U | 2760 | µg/kg | 1.0 |
| m & p-Xylene | U | 2760 | µg/kg | 1.0 |
| o-Xylene | U | 2760 | µg/kg | 1.0 |
| Methyl Tert-Butyl Ether | U | 2760 | µg/kg | 1.0 |
| Napthalene | N | 2800 | mg/kg | 0.010 |
| Acenaphthylene | N | 2800 | mg/kg | 0.010 |
| Acenaphthene | N | 2800 | mg/kg | 0.010 |
| Fluorene | N | 2800 | mg/kg | 0.010 |
| Phenanthrene | N | 2800 | mg/kg | 0.010 |
| Anthracene | N | 2800 | mg/kg | 0.010 |
| Fluoranthene | N | 2800 | mg/kg | 0.010 |
| Pyrene | N | 2800 | mg/kg | 0.010 |
| Benzo[a]anthracene | N | 2800 | mg/kg | 0.010 |
| Chrysene | N | 2800 | mg/kg | 0.010 |
| Benzo[b]fluoranthene | N | 2800 | mg/kg | 0.010 |
| Benzo[k]fluoranthene | N | 2800 | mg/kg | 0.010 |
| Benzo[a]pyrene | N | 2800 | mg/kg | 0.010 |
| Indeno[1,2,3-c,d]Pyrene | N | 2800 | mg/kg | 0.010 |
| Dibenz[<i>a,h</i>]Anthracene | N | 2800 | mg/kg | 0.010 |
| Benzo[<i>ghi</i>]perylene | N | 2800 | mg/kg | 0.010 |
| Coronene | N | 2800 | mg/kg | 0.010 |
| Total Of 17 PAH's | N | 2800 | mg/kg | 0.20 |
| Total Of 17 PAH's | N | 2800 | mg/kg | 0.20 |
| PCB 28 | N | 2815 | mg/kg | 0.0010 |
| PCB 52 | N | 2815 | mg/kg | 0.0010 |

Results - Soil

Project: 22611 Mullingar Westmeath (Tobin)

| Client: IGSL | Chemtest Job No.: | 20-20044 | 20-20044 | |
|--------------------------|----------------------|----------|----------|--------|
| Quotation No.: Q20-19951 | Chemtest Sample ID.: | 1041485 | 1041486 | |
| Order No.: | Client Sample Ref.: | AA135907 | AA135912 | |
| | Sample Location: | BH12 | BH13 | |
| | Sample Type: | SOIL | SOIL | |
| | Top Depth (m): | 1.00 | 1.00 | |
| | Asbestos Lab: | | | |
| Determinand | Accred. | SOP | Units | LOD |
| PCB 90+101 | N | 2815 | mg/kg | 0.0010 |
| PCB 118 | N | 2815 | mg/kg | 0.0010 |
| PCB 153 | N | 2815 | mg/kg | 0.0010 |
| PCB 138 | N | 2815 | mg/kg | 0.0010 |
| PCB 180 | N | 2815 | mg/kg | 0.0010 |
| Total PCBs (7 congeners) | N | 2815 | mg/kg | 0.0010 |
| Total PCBs (7 congeners) | N | 2815 | mg/kg | 0.0010 |
| Total Phenols | U | 2920 | mg/kg | 0.30 |

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Results - Single Stage WAC

Project: 22611 Mullingar Westmeath (Tobin)

Chemtest Job No: 20-20044

Sample ID: 1041476

Sample Ref: AA130924

Sample ID: BH01

Top Depth(m): 1.00

Bottom Depth(m):

Sampling Date:

| Determinand | SOP | Accred. | Units | Landfill Waste Acceptance Criteria Limits | | |
|------------------------------|------|---------|------------------|---|--|--------------------------|
| | | | | Inert Waste Landfill | Stable, Non-reactive hazardous waste in non-hazardous Landfill | Hazardous Waste Landfill |
| Total Organic Carbon | 2625 | U | % | [A] 0.34 | 5 | 6 |
| Loss On Ignition | 2610 | U | % | 1.0 | -- | 10 |
| Total BTEX | 2760 | U | mg/kg | [A] < 0.010 | -- | -- |
| Total PCBs (7 congeners) | | | | | | |
| TPH Total WAC (Mineral Oil) | 2670 | U | mg/kg | [A] < 10 | -- | -- |
| Total (of 17) PAHs | | | | | | |
| pH | 2010 | U | | 8.2 | -- | -- |
| Acid Neutralisation Capacity | 2015 | N | mol/kg | 0.24 | To evaluate | To evaluate |
| Eluate Analysis | | | 10:1 Eluate mg/l | 10:1 Eluate mg/kg | Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg | |
| Arsenic | 1450 | U | < 0.0010 | < 0.050 | 0.5 | 25 |
| Barium | 1450 | U | 0.0046 | < 0.50 | 20 | 100 |
| Cadmium | 1450 | U | < 0.00010 | < 0.010 | 0.04 | 1 |
| Chromium | 1450 | U | < 0.0010 | < 0.050 | 0.5 | 10 |
| Copper | 1450 | U | 0.0010 | < 0.050 | 2 | 50 |
| Mercury | 1450 | U | < 0.00050 | < 0.0050 | 0.01 | 0.2 |
| Molybdenum | 1450 | U | < 0.0010 | < 0.050 | 0.5 | 10 |
| Nickel | 1450 | U | < 0.0010 | < 0.050 | 0.4 | 10 |
| Lead | 1450 | U | < 0.0010 | < 0.010 | 0.5 | 10 |
| Antimony | 1450 | U | < 0.0010 | < 0.010 | 0.06 | 0.7 |
| Selenium | 1450 | U | < 0.0010 | < 0.010 | 0.1 | 0.5 |
| Zinc | 1450 | U | < 0.0010 | < 0.50 | 4 | 50 |
| Chloride | 1220 | U | < 1.0 | < 10 | 800 | 15000 |
| Fluoride | 1220 | U | 0.23 | 2.3 | 10 | 150 |
| Sulphate | 1220 | U | < 1.0 | < 10 | 1000 | 20000 |
| Total Dissolved Solids | 1020 | N | 120 | 1200 | 4000 | 60000 |
| Phenol Index | 1920 | U | < 0.030 | < 0.30 | 1 | -- |
| Dissolved Organic Carbon | 1610 | U | 3.8 | < 50 | 500 | 800 |

| Solid Information | |
|-----------------------------|-------|
| Dry mass of test portion/kg | 0.090 |
| Moisture (%) | 8.7 |

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Results - Single Stage WAC

Project: 22611 Mullingar Westmeath (Tobin)

Chemtest Job No: 20-20044

Sample ID: 1041479

Sample Ref: AA130935

Sample ID: BH04

Top Depth(m): 1.00

Bottom Depth(m):

Sampling Date:

| Determinand | SOP | Accred. | Units | Landfill Waste Acceptance Criteria Limits | | |
|------------------------------|------|---------|------------------|--|--|--------------------------|
| | | | | Inert Waste Landfill | Stable, Non-reactive hazardous waste in non-hazardous Landfill | Hazardous Waste Landfill |
| Total Organic Carbon | 2625 | U | % | 3 | 5 | 6 |
| Loss On Ignition | 2610 | U | % | -- | -- | 10 |
| Total BTEX | 2760 | U | mg/kg | 6 | -- | -- |
| Total PCBs (7 congeners) | | | | 1 | -- | -- |
| TPH Total WAC (Mineral Oil) | 2670 | U | mg/kg | 500 | -- | -- |
| Total (of 17) PAHs | | | | 100 | -- | -- |
| pH | 2010 | U | | -- | >6 | -- |
| Acid Neutralisation Capacity | 2015 | N | mol/kg | -- | To evaluate | To evaluate |
| Eluate Analysis | | | | Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg | | |
| Arsenic | 1450 | U | 10:1 Eluate mg/l | 0.050 | 2 | 25 |
| Barium | 1450 | U | 10:1 Eluate mg/l | < 0.50 | 100 | 300 |
| Cadmium | 1450 | U | 10:1 Eluate mg/l | < 0.010 | 1 | 5 |
| Chromium | 1450 | U | 10:1 Eluate mg/l | < 0.050 | 10 | 70 |
| Copper | 1450 | U | 10:1 Eluate mg/l | < 0.050 | 50 | 100 |
| Mercury | 1450 | U | 10:1 Eluate mg/l | < 0.0050 | 0.01 | 2 |
| Molybdenum | 1450 | U | 10:1 Eluate mg/l | < 0.050 | 0.5 | 30 |
| Nickel | 1450 | U | 10:1 Eluate mg/l | < 0.050 | 0.4 | 40 |
| Lead | 1450 | U | 10:1 Eluate mg/l | < 0.010 | 0.5 | 50 |
| Antimony | 1450 | U | 10:1 Eluate mg/l | < 0.010 | 0.06 | 5 |
| Selenium | 1450 | U | 10:1 Eluate mg/l | < 0.010 | 0.1 | 7 |
| Zinc | 1450 | U | 10:1 Eluate mg/l | < 0.50 | 4 | 200 |
| Chloride | 1220 | U | 10:1 Eluate mg/l | < 1.0 | 800 | 25000 |
| Fluoride | 1220 | U | 10:1 Eluate mg/l | 2.9 | 150 | 500 |
| Sulphate | 1220 | U | 10:1 Eluate mg/l | < 1.0 | 1000 | 50000 |
| Total Dissolved Solids | 1020 | N | 120 | 1200 | 4000 | 100000 |
| Phenol Index | 1920 | U | < 0.030 | < 0.30 | 1 | -- |
| Dissolved Organic Carbon | 1610 | U | 4.7 | < 50 | 500 | 1000 |

| Solid Information | |
|-----------------------------|-------|
| Dry mass of test portion/kg | 0.090 |
| Moisture (%) | 14 |

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Results - Single Stage WAC

Project: 22611 Mullingar Westmeath (Tobin)

Chemtest Job No: 20-20044

Chemtest Sample ID: 1041481

Sample Ref: AA130941

Sample ID: BH06

Top Depth(m): 1.00

Bottom Depth(m):

Sampling Date:

| Determinand | SOP | Accred. | Units | Landfill Waste Acceptance Criteria Limits | | | |
|------------------------------|------|---------|------------------|---|--|--------------------------|-------------|
| | | | | Inert Waste Landfill | Stable, Non-reactive hazardous waste in non-hazardous Landfill | Hazardous Waste Landfill | |
| Total Organic Carbon | 2625 | U | % | [A] 0.35 | 3 | 5 | 6 |
| Loss On Ignition | 2610 | U | % | 1.3 | -- | -- | 10 |
| Total BTEX | 2760 | U | mg/kg | [A] < 0.010 | 6 | -- | -- |
| Total PCBs (7 congeners) | 2670 | U | mg/kg | [A] < 10 | 500 | -- | -- |
| TPH Total WAC (Mineral Oil) | | U | mg/kg | | 100 | -- | -- |
| Total (of 17) PAHs | | U | mg/kg | | -- | -- | -- |
| pH | 2010 | U | | 8.3 | -- | >6 | -- |
| Acid Neutralisation Capacity | 2015 | N | mol/kg | 0.20 | -- | To evaluate | To evaluate |
| Eluate Analysis | | | 10:1 Eluate mg/l | 10:1 Eluate mg/kg | Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg | | |
| Arsenic | 1450 | U | < 0.0010 | < 0.050 | 0.5 | 2 | 25 |
| Barium | 1450 | U | 0.0050 | < 0.50 | 20 | 100 | 300 |
| Cadmium | 1450 | U | < 0.00010 | < 0.010 | 0.04 | 1 | 5 |
| Chromium | 1450 | U | < 0.0010 | < 0.050 | 0.5 | 10 | 70 |
| Copper | 1450 | U | < 0.0010 | < 0.050 | 2 | 50 | 100 |
| Mercury | 1450 | U | < 0.00050 | < 0.0050 | 0.01 | 0.2 | 2 |
| Molybdenum | 1450 | U | 0.0017 | < 0.050 | 0.5 | 10 | 30 |
| Nickel | 1450 | U | < 0.0010 | < 0.050 | 0.4 | 10 | 40 |
| Lead | 1450 | U | < 0.0010 | < 0.010 | 0.5 | 10 | 50 |
| Antimony | 1450 | U | < 0.0010 | < 0.010 | 0.06 | 0.7 | 5 |
| Selenium | 1450 | U | < 0.0010 | < 0.010 | 0.1 | 0.5 | 7 |
| Zinc | 1450 | U | < 0.0010 | < 0.50 | 4 | 50 | 200 |
| Chloride | 1220 | U | < 1.0 | < 10 | 800 | 15000 | 25000 |
| Fluoride | 1220 | U | 0.29 | 2.9 | 10 | 150 | 500 |
| Sulphate | 1220 | U | < 1.0 | < 10 | 1000 | 20000 | 50000 |
| Total Dissolved Solids | 1020 | N | 120 | 1200 | 4000 | 60000 | 100000 |
| Phenol Index | 1920 | U | < 0.030 | < 0.30 | 1 | -- | -- |
| Dissolved Organic Carbon | 1610 | U | 3.3 | < 50 | 500 | 800 | 1000 |

| Solid Information | |
|-----------------------------|-------|
| Dry mass of test portion/kg | 0.090 |
| Moisture (%) | 9.6 |

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Results - Single Stage WAC

Project: 22611 Mullingar Westmeath (Tobin)

Chemtest Job No: 20-20044

Chemtest Sample ID: 1041484

Sample Ref: AA135903

Sample ID: BH11

Sample Location: 1.00

Top Depth(m):

Bottom Depth(m):

Sampling Date:

| Determinand | SOP | Accred. | Units | Landfill Waste Acceptance Criteria Limits | | |
|------------------------------|------|---------|------------------|--|--|--------------------------|
| | | | | Inert Waste Landfill | Stable, Non-reactive hazardous waste in non-hazardous Landfill | Hazardous Waste Landfill |
| Total Organic Carbon | 2625 | U | % | 3 | 5 | 6 |
| Loss On Ignition | 2610 | U | % | -- | -- | 10 |
| Total BTEX | 2760 | U | mg/kg | 6 | -- | -- |
| Total PCBs (7 congeners) | | | | 1 | -- | -- |
| TPH Total WAC (Mineral Oil) | 2670 | U | mg/kg | 500 | -- | -- |
| Total (of 17) PAHs | | | | 100 | -- | -- |
| pH | 2010 | U | | -- | >6 | -- |
| Acid Neutralisation Capacity | 2015 | N | mol/kg | 0.20 | To evaluate | To evaluate |
| Euate Analysis | | | 10:1 Eluate mg/l | Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg | | |
| Arsenic | 1450 | U | < 0.0010 | 0.5 | 2 | 25 |
| Barium | 1450 | U | 0.0040 | 20 | 100 | 300 |
| Cadmium | 1450 | U | < 0.00010 | 0.04 | 1 | 5 |
| Chromium | 1450 | U | < 0.0010 | 0.5 | 10 | 70 |
| Copper | 1450 | U | 0.0011 | 2 | 50 | 100 |
| Mercury | 1450 | U | < 0.00050 | 0.01 | 0.2 | 2 |
| Molybdenum | 1450 | U | 0.0011 | 0.5 | 10 | 30 |
| Nickel | 1450 | U | < 0.0010 | 0.4 | 10 | 40 |
| Lead | 1450 | U | < 0.0010 | 0.5 | 10 | 50 |
| Antimony | 1450 | U | < 0.0010 | 0.06 | 0.7 | 5 |
| Selenium | 1450 | U | < 0.0010 | 0.1 | 0.5 | 7 |
| Zinc | 1450 | U | < 0.0010 | 4 | 50 | 200 |
| Chloride | 1220 | U | < 1.0 | 800 | 15000 | 25000 |
| Fluoride | 1220 | U | 0.21 | 10 | 150 | 500 |
| Sulphate | 1220 | U | < 1.0 | 1000 | 20000 | 50000 |
| Total Dissolved Solids | 1020 | N | 130 | 4000 | 60000 | 100000 |
| Phenol Index | 1920 | U | < 0.030 | 1 | -- | -- |
| Dissolved Organic Carbon | 1610 | U | 4.4 | 500 | 800 | 1000 |

| Solid Information | |
|-----------------------------|-------|
| Dry mass of test portion/kg | 0.090 |
| Moisture (%) | 10 |

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Deviations

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In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

| Sample: | Sample Ref: | Sample ID: | Sample Location: | Sampled Date: | Deviation Code(s): | Containers Received: |
|---------|-------------|------------|------------------|---------------|--------------------|----------------------|
| 1041476 | AA130924 | | BH01 | | A | Amber Glass 250ml |
| 1041476 | AA130924 | | BH01 | | A | Plastic Tub 500g |
| 1041477 | AA130920 | | BH02 | | A | Amber Glass 250ml |
| 1041477 | AA130920 | | BH02 | | A | Plastic Tub 500g |
| 1041478 | AAA13130 | | BH03 | | A | Amber Glass 250ml |
| 1041478 | AAA13130 | | BH03 | | A | Plastic Tub 500g |
| 1041479 | AA130935 | | BH04 | | A | Amber Glass 250ml |
| 1041479 | AA130935 | | BH04 | | A | Plastic Tub 500g |
| 1041480 | AA130946 | | BH05 | | A | Amber Glass 250ml |
| 1041480 | AA130946 | | BH05 | | A | Plastic Tub 500g |
| 1041481 | AA130941 | | BH06 | | A | Amber Glass 250ml |
| 1041481 | AA130941 | | BH06 | | A | Plastic Tub 500g |
| 1041482 | AA135920 | | BH07 | | A | Amber Glass 250ml |
| 1041482 | AA135920 | | BH07 | | A | Plastic Tub 500g |
| 1041483 | AA135916 | | BH09 | | A | Amber Glass 250ml |
| 1041483 | AA135916 | | BH09 | | A | Plastic Tub 500g |
| 1041484 | AA135903 | | BH11 | | A | Amber Glass 250ml |
| 1041484 | AA135903 | | BH11 | | A | Plastic Tub 500g |
| 1041485 | AA135907 | | BH12 | | A | Amber Glass 250ml |
| 1041485 | AA135907 | | BH12 | | A | Plastic Tub 500g |
| 1041486 | AA135912 | | BH13 | | A | Amber Glass 250ml |
| 1041486 | AA135912 | | BH13 | | A | Plastic Tub 500g |

Test Methods

| SOP | Title | Parameters included | Method summary |
|------|--|--|--|
| 1010 | pH Value of Waters | pH | pH Meter |
| 1020 | Electrical Conductivity and Total Dissolved Solids (TDS) in Waters | Electrical Conductivity and Total Dissolved Solids (TDS) in Waters | Conductivity Meter |
| 1220 | Anions, Alkalinity & Ammonium in Waters | Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium | Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser. |
| 1450 | Metals in Waters by ICP-MS | Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc | Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS). |
| 1610 | Total/Dissolved Organic Carbon in Waters | Organic Carbon | TOC Analyser using Catalytic Oxidation |
| 1800 | Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS | Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene | Pentane extraction / GCMS detection |
| 1920 | Phenols in Waters by HPLC | Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded. | Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection. |
| 2010 | pH Value of Soils | pH | pH Meter |
| 2015 | Acid Neutralisation Capacity | Acid Reserve | Titration |
| 2030 | Moisture and Stone Content of Soils(Requirement of MCERTS) | Moisture content | Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C. |
| 2040 | Soil Description(Requirement of MCERTS) | Soil description | As received soil is described based upon BS5930 |
| 2120 | Water Soluble Boron, Sulphate, Magnesium & Chromium | Boron; Sulphate; Magnesium; Chromium | Aqueous extraction / ICP-OES |
| 2175 | Total Sulphur in Soils | Total Sulphur | Determined by high temperature combustion under oxygen, using an Eltra elemental analyser. |
| 2180 | Sulphur (Elemental) in Soils by HPLC | Sulphur | Dichloromethane extraction / HPLC with UV detection |
| 2192 | Asbestos | Asbestos | Polarised light microscopy / Gravimetry |
| 2220 | Water soluble Chloride in Soils | Chloride | Aqueous extraction and measurement by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate. |
| 2300 | Cyanides & Thiocyanate in Soils | Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate | Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser. |
| 2325 | Sulphide in Soils | Sulphide | Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine. |
| 2430 | Total Sulphate in soils | Total Sulphate | Acid digestion followed by determination of sulphate in extract by ICP-OES. |
| 2450 | Acid Soluble Metals in Soils | Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc | Acid digestion followed by determination of metals in extract by ICP-MS. |
| 2490 | Hexavalent Chromium in Soils | Chromium [VI] | Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide. |

Test Methods

| SOP | Title | Parameters included | Method summary |
|------|--|---|--|
| 2610 | Loss on Ignition | loss on ignition (LOI) | Determination of the proportion by mass that is lost from a soil by ignition at 550°C. |
| 2625 | Total Organic Carbon in Soils | Total organic Carbon (TOC) | Determined by high temperature combustion under oxygen, using an Eltra elemental analyser. |
| 2670 | Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID | TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40 | Dichloromethane extraction / GC-FID |
| 2680 | TPH A/A Split | Aliphatics: >C5–C6, >C6–C8, >C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44 Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44 | Dichloromethane extraction / GCxGC FID detection |
| 2760 | Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS | Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)*please refer to UKAS schedule | Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds. |
| 2800 | Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS | Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene* | Dichloromethane extraction / GC-MS |
| 2815 | Polychlorinated Biphenyls (PCB) ICES7 Congeners in Soils by GC-MS | ICES7 PCB congeners | Acetone/Hexane extraction / GC-MS |
| 2920 | Phenols in Soils by HPLC | Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and Trimethylphenols Note: chlorophenols are excluded. | 60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection. |
| 640 | Characterisation of Waste (Leaching C10) | Waste material including soil, sludges and granular waste | Compliance Test for Leaching of Granular Waste Material and Sludge |

Report Information

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Key

| | |
|-----|---|
| U | UKAS accredited |
| M | MCERTS and UKAS accredited |
| N | Unaccredited |
| S | This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis |
| SN | This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis |
| T | This analysis has been subcontracted to an unaccredited laboratory |
| I/S | Insufficient Sample |
| U/S | Unsuitable Sample |
| N/E | not evaluated |
| < | "less than" |
| > | "greater than" |

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

-
- A - Date of sampling not supplied
 - B - Sample age exceeds stability time (sampling to extraction)
 - C - Sample not received in appropriate containers
 - D - Broken Container
 - E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com

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Appendix VIII. Site Plans

THE INFORMATION ON THIS DRAWING IS TO THE ORDINANCE SURVEY/IRELAND ITM COORDINATE SYSTEM

LEGEND:

- SITE BOUNDARY
- TP TRIAL PIT LOCATION
- SO SOAKAWAY TEST LOCATION (BRE 340 SPEC)
- BH BOREHOLE LOCATION
- CBR1 CBR LOCATIONS
- PROPOSED ACCESS LOCATION
- SILT TRENCH LOCATION

- NOTES:**
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
 2. THIS DRAWING TO BE CHECKED BY THE CONTRACTOR ON SITE.
 3. ENGINEER/EMPLOYER REPRESENTATIVE AS NOTED TO BE PRESENT AT ALL DISCERNIBLE BEFORE ANY WORK COMMENCES.
 4. THIS DRAWING IS FOR INFORMATION ONLY. THE CONTRACTOR CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES ABOVE AND BELOW GROUND BEFORE ANY WORK COMMENCES.
 5. DATUM IS TO ORDINANCE SURVEY DATUM AT MAIN HEAD.

| Rev | Date | Description | By | Check |
|-----|----------|--------------|----|-------|
| 1 | 23/05/20 | Construction | SO | BR |
| 2 | 23/05/20 | Final Issue | SO | BR |

Client: **Glenewagh Homes**

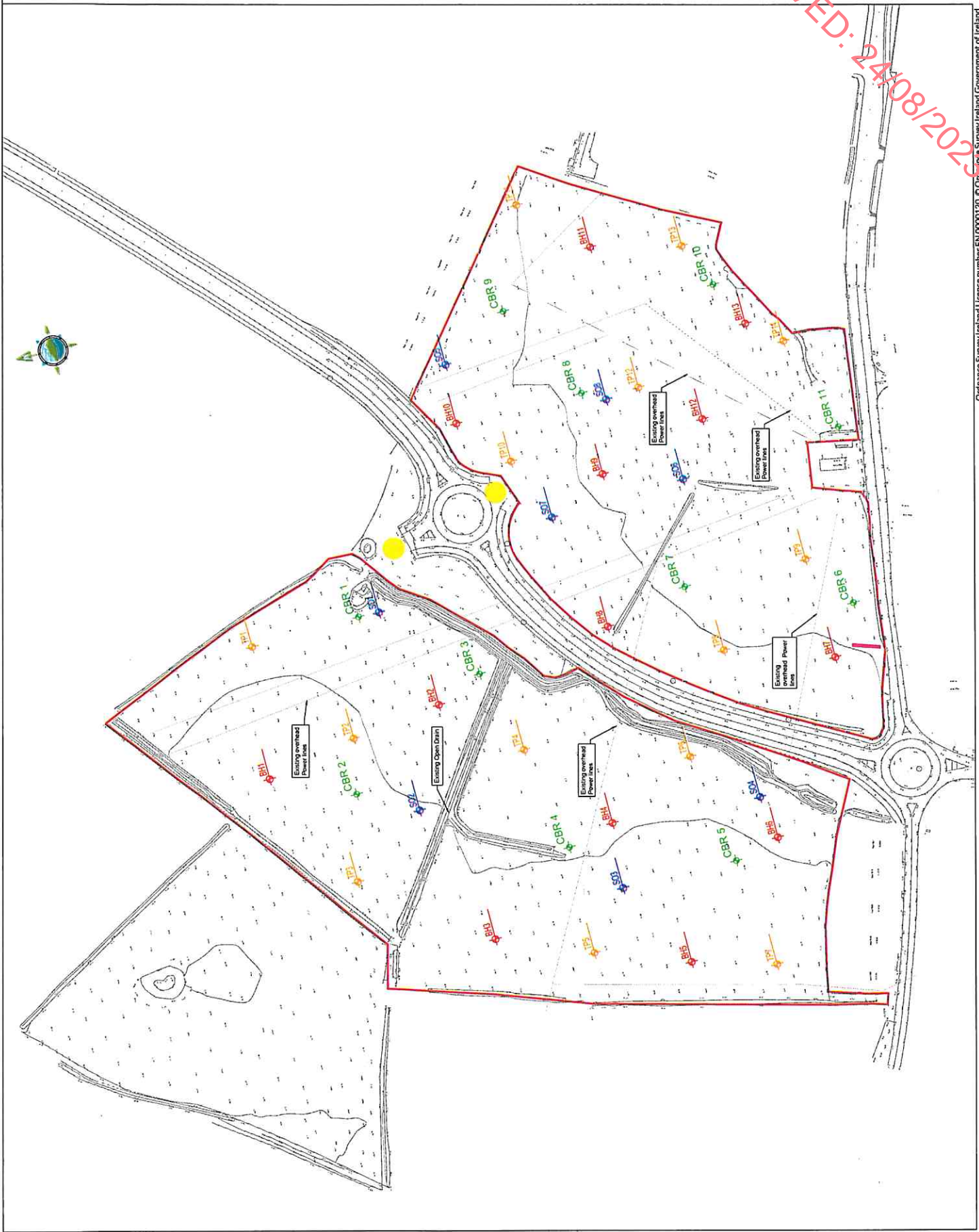
Project: **Proposed Residential Development Rathgowan, Mullingar**

Title: **Site Survey and Proposed Site Access, Trial Pits, Soakaways and Borehole Locations**

Scale: A1
 Date: 1:1000
 Drawn by: RD
 Project Director: Michael McDonnell
 Drawing Status: Construction

TOBIN
 CONSULTING ENGINEERS
 Survey Office
 Glenewagh Homes, Farrington Road,
 197 AKA,
 Mullingar,
 Co. Wick
 Tel: +353 (0)91 865 211

Drawing No: **10906-1005**
 Revision: **B**



COPY FORWARDED: 24/08/2023

THE INFORMATION ON THIS DRAWING IS TO THE ORDINANCE SURVEY IRELAND 11M COORDINATE SYSTEM

LEGEND:

- SITE BOUNDARY
- TRIAL PIT LOCATION
- SOAKAWAY TEST LOCATION (BRE 360 SPEC)
- BOREHOLE LOCATION
- CBR LOCATIONS
- PROPOSED ACCESS LOCATION
- SILT TRENCH LOCATION

- NOTES:**
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
 2. THE CONTRACTOR SHALL BE RESPONSIBLE AS APPROPRIATE TO ANY DISCREPANCIES BEFORE ANY COMMENCEMENT OF WORK.
 3. THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES AND UTILITIES IN THE GROUND BEFORE ANY WORK COMMENCES.
 4. ALL LEVELS SHOWN RELATE TO ORDINANCE SURVEY DATUM AT MALIN HEAD.

| Rev | Date | Description | By | CHK |
|-----|------------|---------------|----|-----|
| B | 27/06/2022 | Correction | RD | BP |
| A | 02/07/2022 | Tracked Issue | SR | RD |

Client: **Glenreegh Homes**

Project: **Proposed Residential Development Rathgowan, Mullingar**

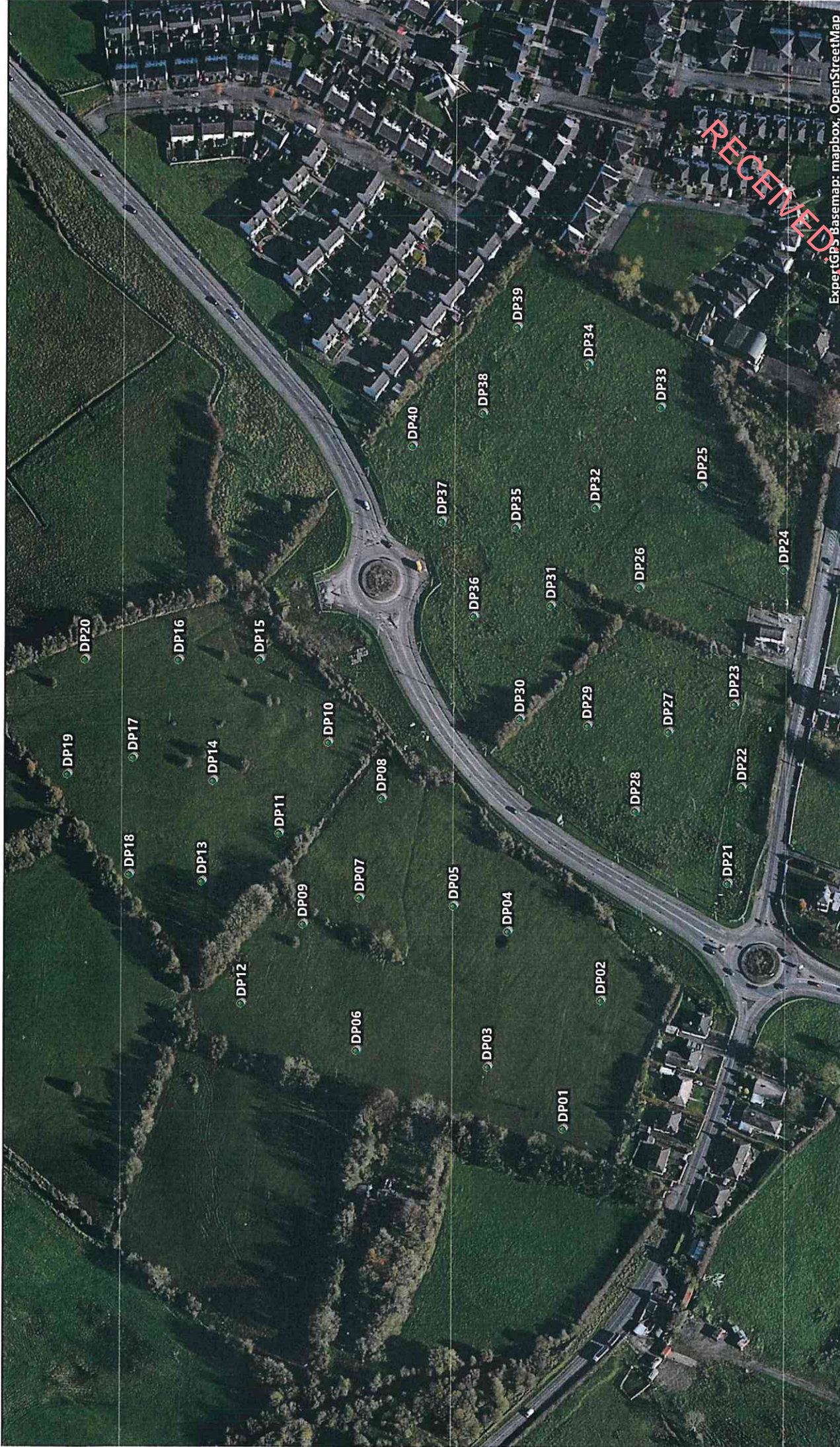
Title: **Site Survey and Proposed Site Access, Trial Pits, Soakaways and Borehole Locations**

Scale: 1:1000
 Prepared by: RD
 Date: May 20
 Project Director: Michael McDonnell
 Drawing Status: Construction

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 Tel: +353 (0)81 666 511

Drawing No: **10906-1004** B





ExpertGPS - Basemap: mapbox, OpenStreetMap

Glenveagh Homes Probes



Scale: 1 : 2750.

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24/08/2023

