GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

Ground Investigations Ireland

Clonminch, Tullamore

DBFL

Ground Investigation Report

July 2020

Environmental Impact Assessment Report
Appendix 6A

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

DOCUMENT CONTROL SHEET

Project Title	Clonminch, Tullamore
Client	DBFL
Project No	9551-03-20
Document Title	Ground Investigation Report

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
A	Final	N Morgan	C Finnerty	B Sexton	Dublin	03 July 2020

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

CONTENTS

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

APPENDICES

1.0 Preamble

On the instructions of DBFL Consulting Engineers, a site investigation was carried out by Ground Investigations Ireland Ltd., in May 2020 at the site of the proposed residential development in Clonminch, Tullamore, Co. Offaly.

2.0 Overview

2.1. Background

It is proposed to construct a new residential development with associated services, access roads and car parking at the proposed site. The site is currently. The proposed construction is envisaged to consist of conventional foundations and pavement make up with some local excavations for services and plant.

2.2. Purpose and Scope

The purpose of the site investigation was to investigate subsurface conditions utilising a variety of investigative methods in accordance with the project specification. The scope of the work undertaken for this project included the following:

- Visit project site to observe existing conditions
- Carry out 20 No. Trial Pits to a maximum depth of 3.30 BGL
- Carry out 12 No. Soakaways to determine a soil infiltration value to BRE digest 365
- Carry out 20 No. Dynamic Probes to determine soil strength/density characteristics
- Carry out 20 No. Insitu Plate Bearing Tests (CBR)
- Geotechnical & Chemical Laboratory testing
- Report with recommendations

3.0 Subsurface Exploration

3.1. General

During the ground investigation a programme of intrusive investigation specified by the Consulting Engineer was undertaken to determine the sub surface conditions at the proposed site. Regular sampling and in-situ testing was undertaken in the exploratory holes to facilitate the geotechnical descriptions and to enable laboratory testing to be carried out on the soil samples recovered during excavation and drilling.
The procedures used in this site investigation are in accordance with Eurocode 7 Part 2: Ground Investigation and testing (ISEN 1997 – 2:2007) and B.S. 5930:2015.

3.2. Trial Pits

The trial pits were excavated using a 13T excavator at the locations shown in the exploratory hole location plan in Appendix 1. The locations were checked using a CAT scan to minimise the potential for encountering services during the excavation. The trial pits were sampled, logged and photographed by a Geotechnical Engineer/Engineering Geologist prior to backfilling with arisings. Notes were made of any services, inclusions, pit stability, groundwater encountered and the characteristics of the strata encountered and are presented on the trial pit logs which are provided in Appendix 2 of this Report.

3.3. Soakaway Testing

The soakaway testing was carried out at the locations shown in the exploratory hole location plan in Appendix 1. These pits were carefully excavated and filled with water to assess the infiltration characteristics of the proposed site. The pits were allowed to drain and the drop in water level was recorded over time as required by BRE Digest 365. The pits were logged prior to completing the soakaway test and were backfilled with arising's upon completion. The soakaway test results are provided in Appendix 3 of this Report.

3.4. Dynamic Probing

The dynamic probe tests (DPH) were carried out at the locations shown in the location plan in Appendix 1 in accordance with B.S. 1377: Part 9 1990. The test consists of mechanically driving a cone with a 50kg weight in 100mm intervals and monitoring the number of blows required. An equivalent Standard Penetration Test (SPT) 'N' value may be calculated by dividing the total number of blows over a 300mm drive length by 1.5. The dynamic probe logs are provided in Appendix 4 of this Report.

3.5. Surveying

The exploratory hole locations have been recorded using a Trimble R10 GNSS System which records the coordinates and elevation of the locations to ITM or Irish National Grid as required by the project specification. The coordinates and elevations are provided on the exploratory hole logs in the appendices of this Report.

3.6. Insitu Plate Bearing Test

The plate bearing tests were carried out using a 450mm diameter plate at the locations shown on the site plan in Appendix 1. The plate was loaded in increments using a hydraulic jack and an excavator to provide a reaction and the displacement was monitored in accordance with BS1377 Part 9 using independently mounted digital strain gauges. The constrained modulus and equivalent CBR are calculated in accordance with HD29/75 and are provided on the test reports in Appendix 5 of this Report.

3.7. Laboratory Testing

Samples were selected from the exploratory holes for a range of geotechnical and chemical testing to provide information for the proposed design.
Chemical testing as required by the specification, including the pH and sulphate testing was carried out by Element Materials Technology Laboratory in the UK.
Geotechnical testing consisting of Atterberg limits, Particle Size Distribution (PSD), hydrometer and Moisture Condition Value (MCVP tests were carried out in NMTL's Geotechnical Laboratory in Carlow.
The results of the laboratory testing are outstanding at the time of writing.

4.0 Ground Conditions

4.1. General

The ground conditions encountered during the investigation are summarised below with reference to insitu and laboratory test results. The full details of the strata encountered during the ground investigation are provided in the exploratory hole logs included in the appendices of this report.

The sequence of strata encountered were variable across the site and are generally comprised;
;

- Topsoil
- Cohesive Deposits
- Granular Deposits

TOPSOIL: Topsoil was encountered in all the exploratory holes and was present to a maximum depth of 0.25m BGL.

COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Topsoil and were described typically as *brown grey sandy gravelly clayey SILT or silty CLAY with occasional cobbles and boulders*. The secondary sand and gravel constituents varied across the site and with depth, with granular lenses occasionally present in the glacial till matrix. The strength of the cohesive deposits typically increased with depth and was firm to stiff or stiff below 1.5m BGL in the majority of the exploratory holes. These deposits had some, occasional or frequent cobble and boulder content where noted on the exploratory hole logs.

GRANULAR DEPOSITS: The granular deposits were encountered within of the cohesive deposits and were typically described as G*rey brown clayey gravelly fine to coarse SAND with occasional cobbles and rare boulders.* The secondary sand/gravel and silt/clay constituents varied across the site and with depth while occasional or frequent cobble and boulder content also present where noted on the exploratory hole logs.
Based on the DPH N100 values the deposits are typically medium dense and become dense with depth. It should be noted that many of the trial pits where granular deposits or groundwater were encountered,

experienced instability. This was described either as side wall spalling or as side wall collapse in the remarks section at the base of the trial pit logs

4.2. Insitu Strength Testing

The correlated DPH blow counts indicate that the overburden deposits are firm to depth of 0.60m to 1.0m BGL and become stiff to very stiff with depth.

4.3. Insitu Plate Bearing Test

The CBR plate bearing testing gave results ranging between 0.46% and 3.77% for the cohesive deposits, however CBR04 at 0.30m BGL and CBR20 at 0.40m BGL gave higher values of 9.47% and 16.74% respectively.

4.4. Laboratory Testing

The geotechnical testing carried out on soil samples recovered generally confirm the descriptions on the logs with the primary constituent of the cohesive deposits found to be a CLAY of low plasticity. The Particle Size Distribution tests confirm that generally the cohesive deposits are well-graded with percentages of sands and gravels ranging between 16.1% and 42.7% generally with fines contents of 16.8% to 57.3%.
Five Moisture Condition Value (MCV) relationship tests at natural moisture were undertaken giving a range of 6.8 to 14.9, at moisture contents between 8% to 18%.

4.5. Chemical Laboratory Testing

The pH and sulphate testing carried out indicate that pH results are near neutral and that the water soluble sulphate results is low when compared to the guideline values from BRE Special Digest 1:2005. The samples tested classify the soil as a Design Sulphate Level DS-1.

The laboratory testing is included in Appendix 6 of this Report.

5.0 Recommendations & Conclusions

5.1. General

The recommendations given and opinions expressed in this report are based on the findings as detailed in the exploratory hole records. Where an opinion is expressed on the material between exploratory hole locations, this is for guidance only and no liability can be accepted for its accuracy. No responsibility can be accepted for conditions which have not been revealed by the exploratory holes. Limited information has been provided at the ground investigation stage and any designs based on the recommendations or conclusions should be completed in accordance with the current design codes, taking into account the variation and the specific details contained within the exploratory hole logs.

5.2. Foundations

An allowable bearing capacity of 125 kN/m^2 is recommended for conventional strip or pad foundations on the firm to stiff cohesive or medium dense granular deposits at a depth of 0.8m BGL with the exception of the locations DP08, DP09, DP10 and DP16 where slightly deeper depths are advised in Table 1 below. Any soft spots encountered at the proposed foundation depths should be excavated and replaced with lean mix concrete.

A ground bearing floor slab is recommended to be based on the firm or firm to stiff cohesive deposits with an appropriate depth of compacted hardcore specified by the consulting engineer and in accordance with the limits and guidelines in SR21:2014 +A1:2016 and/or NRA SRW CL808 Type E granular stone fill.

The possibility for variation in the depth of soft spots in the vicinity of these foundations should be considered and foundation inspections should be carried out. Any soft spots encountered at the proposed foundation depths should be excavated and replaced with lean mix concrete.

Table 1 - Allowable Bearing Capacities (ABC) kN/m^2

Dynamic Probe No.	ABC kN/m^2	Depth m BGL		Dynamic Probe No.	ABC kN/m^2	Depth m BGL
DP01	125	0.8		DP11	125	0.8
DP02	125	0.8		DP12	125	0.8
DP03	125	0.8		DP13	125	0.8
DP04	125	0.8		DP14	125	0.8
DP05	125	0.8		DP15	125	0.8
DP06	125	0.8		DP16	125	1.2
DP07	125	0.8		DP17	125	0.8
DP08	125	1.5		DP18	125	0.8
DP09	125	0.9		DP19	125	0.8
DP10	125	1.1		DP20	125	0.8

5.3. External Pavements

The proposed pavements are recommended to be designed in accordance with the CBR test results included in the Appendixes of this Report. The low CBR test results indicate that a capping layer or a sufficient depth of crushed stone fill may be required. Plate bearing tests are recommended at the time of construction to verify the design assumptions for the proposed pavement make up and to verify adequate compaction has been achieved.

The use of a geogrid and separation membrane may improve the performance of the proposed pavement and enable a more economical pavement design to be achieved, a specialist supplier is recommended to advise of the required strength, depth and type of geotextile for the proposed design.

5.4. Excavations

Short term temporary excavations in the cohesive deposits will remain stable for a limited time only and will require to be appropriately battered or the sides supported if the excavation is below 1.25m BGL or is required to permit man entry.

Any excavations which penetrate the granular deposits will require to be appropriately battered or the sides supported and are likely to require dewatering due to the groundwater seepages noted in the exploratory hole logs in the Appendices of this Report.

The groundwater and stability noted on the trial pit logs should be consulted when determining the most appropriate construction methods for excavations

5.5. Material Reuse

The results of the testing are shown in Table 1 below. Typically, an MCV of between 7 and 8 is considered marginal, with 8 or greater considered suitable for reuse. Generally, the material is variable, with four of the samples tested indicating they may be suitable for reuse in their current state. Further testing is recommended at the time of construction to verify the design assumptions for the proposed reuse. If a material required a minor treatment, this would restrict the earthworks programme and be subject to weather, making it difficult to quantify and control costs. If materials required significant treatment such as the addition of lime or cement, with the associated plant and equipment required, it may not be economical feasible for the size of the proposed project. The quantities of each material encountered during the dig would be variable and dependent on the final formation level chosen.

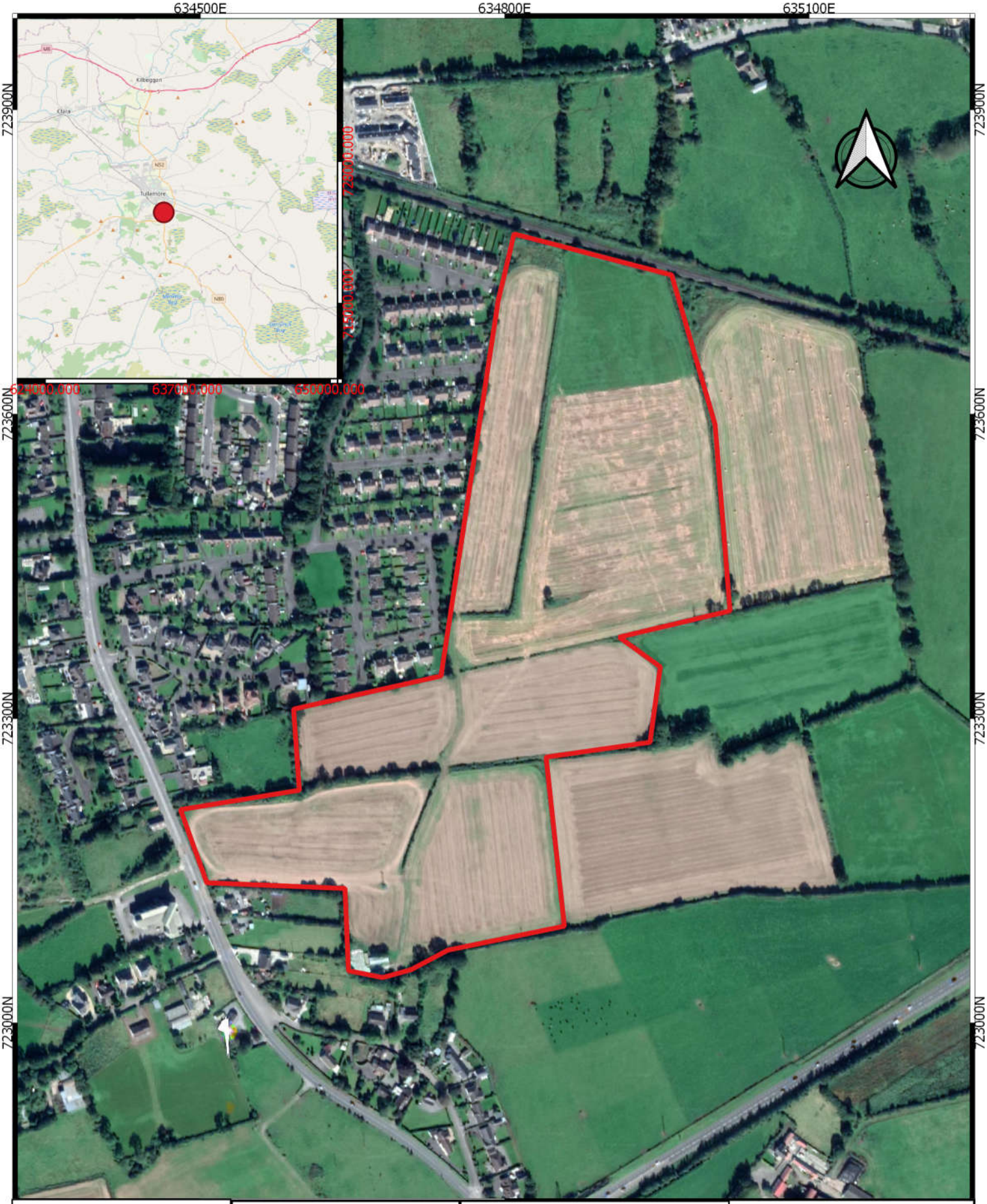
Trial Pit	Pit Elevation (m OD)	Sample Depth (m BGL)	Sample Depths (m OD)	MC (%)	MCV	Strata	Silt/Clay Content (%)	Material Reuse
SK06	68.04	1.50	66.54	12.2	10.2	Brown slightly sandy slightly gravelly clayey SILT	39.9	May be suitable
TP01	71.53	1.00	70.53	11.9	11.9	Brown slightly sandy slightly gravelly clayey SILT	39.2	May be suitable
TP08	70.49	1.50	68.99	10.7	7.9	Brown slightly sandy gravelly clayey SILT	35.5	May be suitable
TP14	69.86	0.50	69.36	18	14.9	Brown slightly sandy slightly gravelly clayey SILT	57.3	May be suitable
TP18	65.84	1.00	64.84	8	6.8	Light brown silty gravelly SAND	16.8	Requires treatment

5.6. Soakaway Design

Infiltration rates of f = 6.192 x 10^{-6} m/s, 1.262 x 10^{-5} m/s, 1.244 x 10^{-5} m/s, and 9.553 x 10^{-6} m/s respectively were calculated for the soakaway locations SK01, SK02, SK04 and SK05. At the locations of SK03 and SK06 to SK12 the water level dropped too slowly to allow calculation of 'f' the soil infiltration rate. These locations are therefore not recommended as suitable for soakaway design and construction.

The recommendations provided in this report should be verified in the design of the proposed buildings, using the full details of the loading conditions and taking into consideration the allowable tolerable settlements/movements that the building can accommodate. The founding strata should be inspected and verified by a suitably qualified engineer prior to construction of the building foundations.

APPENDIX 1 - Site Location Plan



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

Client:

Project Title:
Clonminch, Tullamore

Drawing Title:
Figure 1 Site Location

GII Project Reference:
9551-03-20

0 45 90 135 180 m

Drawn By:
NM

Date:
08/06/2020

Site Location

Indicative Site Boundary

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

Client:

Project Title:
Clonminch, Tullamore

Drawing Title:
Figure 2 Trial Pit Locations

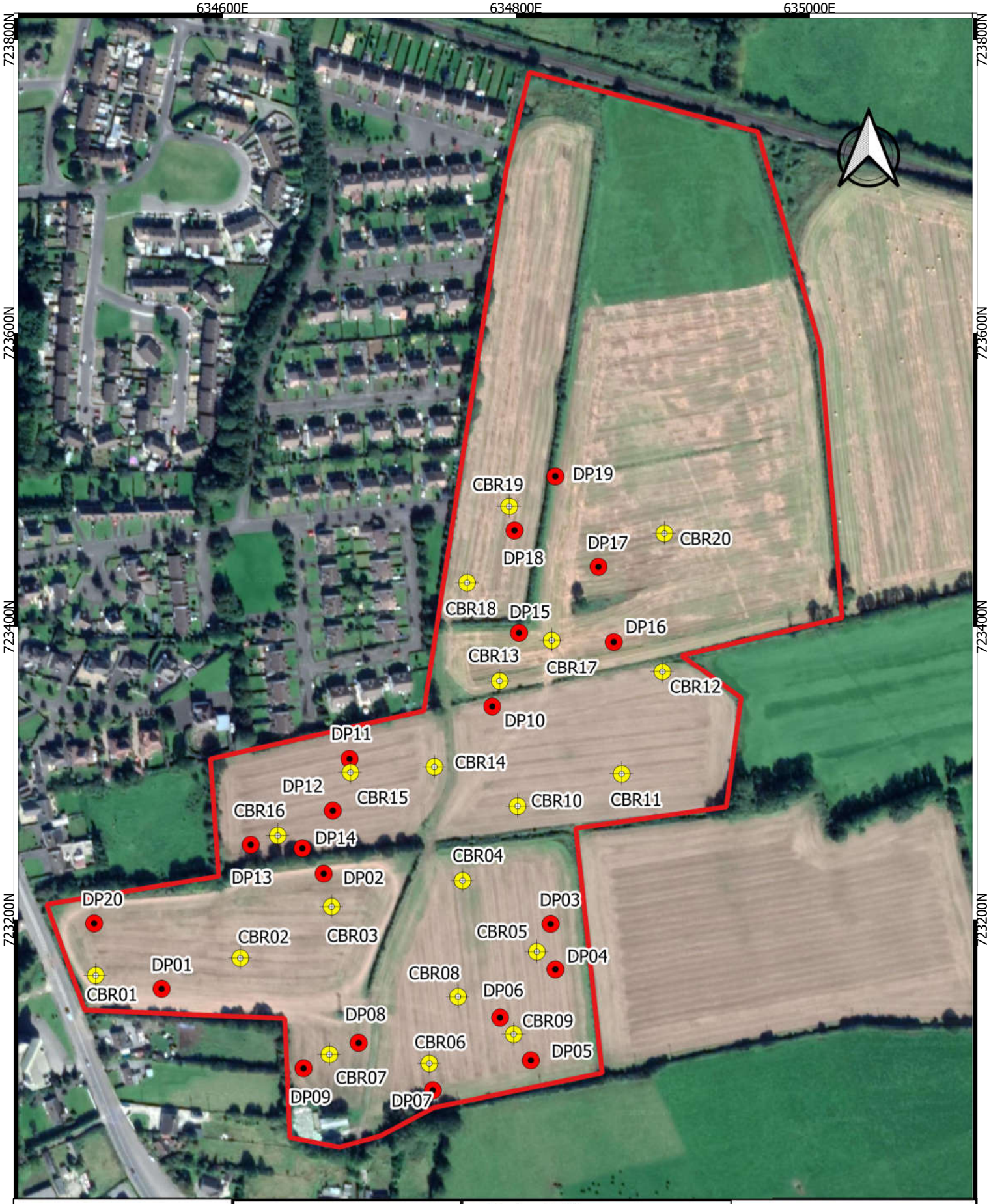
GII Project Reference:
9551-03-20

0 40 80 120 m

Drawn By:
NM

Date:
08/06/2020

Indicative Site Boundary
Trial Pit
Soakaway



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

Client:

Project Title:
Clonminch, Tullamore

Drawing Title:
Figure 3 CBR/DP Locations

GII Project Reference:
9551-03-20

0 40 80 120 m

Drawn By:
NM

Date:
08/06/2020

Indicative Site Boundary
CBR
Dynamic Probe

APPENDIX 2 – Trial Pit Records

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP01
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.80m L	**Ground Level (mOD)** 71.53	**Client** DBFL	**Job Number** 9551-03-20
	Location 234655.7 E 223172.3 N	**Dates** 19/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				71.28	0.25	Soft to firm light brown slightly sandy slightly gravelly SILT.		
					(0.65)			
				70.63	0.90	Firm to stiff light grey sandy gravelly SILT with occasional sub-angular to sub-rounded cobbles.		
1.00	B				(0.80)			
				69.83	1.70	Stiff to very stiff light grey brown sandy gravelly CLAY with occasional sub-angular to sub-rounded cobbles and boulders.		
2.00	B				(1.30)			
				68.53	3.00	Complete at 3.00m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 3.0m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP01

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP02
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 3.0m L	**Ground Level (mOD)** 71.25	**Client** DBFL	**Job Number** 9551-03-20
	Location 234643.3 E 223120 N	**Dates** 19/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				71.00	0.25	Soft to firm light brown slightly sandy slightly gravelly CLAY.		
					(0.55)			
				70.45	0.80	Stiff light brown grey clayey sandy gravelly SILT with occasional sub-angular to sub-rounded cobbles.		
1.00	B				(0.40)			
				70.05	1.20	Very stiff Light brown grey clayey gravelly very sandy SILT with occasional sub-angular to sub-rounded cobbles and boulders		
					(1.80)			
3.00	B			68.25	3.00	Complete at 3.00m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 3.0m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP02

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP03
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.80m L	**Ground Level (mOD)** 69.58	**Client** DBFL	**Job Number** 9551-03-20
	Location 234763.5 E 223205.8 N	**Dates** 19/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				69.33	0.25			
					(0.35)	Firm light brown slightly sandy slightly gravelly SILT.		
				68.98	0.60			
					(0.40)	Stiff light brown slightly sandy slightly gravelly SILT.		
				68.58	1.00			
1.50	B				(1.00)	Medium dense brown slightly silty gravelly fine to medium SAND with occasional sub-angular to sub-rounded cobbles.		
				67.58	2.00			
					(1.20)	Medium dense to dense grey brown slightly silty gravelly fine to coarse SAND with occasional sub-angular to sub-rounded cobbles and boulders.		
3.00	B							
				66.38	3.20	Complete at 3.20m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 3.2m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP03

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP04
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.9m L	**Ground Level (mOD)** 68.45	**Client** DBFL	**Job Number** 9551-03-20
	Location 234873 E 223216.2 N	**Dates** 20/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				68.25	0.20	Firm light brown slightly sandy gravelly SILT.		
					(0.40)			
0.50	B			67.85	0.60	Stiff brown grey gravelly very sandy SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
					(1.30)			
1.50	B							
				66.55	1.90	Medium dense grey brown silty gravelly fine to coarse SAND with occasional sub-angular to sub-rounded cobbles and boulders.		
					(0.70)			
2.50	B			65.85	2.60	Medium dense to dense grey gravelly very clayey fine to coarse SAND with occasional sub-angular to sub-rounded cobbles and boulders.		
					(0.40)			
			Water strike(1) at 3.00m.	65.45	3.00	Complete at 3.10m		▽1

Plan

Remarks

Trial pit stable.
Groundwater encountered at 3.0m BGL
Trial pit terminated at 3.10m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP04

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP05
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.8m L	**Ground Level (mOD)** 69.47	**Client** DBFL	**Job Number** 9551-03-20
	Location 234886.3 E 223115.4 N	**Dates** 20/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				69.22	0.25	Firm light brown sandy gravelly SILT with occasional sub-angular to sub-rounded cobbles.		
					(0.75)			
1.00	B			68.47	1.00	Stiff to very stiff light brown grey gravelly very sandy SILT with occasional sub-rounded cobbles.		
					(1.00)			
				67.47	2.00	Medium dense to dense light dark grey brown gravelly very clayey fine to coarse SAND with occasional sub-rounded to sub-angular cobbles and rare boulders.		
					(0.70)			
2.50	B			66.77	2.70	Complete at 2.70m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 2.70m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP05

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP06
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.8m L	**Ground Level (mOD)** 69.75	**Client** DBFL	**Job Number** 9551-03-20
	Location 234856.5 E 223139.5 N	**Dates** 20/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				69.50	0.25	Firm brown slightly sandy slightly gravelly CLAY		
					(0.75)			
				68.75	1.00	Stiff to very stiff light brown grey sandy gravelly SILT with occasional sub-angular to sub-rounded cobbles.		
					(0.70)			
				68.05	1.70	Medium dense to dense light brown grey silty gravelly fine to coarse SAND with occasional sub-angular to sub-rounded cobbles and boulders.		
					(1.10)			
				66.95	2.80	Complete at 2.80m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 2.80m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP06

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP07
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.8m L	**Ground Level (mOD)** 72.73	**Client** DBFL	**Job Number** 9551-03-20
	Location 234826.8 E 223065.5 N	**Dates** 20/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				72.53	0.20	Firm brown slightly gravelly sandy SILT.		
					(0.30)			
				72.23	0.50	Medium dense light brown grey gravelly very silty fine to coarse SAND with occasional sub-rounded to sub-angular cobbles and boulders.		
1.00	B				(1.00)			
				71.23	1.50	Medium dense to dense light grey silty very gravelly fine to coarse SAND with occasional sub-rounded to sub-angular cobbles and boulders.		
2.00	B				(0.90)			
				70.33	2.40	Stiff light grey sandy gravelly CLAY with occasional sub-rounded to sub-angular cobbles and boulders.		
3.00	B				(0.90)			
				69.43	3.30	Complete at 3.30m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 3.30m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP07

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP08
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.8m L	**Ground Level (mOD)** 70.49	**Client** DBFL	**Job Number** 9551-03-20
	Location 234829.5 E 223127.7 N	**Dates** 20/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				70.29	0.20	Firm brown slightly sandy slightly gravelly SILT.		
					(0.40)			
				69.89	0.60	Stiff light brown grey sandy gravelly SILT.		
					(0.40)			
				69.49	1.00	Stiff light brown grey sandy gravelly SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
1.50	B				(1.50)			
2.50	B			67.99	2.50	Firm to stiff brown grey slightly clayey sandy gravelly SILT with occasional sub-angular to sub-rounded cobbles and boulders. Trial pit spalling at 2.50m BGL.		
					(0.30)			
				67.69	2.80	Complete at 2.80m		

Plan

Remarks

Trial pit spalling at 2.50m BGL.
No groundwater encountered.
Trial pit terminated at 2.70m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP08

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP09
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.7m L	**Ground Level (mOD)** 70.89	**Client** DBFL	**Job Number** 9551-03-20
	Location 234787.5 E 223103.1 N	**Dates** 20/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				70.69	0.20	Firm light brown slightly sandy slightly gravelly clayey SILT.		
					(0.60)			
				70.09	0.80	Firm light grey sandy very gravelly SILT with occasional sub-angular to sub-rounded cobbles.		
					(0.80)			
				69.29	1.60	Medium dense to dense light brown grey gravelly very silty fine to coarse SAND with occasional sub-rounded cobbles and rare boulders		
					(1.20)			
				68.09	2.80	Complete at 3.00m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 2.80m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP09

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP10
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.80m L	**Ground Level (mOD)** 70.87	**Client** DBFL	**Job Number** 9551-03-20
	Location 234710.7 E 223097.4 N	**Dates** 19/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				70.67	0.20	Firm light brown slightly sandy slightly gravelly CLAY.		
					(0.80)			
				69.87	1.00	loose to medium dense light brown grey slightly clayey gravelly fine to coarse SAND with occasional sub-angular to sub-rounded cobbles and boulders.		
					(0.80)	Trial pit walls spalling at 1.50m BGL.		
				69.07	1.80	Medium dense to dense light brown grey slightly clayey gravelly fine to coarse SAND with occasional sub-angular to sub-rounded cobbles and boulders.		
					(1.00)			
				68.07	2.80	Complete at 2.80m		

Plan

Remarks

Trial pit spalling at 1.50m BGL.
No groundwater encountered.
Trial pit terminated at 2.80m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP10

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP11
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.5m L	**Ground Level (mOD)** 68.63	**Client** DBFL	**Job Number** 9551-03-20
	Location 234808.5 E 223251.9 N	**Dates** 21/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				68.38	0.25			
					(0.25)	Firm light brown slightly sandy slightly gravelly SILT.		
				68.13	0.50			
					(0.50)	Firm light brown grey gravelly very sandy SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
1.00	B			67.63	1.00			
					(1.50)	Stiff light brown grey very sandy very gravelly SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
2.00	B							
				66.13	2.50			
					(0.50)	Stiff grey sandy very gravelly CLAY with occasional sub-angular to sub-rounded cobbles and boulders.		
3.00	B			65.63	3.00			
						Complete at 3.00m		

Plan

Remarks

Trial pit unstable. Side wall collapsed.
No groundwater encountered.
Trial pit terminated at 3.0m BGL due to side wall collapse and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP11

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP12
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.8m L	**Ground Level (mOD)** 69.11	**Client** DBFL	**Job Number** 9551-03-20
	Location 234765.2 E 223283.3 N	**Dates** 21/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				68.86	0.25	Stiff light brown slightly sandy slightly gravelly SILT.		
					(0.35)			
				68.51	0.60	Very stiff brown grey sandy gravelly SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
					(1.00)			
				67.51	1.60	Medium dense to dense brown grey silty gravelly fine to coarse SAND with occasional sub-angular to sub-rounded cobbles and boulders.		
					(0.90)			
				66.61	2.50	Stiff to very stiff light grey gravelly silty gravelly sandy CLAY with occasional sub-angular to sub-rounded cobbles and boulders.		
					(0.50)			
				66.11	3.00	Complete at 3.00m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 3.0m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP12

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP13
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.6m L	**Ground Level (mOD)** 69.07	**Client** DBFL	**Job Number** 9551-03-20
	Location 234737.7 E 223247.3 N	**Dates** 21/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				68.82	0.25	Soft to firm light brown slightly sandy slightly gravelly clayey SILT.		
					(0.35)			
				68.47	0.60	Firm brown slightly sandy gravelly silty CLAY with occasional sub-angular to sub-rounded cobbles and boulders.		
					(0.40)			
				68.07	1.00	Stiff grey sandy gravelly clayey SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
					(0.50)			
				67.57	1.50	Medium dense to dense light brown grey gravelly very silty clayey fine to coarse SAND with occasional sub-angular to sub-rounded cobbles and boulders.		
					(1.00)			
				66.57	2.50	Stiff to very stiff light grey brown gravelly silty gravelly very sandy CLAY with occasional sub-angular to sub-rounded cobbles.		
					(0.50)			
				66.07	3.00	Complete at 3.00m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 3.0m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP13

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP14
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.7m L	**Ground Level (mOD)** 69.86	**Client** DBFL	**Job Number** 9551-03-20
	Location 234673.1 E 223236.4 N	**Dates** 21/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				69.61	0.25			
0.50	B				(0.65)	Soft to firm light brown slightly sandy gravelly clayey SILT.		
				68.96	0.90			
					(0.80)	Stiff to very stiff light grey brown gravelly sandy SILT with occasional sub-angular to sub-rounded cobbles.		
1.50	B			68.16	1.70			
					(1.30)	Medium dense to dense brown grey silty gravelly fine to coarse SAND with occasional sub-angular to sub-rounded cobbles and boulders.		
2.50	B			66.86	3.00			
						Complete at 3.00m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 3.0m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP14

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP15
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.3m L	**Ground Level (mOD)** 68.66	**Client** DBFL	**Job Number** 9551-03-20
	Location 234831.7 E 223300.5 N	**Dates** 21/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				68.41	0.25	Soft to firm light brown slightly sandy slightly gravelly SILT.		
					(0.65)			
				67.76	0.90	Firm grey sandy gravelly CLAY with occasional sub-angular to sub-rounded cobbles.		
					(0.30)			
				67.46	1.20	Very stiff grey sandy gravelly CLAY with occasional sub-angular to sub-rounded cobbles.		
					(0.50)			
				66.96	1.70	Medium dense light grey brown gravelly very silty fine to coarse SAND with occasional sub-angular to sub-rounded cobbles and boulders.		
					(1.00)			
				65.96	2.70	Stiff light grey gravelly very sandy SILT with occasional sub-angular to sub-rounded cobbles.		
					(0.50)			
				65.46	3.20	Complete at 3.20m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 3.0m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP15

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP16
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.8m L	**Ground Level (mOD)** 66.43	**Client** DBFL	**Job Number** 9551-03-20
	Location 234844.2 E 223410.6 N	**Dates** 22/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				66.18	0.25	Firm to stiff dark brown grey slightly sandy slightly gravelly CLAY with occasional sub-angular to sub-rounded cobbles.		
0.50	B				(0.35)			
				65.83	0.60	Stiff light grey brown mottled sandy gravelly very silty CLAY with occasional sub-angular to sub-rounded cobbles and boulders.		
1.00	B				(0.60)			
				65.23	1.20	Firm light grey brown mottled sandy gravelly very silty CLAY with occasional sub-angular to sub-rounded cobbles and boulders.		
					(0.80)			
2.00	B		Water strike(1) at 2.00m.	64.43	2.00	Medium dense brown grey clayey silty very sandy fine to coarse sub-angular to sub-rounded GRAVEL with occasional sub-angular to sub-rounded cobbles and boulders.		▽1
					(0.50)			
				63.93	2.50	Complete at 2.50m		

Plan

Remarks

Trial pit unstable. sidewall collapsed.
Groundwater encountered at 2.0m BGL.
Trial pit terminated at 2.5m BGL due to sidewall collapse and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP16

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP17
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.6m L	**Ground Level (mOD)** 67.34	**Client** DBFL	**Job Number** 9551-03-20
	Location 234911.8 E 223386.4 N	**Dates** 22/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				67.09	0.25	Firm light brown slightly sandy gravelly very clayey SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
					(0.75)			
				66.34	1.00	Stiff brown slightly gravelly sandy clayey SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
					(0.60)			
				65.74	1.60	Very stiff brown sandy silty very gravelly CLAY with occasional sub-angular to sub-rounded cobbles.		
					(0.70)			
				65.04	2.30	Loose to medium dense brown grey very sandy very clayey fine to coarse sub-angular to sub-rounded GRAVEL with occasional sub-angular to sub-rounded cobbles and boulders.		
			Water strike(1) at 2.60m.		(0.50)			▽1
				64.54	2.80	Complete at 2.80m		

Plan

Remarks

Trial pit unstable. sidewall collapsed.
Groundwater encountered at 2.60m BGL.
Trial pit terminated at 2.80m BGL due to sidewall collapse and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP17

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP18
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.7m L	**Ground Level (mOD)** 65.84	**Client** DBFL	**Job Number** 9551-03-20
	Location 234935.7 E 223461.3 N	**Dates** 22/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				65.59	0.25	Firm to stiff light grey brown mottled slightly sandy slightly gravelly clayey SILT with occasional sub-angular to sub-rounded cobbles.		
0.50	B				(0.55)			
				65.04	0.80	Medium dense brown silty clayey gravelly fine to coarse SAND with occasional sub-angular to sub-rounded cobbles and boulders.		
1.00	B							
			Water strike(1) at 1.70m.		(1.30)			▽1
				63.74	2.10	Complete at 2.10m		

Plan

Remarks

Trial pit unstable. sidewall collapsed.
Groundwater encountered at 1.70m BGL.
Trial pit terminated at 2.10m BGL due to sidewall collapse and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP18

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP19
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.8m L	**Ground Level (mOD)** 66.01	**Client** DBFL	**Job Number** 9551-03-20
	Location 234860 E 223473.1 N	**Dates** 22/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				65.76	0.25			
					(0.15)	Firm light brown slightly sandy slightly gravelly CLAY.		
				65.61	0.40			
						Firm to stiff light grey brown mottled slightly gravelly sandy very silty CLAY with occasional sub-angular to sub-rounded cobbles.		
					(0.80)			
			Water strike(1) at 1.20m.	64.81	1.20			▽1
						Firm to stiff grey very sandy very gravelly CLAY with occasional sub-angular to sub-rounded cobbles and boulders.		
					(0.80)			
				64.01	2.00			
						Complete at 2.00m		

Plan

Remarks

Trial pit unstable. sidewall collapsed.
Groundwater encountered at 1.2m BGL.
Trial pit terminated at 2.0m BGL due to sidewall collapse and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP19

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** TP20
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.80m L	**Ground Level (mOD)** 71.00	**Client** DBFL	**Job Number** 9551-03-20
	Location 234568 E 223157.9 N	**Dates** 19/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				70.80	0.20	Soft to firm light brown slightly sandy slightly gravelly SILT.		
0.50	B				(0.70)			
				70.10	0.90	Stiff light grey sandy gravelly SILT with occasional sub-angular to sub-rounded cobbles.		
					(0.60)			
1.50	B			69.50	1.50	Very stiff light grey brown sandy very gravelly SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
					(1.30)			
				68.20	2.80	Complete at 2.80m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 2.80m BGL due to obstruction or boulder and backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.TP20

Clonminch, Tullamore - Trial Pit Photographs

TP01

TP02

TP03

TP04

TP05

TP06

TP07

TP08


GII

TP09

TP10

TP11

TP12

TP13

TP14

TP15

TP16

TP17

TP18

TP19

TP20

SK01

SK02

SK03

SK04

SK05

SK06

SK07

SK08

SK09

SK10

SK11

SK12

APPENDIX 3 – Soakaway Records

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** SK01
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.20m L	**Ground Level (mOD)** 70.50	**Client** DBFL	**Job Number** 9551-03-20
	Location 234728.7 E 223159 N	**Dates** 21/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				70.25	0.25	Firm light brown slightly sandy slightly gravelly SILT with occasional sub-rounded cobbles.		
					(0.30)			
				69.95	0.55	Stiff light grey sandy gravelly SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
					(0.45)			
				69.50	1.00	Very stiff light grey sandy gravelly SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
					(1.00)			
				68.50	2.00	Complete at 2.00m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 2.0m BGL and backfilled upon completion of soakaway.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.SK01

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** SK02
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.30m L	**Ground Level (mOD)** 70.62	**Client** DBFL	**Job Number** 9551-03-20
	Location 234724.5 E 223134.3 N	**Dates** 21/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				70.37	0.25	Firm light brown slightly sandy slightly gravelly SILT with occasional sub-rounded cobbles.		
					(0.30)			
				70.07	0.55	Firm light grey sandy gravelly SILT with occasional sub-angular to sub-rounded cobbles.		
					(0.45)			
				69.62	1.00	Loose to medium dense light grey brown silty gravelly fine to coarse SAND with occasional sub-angular to sub-rounded cobbles and boulders.		
					(1.00)			
				68.62	2.00	Complete at 2.00m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 2.0m BGL and backfilled upon completion of soakaway.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.SK02

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** SK03
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.20m L	**Ground Level (mOD)** 70.13	**Client** DBFL	**Job Number** 9551-03-20
	Location 234782.3 E 223158 N	**Dates** 21/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				69.88	0.25	Firm light brown slightly sandy slightly gravelly SILT.		
					(0.25)			
				69.63	0.50	Firm light grey gravelly very sandy SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
					(1.50)			
				68.13	2.00	Complete at 2.00m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 2.0m BGL and backfilled upon completion of soakaway.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.SK03

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** SK04
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.20m L	**Ground Level (mOD)** 70.35	**Client** DBFL	**Job Number** 9551-03-20
	Location 234776.3 E 223132.7 N	**Dates** 21/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				70.15	0.20	Firm light brown slightly sandy slightly gravelly SILT.		
					(0.50)			
				69.65	0.70	Firm light grey gravelly very sandy SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
					(1.20)			
				68.45	1.90	Complete at 1.90m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 1.90m BGL and backfilled upon completion of soakaway.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.SK04

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** SK05
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.10m L	**Ground Level (mOD)** 67.83	**Client** DBFL	**Job Number** 9551-03-20
	Location 234865 E 223326.7 N	**Dates** 22/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				67.58	0.25			
					(0.25)	Soft to firm light brown slightly sandy slightly gravelly clayey SILT.		
				67.33	0.50			
					(0.70)	Soft to firm light grey brown sandy gravelly clayey SILT with occasional sub-angular to sub-rounded cobbles.		
				66.63	1.20			
					(0.30)	Stiff to very stiff light grey gravelly clayey very sandy SILT with occasional sub-angular to sub-rounded cobbles.		
				66.33	1.50	Complete at 1.50m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 1.5m BGL and backfilled upon completion of soakaway.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.SK05

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** SK06
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.20m L	**Ground Level (mOD)** 68.04	**Client** DBFL	**Job Number** 9551-03-20
	Location 234919.5 E 223321.7 N	**Dates** 22/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				67.79	0.25	Firm brown slightly sandy slightly gravelly clayey SILT.		
					(0.35)			
0.50	B			67.44	0.60	Stiff light grey brown sandy gravelly clayey SILT with occasional sub-angular to sub-rounded cobbles and boulders		
1.00	B				(0.90)			
1.50	B			66.54	1.50	Complete at 1.50m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 1.5m BGL and backfilled upon completion of soakaway.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.SK06

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** SK07
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.20m L	**Ground Level (mOD)** 68.27	**Client** DBFL	**Job Number** 9551-03-20
	Location 234867.2 E 223279 N	**Dates** 21/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				68.02	0.25			
					(0.25)	Firm light brown slightly sandy slightly gravelly clayey SILT.		
				67.77	0.50			
					(1.00)	Firm to stiff light grey gravelly very sandy SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
				66.77	1.50			
					(0.50)	Stiff to very stiff light grey very sandy gravelly CLAY with occasional sub-angular to sub-rounded cobbles and boulders.		
				66.27	2.00			
						Complete at 2.00m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 2.0m BGL and backfilled upon completion of soakaway.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.SK07

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** SK08
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.20m L	**Ground Level (mOD)** 68.07	**Client** DBFL	**Job Number** 9551-03-20
	Location 234927.9 E 223279.4 N	**Dates** 21/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				67.82	0.25	Firm light brown slightly sandy slightly gravelly clayey SILT.		
					(0.35)			
				67.47	0.60	Stiff light grey brown sandy gravelly clayey SILT with occasional sub-angular to sub-rounded cobbles and boulders.		
					(1.40)			
				66.07	2.00	Complete at 2.00m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 2.0m BGL and backfilled upon completion of soakaway.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.SK08

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** SK09
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.20m L	**Ground Level (mOD)** 66.37	**Client** DBFL	**Job Number** 9551-03-20
	Location 234816.2 E 223424.2 N	**Dates** 22/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				66.12	0.25			
					(0.15)	Soft to firm grey orange mottled slightly sandy slightly gravelly CLAY.		
				65.97	0.40			
					(0.80)	Stiff grey brown mottled slightly sandy gravelly silty CLAY with occasional sub-angular to sub-rounded cobbles.		
				65.17	1.20			
					(0.30)	Firm grey brown mottled slightly sandy gravelly silty CLAY with occasional sub-angular to sub-rounded cobbles.		
				64.87	1.50	Complete at 1.50m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 1.5m BGL and backfilled upon completion of soakaway.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.SK09

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** SK10
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.20m L	**Ground Level (mOD)** 65.60	**Client** DBFL	**Job Number** 9551-03-20
	Location 234972.3 E 223499.2 N	**Dates** 25/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				65.35	0.25			
					(0.30)	Firm to stiff light brown grey orange mottled slightly sandy slightly gravelly CLAY.		
				65.05	0.55			
					(0.65)	Stiff grey brown mottled slightly sandy gravelly silty CLAY with occasional sub-angular to sub-rounded cobbles.		
				64.40	1.20			
					(0.30)	Stiff grey gravelly very sandy CLAY with occasional sub-angular to sub-rounded cobbles.		
				64.10	1.50	Complete at 1.50m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 1.5m BGL and backfilled upon completion of soakaway.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.SK10

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** SK11
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.20m L	**Ground Level (mOD)** 66.80	**Client** DBFL	**Job Number** 9551-03-20
	Location 234985.3 E 223546.4 N	**Dates** 25/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				66.55	0.25	Firm light brown slightly sandy slightly gravelly SILT.		
0.50	B				(0.45)			
				66.10	0.70	Firm to stiff grey brown gravelly very sandy CLAY with occasional sub-angular to sub-rounded cobbles.		
1.00	B				(0.60)			
				65.50	1.30	Stiff grey brown mottled sandy gravelly CLAY with occasional sub-angular to sub-rounded cobbles.		
					(0.20)			
1.50	B			65.30	1.50	Complete at 1.50m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 1.5m BGL and backfilled upon completion of soakaway.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.SK11

Ground Investigations Ireland Ltd
www.gii.ie

Site Clonminch, Tullamore			**Trial Pit Number** SK12
Machine : 13T **Method :** Trial Pit	**Dimensions** 0.7m W x 2.20m L	**Ground Level (mOD)** 66.57	**Client** DBFL	**Job Number** 9551-03-20
	Location 234992.8 E 223571.6 N	**Dates** 25/05/2020	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Dark brown slightly sandy slightly gravelly TOPSOIL.		
				66.32	0.25	Firm to stiff light brown slightly sandy slightly gravelly silty CLAY.		
					(0.40)			
				65.92	0.65	Stiff light brown grey mottled slightly sandy slightly gravelly very silty CLAY with occasional sub-angular to sub-rounded cobbles.		
					(0.85)			
				65.07	1.50	Complete at 1.50m		

Plan

Remarks

Trial pit stable.
No groundwater encountered.
Trial pit terminated at 1.5m BGL and backfilled upon completion of soakaway.

Scale (approx)	Logged By	Figure No.
1:25	NM	9551-03-20.SK12

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

SK01

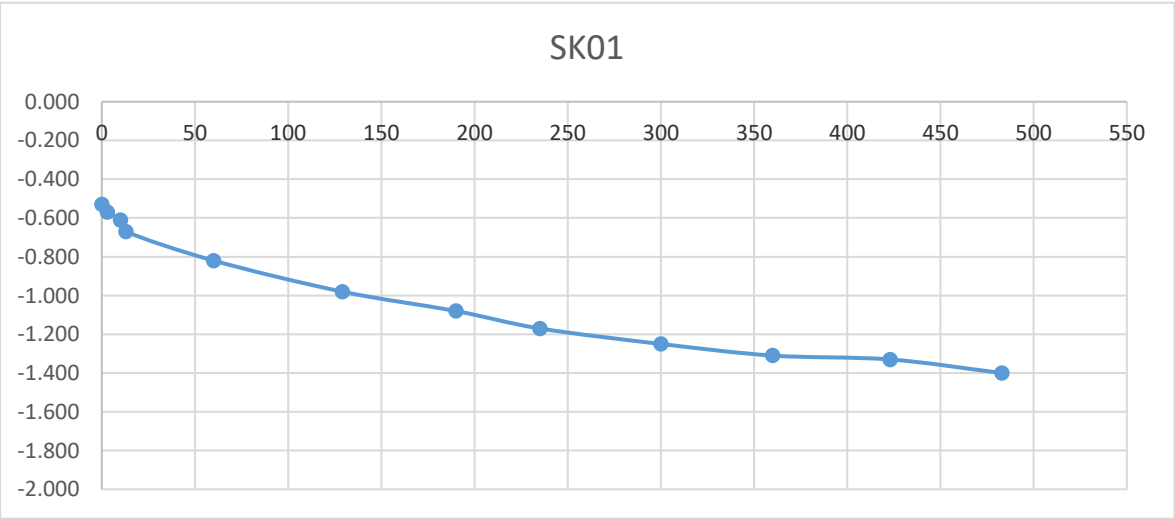
Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.20m x 0.70m 2.00m (L x W x D)

Date	Time	Water level (m bgl)
21/05/2020	0	-0.530
21/05/2020	3	-0.570
21/05/2020	10	-0.610
21/05/2020	13	-0.670
21/05/2020	60	-0.820
21/05/2020	129	-0.980
21/05/2020	190	-1.080
21/05/2020	235	-1.170
21/05/2020	300	-1.250
21/05/2020	360	-1.310
21/05/2020	423	-1.330
21/05/2020	483	-1.400

Start depth	Depth of Pit		Diff	75% full	25%full
0.53	**2.000**		**1.470**	**0.8975**	**1.6325**

Length of pit (m)	Width of pit (m)		75-25Ht (m)	Vp75-25 (m3)
2.200	0.700		0.735	1.13
Tp75-25 (from graph) (s)		**31500**	50% Eff Depth	ap50 (m2)
			0.735	5.803

f = 6.192E-06 m/s



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

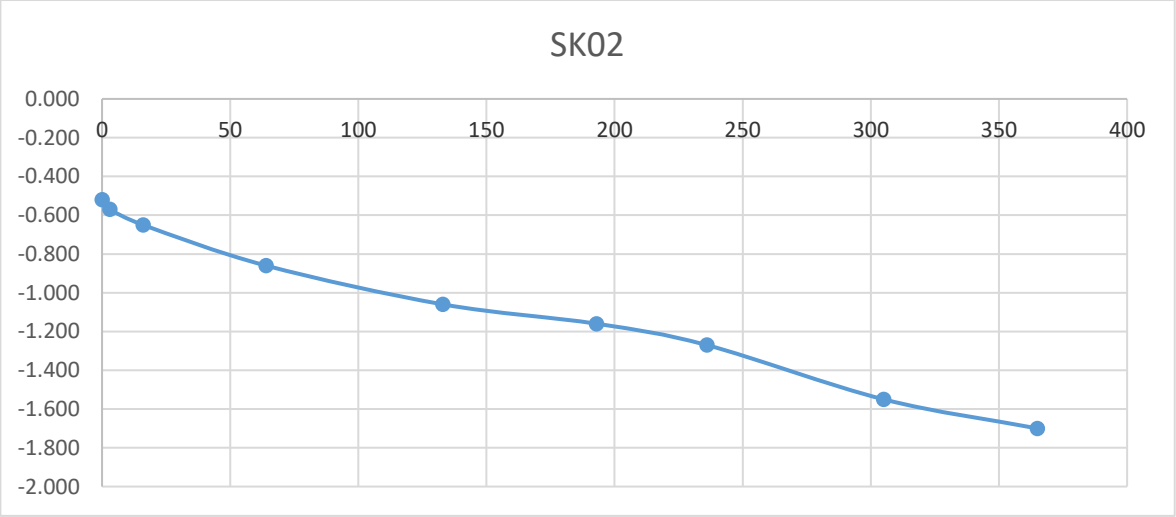
SK02

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.30m x 0.70m 2.00m (L x W x D)

Date	Time	Water level (m bgl)
21/05/2020	0	-0.520
21/05/2020	3	-0.570
21/05/2020	16	-0.650
21/05/2020	64	-0.860
21/05/2020	133	-1.060
21/05/2020	193	-1.160
21/05/2020	236	-1.270
21/05/2020	305	-1.550
21/05/2020	365	-1.700

Start depth	Depth of Pit		Diff	75% full	25%full
0.52	**2.000**		**1.480**	**0.89**	**1.63**

Length of pit (m)	Width of pit (m)		75-25Ht (m)	Vp75-25 (m3)
2.300	0.700		0.740	1.19
Tp75-25 (from graph) (s)		**15600**	50% Eff Depth	ap50 (m2)
			0.740	6.05
f =	**1.262E-05**	**m/s**		



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

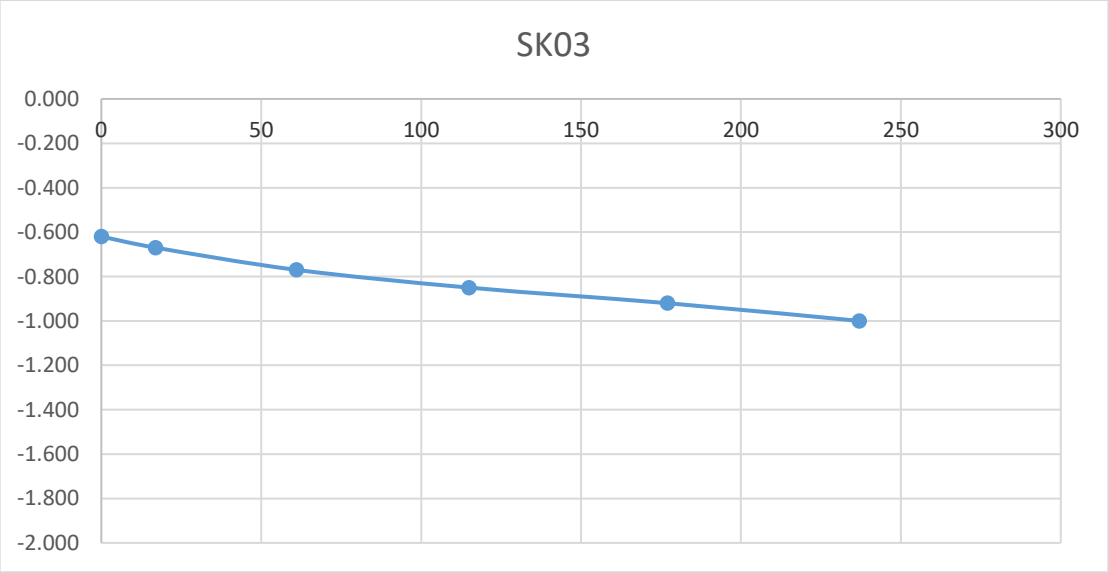
SK03

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.20m x 0.70m 2.0m (L x W x D)

Date	Time	Water level (m bgl)
21/05/2020	0	-0.620
21/05/2020	17	-0.670
21/05/2020	61	-0.770
21/05/2020	115	-0.850
21/05/2020	177	-0.920
21/05/2020	237	-1.000

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.62	2.000	1.380	0.965	1.655



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

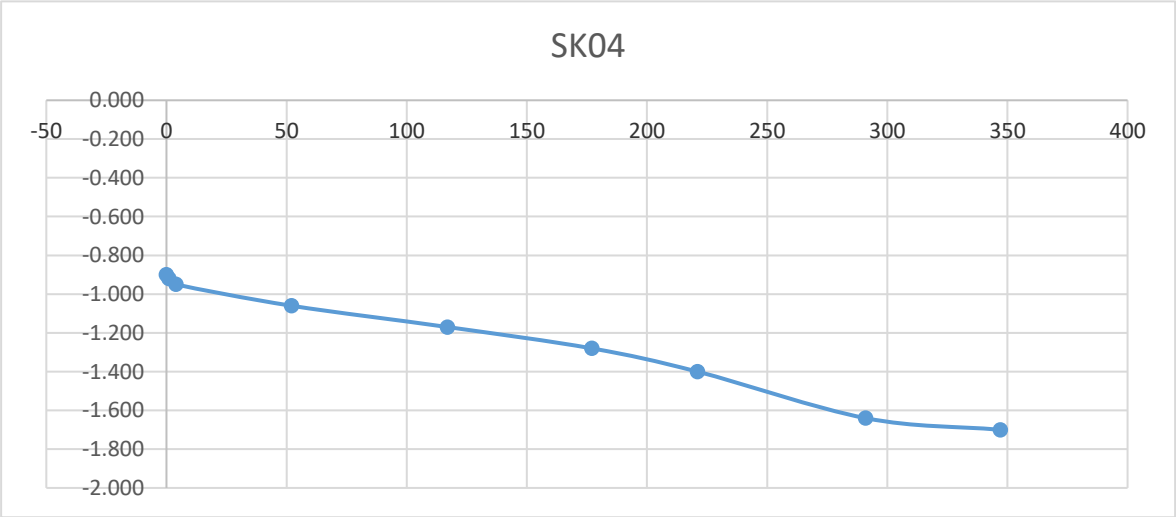
SK04

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.20m x 0.70m 2.00m (L x W x D)

Date	Time	Water level (m bgl)
21/05/2020	0	-0.900
21/05/2020	1	-0.920
21/05/2020	4	-0.950
21/05/2020	52	-1.060
21/05/2020	117	-1.170
21/05/2020	177	-1.280
21/05/2020	221	-1.400
21/05/2020	291	-1.640
21/05/2020	347	-1.700

Start depth	Depth of Pit		Diff	75% full	25%full
0.90	**2.000**		**1.100**	**1.175**	**1.725**

Length of pit (m)	Width of pit (m)		75-25Ht (m)	Vp75-25 (m3)
2.200	0.700		0.550	0.85
Tp75-25 (from graph) (s)		**14400**	50% Eff Depth	ap50 (m2)
			0.550	4.73
f =	**1.244E-05**	**m/s**		



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

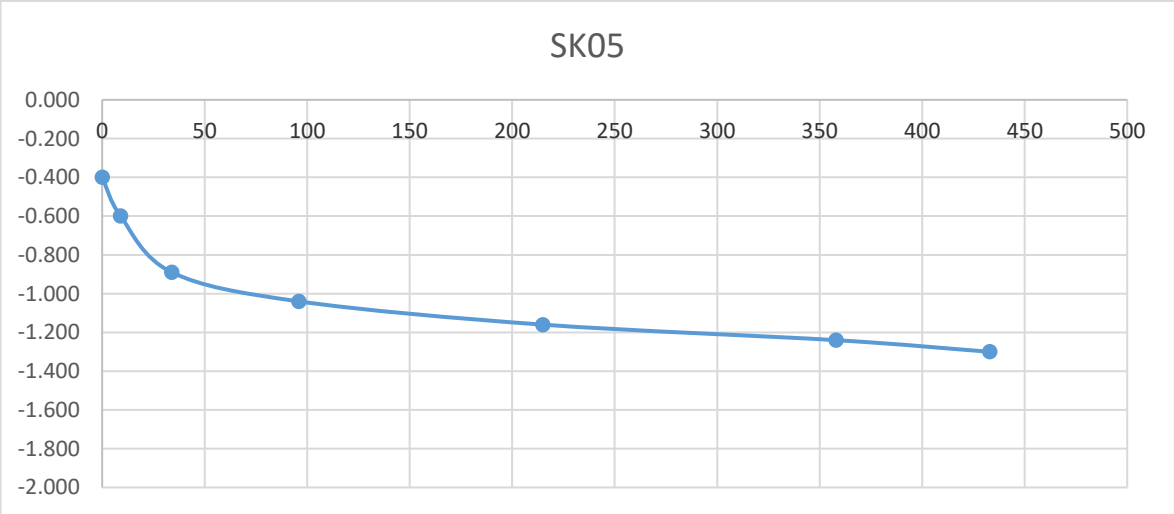
SK05

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.10m x 0.70m 1.50m (L x W x D)

Date	Time	Water level (m bgl)
22/05/2020	0	-0.400
22/05/2020	9	-0.600
22/05/2020	34	-0.890
22/05/2020	96	-1.040
22/05/2020	215	-1.160
22/05/2020	358	-1.240
22/05/2020	433	-1.300

Start depth	Depth of Pit		Diff	75% full	25%full
0.40	**1.500**		**1.100**	**0.675**	**1.225**

Length of pit (m)	Width of pit (m)		75-25Ht (m)	Vp75-25 (m3)
2.100	0.700		0.550	0.81
Tp75-25 (from graph) (s)		**18600**	50% Eff Depth	ap50 (m2)
			0.550	4.55
f =	**9.553E-06**	**m/s**		



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

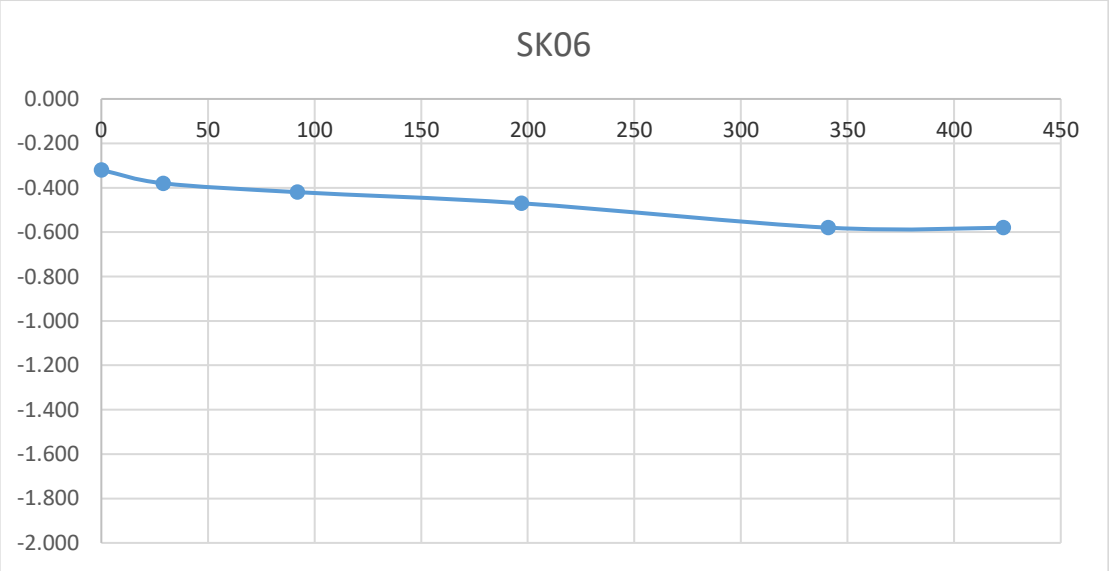
SK06

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.20m x 0.70m 1.50m (L x W x D)

Date	Time	Water level (m bgl)
22/05/2020	0	-0.320
22/05/2020	29	-0.380
22/05/2020	92	-0.420
22/05/2020	197	-0.470
22/05/2020	341	-0.580
22/05/2020	423	-0.580

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.32	1.500	1.180	0.615	1.205



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

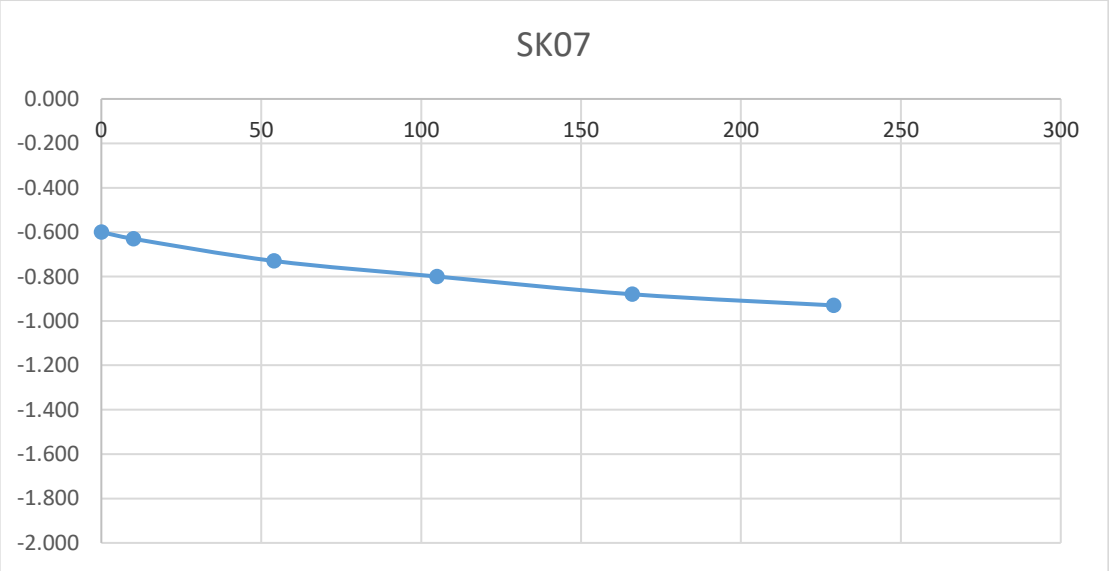
SK07

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.20m x 0.70m 2.0m (L x W x D)

Date	Time	Water level (m bgl)
21/05/2020	0	-0.600
21/05/2020	10	-0.630
21/05/2020	54	-0.730
21/05/2020	105	-0.800
21/05/2020	166	-0.880
21/05/2020	229	-0.930

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.60	2.000	1.400	0.95	1.65



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

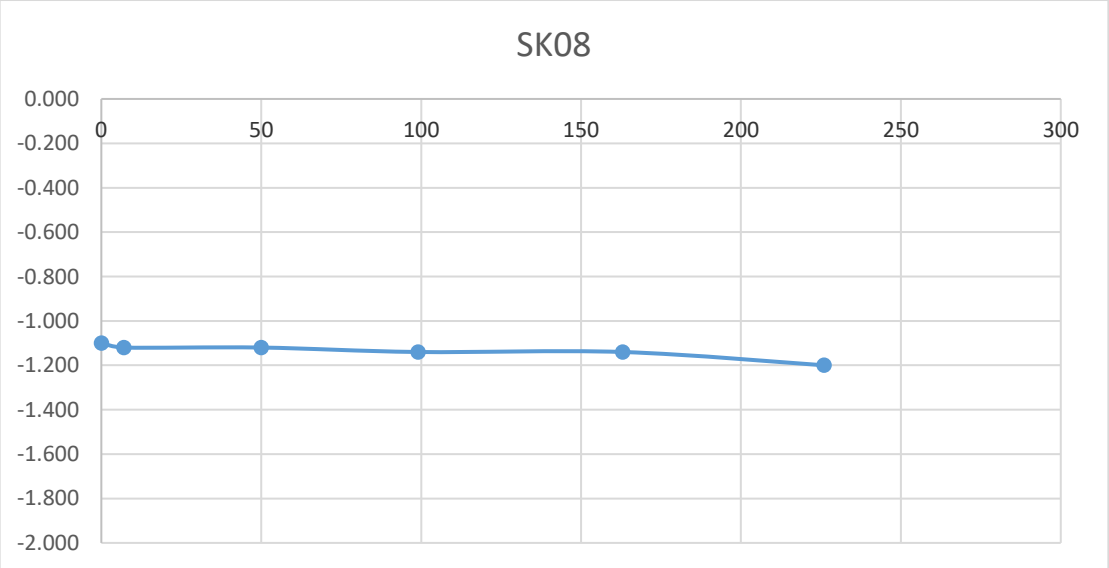
SK08

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.20m x 0.70m 2.0m (L x W x D)

Date	Time	Water level (m bgl)
21/05/2020	0	-1.100
21/05/2020	7	-1.120
21/05/2020	50	-1.120
21/05/2020	99	-1.140
21/05/2020	163	-1.140
21/05/2020	226	-1.200

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
1.10	2.000	0.900	1.325	1.775



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

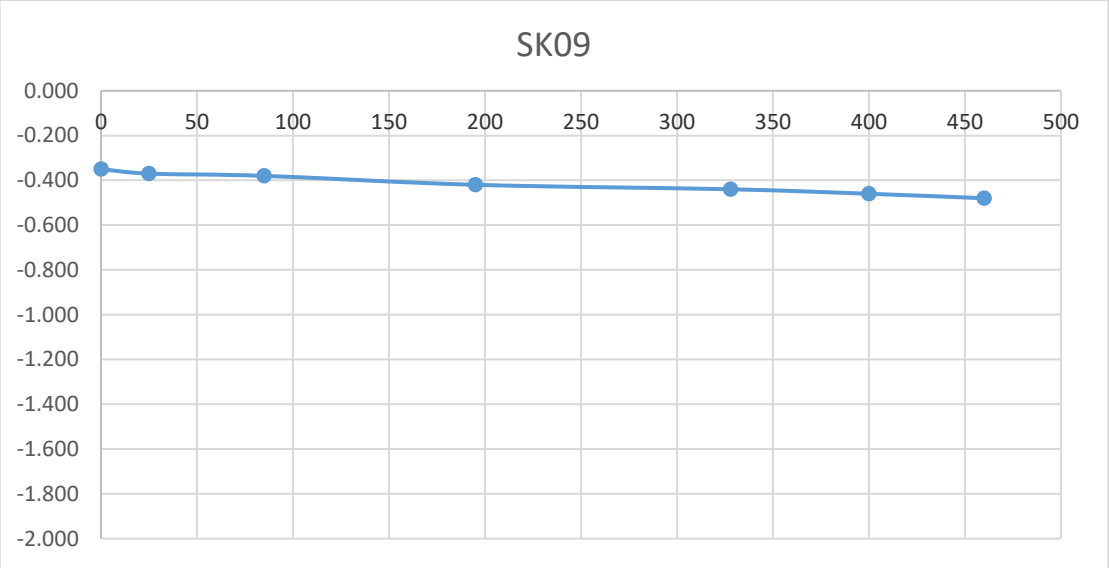
SK09

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.20m x 0.70m 1.50m (L x W x D)

Date	Time	Water level (m bgl)
22/05/2020	0	-0.350
22/05/2020	25	-0.370
22/05/2020	85	-0.380
22/05/2020	195	-0.420
22/05/2020	328	-0.440
22/05/2020	400	-0.460
22/05/2020	460	-0.480

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.35	1.500	1.150	0.6375	1.2125



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

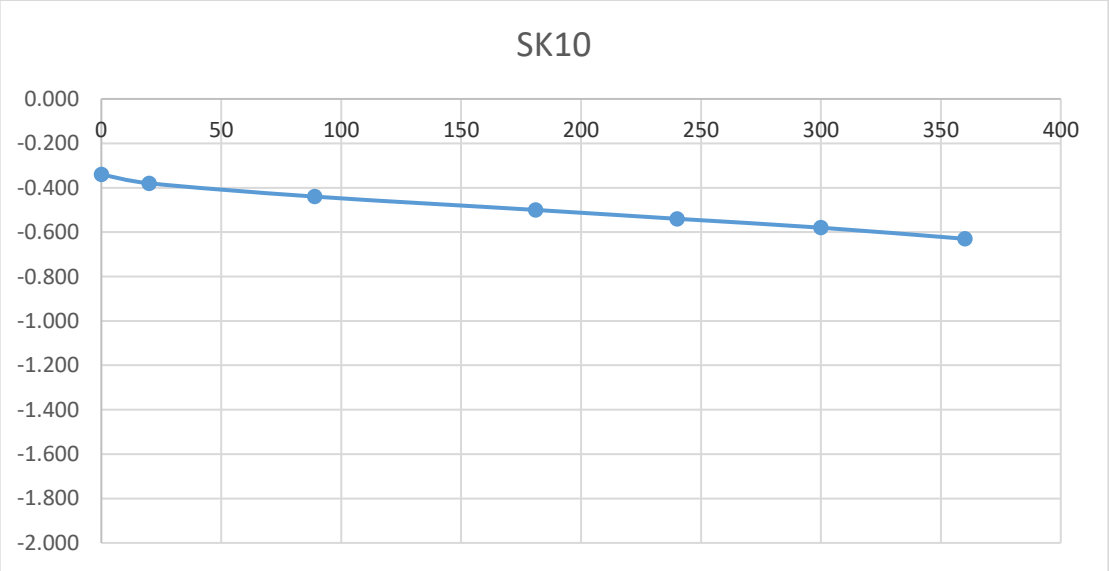
SK10

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.20m x 0.70m 1.50m (L x W x D)

Date	Time	Water level (m bgl)
25/05/2020	0	-0.340
25/05/2020	20	-0.380
25/05/2020	89	-0.440
25/05/2020	181	-0.500
25/05/2020	240	-0.540
25/05/2020	300	-0.580
25/05/2020	360	-0.630

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.34	1.500	1.160	0.63	1.21



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

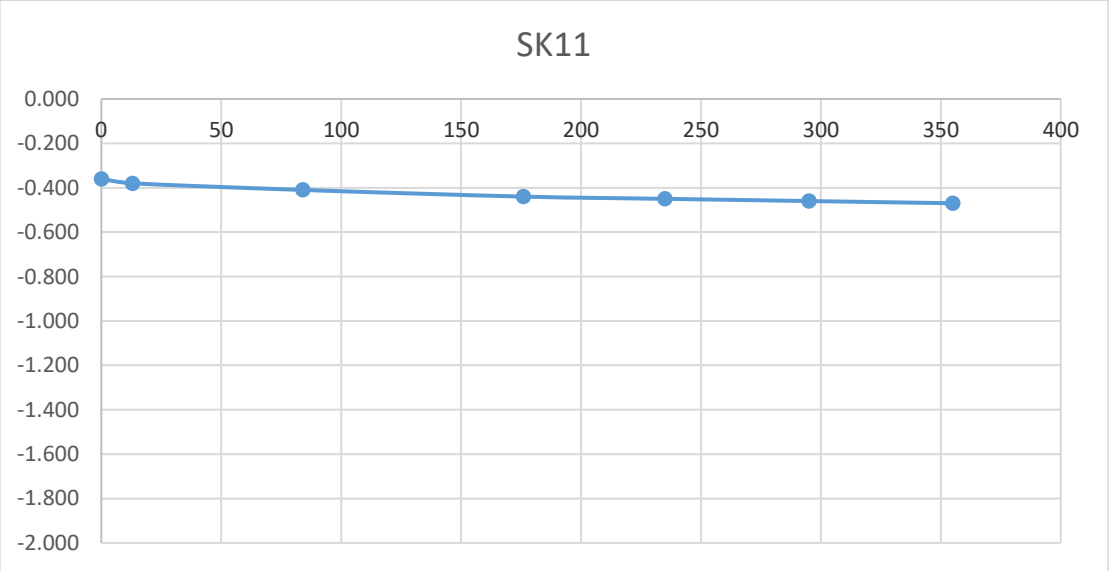
SK11

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.20m x 0.70m 1.50m (L x W x D)

Date	Time	Water level (m bgl)
25/05/2020	0	-0.360
25/05/2020	13	-0.380
25/05/2020	84	-0.410
25/05/2020	176	-0.440
25/05/2020	235	-0.450
25/05/2020	295	-0.460
25/05/2020	355	-0.470

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.36	1.500	1.140	0.645	1.215



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin.
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

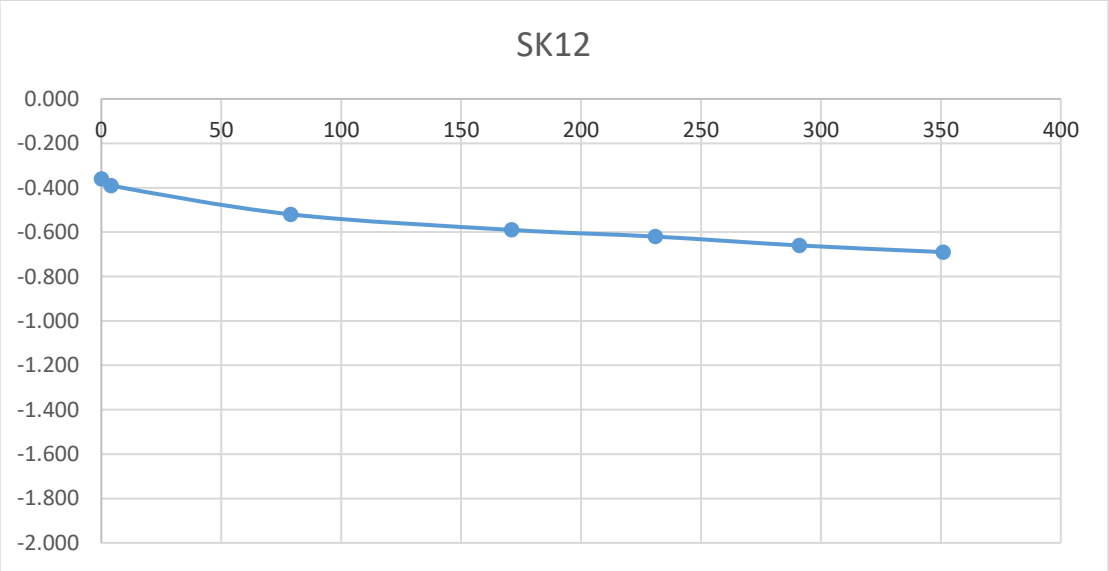
SK12

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.20m x 0.70m 1.50m (L x W x D)

Date	Time	Water level (m bgl)
25/05/2020	0	-0.360
25/05/2020	4	-0.390
25/05/2020	79	-0.520
25/05/2020	171	-0.590
25/05/2020	231	-0.620
25/05/2020	291	-0.660
25/05/2020	351	-0.690

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.36	1.500	1.140	0.645	1.215



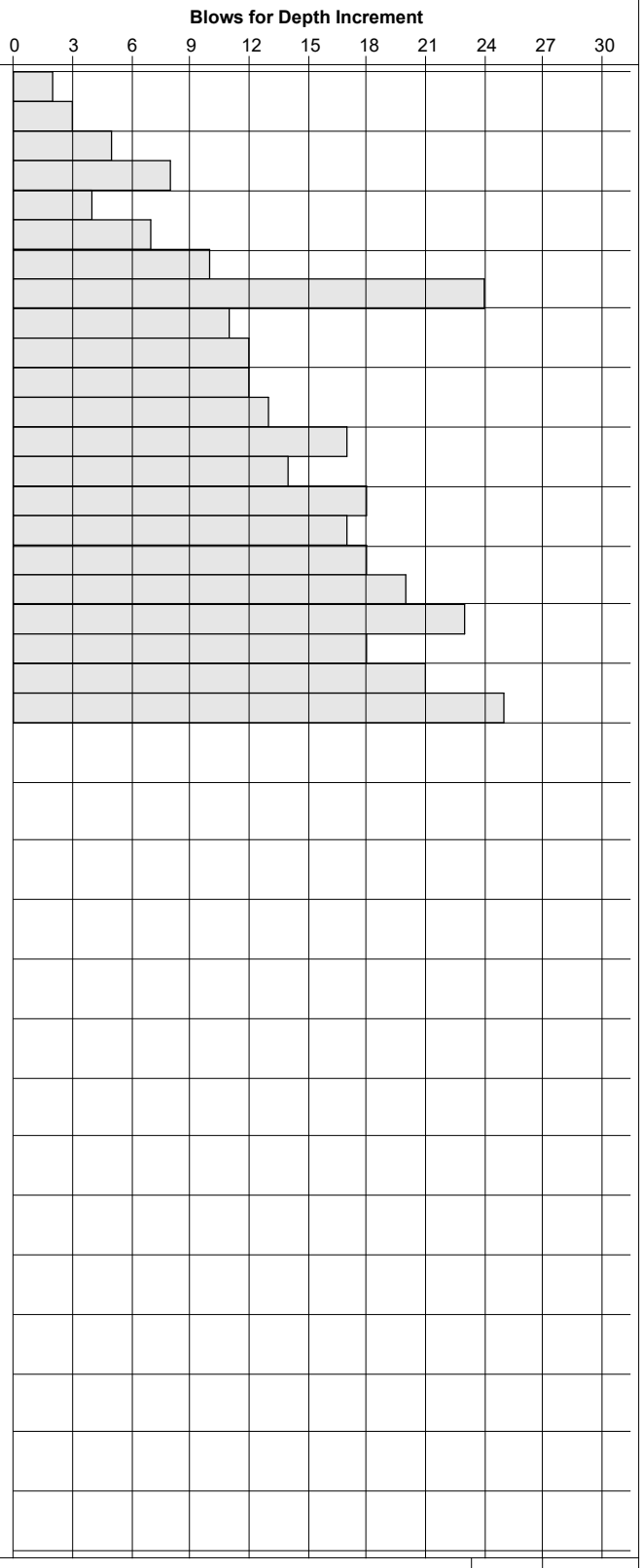
APPENDIX 4 – Dynamic Probe Records

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP01

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	71.13	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234615.3 E 223124 N	27/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	2		71.13	0.00
0.10-0.20	3			
0.20-0.30	5			
0.30-0.40	8			
0.40-0.50	4			
0.50-0.60	7		70.63	0.50
0.60-0.70	10			
0.70-0.80	24			
0.80-0.90	11			
0.90-1.00	12			
1.00-1.10	12		70.13	1.00
1.10-1.20	13			
1.20-1.30	17			
1.30-1.40	14			
1.40-1.50	18			
1.50-1.60	17		69.63	1.50
1.60-1.70	18			
1.70-1.80	20			
1.80-1.90	23			
1.90-2.00	18			
2.00-2.10	21		69.13	2.00
2.10-2.20	25			
			68.63	2.50
			68.13	3.00
			67.63	3.50
			67.13	4.00
			66.63	4.50
			66.13	5.00



Remarks
Refusal at 2.20m BGL. 25 blows for 75mm.

Scale (approx)	Logged By
1:25	NM

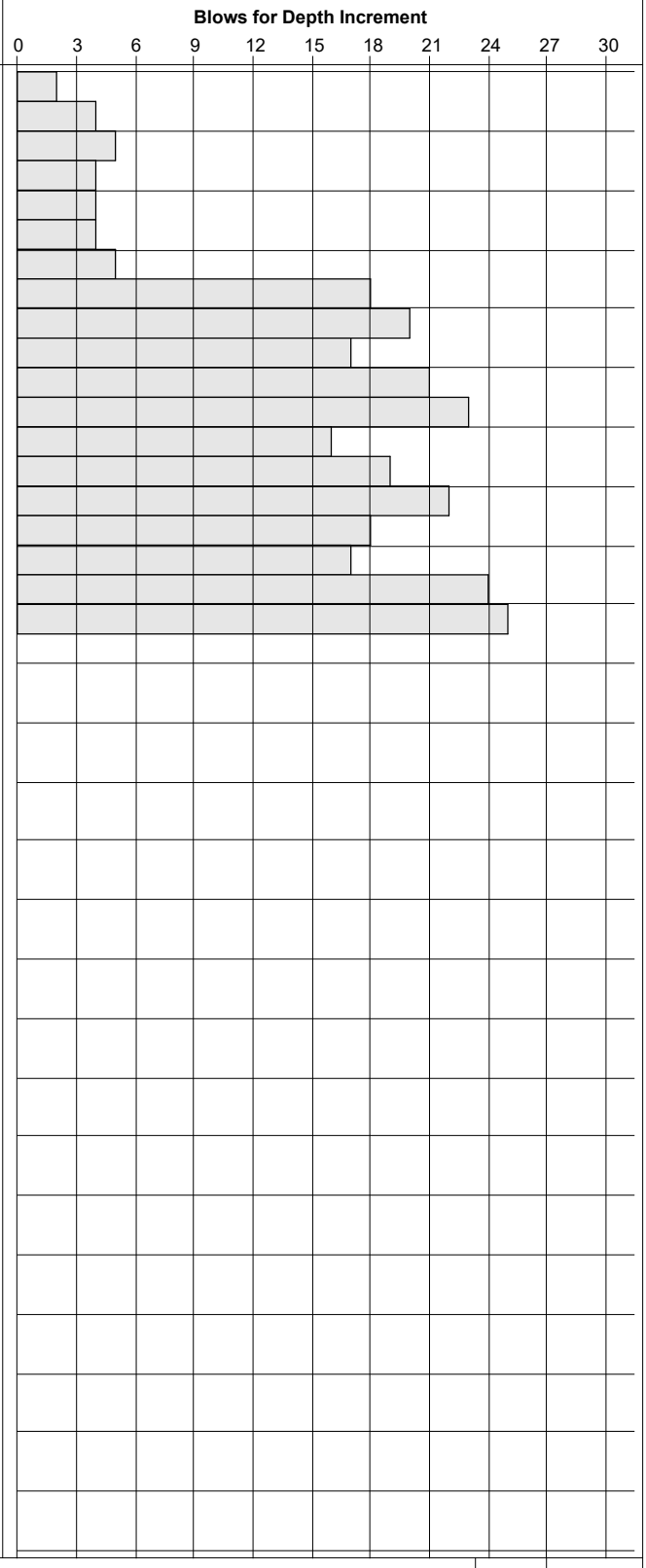
Figure No.
9551-03-20.DP01

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP02

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	69.50	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234725.7 E 223202.4 N	27/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records
0.00-0.10	2	
0.10-0.20	4	
0.20-0.30	5	
0.30-0.40	4	
0.40-0.50	4	
0.50-0.60	4	
0.60-0.70	5	
0.70-0.80	18	
0.80-0.90	20	
0.90-1.00	17	
1.00-1.10	21	
1.10-1.20	23	
1.20-1.30	16	
1.30-1.40	19	
1.40-1.50	22	
1.50-1.60	18	
1.60-1.70	17	
1.70-1.80	24	
1.80-1.90	25	



Remarks
Refusal at 1.90m BGL. 25 blows for 75mm.

Scale (approx)	Logged By
1:25	NM

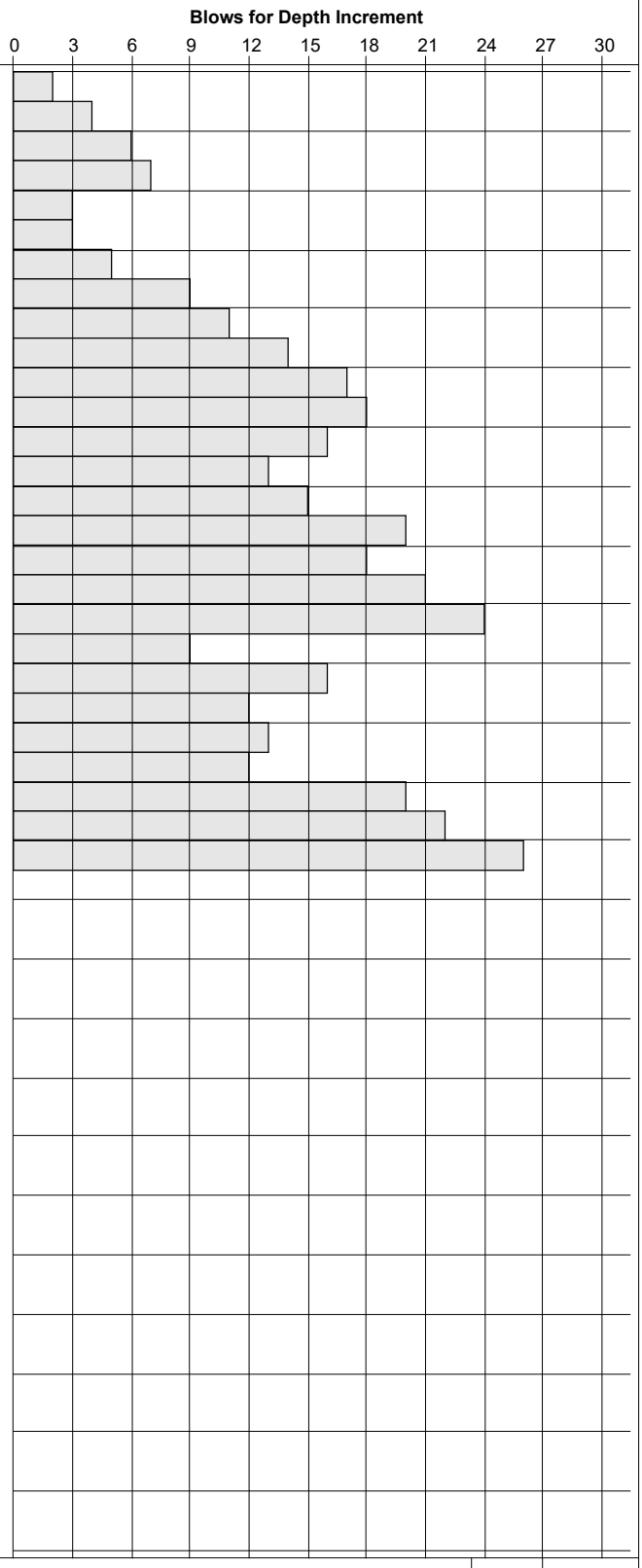
Figure No.
9551-03-20.DP02

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP03

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	69.21	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234880.3 E 223168.2 N	28/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	2		69.21	0.00
0.10-0.20	4			
0.20-0.30	6			
0.30-0.40	7			
0.40-0.50	3			
0.50-0.60	3		68.71	0.50
0.60-0.70	5			
0.70-0.80	9			
0.80-0.90	11			
0.90-1.00	14			
1.00-1.10	17		68.21	1.00
1.10-1.20	18			
1.20-1.30	16			
1.30-1.40	13			
1.40-1.50	15			
1.50-1.60	20		67.71	1.50
1.60-1.70	18			
1.70-1.80	21			
1.80-1.90	24			
1.90-2.00	9			
2.00-2.10	16		67.21	2.00
2.10-2.20	12			
2.20-2.30	13			
2.30-2.40	12			
2.40-2.50	20			
2.50-2.60	22		66.71	2.50
2.60-2.70	26			
			66.21	3.00
			65.71	3.50
			65.21	4.00
			64.71	4.50
			64.21	5.00



Remarks
Refusal at 2.70m BGL.

Scale (approx)	Logged By
1:25	NM

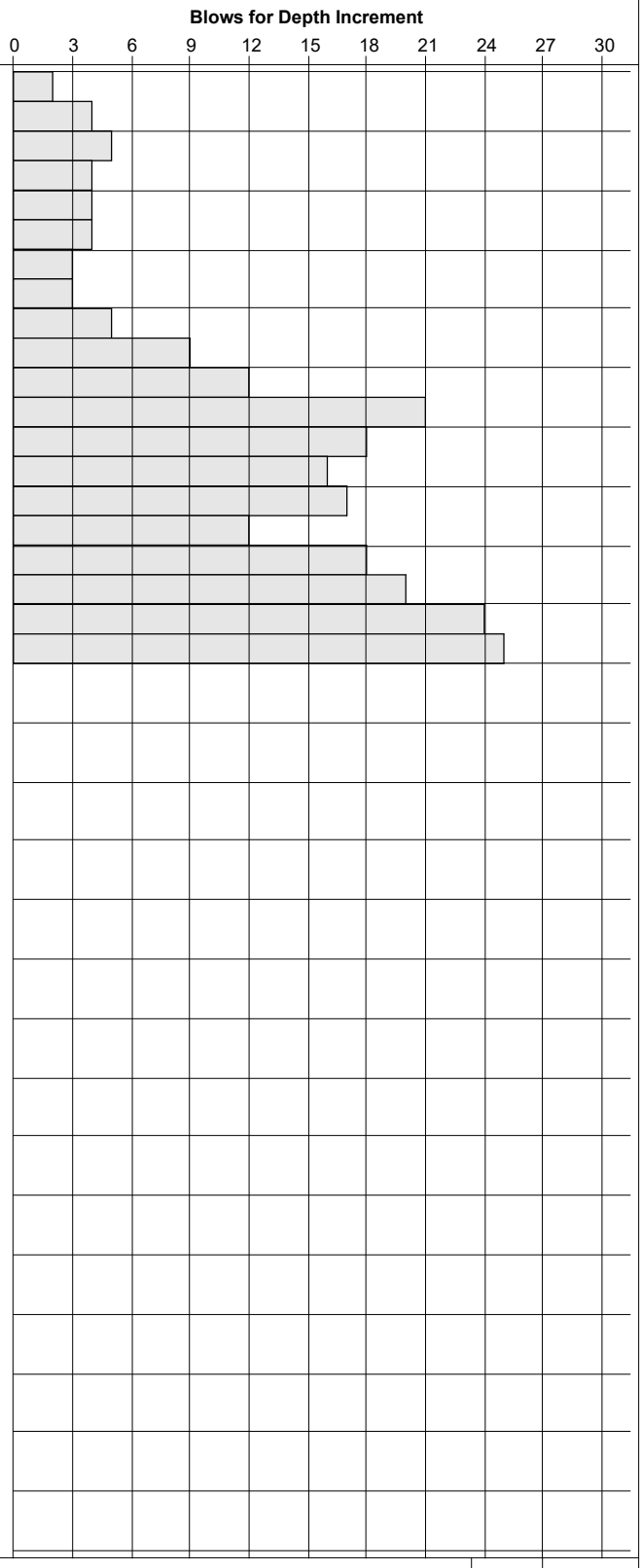
Figure No.
9551-03-20.DP03

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP04

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	69.39	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234883.6 E 223137.2 N	27/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	2		69.39	0.00
0.10-0.20	4			
0.20-0.30	5			
0.30-0.40	4			
0.40-0.50	4			
0.50-0.60	4		68.89	0.50
0.60-0.70	3			
0.70-0.80	3			
0.80-0.90	5			
0.90-1.00	9			
1.00-1.10	12		68.39	1.00
1.10-1.20	21			
1.20-1.30	18			
1.30-1.40	16			
1.40-1.50	17			
1.50-1.60	12		67.89	1.50
1.60-1.70	18			
1.70-1.80	20			
1.80-1.90	24			
1.90-2.00	25		67.39	2.00
			66.89	2.50
			66.39	3.00
			65.89	3.50
			65.39	4.00
			64.89	4.50
			64.39	5.00



Remarks
Refusal at 2.0m BGL. 25 blows for 75mm.

Scale (approx)	Logged By
1:25	NM

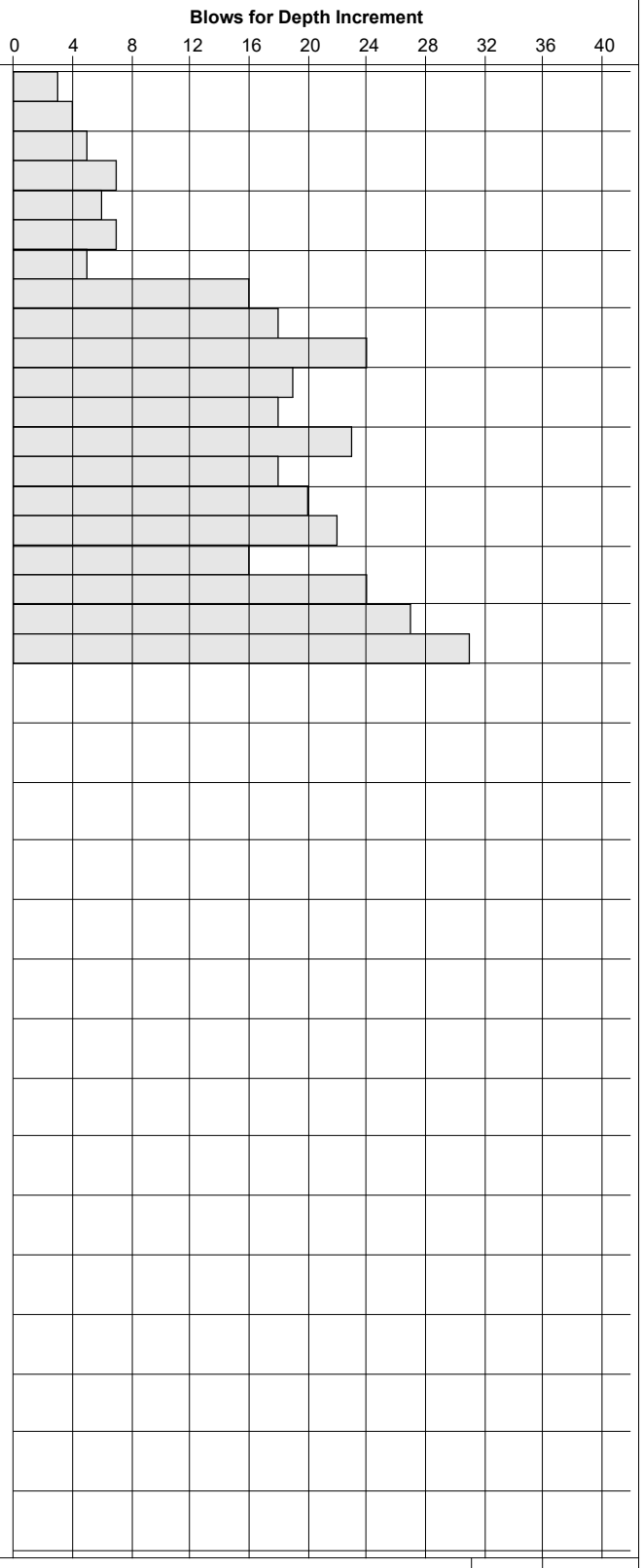
Figure No.
9551-03-20.DP04

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP05

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	71.57	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234866.9 E 223075.2 N	27/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	3		71.57	0.00
0.10-0.20	4			
0.20-0.30	5			
0.30-0.40	7			
0.40-0.50	6			
0.50-0.60	7		71.07	0.50
0.60-0.70	5			
0.70-0.80	16			
0.80-0.90	18			
0.90-1.00	24			
1.00-1.10	19		70.57	1.00
1.10-1.20	18			
1.20-1.30	23			
1.30-1.40	18			
1.40-1.50	20			
1.50-1.60	22		70.07	1.50
1.60-1.70	16			
1.70-1.80	24			
1.80-1.90	27			
1.90-2.00	31		69.57	2.00
			69.07	2.50
			68.57	3.00
			68.07	3.50
			67.57	4.00
			67.07	4.50
			66.57	5.00



Remarks
Refusal at 2.0m BGL.

Scale (approx)	Logged By
1:25	NM

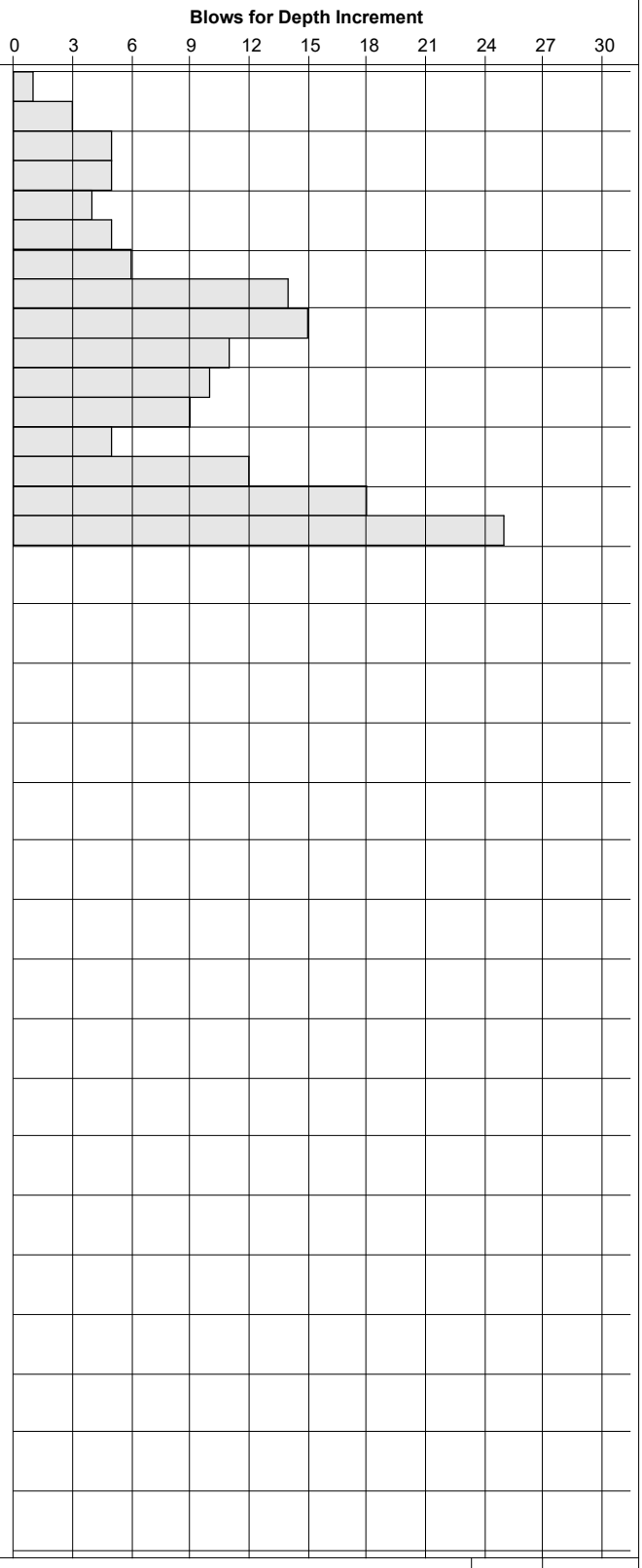
Figure No.
9551-03-20.DP05

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP06

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	70.61	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234845.9 E 223104.4 N	27/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	1		70.61	0.00
0.10-0.20	3			
0.20-0.30	5			
0.30-0.40	5			
0.40-0.50	4			
0.50-0.60	5		70.11	0.50
0.60-0.70	6			
0.70-0.80	14			
0.80-0.90	15			
0.90-1.00	11			
1.00-1.10	10		69.61	1.00
1.10-1.20	9			
1.20-1.30	5			
1.30-1.40	12			
1.40-1.50	18			
1.50-1.60	25		69.11	1.50
			68.61	2.00
			68.11	2.50
			67.61	3.00
			67.11	3.50
			66.61	4.00
			66.11	4.50
			65.61	5.00



Remarks
Refusal at 1.60m BGL.

Scale (approx)	Logged By
1:25	NM

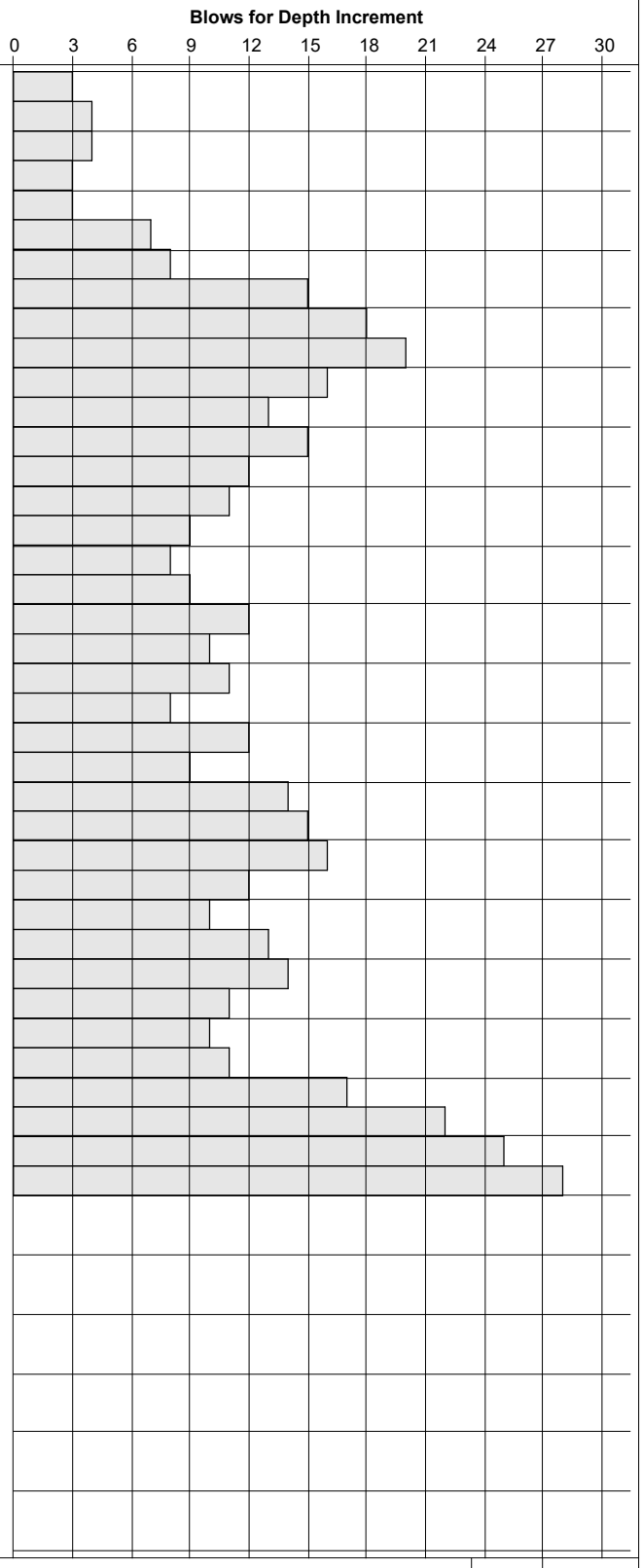
Figure No.
9551-03-20.DP06

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP07

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	73.23	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234800 E 223054.9 N	27/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	3		73.23	0.00
0.10-0.20	4			
0.20-0.30	4			
0.30-0.40	3			
0.40-0.50	3			
0.50-0.60	7		72.73	0.50
0.60-0.70	8			
0.70-0.80	15			
0.80-0.90	18			
0.90-1.00	20			
1.00-1.10	16		72.23	1.00
1.10-1.20	13			
1.20-1.30	15			
1.30-1.40	12			
1.40-1.50	11			
1.50-1.60	9		71.73	1.50
1.60-1.70	8			
1.70-1.80	9			
1.80-1.90	12			
1.90-2.00	10			
2.00-2.10	11		71.23	2.00
2.10-2.20	8			
2.20-2.30	12			
2.30-2.40	9			
2.40-2.50	14			
2.50-2.60	15		70.73	2.50
2.60-2.70	16			
2.70-2.80	12			
2.80-2.90	10			
2.90-3.00	13			
3.00-3.10	14		70.23	3.00
3.10-3.20	11			
3.20-3.30	10			
3.30-3.40	11			
3.40-3.50	17			
3.50-3.60	22		69.73	3.50
3.60-3.70	25			
3.70-3.80	28			
			69.23	4.00
			68.73	4.50
			68.23	5.00



Remarks
Refusal at 3.80m BGL.

Scale (approx)	Logged By
1:25	NM

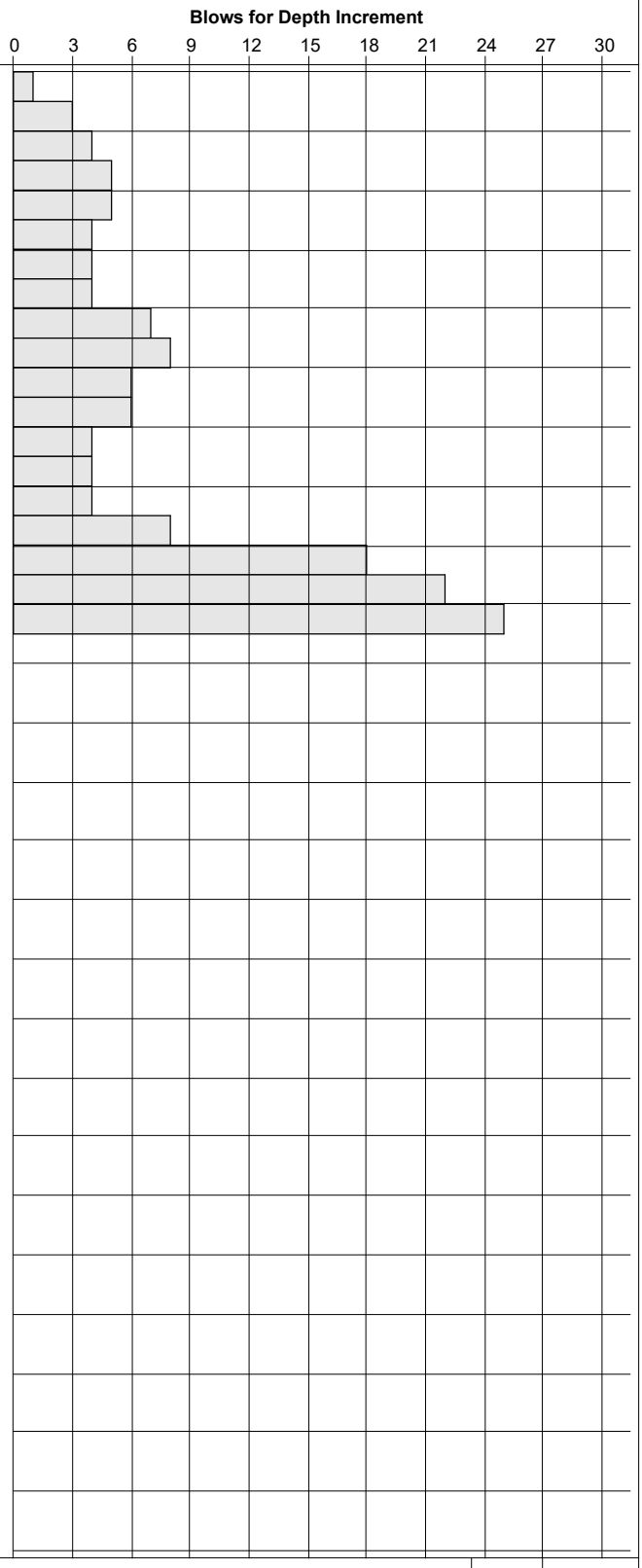
Figure No.
9551-03-20.DP07

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP08

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	71.49	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234749.5 E 223087.1 N	27/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	1		71.49	0.00
0.10-0.20	3			
0.20-0.30	4			
0.30-0.40	5			
0.40-0.50	5			
0.50-0.60	4		70.99	0.50
0.60-0.70	4			
0.70-0.80	4			
0.80-0.90	7			
0.90-1.00	8			
1.00-1.10	6		70.49	1.00
1.10-1.20	6			
1.20-1.30	4			
1.30-1.40	4			
1.40-1.50	4			
1.50-1.60	8		69.99	1.50
1.60-1.70	18			
1.70-1.80	22			
1.80-1.90	25			
			69.49	2.00
			68.99	2.50
			68.49	3.00
			67.99	3.50
			67.49	4.00
			66.99	4.50
			66.49	5.00



Remarks
Refusal at 1.90m BGL. 25 blows for 75mm.

Scale (approx)	Logged By
1:25	NM

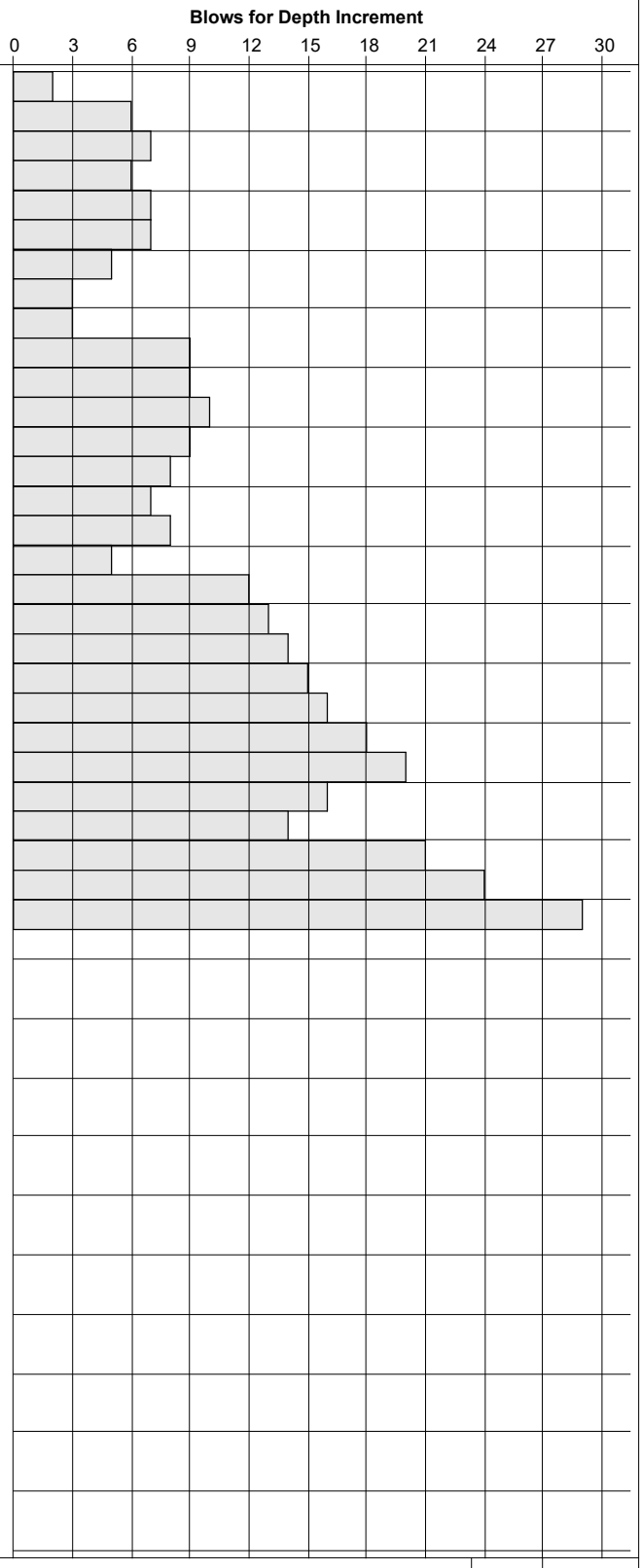
Figure No.
9551-03-20.DP08

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP09

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	72.19	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234711.9 E 223069.8 N	27/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	2		72.19	0.00
0.10-0.20	6			
0.20-0.30	7			
0.30-0.40	6			
0.40-0.50	7			
0.50-0.60	7		71.69	0.50
0.60-0.70	5			
0.70-0.80	3			
0.80-0.90	3			
0.90-1.00	9			
1.00-1.10	9		71.19	1.00
1.10-1.20	10			
1.20-1.30	9			
1.30-1.40	8			
1.40-1.50	7			
1.50-1.60	8		70.69	1.50
1.60-1.70	5			
1.70-1.80	12			
1.80-1.90	13			
1.90-2.00	14			
2.00-2.10	15		70.19	2.00
2.10-2.20	16			
2.20-2.30	18			
2.30-2.40	20			
2.40-2.50	16			
2.50-2.60	14		69.69	2.50
2.60-2.70	21			
2.70-2.80	24			
2.80-2.90	29			
			69.19	3.00
			68.69	3.50
			68.19	4.00
			67.69	4.50
			67.19	5.00



Remarks
Refusal at 2.90m BGL.

Scale (approx)	Logged By
1:25	NM

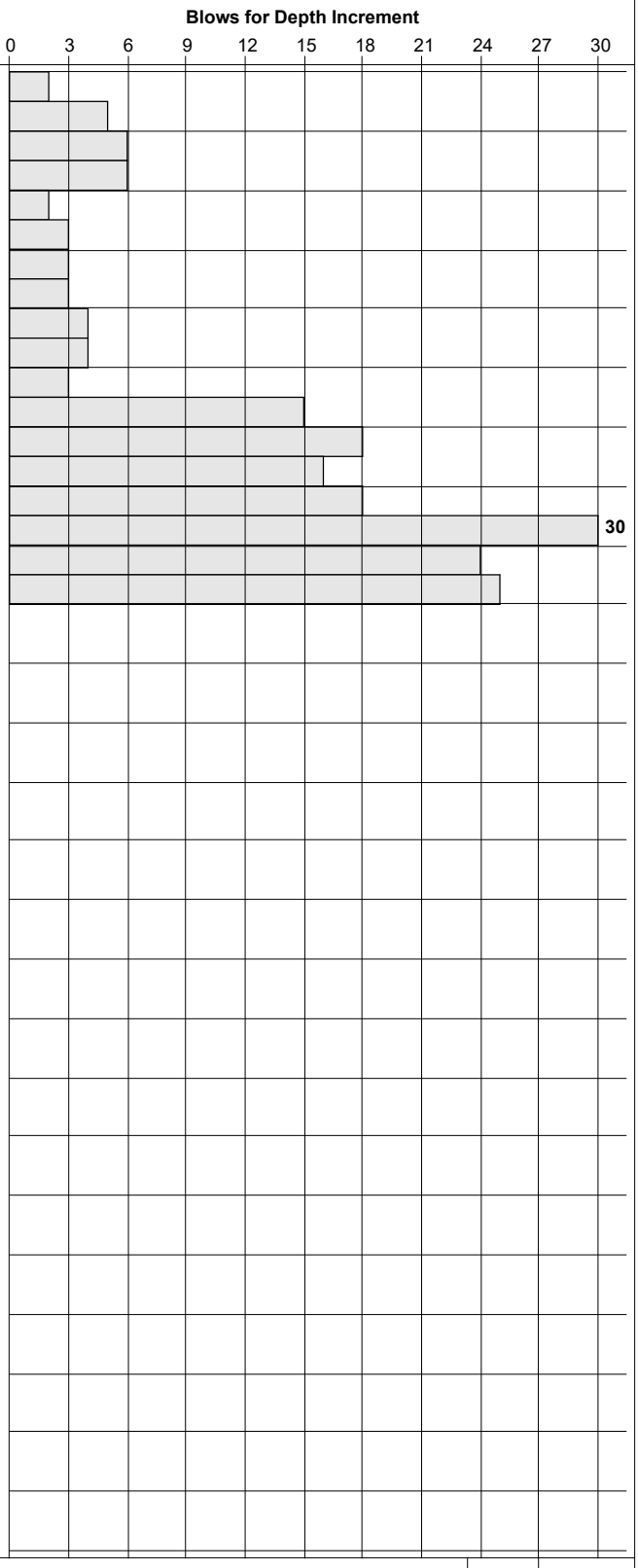
Figure No.
9551-03-20.DP09

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP10

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	68.11	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234840.5 E 223316.4 N	28/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	2		68.11	0.00
0.10-0.20	5			
0.20-0.30	6			
0.30-0.40	6			
0.40-0.50	2			
0.50-0.60	3		67.61	0.50
0.60-0.70	3			
0.70-0.80	3			
0.80-0.90	4			
0.90-1.00	4			
1.00-1.10	3		67.11	1.00
1.10-1.20	15			
1.20-1.30	18			
1.30-1.40	16			
1.40-1.50	18			
1.50-1.60	30		66.61	1.50
1.60-1.70	24			
1.70-1.80	25			
			66.11	2.00
			65.61	2.50
			65.11	3.00
			64.61	3.50
			64.11	4.00
			63.61	4.50
			63.11	5.00



Remarks
Refusal at 1,80m BGL. 25 blows for 50mm.

Scale (approx)	Logged By
1:25	NM

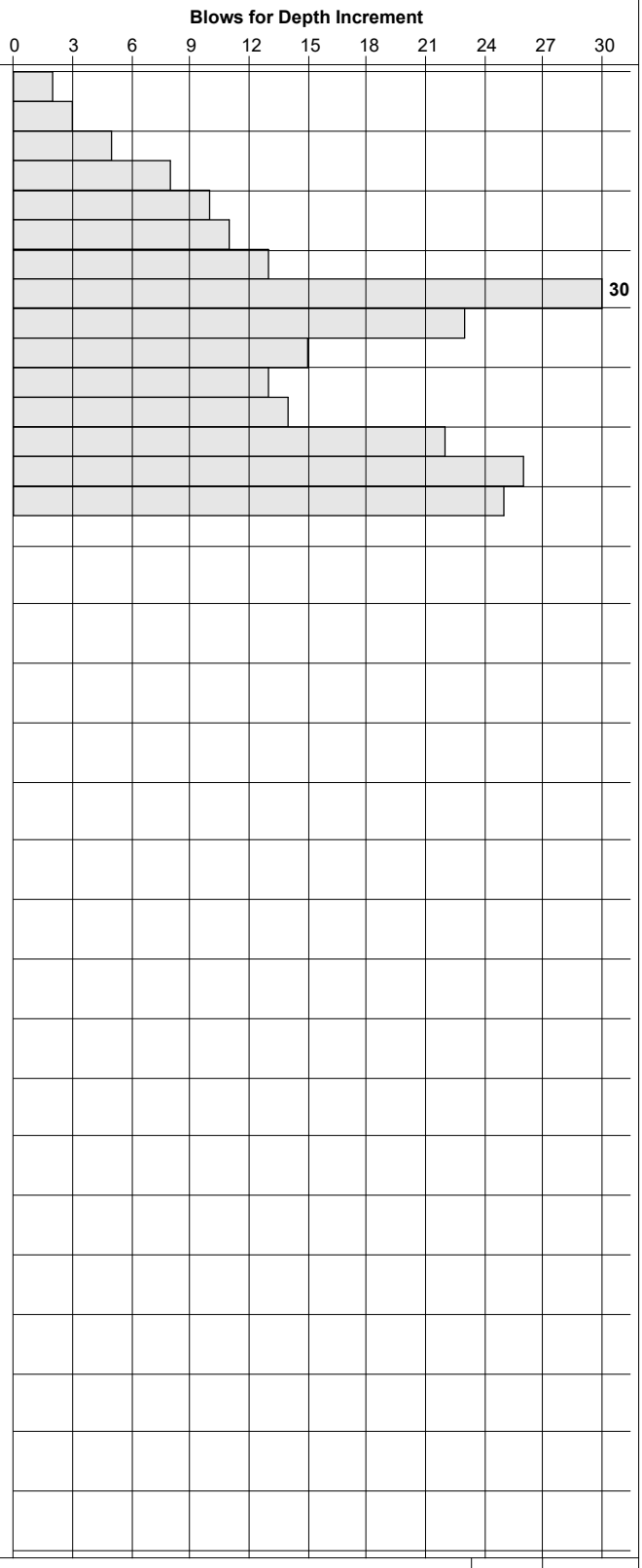
Figure No.
9551-03-20.DP10

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP11

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	69.22	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234743.3 E 223280.7 N	28/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	2		69.22	0.00
0.10-0.20	3			
0.20-0.30	5			
0.30-0.40	8			
0.40-0.50	10			
0.50-0.60	11		68.72	0.50
0.60-0.70	13			
0.70-0.80	30			
0.80-0.90	23			
0.90-1.00	15			
1.00-1.10	13		68.22	1.00
1.10-1.20	14			
1.20-1.30	22			
1.30-1.40	26			
1.40-1.50	25		67.72	1.50
			67.22	2.00
			66.72	2.50
			66.22	3.00
			65.72	3.50
			65.22	4.00
			64.72	4.50
			64.22	5.00



Remarks
Refusal at 1.50m BGL. 25 blows for 75mm.

Scale (approx)	Logged By
1:25	NM

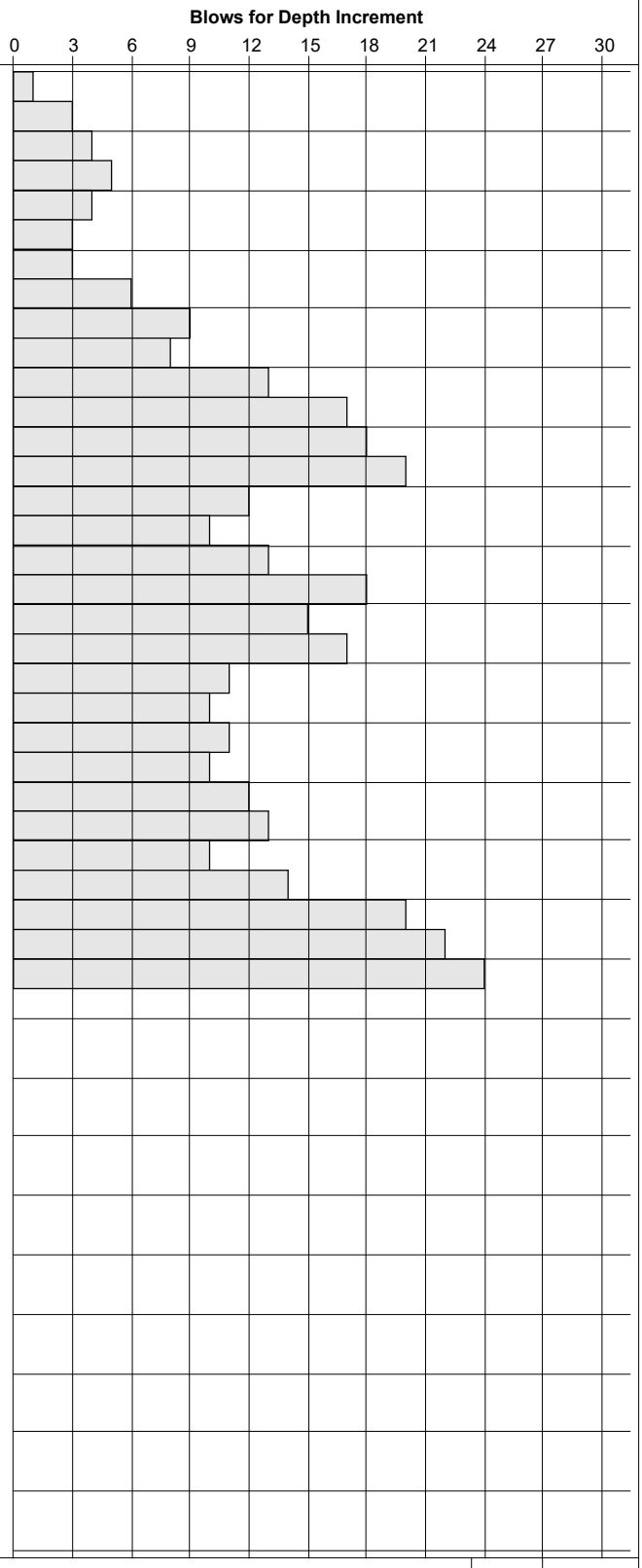
Figure No.
9551-03-20.DP11

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP12

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	69.12	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234731.9 E 223245.4 N	28/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	1		69.12	0.00
0.10-0.20	3			
0.20-0.30	4			
0.30-0.40	5			
0.40-0.50	4			
0.50-0.60	3		68.62	0.50
0.60-0.70	3			
0.70-0.80	6			
0.80-0.90	9			
0.90-1.00	8			
1.00-1.10	13		68.12	1.00
1.10-1.20	17			
1.20-1.30	18			
1.30-1.40	20			
1.40-1.50	12			
1.50-1.60	10		67.62	1.50
1.60-1.70	13			
1.70-1.80	18			
1.80-1.90	15			
1.90-2.00	17			
2.00-2.10	11		67.12	2.00
2.10-2.20	10			
2.20-2.30	11			
2.30-2.40	10			
2.40-2.50	12			
2.50-2.60	13		66.62	2.50
2.60-2.70	10			
2.70-2.80	14			
2.80-2.90	20			
2.90-3.00	22			
3.00-3.10	24		66.12	3.00
			65.62	3.50
			65.12	4.00
			64.62	4.50
			64.12	5.00



Remarks
Refusal at 3.10m BGL.

Scale (approx)	Logged By
1:25	NM

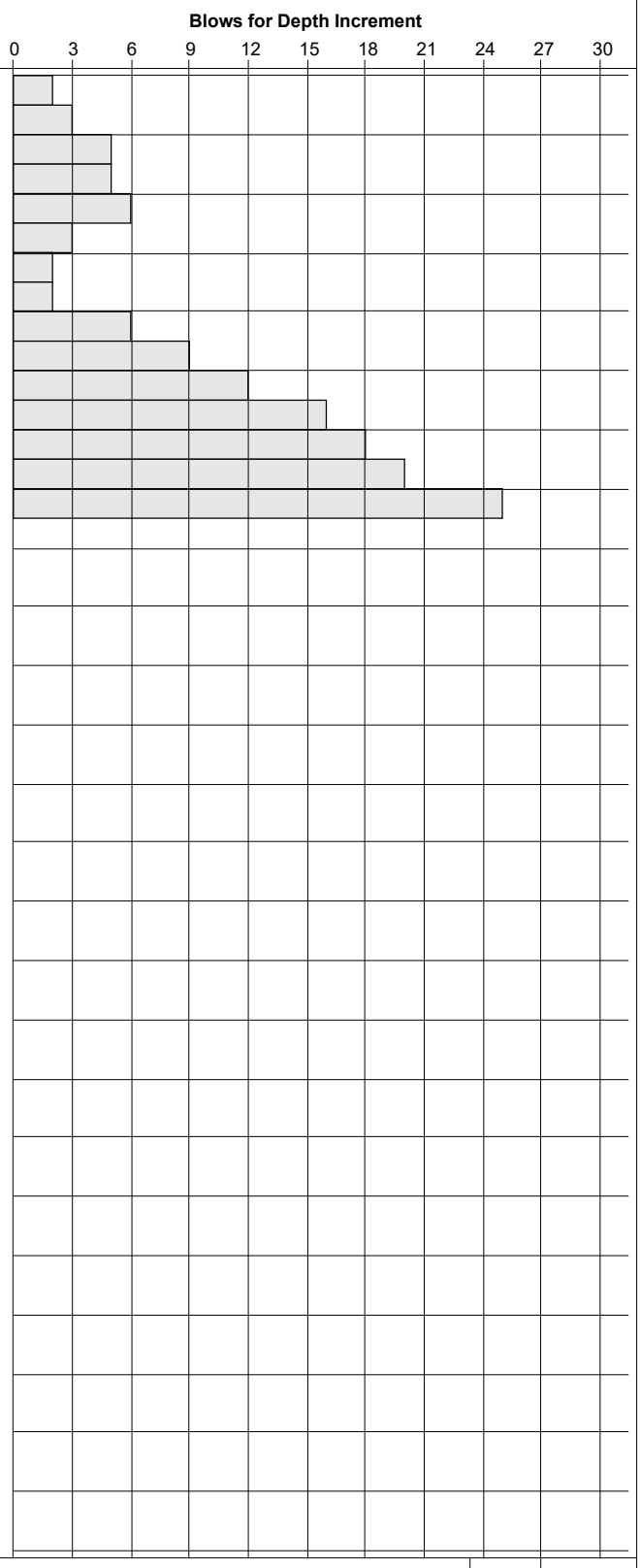
Figure No.
9551-03-20.DP12

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP13

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	69.97	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234676 E 223222.1 N	28/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	2		69.97	0.00
0.10-0.20	3			
0.20-0.30	5			
0.30-0.40	5			
0.40-0.50	6			
0.50-0.60	3		69.47	0.50
0.60-0.70	2			
0.70-0.80	2			
0.80-0.90	6			
0.90-1.00	9			
1.00-1.10	12		68.97	1.00
1.10-1.20	16			
1.20-1.30	18			
1.30-1.40	20			
1.40-1.50	25		68.47	1.50
			67.97	2.00
			67.47	2.50
			66.97	3.00
			66.47	3.50
			65.97	4.00
			65.47	4.50
			64.97	5.00



Remarks
Refusal at 1.50m BGL. 25 blows for 50mm.

Scale (approx)	Logged By
1:25	NM

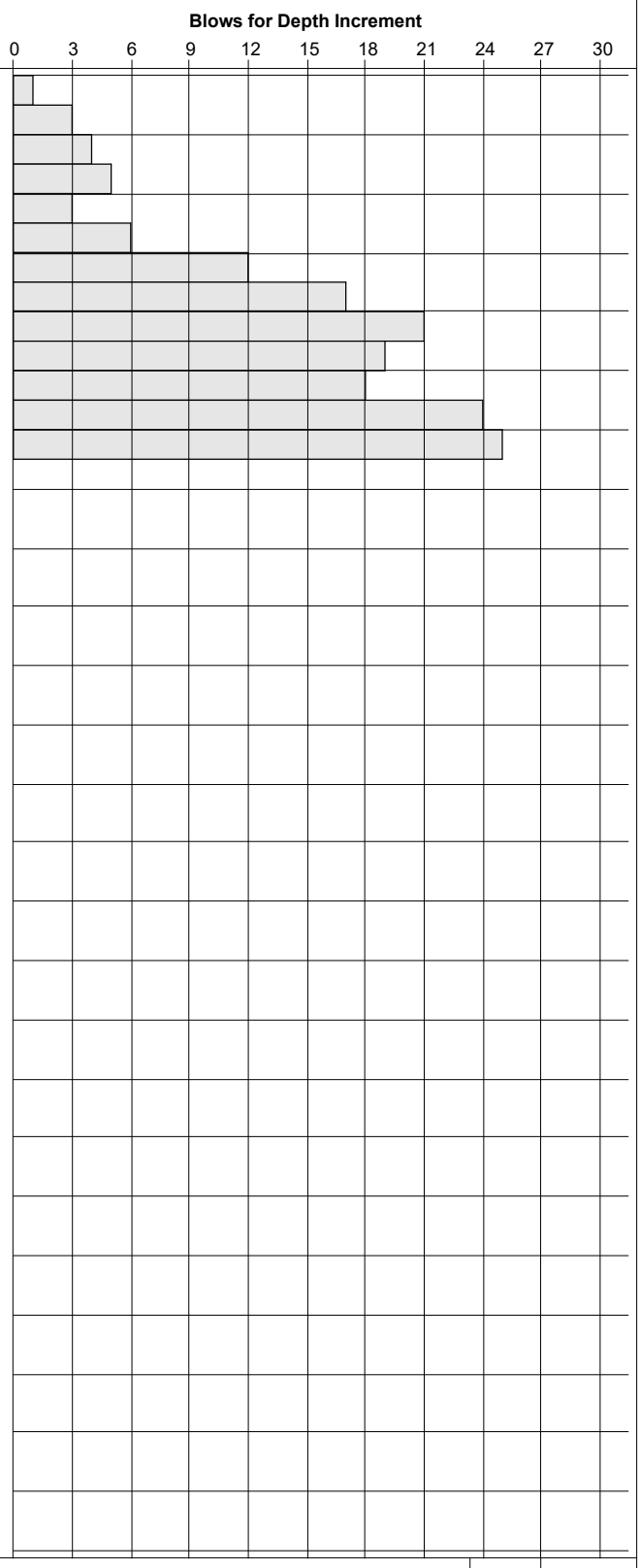
Figure No.
9551-03-20.DP13

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP14

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	69.14	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234711.1 E 223219.7 N	28/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	1		69.14	0.00
0.10-0.20	3			
0.20-0.30	4			
0.30-0.40	5			
0.40-0.50	3			
0.50-0.60	6		68.64	0.50
0.60-0.70	12			
0.70-0.80	17			
0.80-0.90	21			
0.90-1.00	19			
1.00-1.10	18		68.14	1.00
1.10-1.20	24			
1.20-1.30	25			
			67.64	1.50
			67.14	2.00
			66.64	2.50
			66.14	3.00
			65.64	3.50
			65.14	4.00
			64.64	4.50
			64.14	5.00



Remarks
Refusal at 1.30m BGL. 25 blows for 75mm.

Scale (approx)	Logged By
1:25	NM

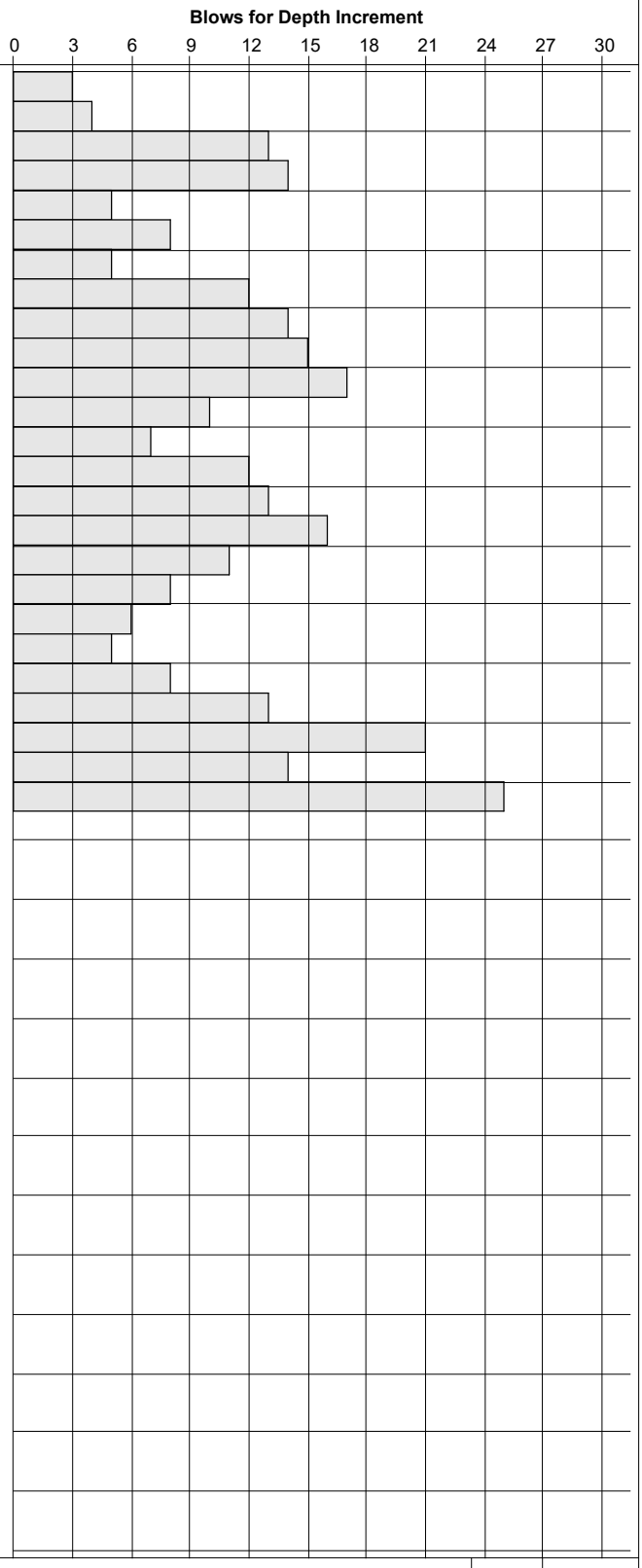
Figure No.
9551-03-20.DP14

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP15

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	67.29	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234858.8 E 223367.1 N	28/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	3		67.29	0.00
0.10-0.20	4			
0.20-0.30	13			
0.30-0.40	14			
0.40-0.50	5			
0.50-0.60	8		66.79	0.50
0.60-0.70	5			
0.70-0.80	12			
0.80-0.90	14			
0.90-1.00	15			
1.00-1.10	17		66.29	1.00
1.10-1.20	10			
1.20-1.30	7			
1.30-1.40	12			
1.40-1.50	13			
1.50-1.60	16		65.79	1.50
1.60-1.70	11			
1.70-1.80	8			
1.80-1.90	6			
1.90-2.00	5			
2.00-2.10	8		65.29	2.00
2.10-2.20	13			
2.20-2.30	21			
2.30-2.40	14			
2.40-2.50	25		64.79	2.50
			64.29	3.00
			63.79	3.50
			63.29	4.00
			62.79	4.50
			62.29	5.00



Remarks
Refusal at 2.50m BGL. 25 blows for 50mm.

Scale (approx)	Logged By
1:25	NM

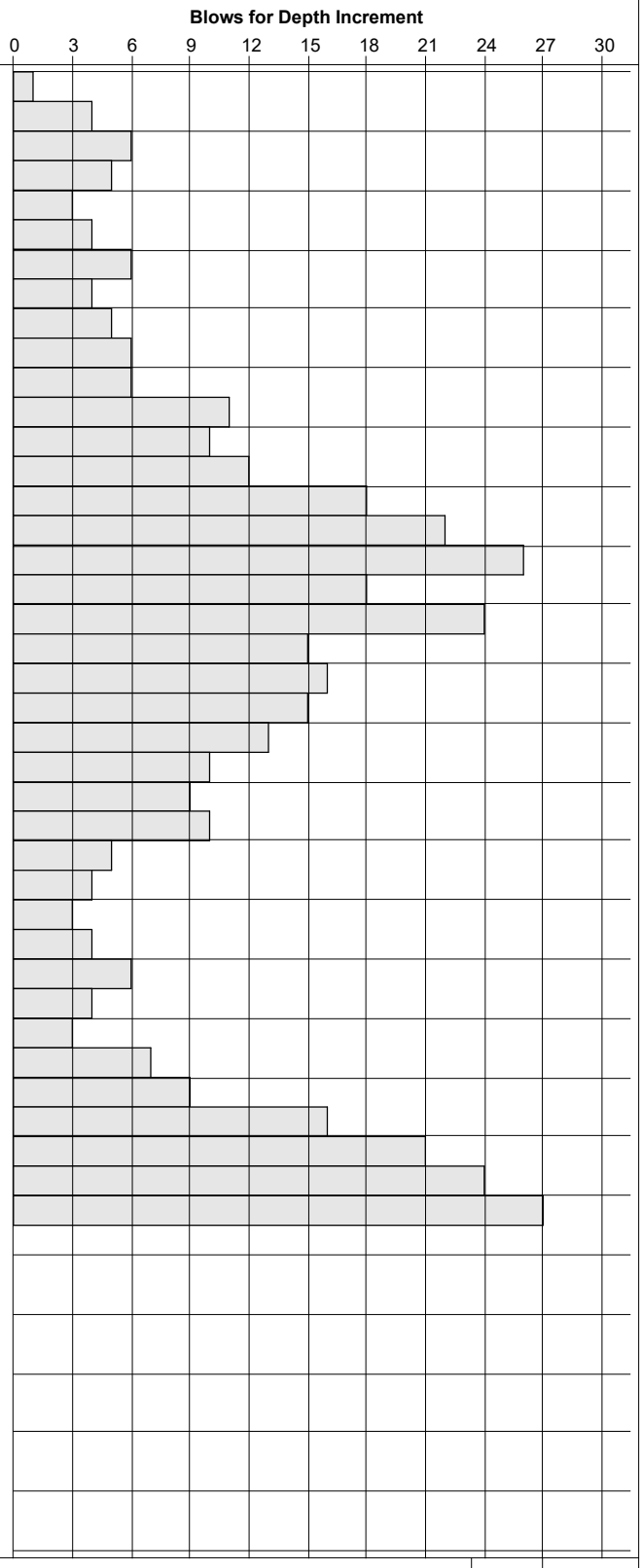
Figure No.
9551-03-20.DP15

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP16

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	67.76	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234923.4 E 223360.9 N	28/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	1		67.76	0.00
0.10-0.20	4			
0.20-0.30	6			
0.30-0.40	5			
0.40-0.50	3			
0.50-0.60	4		67.26	0.50
0.60-0.70	6			
0.70-0.80	4			
0.80-0.90	5			
0.90-1.00	6			
1.00-1.10	6		66.76	1.00
1.10-1.20	11			
1.20-1.30	10			
1.30-1.40	12			
1.40-1.50	18			
1.50-1.60	22		66.26	1.50
1.60-1.70	26			
1.70-1.80	18			
1.80-1.90	24			
1.90-2.00	15			
2.00-2.10	16		65.76	2.00
2.10-2.20	15			
2.20-2.30	13			
2.30-2.40	10			
2.40-2.50	9			
2.50-2.60	10		65.26	2.50
2.60-2.70	5			
2.70-2.80	4			
2.80-2.90	3			
2.90-3.00	4			
3.00-3.10	6		64.76	3.00
3.10-3.20	4			
3.20-3.30	3			
3.30-3.40	7			
3.40-3.50	9			
3.50-3.60	16		64.26	3.50
3.60-3.70	21			
3.70-3.80	24			
3.80-3.90	27			
			63.76	4.00
			63.26	4.50
			62.76	5.00



Remarks
Refusal at 3.90m BGL.

Scale (approx)	Logged By
1:25	NM

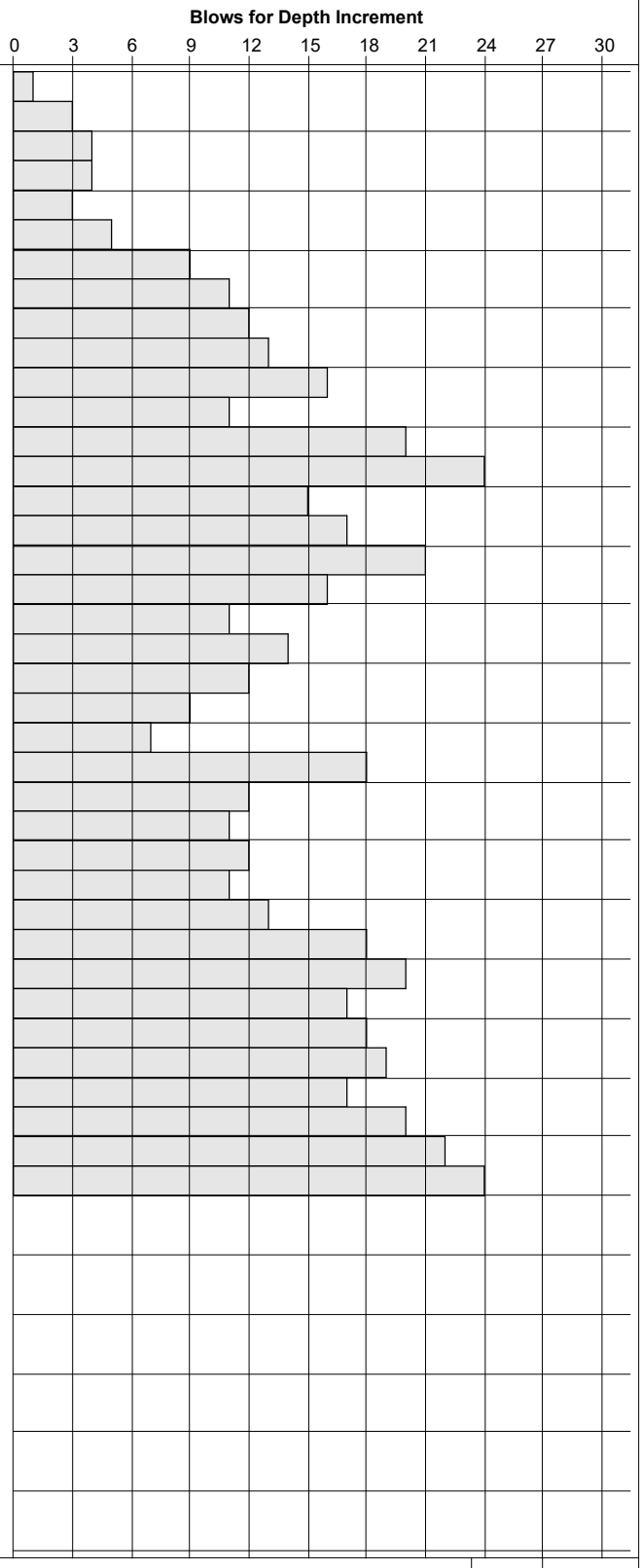
Figure No.
9551-03-20.DP16

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP17

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	69.23	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234912.9 E 223412.1 N	28/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	1		69.23	0.00
0.10-0.20	3			
0.20-0.30	4			
0.30-0.40	4			
0.40-0.50	3			
0.50-0.60	5		68.73	0.50
0.60-0.70	9			
0.70-0.80	11			
0.80-0.90	12			
0.90-1.00	13			
1.00-1.10	16		68.23	1.00
1.10-1.20	11			
1.20-1.30	20			
1.30-1.40	24			
1.40-1.50	15			
1.50-1.60	17		67.73	1.50
1.60-1.70	21			
1.70-1.80	16			
1.80-1.90	11			
1.90-2.00	14			
2.00-2.10	12		67.23	2.00
2.10-2.20	9			
2.20-2.30	7			
2.30-2.40	18			
2.40-2.50	12			
2.50-2.60	11		66.73	2.50
2.60-2.70	12			
2.70-2.80	11			
2.80-2.90	13			
2.90-3.00	18			
3.00-3.10	20		66.23	3.00
3.10-3.20	17			
3.20-3.30	18			
3.30-3.40	19			
3.40-3.50	17			
3.50-3.60	20		65.73	3.50
3.60-3.70	22			
3.70-3.80	24			
			65.23	4.00
			64.73	4.50
			64.23	5.00



Remarks
Refusal at 3.80m BGL.

Scale (approx)	Logged By
1:25	NM

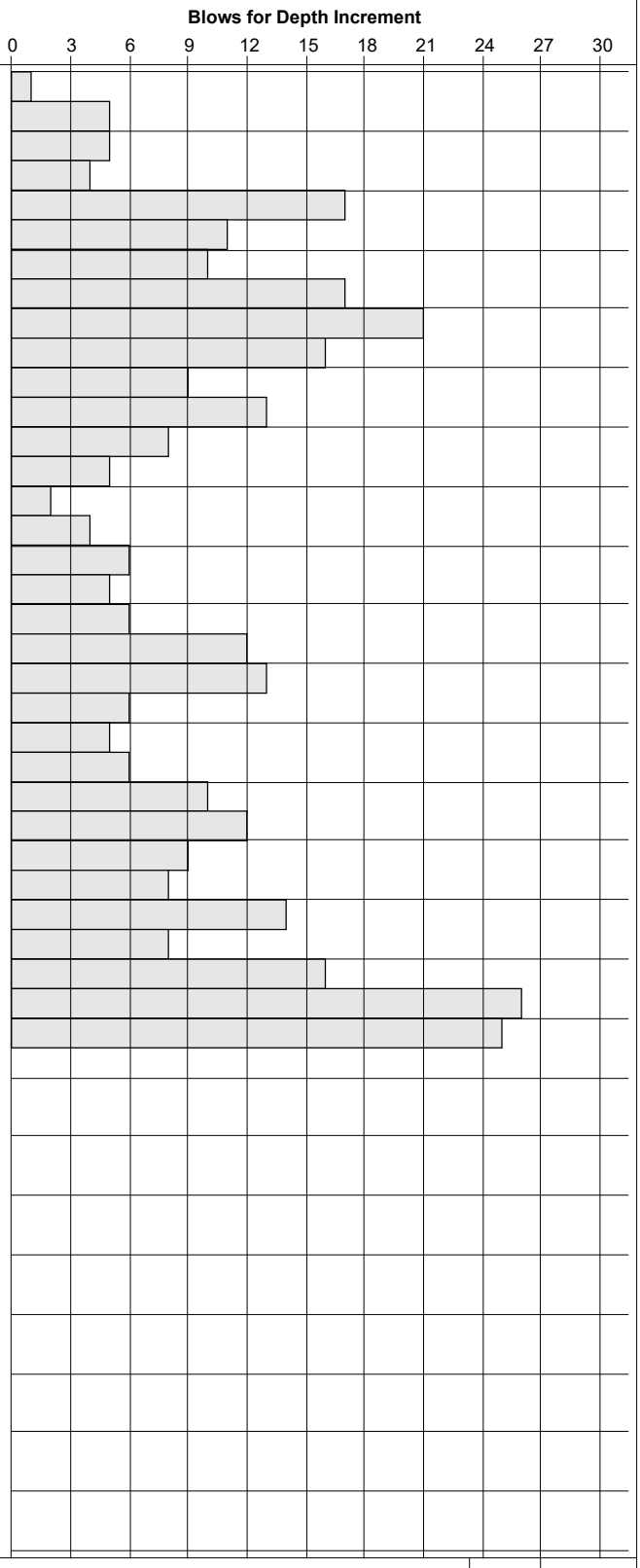
Figure No.
9551-03-20.DP17

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP18

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	66.18	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234855.8 E 223436.9 N	28/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	1		66.18	0.00
0.10-0.20	5			
0.20-0.30	5			
0.30-0.40	4			
0.40-0.50	17			
0.50-0.60	11		65.68	0.50
0.60-0.70	10			
0.70-0.80	17			
0.80-0.90	21			
0.90-1.00	16			
1.00-1.10	9		65.18	1.00
1.10-1.20	13			
1.20-1.30	8			
1.30-1.40	5			
1.40-1.50	2			
1.50-1.60	4		64.68	1.50
1.60-1.70	6			
1.70-1.80	5			
1.80-1.90	6			
1.90-2.00	12			
2.00-2.10	13		64.18	2.00
2.10-2.20	6			
2.20-2.30	5			
2.30-2.40	6			
2.40-2.50	10			
2.50-2.60	12		63.68	2.50
2.60-2.70	9			
2.70-2.80	8			
2.80-2.90	14			
2.90-3.00	8			
3.00-3.10	16		63.18	3.00
3.10-3.20	26			
3.20-3.30	25			
			62.68	3.50
			62.18	4.00
			61.68	4.50
			61.18	5.00



Remarks
Refusal at 3.30m BGL. 25 blows for 75mm.

Scale (approx)	Logged By
1:25	NM

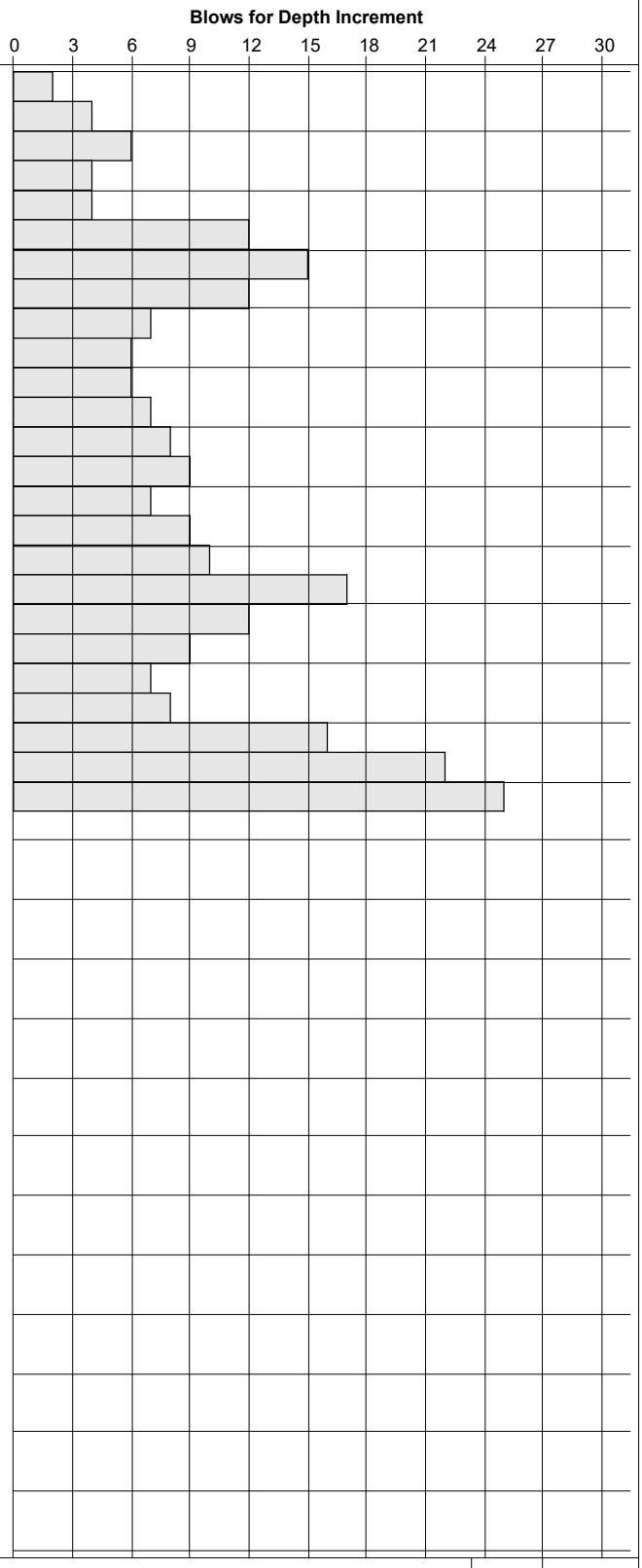
Figure No.
9551-03-20.DP18

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP19

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	66.18	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234883.6 E 223473.8 N	28/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	2		66.18	0.00
0.10-0.20	4			
0.20-0.30	6			
0.30-0.40	4			
0.40-0.50	4			
0.50-0.60	12		65.68	0.50
0.60-0.70	15			
0.70-0.80	12			
0.80-0.90	7			
0.90-1.00	6			
1.00-1.10	6		65.18	1.00
1.10-1.20	7			
1.20-1.30	8			
1.30-1.40	9			
1.40-1.50	7			
1.50-1.60	9		64.68	1.50
1.60-1.70	10			
1.70-1.80	17			
1.80-1.90	12			
1.90-2.00	9			
2.00-2.10	7		64.18	2.00
2.10-2.20	8			
2.20-2.30	16			
2.30-2.40	22			
2.40-2.50	25		63.68	2.50
			63.18	3.00
			62.68	3.50
			62.18	4.00
			61.68	4.50
			61.18	5.00



Remarks
Refusal at 2.50m BGL. 25 blows for 50mm.

Scale (approx)	Logged By
1:25	NM

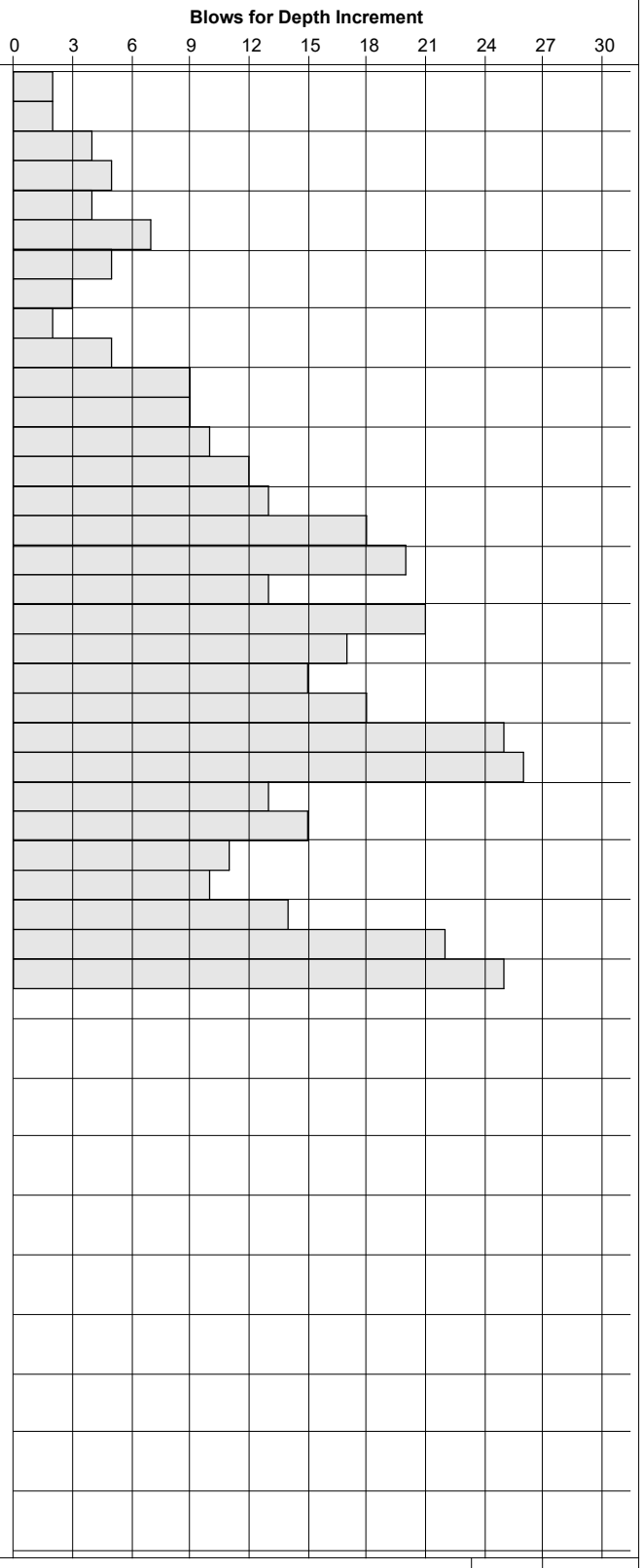
Figure No.
9551-03-20.DP19

Ground Investigations Ireland Ltd
www.gii.ie

Site	Probe Number
Clonminch, Tullamore	DP20

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe DPH, Fall height 500mm. Hammer weight 50kg.	Diameter 43.7mm	70.77	DBFL	9551-03-20
	Location	**Dates**	**Engineer**	**Sheet**
	234569.3 E 223168.5 N	27/05/2020		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)
0.00-0.10	2		70.77	0.00
0.10-0.20	2			
0.20-0.30	4			
0.30-0.40	5			
0.40-0.50	4			
0.50-0.60	7		70.27	0.50
0.60-0.70	5			
0.70-0.80	3			
0.80-0.90	2			
0.90-1.00	5			
1.00-1.10	9		69.77	1.00
1.10-1.20	9			
1.20-1.30	10			
1.30-1.40	12			
1.40-1.50	13			
1.50-1.60	18		69.27	1.50
1.60-1.70	20			
1.70-1.80	13			
1.80-1.90	21			
1.90-2.00	17			
2.00-2.10	15		68.77	2.00
2.10-2.20	18			
2.20-2.30	25			
2.30-2.40	26			
2.40-2.50	13			
2.50-2.60	15		68.27	2.50
2.60-2.70	11			
2.70-2.80	10			
2.80-2.90	14			
2.90-3.00	22			
3.00-3.10	25		67.77	3.00
			67.27	3.50
			66.77	4.00
			66.27	4.50
			65.77	5.00



Remarks
Refusal at 3.10m BGL. 25 blows for 50mm.

Scale (approx)	Logged By
1:25	NM

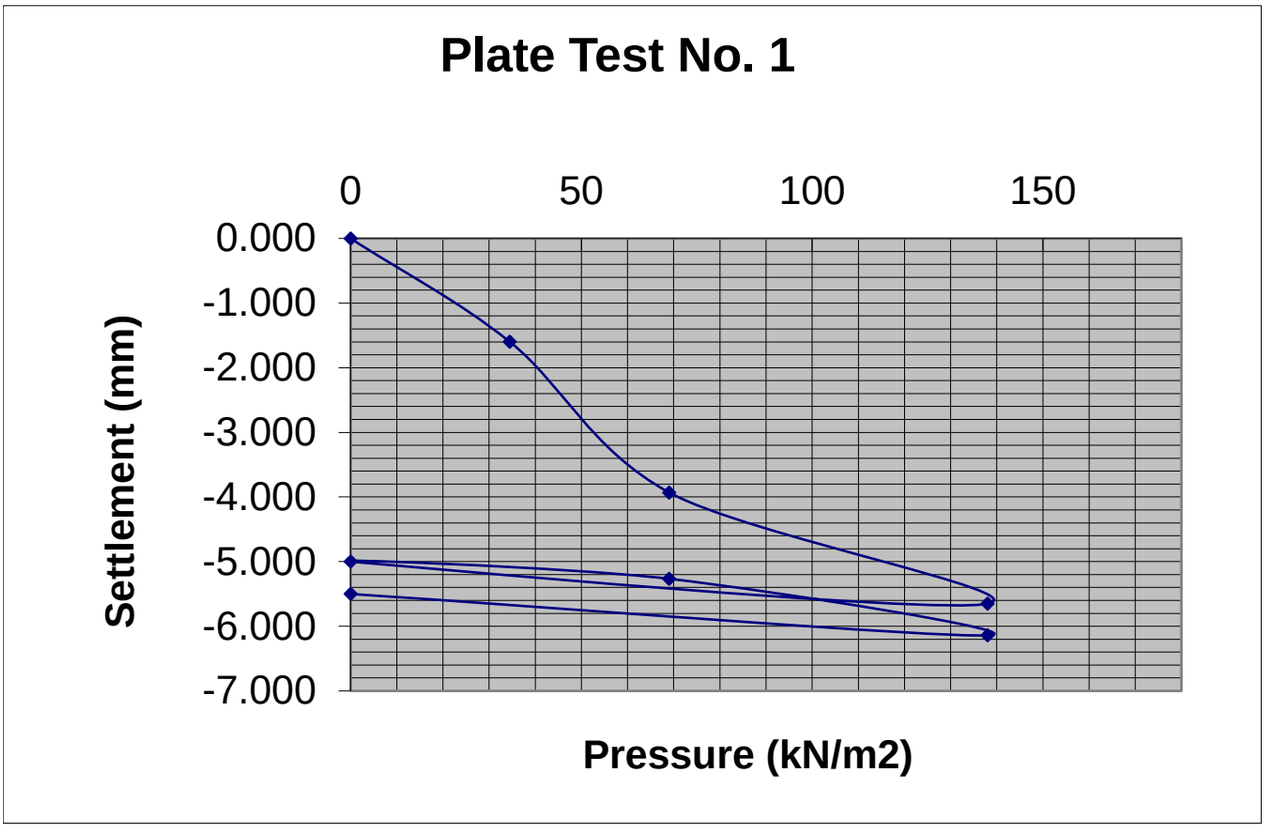
Figure No.
9551-03-20.DP20

APPENDIX 5 – CBR Records

Applied Load	Gauge settlement
0	**0.000**
34.5	-1.6
69	-3.93
138	-5.65
0	-5
69	-5.265
138	-6.14
0	-5.5

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm light brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	19/05/2020		
CLIENT	DBFL	**DEPTH**	0.30m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR01	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **11.86 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **175.94 MN/m2/m**

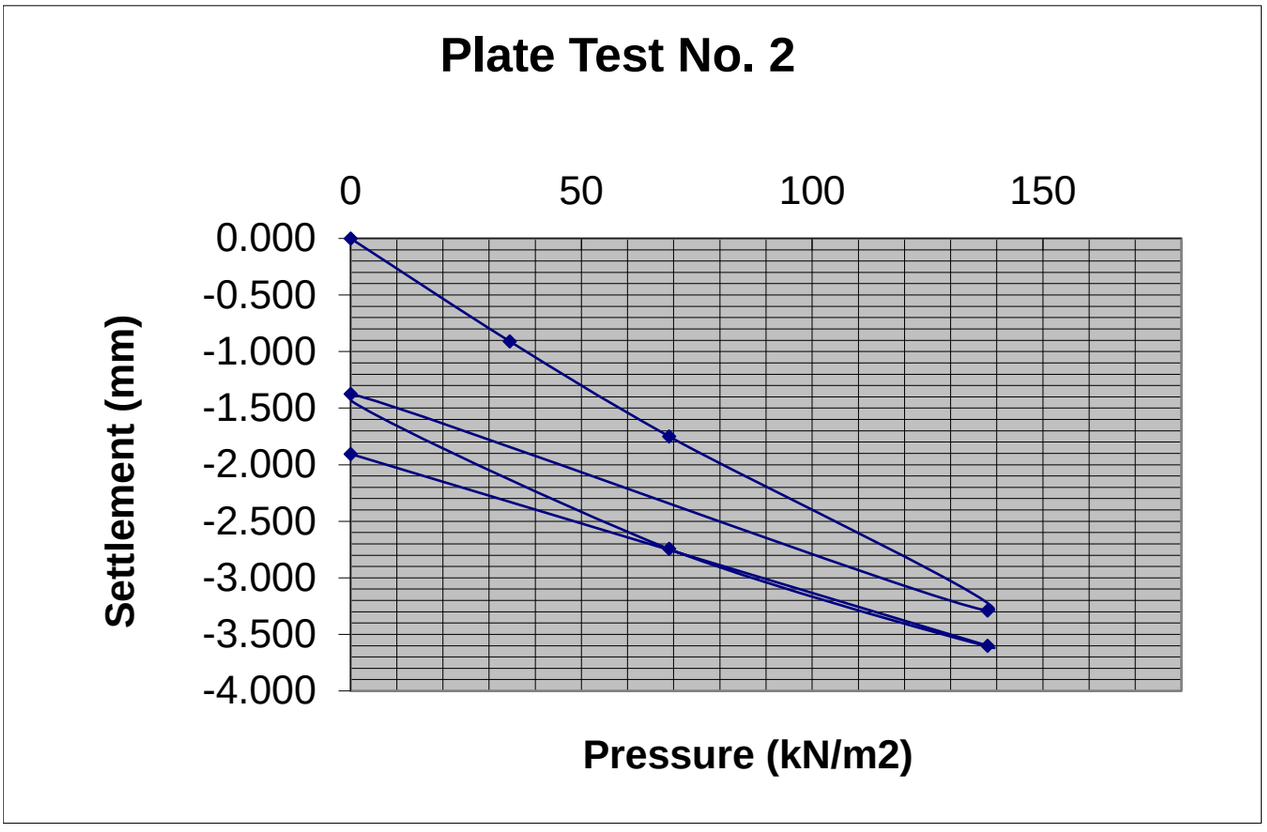
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **0.70 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **75.08 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-0.91
69	-1.75
138	-3.29
0	-1.375
69	-2.745
138	-3.6
0	-1.905

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	20/05/2020		
CLIENT	DBFL	**DEPTH**	0.35m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR02	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **26.64 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **34.03 MN/m2/m**

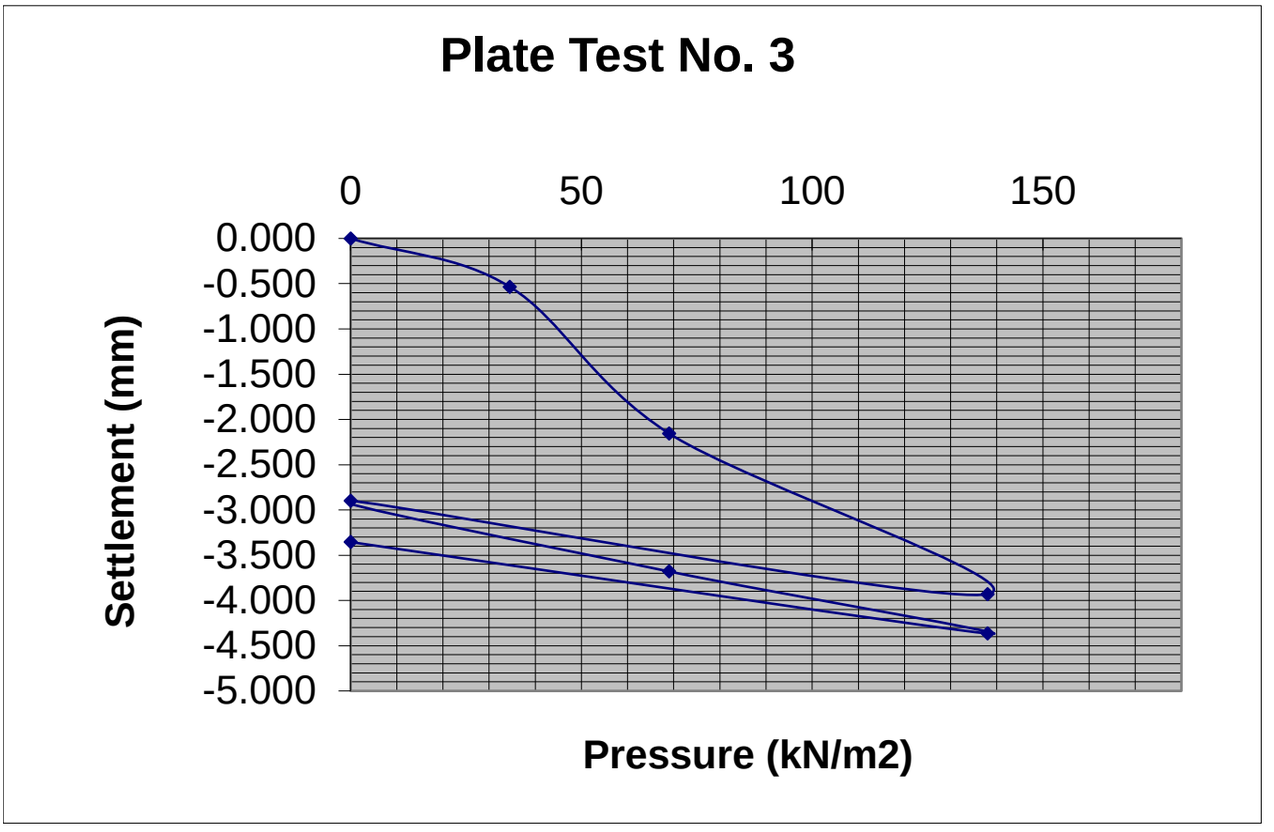
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **2.85 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **4.36 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-0.535
69	-2.155
138	-3.93
0	-2.9
69	-3.68
138	-4.365
0	-3.355

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm light brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	20/05/2020		
CLIENT	DBFL	**DEPTH**	0.40m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR03	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **21.63 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **59.77 MN/m2/m**

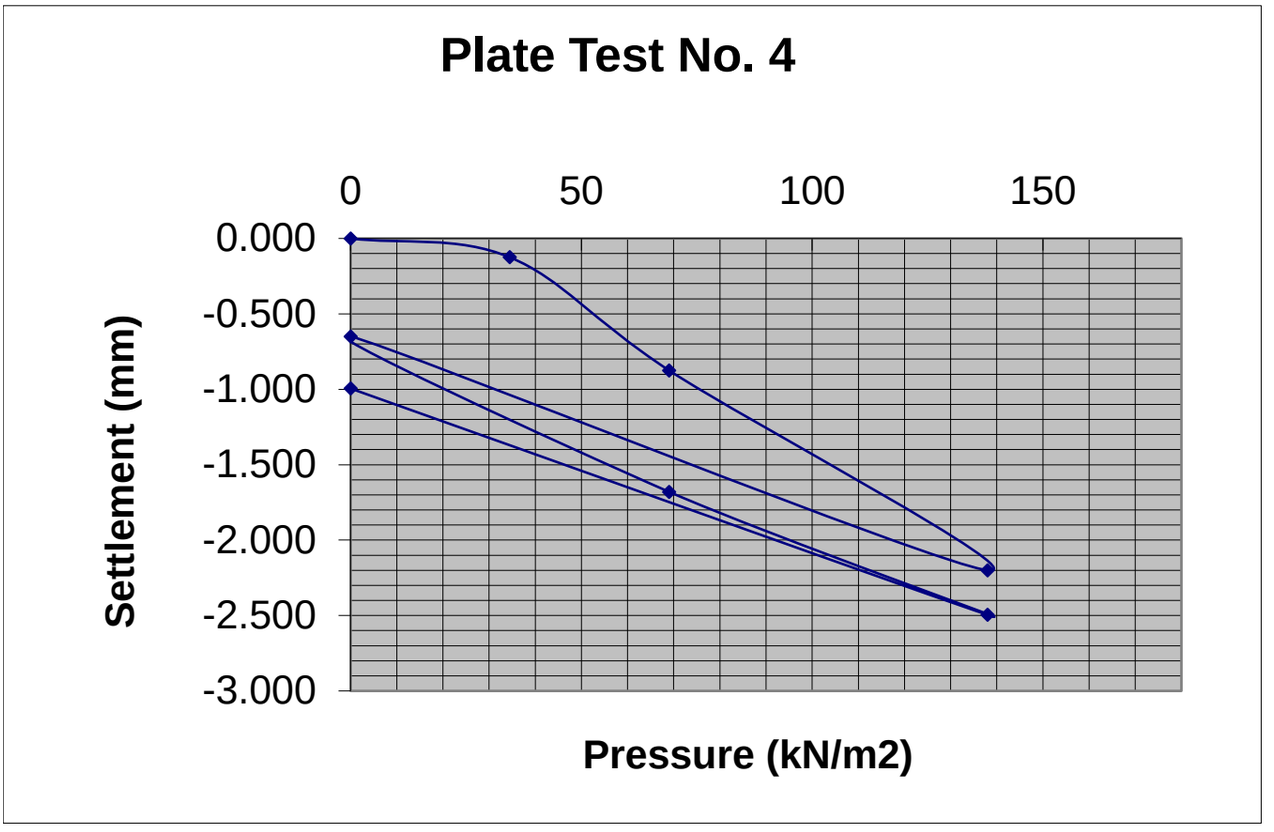
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **1.99 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **11.56 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-0.125
69	-0.875
138	-2.2
0	-0.65
69	-1.68
138	-2.495
0	-0.995

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm light brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	20/05/2020		
CLIENT	DBFL	**DEPTH**	0.30m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR04	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **53.28 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **45.27 MN/m2/m**

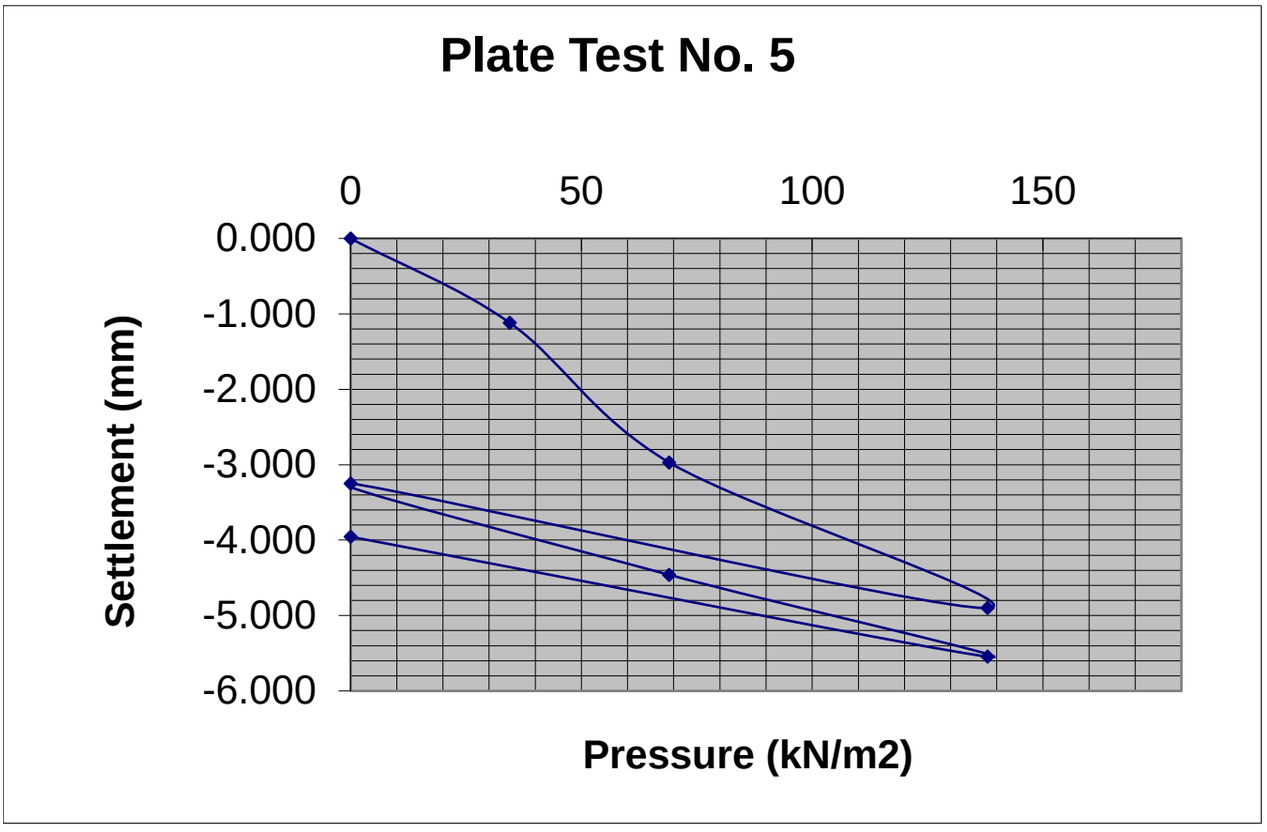
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **9.47 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **7.14 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-1.12
69	-2.97
138	-4.9
0	-3.25
69	-4.46
138	-5.545
0	-3.955

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm light brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	20/05/2020		
CLIENT	DBFL	**DEPTH**	0.40m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR05	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **15.70 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **38.53 MN/m2/m**

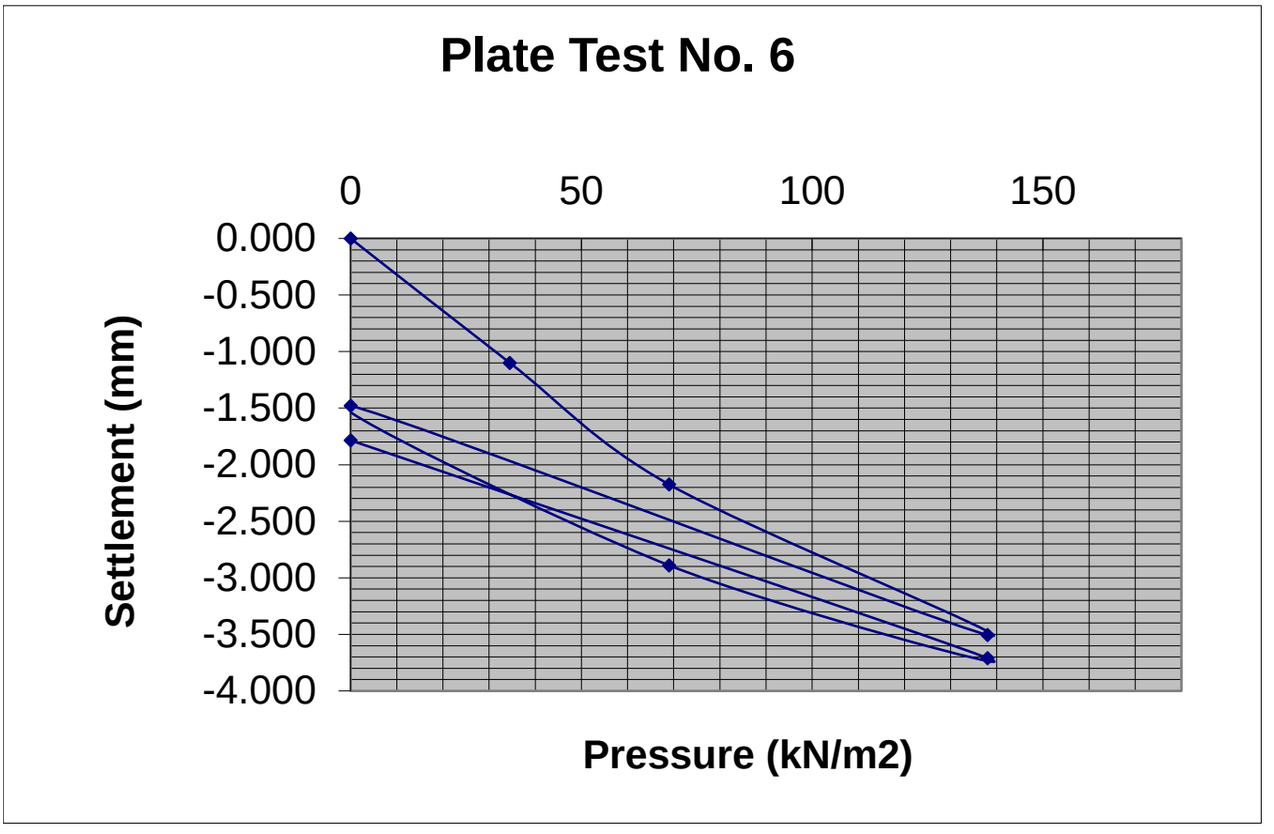
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **1.14 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **5.40 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-1.1
69	-2.175
138	-3.505
0	-1.48
69	-2.89
138	-3.71
0	-1.785

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm light brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	20/05/2020		
CLIENT	DBFL	**DEPTH**	0.30m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR06	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **21.44 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **33.07 MN/m2/m**

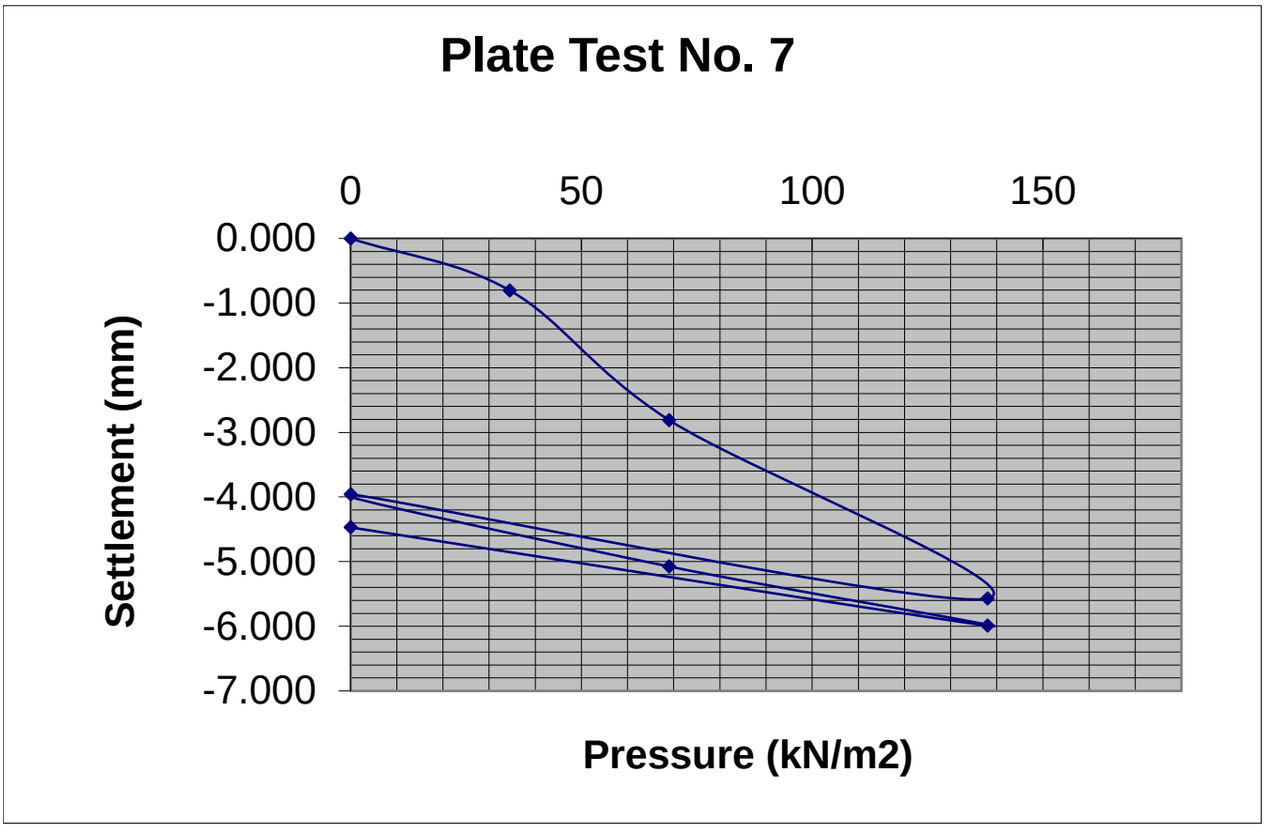
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **1.96 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **4.14 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-0.805
69	-2.81
138	-5.57
0	-3.96
69	-5.075
138	-5.99
0	-4.47

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm light brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	20/05/2020		
CLIENT	DBFL	**DEPTH**	0.40m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR07	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **16.59 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **41.81 MN/m2/m**

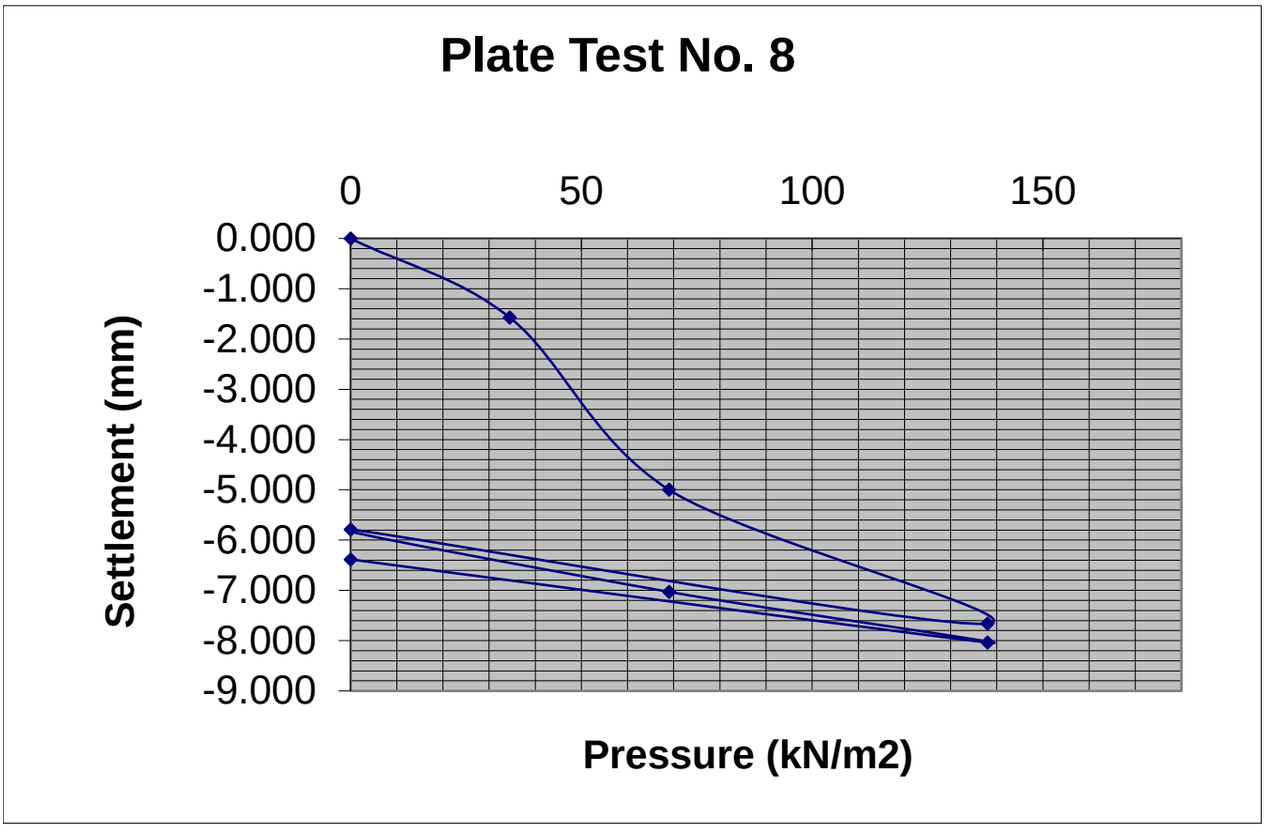
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **1.25 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **6.22 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-1.575
69	-5
138	-7.66
0	-5.79
69	-7.03
138	-8.035
0	-6.385

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm light brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	20/05/2020		
CLIENT	DBFL	**DEPTH**	0.30m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR08	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **9.32 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **37.60 MN/m2/m**

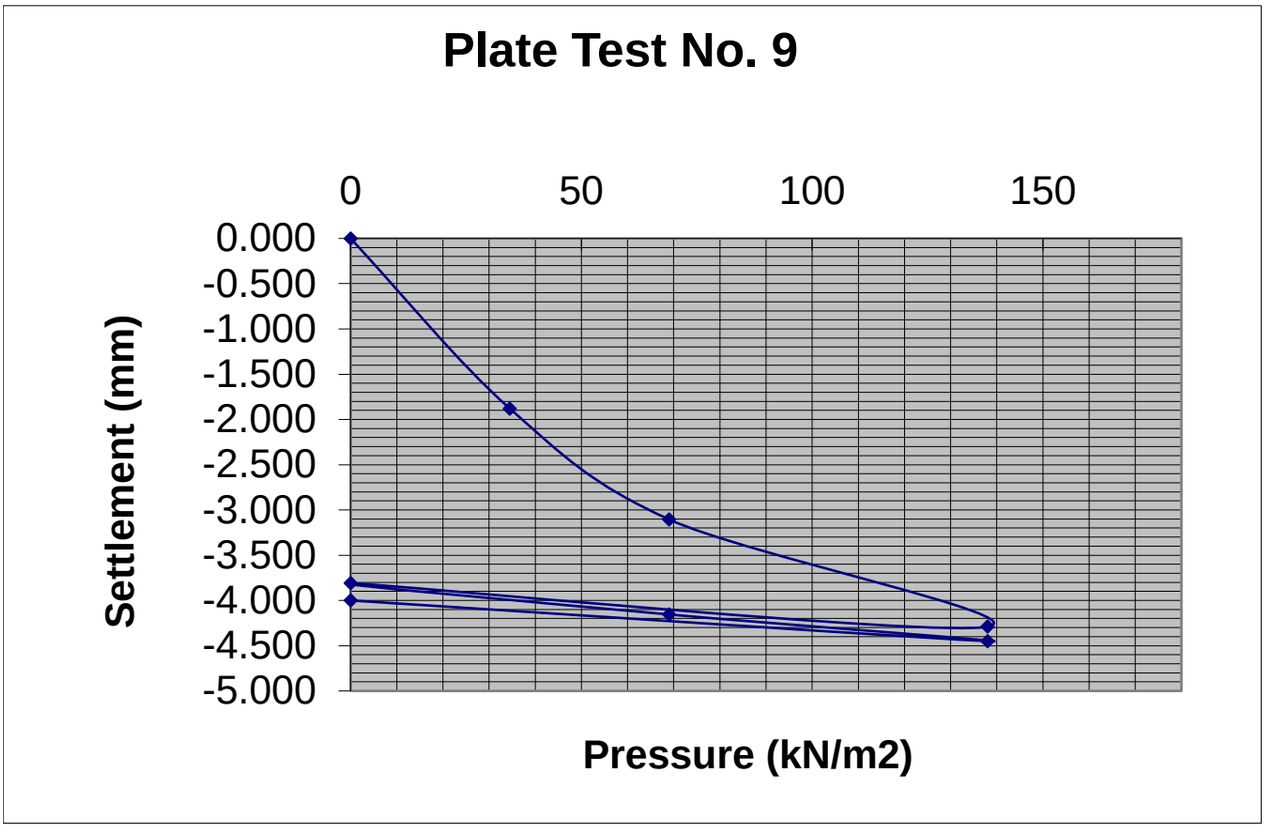
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **0.46 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **5.18 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-1.88
69	-3.105
138	-4.29
0	-3.81
69	-4.155
138	-4.45
0	-4

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm light brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	20/05/2020		
CLIENT	DBFL	**DEPTH**	0.40m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR09	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **15.02 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **135.14 MN/m2/m**

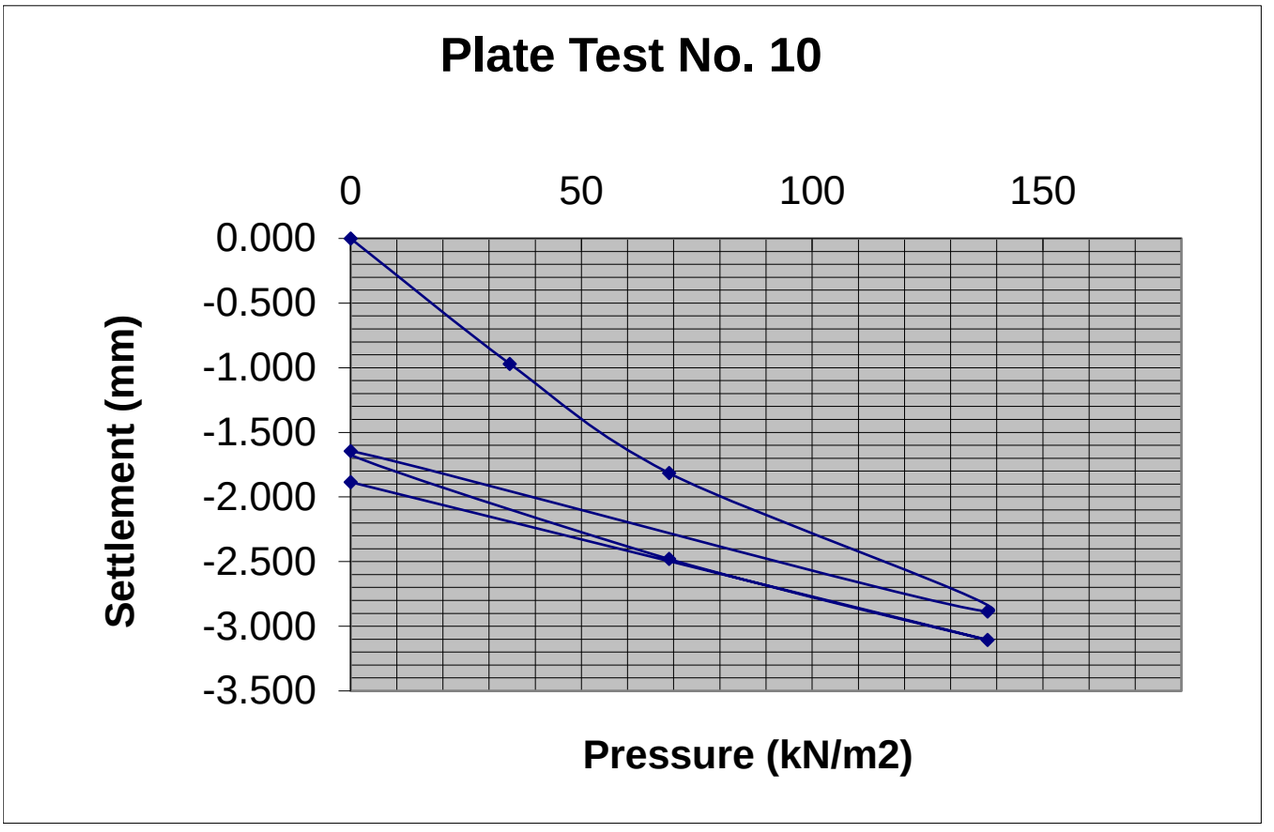
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **1.06 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **47.53 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-0.97
69	-2
138	-2.885
0	-1.645
69	-2.48
138	-3.105
0	-1.885

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm light brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	21/05/2020		
CLIENT	DBFL	**DEPTH**	0.30m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR10	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **25.69 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **55.84 MN/m2/m**

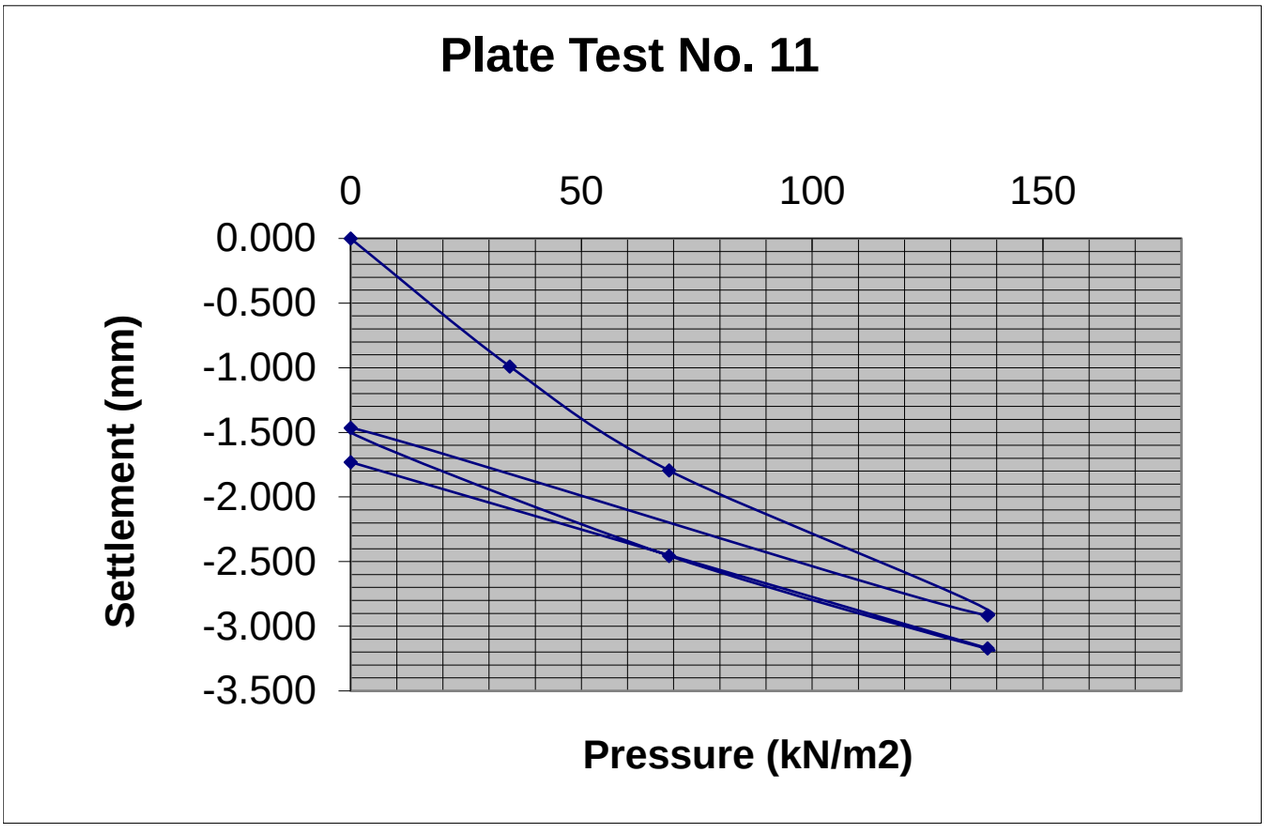
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **2.68 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **10.27 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-0.99
69	-2
138	-2.915
0	-1.465
69	-2.455
138	-3.17
0	-1.73

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm light brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	21/05/2020		
CLIENT	DBFL	**DEPTH**	0.35m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR11	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **25.97 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **47.09 MN/m2/m**

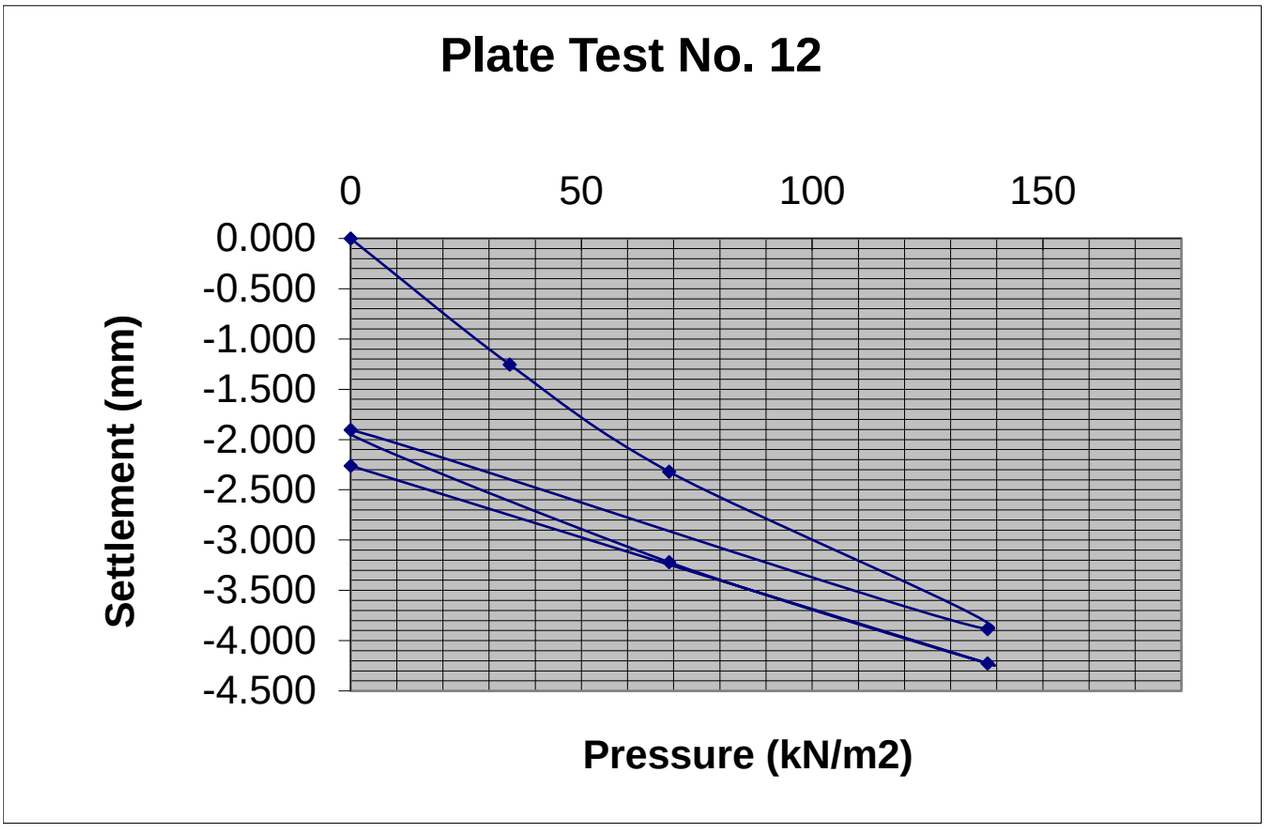
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **2.73 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **7.65 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-1.255
69	-2.32
138	-3.885
0	-1.905
69	-3.22
138	-4.225
0	-2.26

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	21/05/2020		
CLIENT	DBFL	**DEPTH**	0.30m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR12	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **20.10 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **35.45 MN/m2/m**

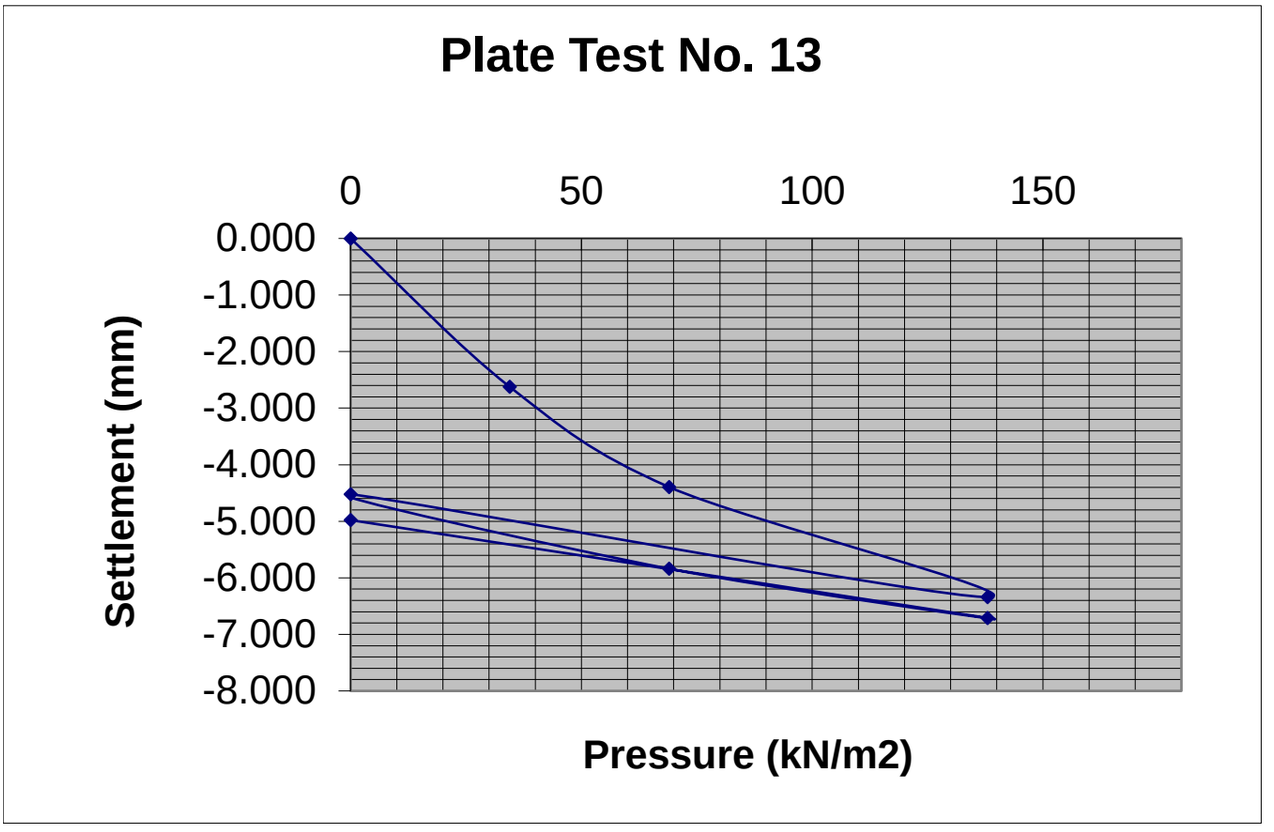
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **1.75 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **4.68 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-2.625
69	-4.395
138	-6.34
0	-4.525
69	-5.84
138	-6.71
0	-4.98

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm light brown slightly sandy slightly gravelly clayey Silt
CONTRACT NO.	9551-03-20		
DATE	22/05/2020		
CLIENT	DBFL	**DEPTH**	0.50m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR13	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **10.61 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **35.45 MN/m2/m**

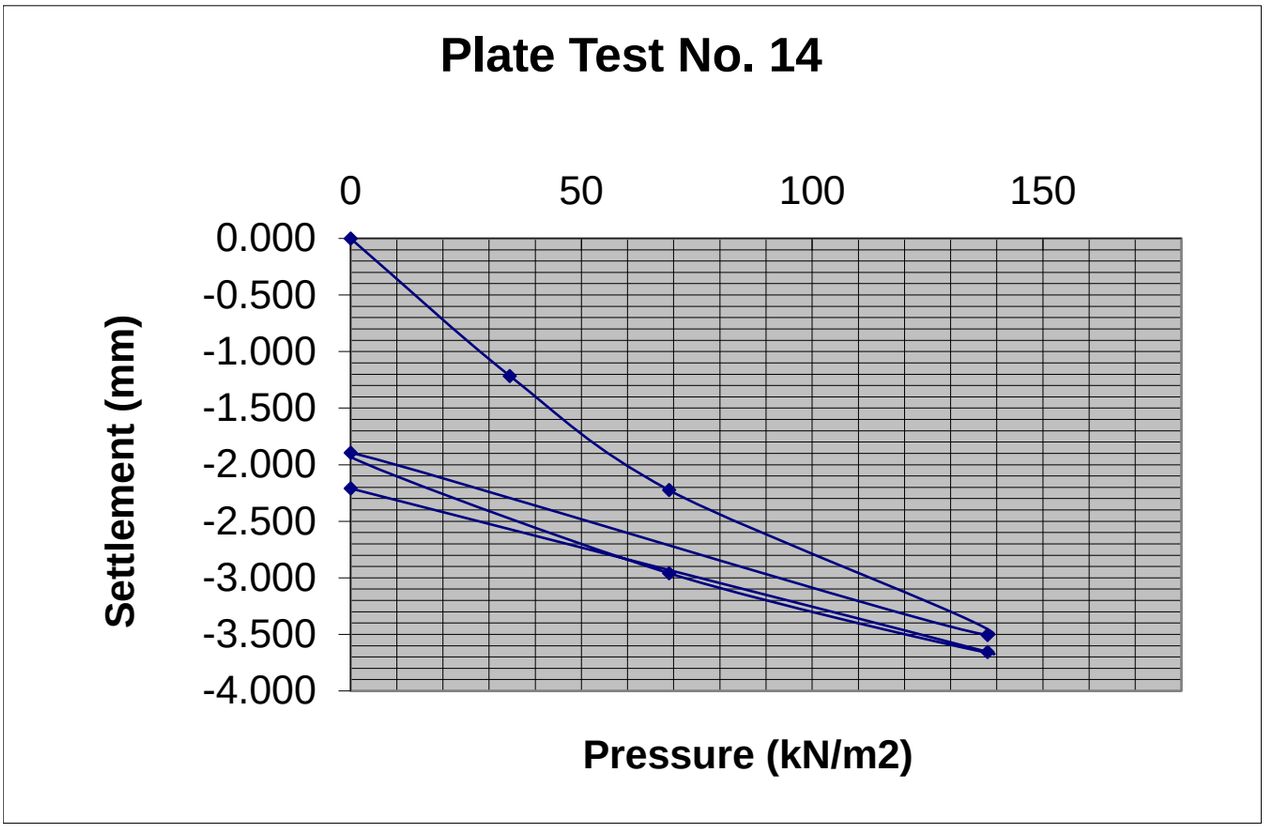
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **0.58 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **4.68 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-1.215
69	-2.225
138	-3.505
0	-1.895
69	-2.96
138	-3.655
0	-2.21

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	21/05/2020		
CLIENT	DBFL	**DEPTH**	0.40m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR14	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **20.95 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **43.78 MN/m2/m**

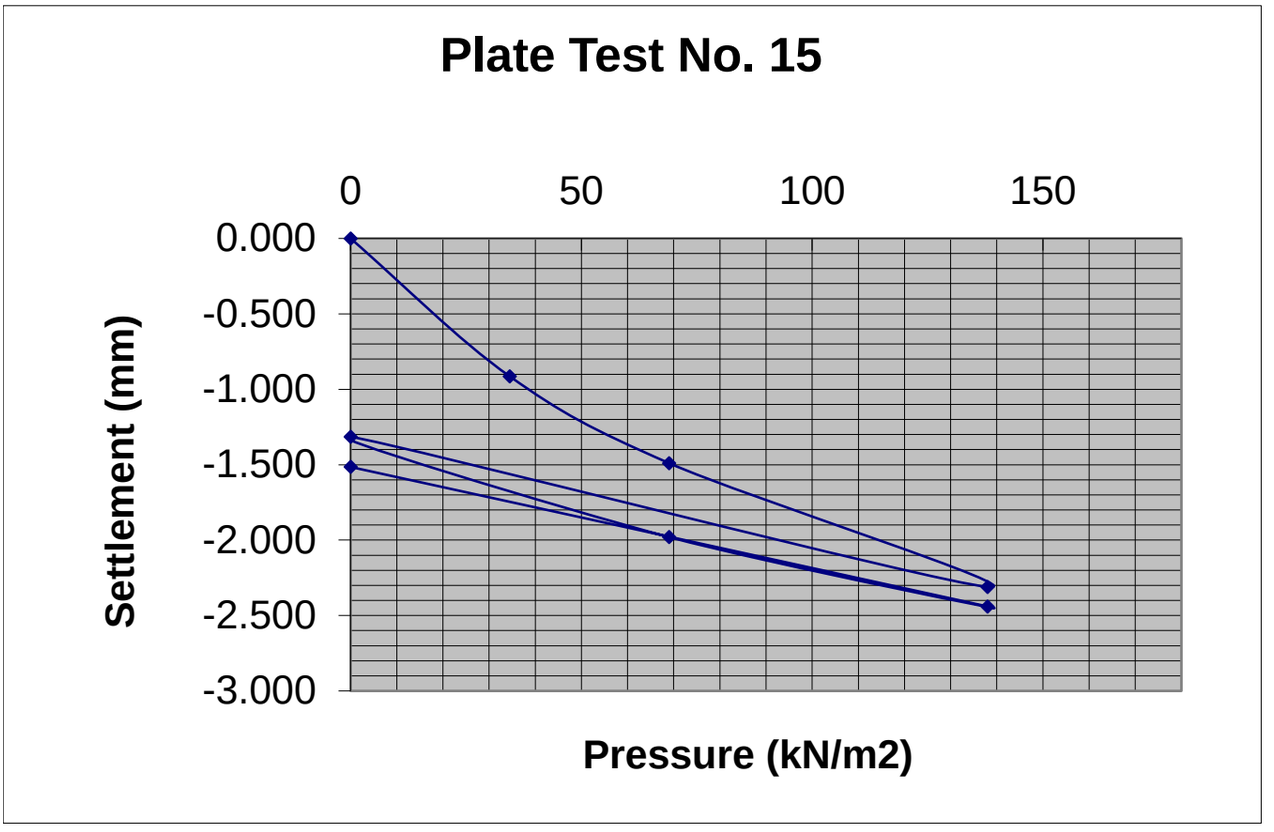
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **1.88 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **6.74 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-0.915
69	-1.49
138	-2.31
0	-1.315
69	-1.98
138	-2.44
0	-1.515

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm light brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	21/05/2020		
CLIENT	DBFL	**DEPTH**	0.30m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR15	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **31.29 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **70.11 MN/m2/m**

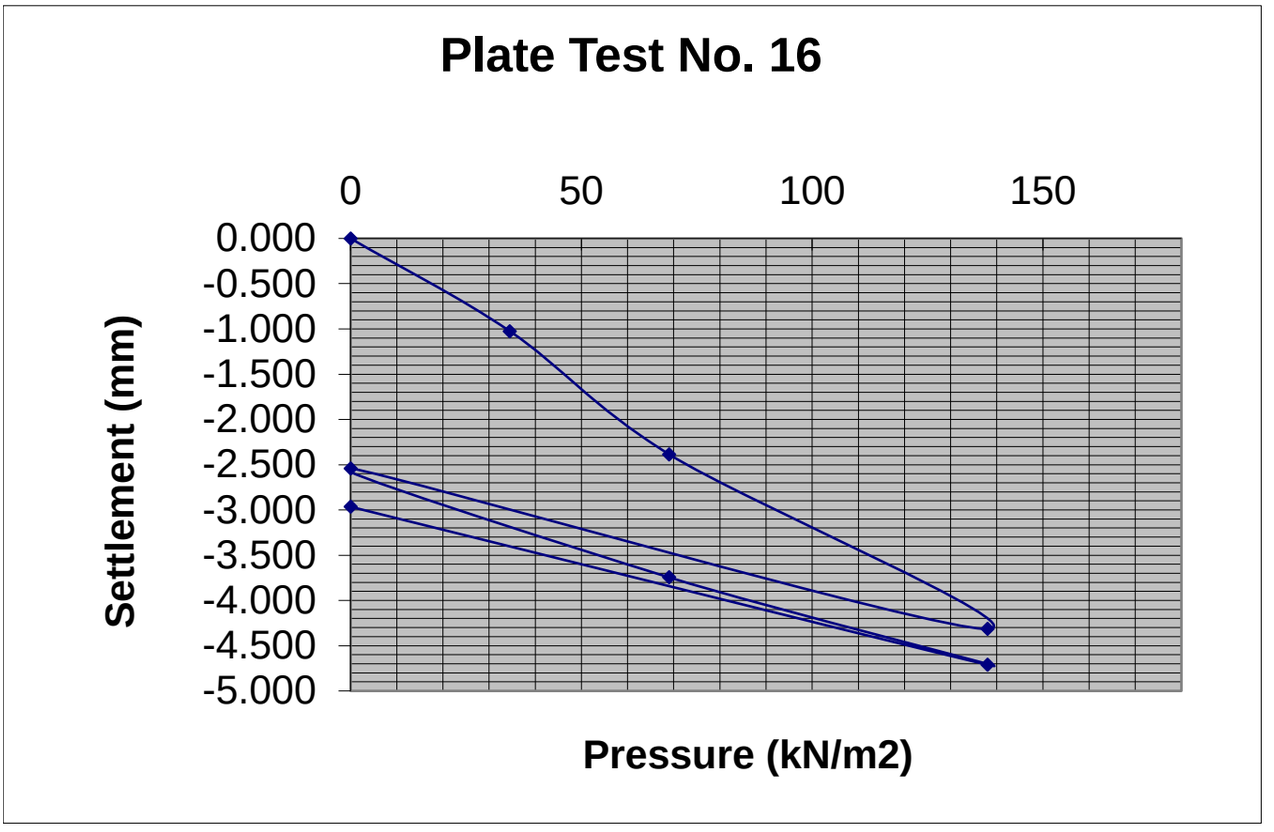
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **3.77 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **15.24 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-1.025
69	-2.385
138	-4.315
0	-2.54
69	-3.745
138	-4.71
0	-2.965

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm light brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	21/05/2020		
CLIENT	DBFL	**DEPTH**	0.30m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR16	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **19.55 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **38.69 MN/m2/m**

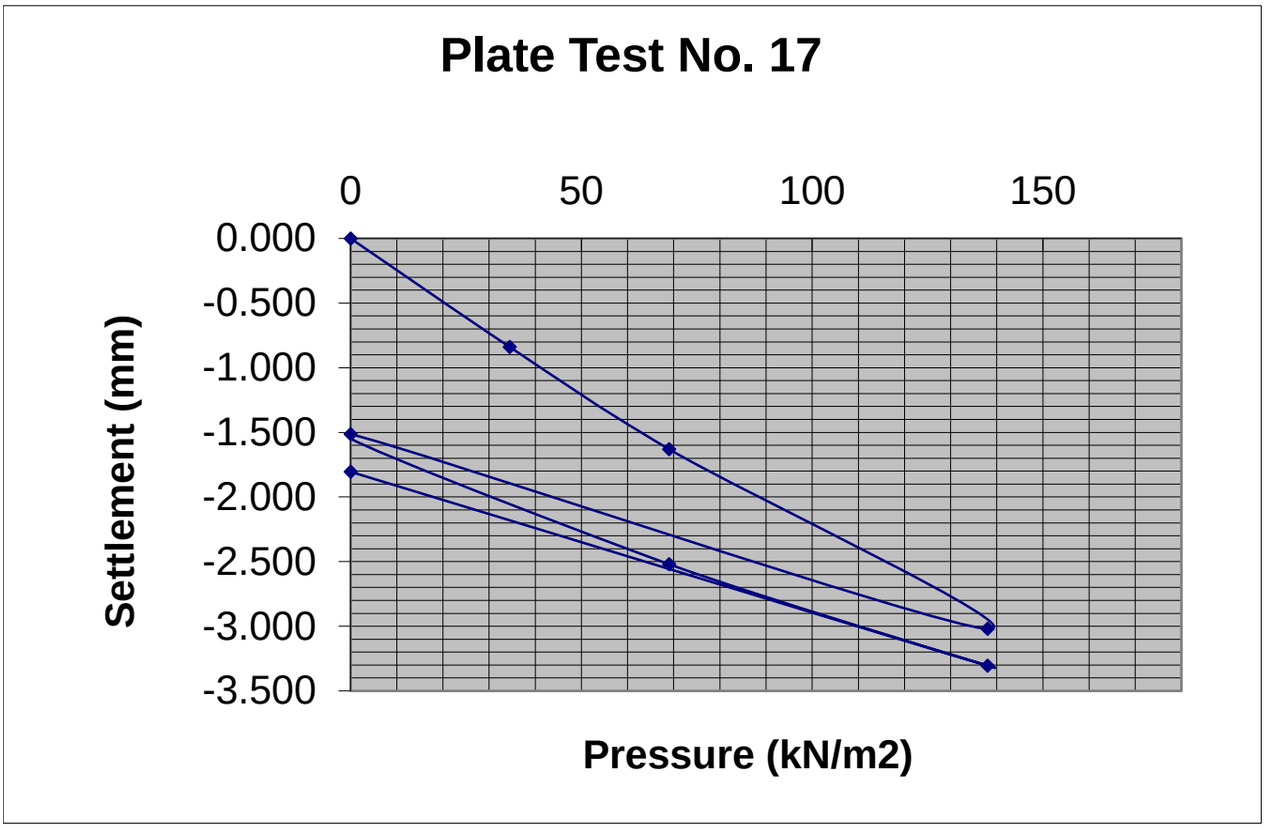
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **1.67 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **5.44 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-0.84
69	-1.63
138	-3.02
0	-1.515
69	-2.52
138	-3.305
0	-1.805

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm light brown slightly sandy slightly gravelly Silt
CONTRACT NO.	9551-03-20		
DATE	22/05/2020		
CLIENT	DBFL	**DEPTH**	0.40m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR17	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **28.60 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **46.39 MN/m2/m**

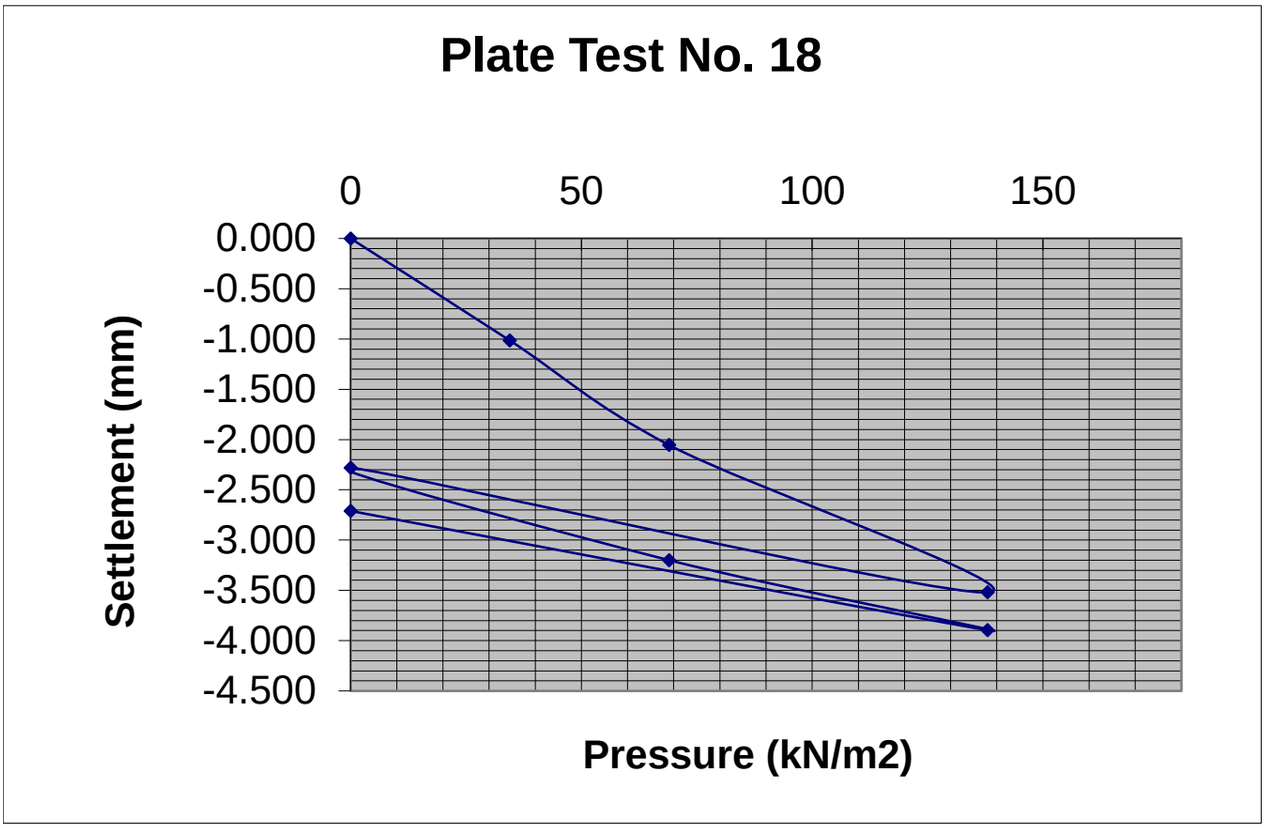
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **3.22 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **7.45 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-1.015
69	-2.055
138	-3.52
0	-2.28
69	-3.2
138	-3.895
0	-2.71

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm to stiff grey mottled brown slightly sandy slightly gravelly Clay with occasional sub-angular to sub-rounded
CONTRACT NO.	9551-03-20		
DATE	22/05/2020		
CLIENT	DBFL	**DEPTH**	0.35m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR18	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **22.69 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **50.68 MN/m2/m**

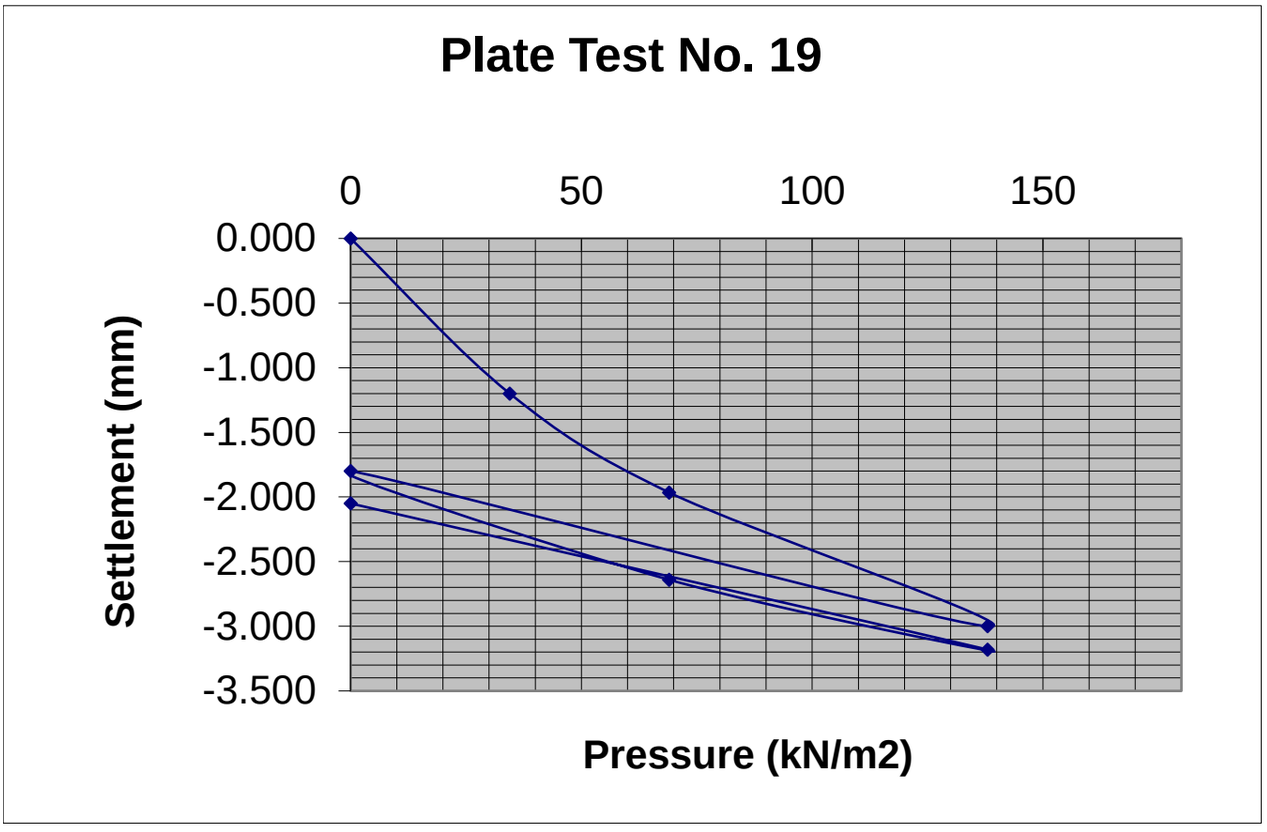
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **2.16 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **8.69 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-1.2
69	-1.965
138	-3
0	-1.8
69	-2.64
138	-3.18
0	-2.05

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm to stiff brown slightly sandy slightly gravelly silty Clay
CONTRACT NO.	9551-03-20		
DATE	22/05/2020		
CLIENT	DBFL	**DEPTH**	0.30m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR19	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **23.73 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **55.50 MN/m2/m**

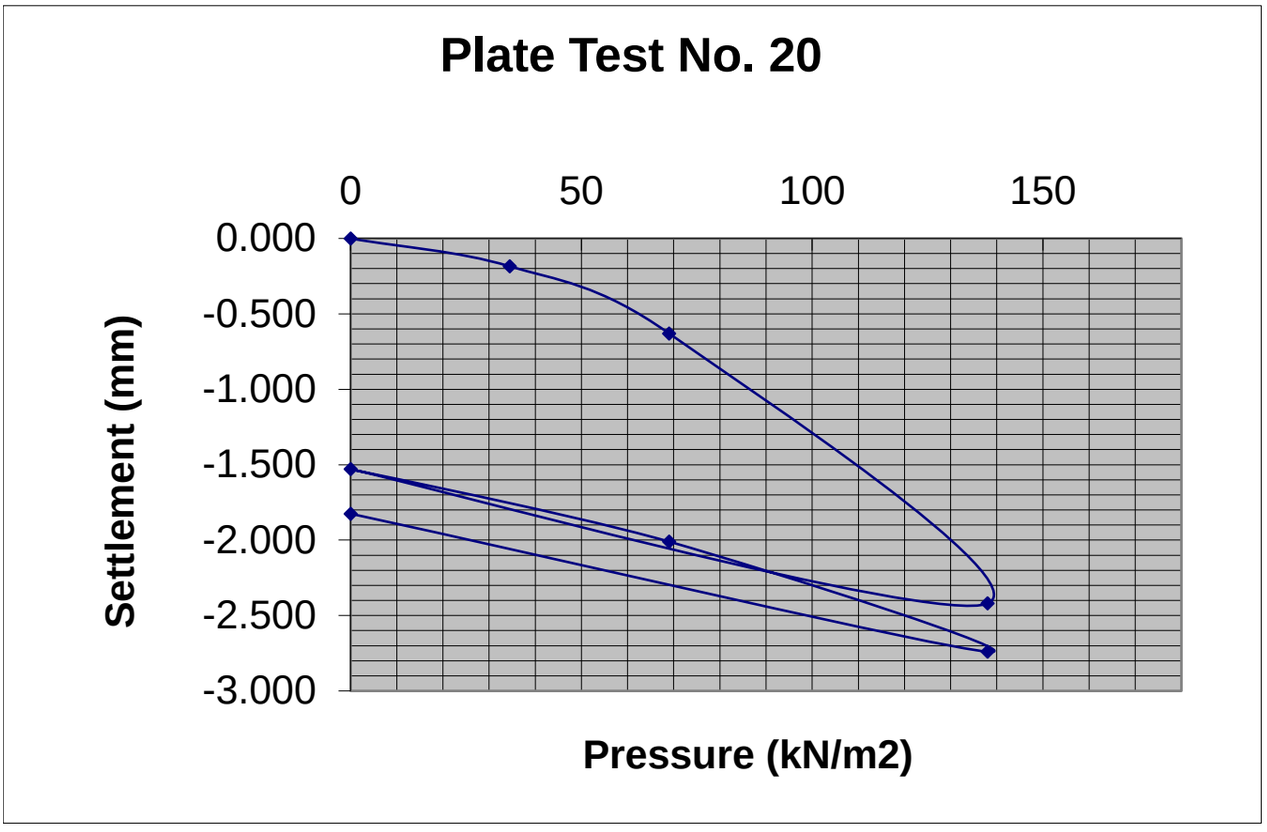
Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **2.33 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **10.17 %**

Applied Load	Gauge settlement
0	**0.000**
34.5	-0.185
69	-0.63
138	-2.42
0	-1.53
69	-2.01
138	-2.74
0	-1.825

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

LOCATION	Clonminch, Tullamore	**MATERIAL**	Firm to stiff dark brown grey slightly sandy slightly gravelly Clay
CONTRACT NO.	9551-03-20		
DATE	22/05/2020		
CLIENT	DBFL	**DEPTH**	0.40m
PLATE DIAMETER	457mm	**NOTES**	
TEST NO.	CBR20	**SAMPLES**	



Modulus of subgrade reaction, K (Initial) = **74.01 MN/m2/m**

Modulus of subgrade reaction, K (Reload) = **97.13 MN/m2/m**

Equivalent CBR(initial)in accordance with HD25/94 volume7 section2 = **16.74 %**

Equivalent CBR(reload)in accordance with HD25/94 volume7 section2 = **26.82 %**

APPENDIX 6 – Laboratory Testing

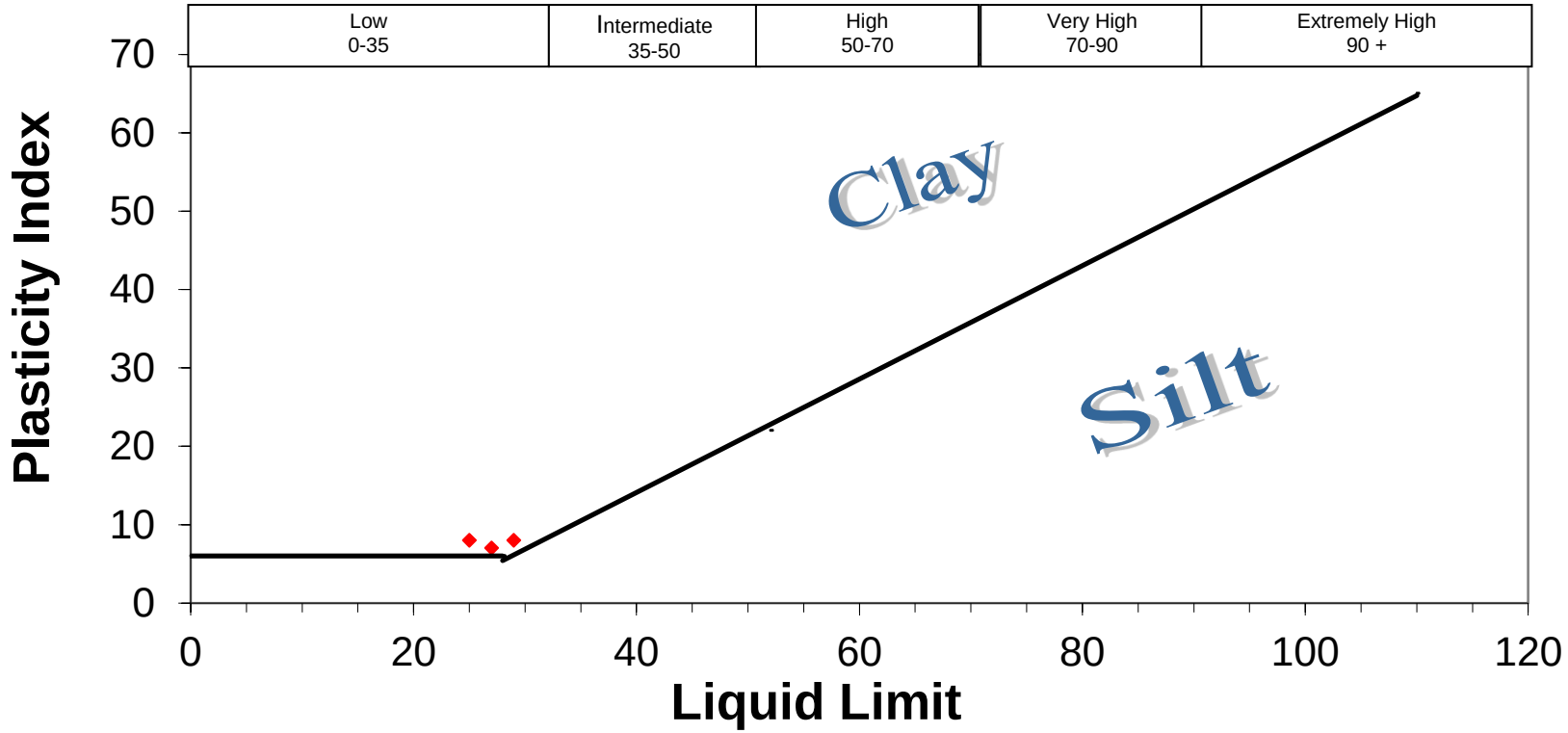
National Materials Testing Laboratory Ltd.

SUMMARY OF TEST RESULTS

				Particle			Index Properties		Bulk	Cell	Undrained Triaxial Tests		Lab	
BH/TP	Depth	sample	Moisture	Density	<425um	LL	PL	PI	Density	Presssure	Compressive	Strain at	Vane	Remarks
No	m	No.	%	Mg/m3	%	%	%	%	Mg/m3	kPa	Stress kPa	Failure %	kPa	
TP01	1.00	B	11.9		53.8	29	21	8						
TP08	1.50	B	10.7		50.7	25	17	8						
TP14	0.50	B	17.2		75.1	40	Non Plastic							
TP18	1.00	B	8.8		39.1	23	Non Plastic							
SK06	1.50	B	12.2		54.9	27	20	7						
NMTL		Notes :									Job ref No.	NMTL 3202	GII Project ID:	9551-03-20
02/07/2020		1. All BS tests carried out using preferred (definitive) method unless otherwise stated.									Location	Clonminch, Tullamore		

NMTL LTD
Unit 18c, Tullow Industrial Estate
Tullow
County Carlow
Tel: 00353 59 9180822
Mob: 00353 872575508
billa@nmtl.ie

Contract:	**Clonminch, Tullamore**
Client:	**Ground Investigations Ireland Ltd**
Engineer:	**Conor Finnerty**
GII Project ID	**9551-03-20**
Date:	**02/07/2020**
Tested By:	**Sb/Tch/Ms** **Checked:** **Bc**
Job ref No.	**NMTL 3202**



NMTL Ltd

Determination of Particle Size Distribution

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

Sieve Size mm	% Passing
125.000	100.0
75.000	100.0
63.000	100.0
50.000	100.0
37.500	96.4
28.000	92.6
20.000	89.9
14.000	83.9
10.000	80.9
6.300	76.8
5.000	74.2
3.350	71.0
2.000	65.8
1.180	61.0
0.600	56.1
0.425	53.8
0.300	51.3
0.212	48.6
0.150	45.9
0.063	39.2

Percentage Particle Size

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulder
		Silt			Sand			Gravel			
		39.2			26.6			34.2		0.0	0.0

Sample Description	Dark brown/light brown slightly sandy slightly gravelly clayey SILT.						Project No.	NMTL 3202
							BH/TP No.	TP01
Project	Clonminch, Tullamore				GII PROJECT ID: 9551-03-20		Sample No.	B
Operator	Tzr	Checked	Nc	Approved	Bc	Date sample tested 29/06/2020	Depth	1.00m

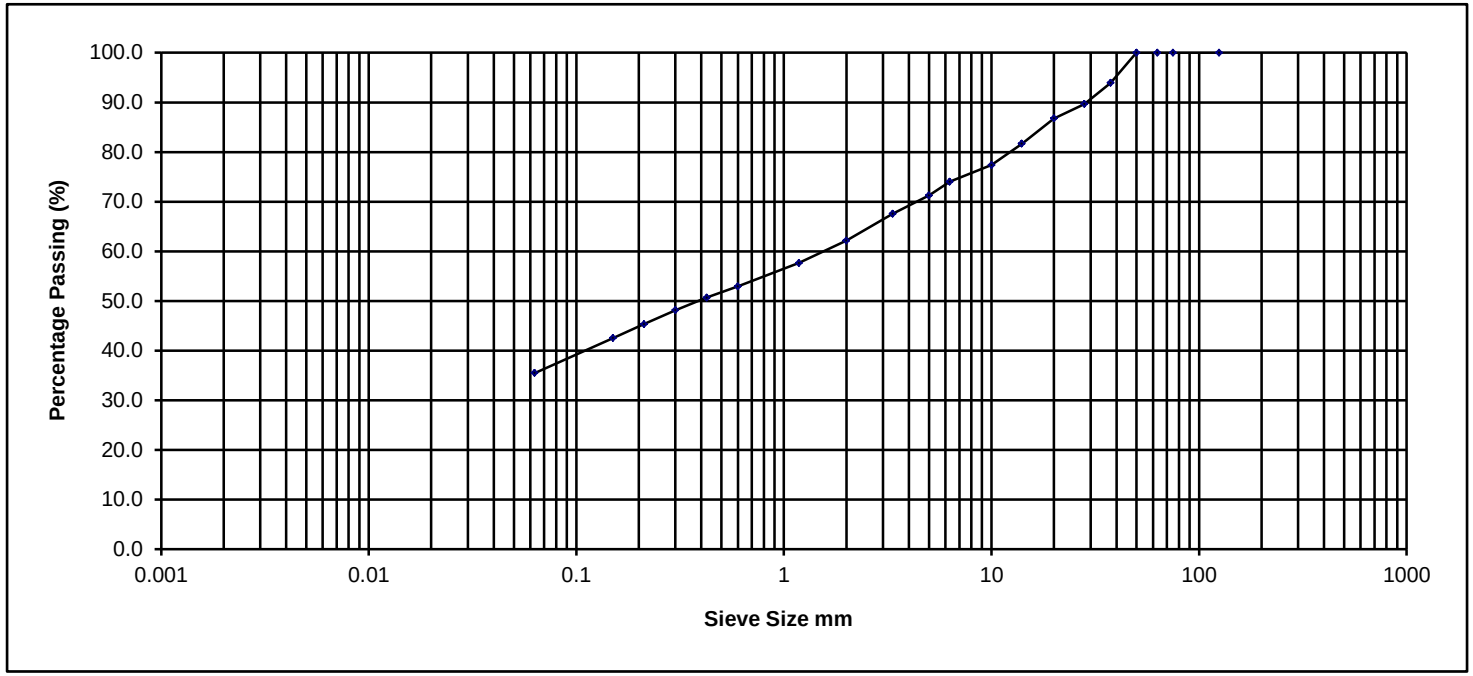
NM TL Ltd

NMTL Ltd

Determination of Particle Size Distribution

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

Sieve Size mm	% Passing
125.000	100.0
75.000	100.0
63.000	100.0
50.000	100.0
37.500	93.9
28.000	89.7
20.000	86.7
14.000	81.7
10.000	77.4
6.300	74.0
5.000	71.3
3.350	67.6
2.000	62.1
1.180	57.7
0.600	53.0
0.425	50.7
0.300	48.1
0.212	45.3
0.150	42.5
0.063	35.5



Percentage Particle Size

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulder
		Silt			Sand			Gravel			
		35.5			26.7			37.9		0.0	0.0

Sample Description	Light brown slightly sandy gravelly clayey SILT.					Project No.	NMTL 3202
						BH/TP No.	TP08
Project	Clonminch, Tullamore			GII PROJECT ID: 9551-03-20		Sample No.	B
Operator	Tzr	Checked	Nc	Approved	Bc	Depth	1.50m

Date sample tested 29/06/2020

NMTL Ltd

Determination of Particle Size Distribution

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

Sieve Size mm	% Passing
125.000	100.0
75.000	100.0
63.000	100.0
50.000	100.0
37.500	100.0
28.000	97.2
20.000	95.6
14.000	92.6
10.000	91.0
6.300	89.0
5.000	87.6
3.350	86.7
2.000	83.9
1.180	81.0
0.600	77.1
0.425	75.1
0.300	72.8
0.212	69.9
0.150	66.6
0.063	57.3

Percentage Particle Size

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulder
		Silt			Sand			Gravel			
		57.3			26.6			16.1		0.0	0.0

Sample Description	Brown slightly gravelly slightly sandy clayey SILT.					Project No.	NMTL 3202
						BH/TP No.	TP14
Project	Clonminch, Tullamore			GII PROJECT ID: 9551-03-20		Sample No.	B
Operator	Tzr	Checked	Nc	Approved	Bc	Depth	0.50m

Date sample tested 29/06/2020

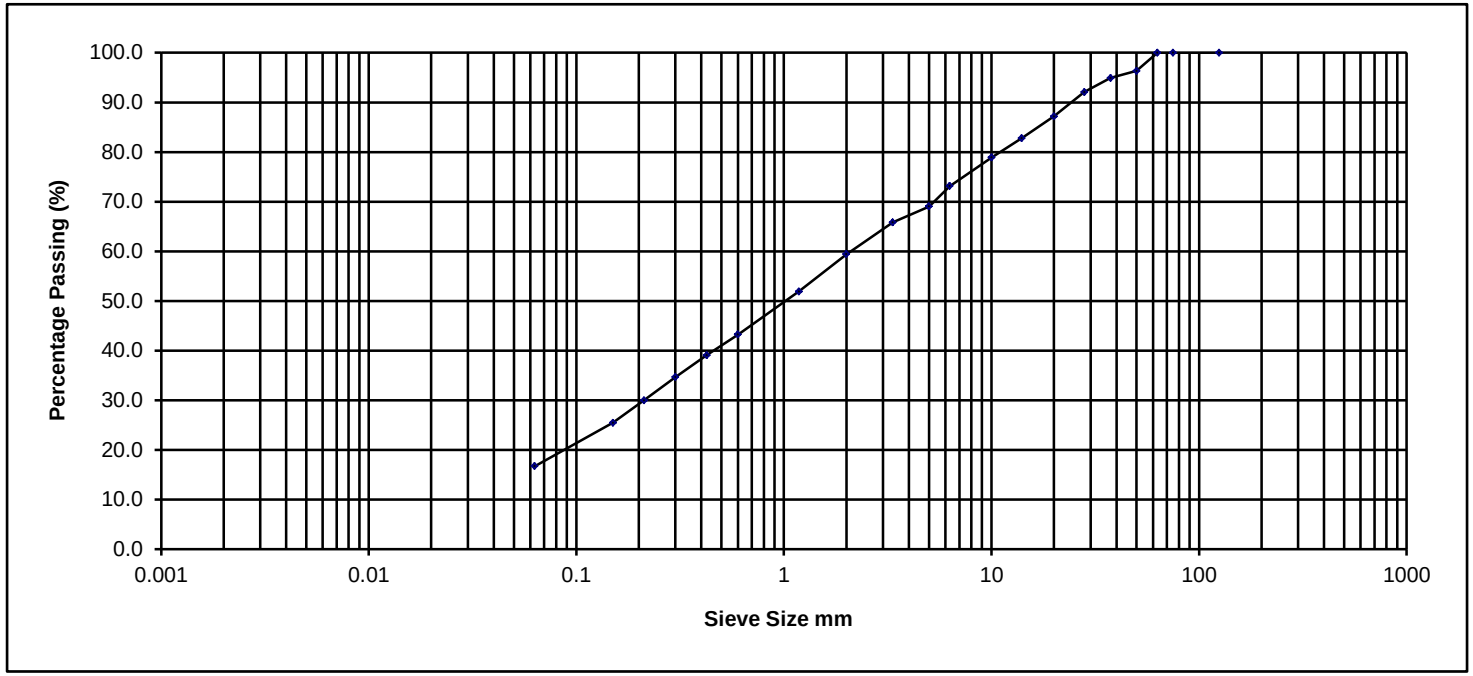
NM TL Ltd

NMTL Ltd

Determination of Particle Size Distribution

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

Sieve Size mm	% Passing
125.000	100.0
75.000	100.0
63.000	100.0
50.000	96.3
37.500	94.9
28.000	92.1
20.000	87.2
14.000	82.8
10.000	78.9
6.300	73.2
5.000	69.0
3.350	65.8
2.000	59.4
1.180	51.9
0.600	43.2
0.425	39.1
0.300	34.7
0.212	30.0
0.150	25.5
0.063	16.8



Percentage Particle Size

Clay	Fine Silt	Medium Silt	Coarse Silt	Fine Sand	Medium Sand	Coarse Sand	Fine Gravel	Medium Gravel	Coarse Gravel	Cobbles	Boulder
		16.8			42.7			40.6		0.0	0.0

Sample Description	Light brown silty gravelly SAND.			Project No.	NMTL 3202
				BH/TP No.	TP18
Project	Clonminch, Tullamore		GII PROJECT ID: 9551-03-20	Sample No.	B
Operator Tzr	Checked Nc	Approved Bc	Date sample tested 29/06/2020	Depth	1.00m

NM TL Ltd

NMTL Ltd

Determination of Particle Size Distribution

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

Sieve Size mm	% Passing
125.000	100.0
75.000	100.0
63.000	100.0
50.000	96.5
37.500	91.2
28.000	88.2
20.000	85.3
14.000	82.2
10.000	80.4
6.300	75.9
5.000	73.5
3.350	70.4
2.000	65.7
1.180	61.6
0.600	57.0
0.425	54.9
0.300	52.6
0.212	50.1
0.150	47.3
0.063	39.9

Percentage Particle Size

Clay	Fine Silt	Medium Silt	Coarse Silt	Fine Sand	Medium Sand	Coarse Sand	Fine Gravel	Medium Gravel	Coarse Gravel	Cobbles	Boulder
		39.9			25.9			34.3		0.0	0.0

Sample Description	Brown/light brown slightly sandy slightly gravelly clayey SILT.			Project No.	NMTL 3202
				BH/TP No.	SK06
Project	Clonminch, Tullamore		GII PROJECT ID: 9551-03-20	Sample No.	B
Operator Tzr	Checked Nc	Approved Bc	Date sample tested 29/06/2020	Depth	1.50m

NMTL Ltd

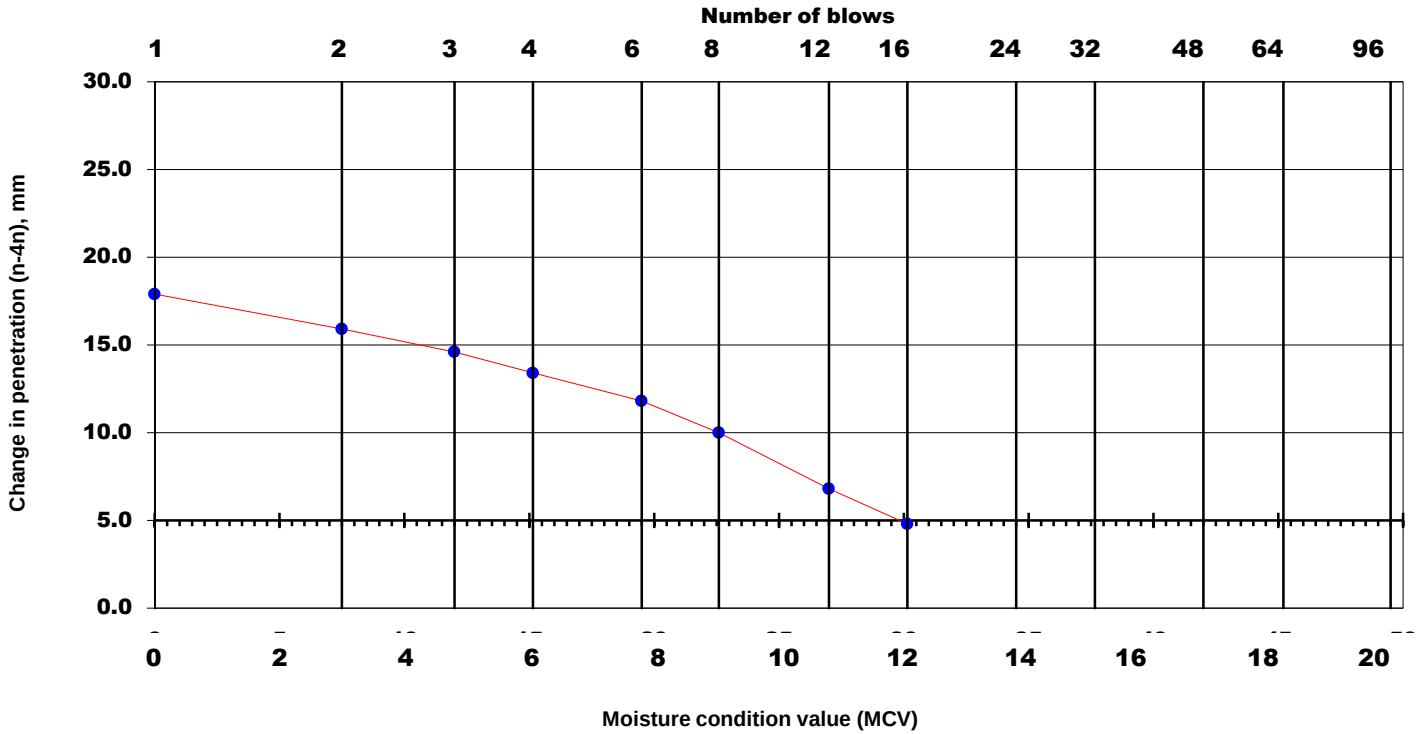
SINGLE POINT MOISTURE CONDITION VALUE TEST

Single sample mass		
Initial sample mass	1499	g
Moisture content	11.9	%
Dry mass	1340.0	g
Mass retained on 20mm sieve	g	10.1 %

* Delete as appropriate

Project Name: Clonminch, Tullamore GII Projrct ID: 9551-03-20		Job ref.	NMTL_3202
		Borehole/ Pit No.	TP01
Soil description:		Sample no.	B
Dark brown/light brown slightly sandy slightly gravelly clayey SILT.		Depth	1.0m
Test method	BS 1377 : Part 4 : 1990 : 5	Date Tested	29/06/2020
		Date Sampled	N/A
MCV	**11.9** **Natural**	Date Received	17/06/2020

Total number of blows n	Penetration or protrusion mm	Change in penetration n to 4n mm
1	73.4	17.9
2	64.1	15.9
3	58.7	14.6
4	55.5	13.4
6	51.2	11.8
8	48.2	10.0
12	44.1	6.8
16	42.1	4.8
24	39.4	
32	38.2	
48	37.3	
64	37.3	
96		
128		
192		
256		



Operator	Checked	Approved
Ms	Nc	Bc

NMTL Ltd

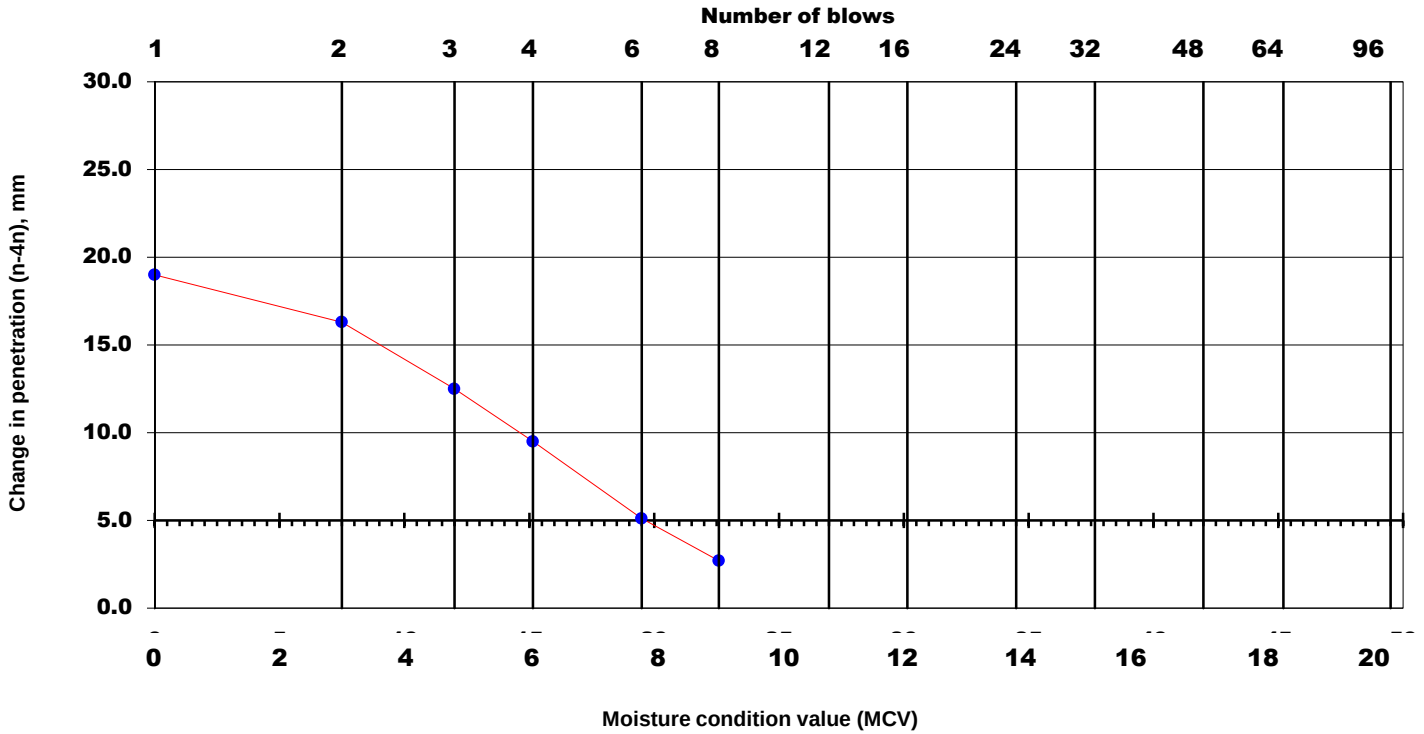
SINGLE POINT MOISTURE CONDITION VALUE TEST

Single sample mass		
Initial sample mass	1496	g
Moisture content	10.7	%
Dry mass	1351.0	g
Mass retained on 20mm sieve	g	13.3 %

* Delete as appropriate

Project Name: Clonminch, Tullamore GII Projrct ID: 9551-03-20		Job ref.	NMTL_3202
		Borehole/ Pit No.	TP08
Soil description: Light brown slightly sandy gravelly clayey SILT.		Sample no.	B
		Depth	1.50m
Test method	BS 1377 : Part 4 : 1990 : 5	Date Tested	29/06/2020
		Date Sampled	N/A
MCV	**7.9** **Natural**	Date Received	17/06/2020

Total number of blows n	Penetration or protrusion mm	Change in penetration n to 4n mm
1	64.3	19.0
2	54.5	16.3
3	48.8	12.5
4	45.3	9.5
6	40.9	5.1
8	38.2	2.7
12	36.3	
16	35.8	
24	35.8	
32	35.5	
48		
64		
96		
128		
192		
256		



Operator	Checked	Approved
Ms	Nc	Bc

NMTL Ltd

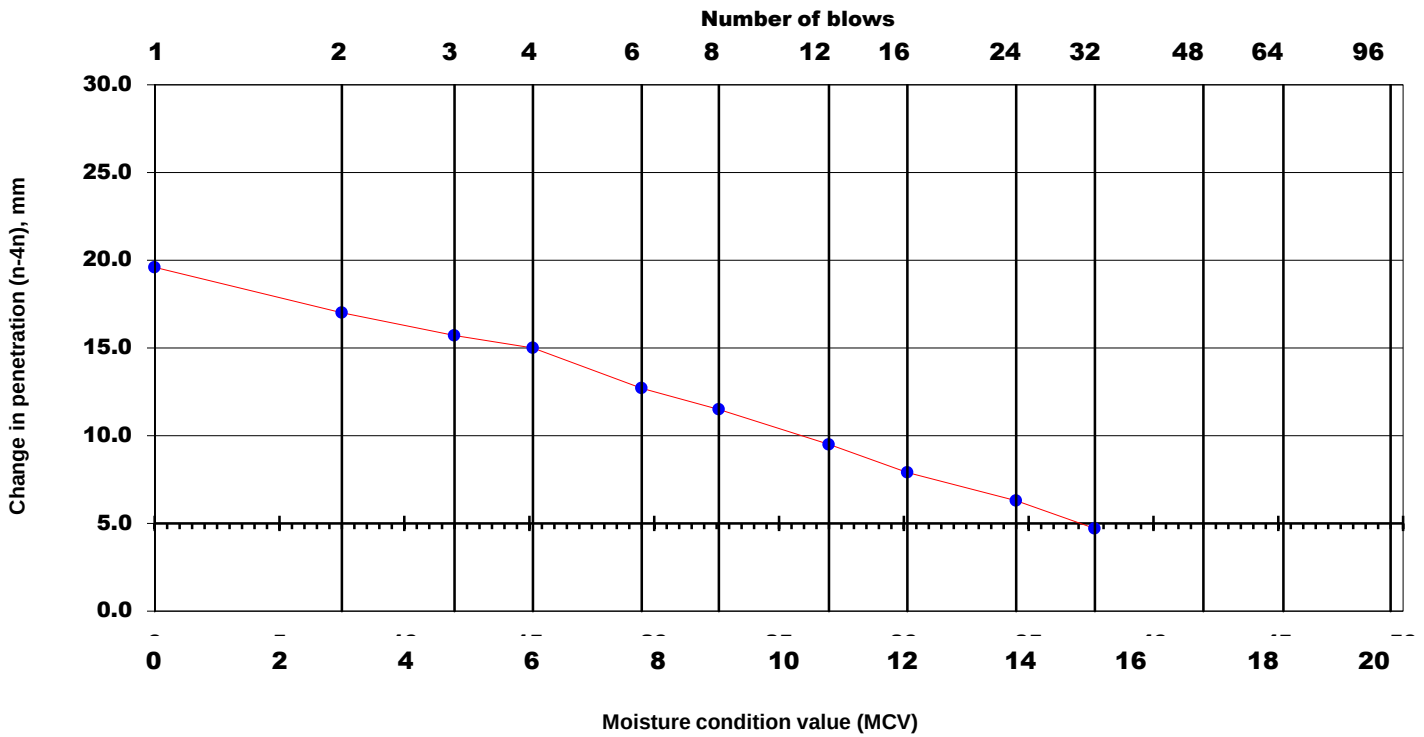
SINGLE POINT MOISTURE CONDITION VALUE TEST

Single sample mass		
Initial sample mass	1494	g
Moisture content	18.0	%
Dry mass	1266.0	g
Mass retained on 20mm sieve	g	4.4 %

* Delete as appropriate

Project Name:		Job ref.	NMTL_3202
Clonminch, Tullamore		Borehole/ Pit No.	TP014
	GII Projrct ID: 9551-03-20		
Soil description:		Sample no.	B
Brown slightly gravelly slightly sandy clayey SILT.		Depth	0.50m
Test method	BS 1377 : Part 4 : 1990 : 5	Date Tested	29/06/2020
		Date Sampled	N/A
MCV	**14.9** **Natural**	Date Received	17/06/2020

Total number of blows n	Penetration or protrusion mm	Change in penetration n to 4n mm
1	89.0	19.6
2	78.3	17.0
3	72.9	15.7
4	69.4	15.0
6	64.4	12.7
8	61.3	11.5
12	57.2	9.5
16	54.4	7.9
24	51.7	6.3
32	49.8	4.7
48	47.7	
64	46.5	
96	45.4	
128	45.1	
192		
256		



Operator	Checked	Approved
Ms	Nc	Bc

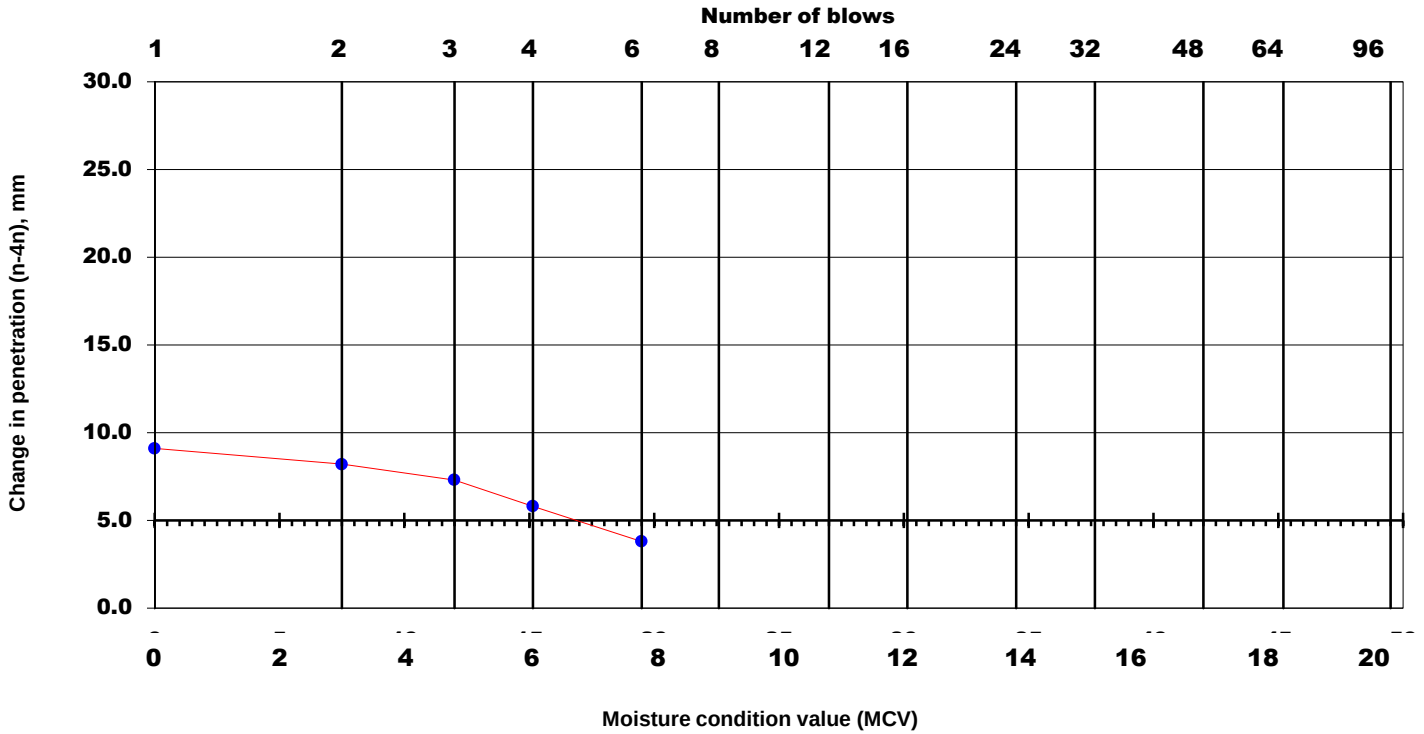
NMTL Ltd

SINGLE POINT MOISTURE CONDITION VALUE TEST

Single sample mass			
Initial sample mass	1480 g		
Moisture content	8.0 %		
Dry mass	1370.0 g		
Mass retained on 20mm sieve	g 12.8 %		
* Delete as appropriate			

Project Name: Clonminch, Tullamore GII Projrct ID: 9551-03-20		Job ref.	NMTL_3202
		Borehole/ Pit No.	TP018
Soil description: Light brown silty gravelly SAND.		Sample no.	B
		Depth	1.0m
Test method	BS 1377 : Part 4 : 1990 : 5	Date Tested	29/06/2020
		Date Sampled	N/A
MCV	**6.8** **Natural**	Date Received	17/06/2020

Total number of blows n	Penetration or protrusion mm	Change in penetration n to 4n mm
1	47.9	9.1
2	43.0	8.2
3	40.5	7.3
4	38.8	5.8
6	36.5	3.8
8	34.8	
12	33.2	
16	33.0	
24	32.7	
32		
48		
64		
96		
128		
192		
256		



Operator	Checked	Approved
Ms	Nc	Bc

NMTL Ltd

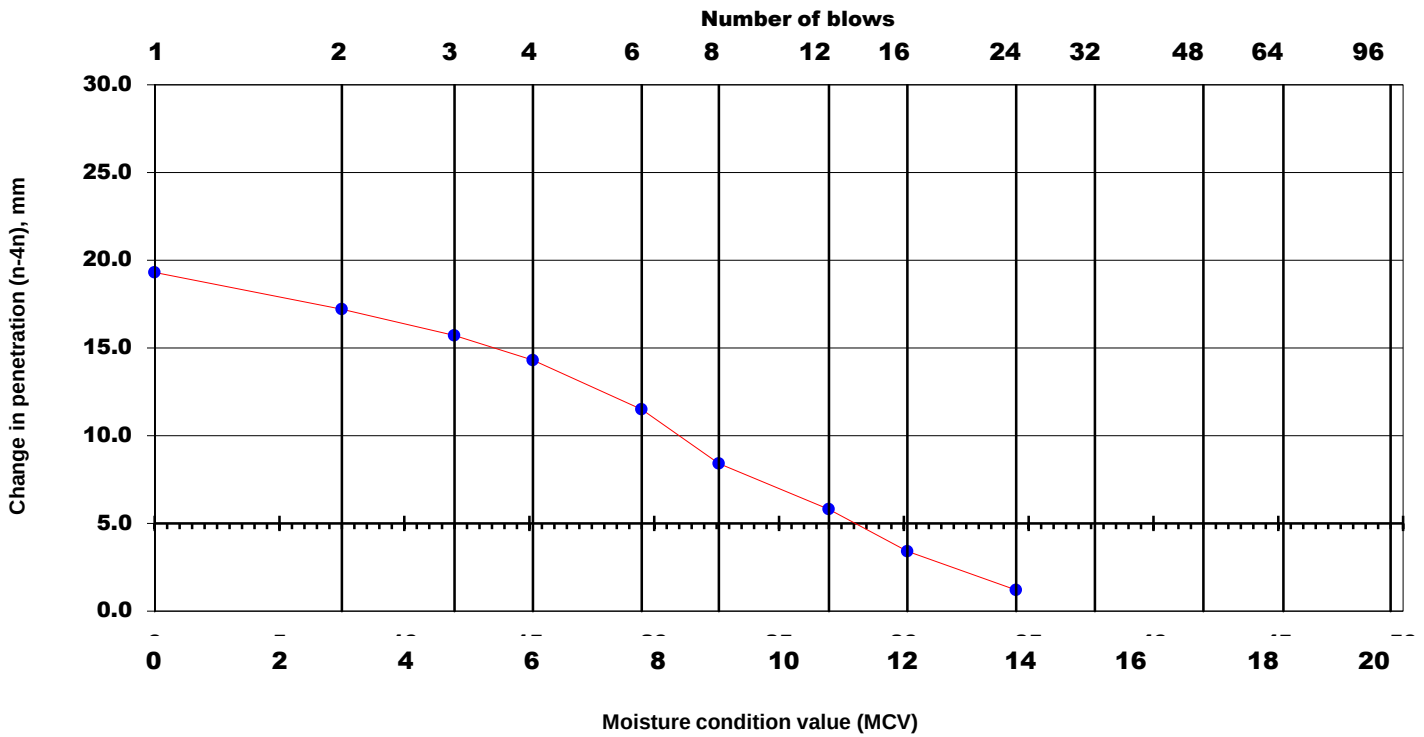
SINGLE POINT MOISTURE CONDITION VALUE TEST

Single sample mass		
Initial sample mass	1495	g
Moisture content	12.2	%
Dry mass	1332.0	g
Mass retained on 20mm sieve	g	14.7 %

* Delete as appropriate

Project Name: Clonminch, Tullamore GII Projrct ID: 9551-03-20		Job ref.	NMTL_3202
		Borehole/ Pit No.	SK06
Soil description:		Sample no.	B
Brown/light brown slightly sandy slightly gravelly clayey SILT.		Depth	1.50m
Test method	BS 1377 : Part 4 : 1990 : 5	Date Tested	29/06/2020
		Date Sampled	N/A
MCV	**10.2** **Natural**	Date Received	17/06/2020

Total number of blows n	Penetration or protrusion mm	Change in penetration n to 4n mm
1	74.3	19.3
2	64.0	17.2
3	58.8	15.7
4	55.0	14.3
6	49.9	11.5
8	46.8	8.4
12	43.1	5.8
16	40.7	3.4
24	38.4	1.2
32	38.4	
48	37.3	
64	37.3	
96	37.2	
128		
192		
256		



Operator	Checked	Approved
Ms	Nc	Bc

NMTL Ltd

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

Ground Investigations Ireland
Catherinestown House
Hazelhatch Road
Newcastle
Co. Dublin
Ireland

Attention :	Barry Sexton
Date :	10th June, 2020
Your reference :	9551-03-20
Our reference :	Test Report 20/7240 Batch 1
Location :	Clonminch, Tullamore
Date samples received :	8th June, 2020
Status :	Final report
Issue :	1

Two samples were received for analysis on 8th June, 2020 of which two were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:

Bruce Leslie
Project Manager

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 9551-03-20
Location: Clonminch, Tullamore
Contact: Barry Sexton
EMT Job No: 20/7240

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1	2									LOD/LOR	Units	Method No.
Sample ID	TP02	TP16											
Depth	1.00	1.00											
COC No / misc													
Containers	T	T											
Sample Date	05/06/2020	05/06/2020											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	08/06/2020	08/06/2020											
Sulphate as SO4 (2:1 Ext) #	0.0091	0.0064									<0.0015	g/l	TM38/PM20
pH #	8.74	8.77									<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 9551-03-20
Location: Clonminch, Tullamore
Contact: Barry Sexton

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 20/7240						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 20/7240

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher, this result is not accredited.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

EMT Job No: 20/7240

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993 (comparabl	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No