

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

Environmental Impact Assessment Report Appendix 6A

DBFL

Ground Investigation Report

July 2020





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
Α	Final	N Morgan	C Finnerty	B Sexton	Dublin	03 July 2020

Ground Investigations Ireland Ltd. present the results of the fieldworks and laboratory testing in accordance with the specification and related documents provided by or on behalf of the client. The possibility of variation in the ground and/or groundwater conditions between or below exploratory locations or due to the investigation techniques employed must be taken into account when this report and the appendices inform designs or decisions where such variation may be considered relevant. Ground and/or groundwater conditions may vary due to seasonal, man-made or other activities not apparent during the fieldworks and no responsibility can be taken for such variation. The data presented and the recommendations included in this report and associated appendices are intended for the use of the client and the client's geotechnical representative only and any duty of care to others is excluded unless approved in writing.





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

1.0	Preamble5
2.0	Overview5
2.1.	Background5
2.2.	Purpose and Scope5
3.0	Subsurface Exploration5
3.1.	General5
3.2.	Trial Pits6
3.3.	Soakaway Testing6
3.4.	Dynamic Probing6
3.5.	Surveying6
3.6.	Insitu Plate Bearing Test6
3.7.	Laboratory Testing7
4.0	Ground Conditions
4.1.	General7
4.2.	Insitu Strength Testing8
4.3.	Insitu Plate Bearing Test8
4.4.	Laboratory Testing8
4.5.	Chemical Laboratory Testing8
5.0	Recommendations & Conclusions9
5.1.	General9
5.2.	Foundations9
5.3.	External Pavements10
5.4.	Excavations10
5.5.	Material Reuse10
5.6.	Soakaway Design11





Geotechnical & Environmental

APPENDICES

Appendix 1 Site Location Plan

Appendix 2 Trial Pit Records

Appendix 3 Soakaway Records

Appendix 4 Dynamic Probe Records

Appendix 5 CBR Records

Appendix 6 Laboratory Testing

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

Tel: 01 601 5175 / 5176

Email: info@gii.ie Web: www.gii.ie



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 insitu 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 *Grey 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/m² 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/m²

Dynamic Probe No.	ABC kN/m²	Depth m BGL	Dynamic Probe No.	ABC kN/m²	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)	Depths	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

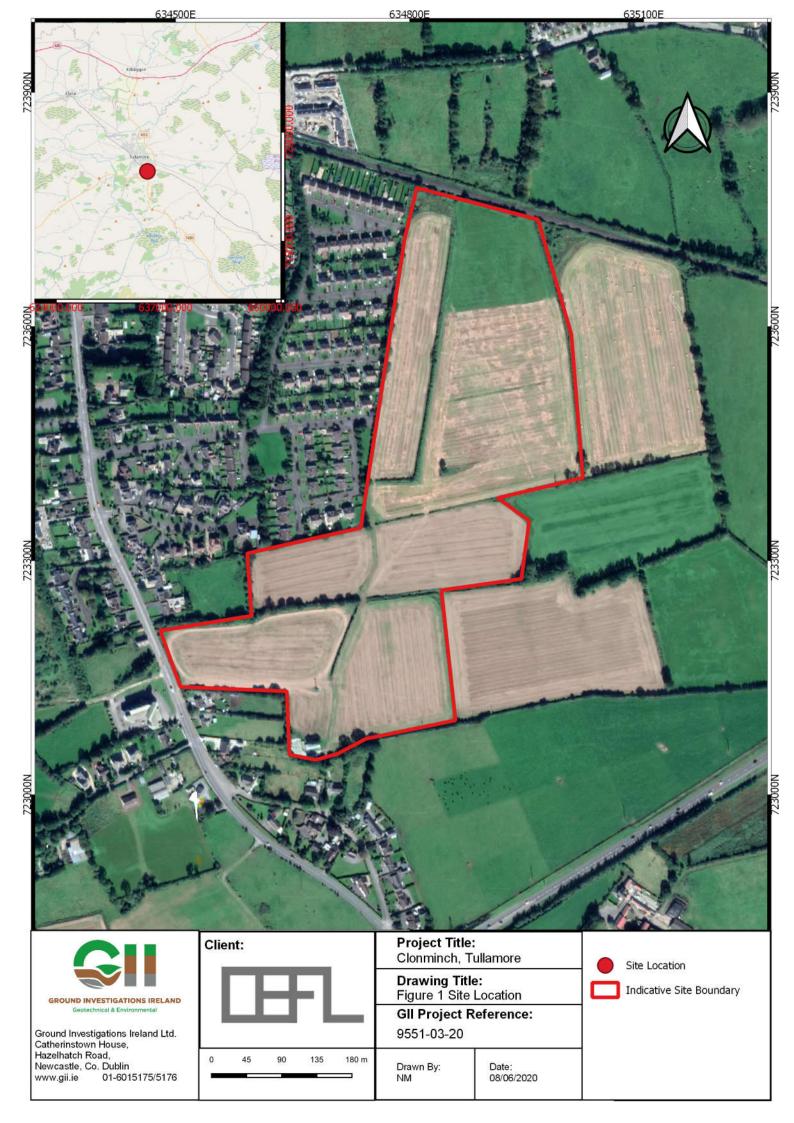
5.6. Soakaway Design

Infiltration rates of $f = 6.192 \times 10^{-6}$ m/s, 1.262×10^{-5} m/s, 1.244×10^{-5} m/s, and 9.553×10^{-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.

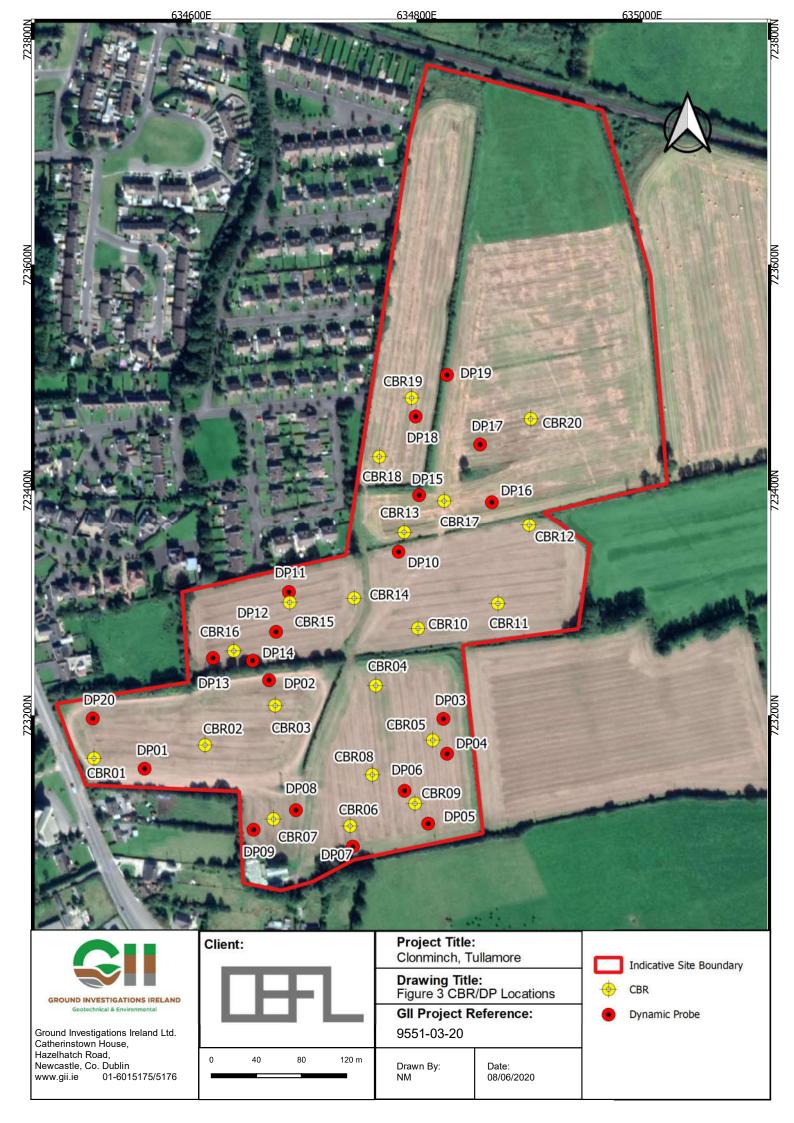
The recommendations provided in this report should be verified in the design of the proposed buildings, using the full details of the loading conditions and taking into consideration the allowable tolerable settlements/movements that the building can accommodate. The founding strata should be inspected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

APPENDIX 1 - Site Location Plan









APPENDIX 2 – Trial Pit Records



	Grou	nd In	vestiga www.	tions Irel gii.ie	land l	Ltd	Site Clonminch, Tullamore		Trial Pit Number TP01
Machine: 13		Dimens 0.7m W	ions / x 2.80m L			Level (mOD) 71.53	Client DBFL		Job Number 9551-03-20
		Locatio 23	n 4655.7 E 223 ²	172.3 N	Dates 19	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field	Records	Level (mOD)	Depth (m) (Thickness)	D	escription	Kegend zage X
					71.28	(0.25) - (0.25) - 0.25 - (0.65)	Dark brown slightly sandy Soft to firm light brown slig	slightly gravelly TOPSOIL. htly sandy slightly gravelly \$	SILT.
1.00	В				70.63	0.90	Firm to stiff light grey sand sub-angular to sub-rounde	y gravelly SILT with occasio d cobbles.	nal
2.00	В				69.83	1.70	Stiff to very stiff light grey be occasional sub-angular to boulders.	prown sandy gravelly CLAY sub-rounded cobbles and	with CONTROL OF STATE
					68.53	3.00	Complete at 3.00m		
Plan .						-	│ Remarks		
							Trial pit stable. No groundwater encountere Trial pit terminated at 3.0m E backfilled upon completion.	d. 3GL due to obstruction or bo	oulder and
		•				•			
						.	Scale (approx)	Logged By	Figure No. 9551-03-20.TP01

	Grou	ınd In	vestiga www.	tions Iro	Site Clonminch, Tullamore		Trial Pit Number TP02		
Machine: 1		Dimensi 0.7m W				Level (mOD) 71.25	Client DBFL		Job Number 9551-03-20
		Location 234	1 4643.3 E 2231	20 N	Dates 19	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field	Records	Level (mOD)	Depth (m) (Thickness)	D	escription	Legend Sate
					71.00	(0.25) - (0.25) - 0.25 - (0.55)	Dark brown slightly sandy Soft to firm light brown slig	slightly gravelly TOPSOIL. htly sandy slightly gravelly C	CLAY.
1.00	В				70.45	0.80	Stiff light brown grey claye occasional sub-angular to	y sandy gravelly SILT with sub-rounded cobbles.	0 × 0 × 0 × 0 × 0 × 0 × 0 × 0 × 0 × 0 ×
					70.05	1.20	Very stiff Light brown grey with occasional sub-angul boulders	clayey gravelly very sandy S ar to sub-rounded cobbles a	SILT () () () () () () () () () (
3.00	В				68.25	3.00	Complete at 3.00m		* * * * * * * * * * * * * * * * * * *
Plan .						. 1	Remarks		
							Trial pit stable. No groundwater encountere Trial pit terminated at 3.0m E backfilled upon completion.	d. 3GL due to obstruction or bo	ulder and
				•					
		•		-					
		٠		•		•			
				٠			Scale (approx)	Logged By	Figure No. 9551-03-20.TP02

	Grou	ınd In	vestigat www.g	ions Ire _{jii.ie}	Site Clonminch, Tullamore		Trial Pit Number TP03		
Machine: 1		Dimens 0.7m W	ons x 2.80m L			Level (mOD) 69.58	Client DBFL		Job Number 9551-03-20
		Location 234	1 1763.5 E 22320)5.8 N	Dates 19	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field F	Records	Level (mOD)	Depth (m) (Thickness)	D	escription	Nater V
					69.33 68.98 68.58	(0.35)	Dark brown slightly sandy Firm light brown slightly sa Stiff light brown slightly sa Medium dense brown slightly sand with occasional sub	indy slightly gravelly SILT.	um obles.
1.50	В				67.58	(1.00)	Medium dense to dense g fine to coarse SAND with sub-rounded cobbles and	rey brown slightly silty grave occasional sub-angular to boulders.	■y
3.00	В				66.38	(1.20)	Complete at 3.20m		
						- - - - - - - - - - - - - - - - - - -			
Plan .						•	Remarks		
							Trial pit stable. No groundwater encountere Trial pit terminated at 3.2m backfilled upon completion.	d. 3GL due to obstruction or bo	ulder and
							Scale (approx)	Logged By	Figure No.
							1:25	NM	9551-03-20.TP03

	Grou	ınd In		gatic w.gii.	ns Ire	land l	Ltd		Site Clonminch, Tullamore			Trial Pit Number TP04	
Machine: 13		Dimens 0.7m V					Level (mO l 68.45	D)	Client DBFL			Job Number 9551-03-20)
		Locatio 23		23216.2	N	Dates 20	/05/2020		Project Contractor GII			Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	F	Field Rec	ords	Level (mOD)	Depth (m) (Thicknes	s)	D	escription		Kater Nater	
0.50	В					68.25 67.85	(0.40	0	Dark brown slightly sandy Firm light brown slightly sa Stiff brown grey gravelly v	indy gravelly SILT. ery sandy SILT with occasio	nal		
1.50	В						(1.30)))	sub-angular to sub-rounde	d cobbles and boulders.			
2.50	В					66.55 65.85	_	0 -	and boulders.	silty gravelly fine to coarse -angular to sub-rounded co rey gravelly very clayey fine anal sub-angular to sub-rour			
			Water s	trike(1) at	t 3.00m.	65.45	3.00	0	Complete at 3.10m			V 1	
Plan .			-	-	·		•		Remarks Trial pit stable.				
								-	Groundwater encountered a Trial pit terminated at 3.10m backfilled upon completion.	t 3.0m BGL BGL due to obstruction or b	oulder a	and	
					٠		•						
								Se	cale (approx) 1:25	Logged By	Figure 9551-0	• No. 03-20.TP04	-

	Grou	ınd Inv	estigatic www.gii.	ons Irela .ie	Site Clonminch, Tullamore			Trial Pit Number TP05		
Machine: 1 Method: T		Dimensio 0.7m W	ons			Level (mOD) 69.47	Client DBFL		Job Number 9551-03-2	
		Location 2348	386.3 E 223115.4		Dates 20/	/05/2020	Project Contractor		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Rec	cords	Level (mOD)	Depth (m) (Thickness)	D	escription	Legend	Water
					69.22	(0.25) - (0.25) - 0.25 - (0.75)	Dark brown slightly sandy Firm light brown sandy grasub-angular to sub-rounde	slightly gravelly TOPSOIL.		
1.00	В				68.47	1.00	Stiff to very stiff light brown with occasional sub-round	n grey gravelly very sandy S ed cobbles.	ILT 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
2.50	В				67.47	2.00	Medium dense to dense li clayey fine to coarse SAN sub-angular cobbles and r	ght dark grey brown gravelly D with occasional sub-round are boulders.	very O	
					66.77		Complete at 2.70m			
Plan .						-	Remarks Trial pit stable.			
		·				_	That pit stable. No groundwater encountere Trial pit terminated at 2.70m backfilled upon completion.	d. BGL due to obstruction or b	oulder and	
						-				
		•				.	Scale (approx)	Logged By	Figure No. 9551-03-20.TP0	5

	Gr	ound In	vestig www	ations Ir v.gii.ie	Ltd	Site Clonminch, Tullamore		Trial Pit Number TP06	
Machine :		Dimens 0.7m V				Level (mOD) 69.75	Client DBFL		Job Number 9551-03-20
		Location 23	on 34856.5 E 2	23139.5 N	Dates 20	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Te	water Depth (m)	Fie	eld Records	Level (mOD)	Depth (m) (Thickness)	D	escription	Legend Region Legend
					69.50	0.25) - 0.25 - 0.25 - (0.75)	Dark brown slightly sandy Firm brown slightly sandy	slightly gravelly TOPSOIL.	
					68.75	1.00	Stiff to very stiff light brown occasional sub-angular to	n grey sandy gravelly SILT w sub-rounded cobbles.	vith
					68.05	1.70	Medium dense to dense lig to coarse SAND with occa sub-rounded cobbles and	ght brown grey silty gravelly sional sub-angular to boulders.	fine Company
					66.95	2.80	Complete at 2.80m		
Plan .						. !	Remarks		
							Trial pit stable. No groundwater encountere Trial pit terminated at 2.80m backfilled upon completion.	ed. BGL due to obstruction or b	poulder and
						. s	Scale (approx) 1:25	Logged By	Figure No. 9551-03-20.TP06

	Grou	ınd In	vestigati www.gii		land l	Ltd	Site Clonminch, Tullamore	Trial Pit Number TP07	
Machine: 13 Method: Tr		Dimens 0.7m W	ions / x 2.8m L			Level (mOD) 72.73	Client DBFL		Job Number 9551-03-20
		Locatio 23	n 4826.8 E 223065	.5 N	Dates 20	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field Re	cords	Level (mOD)	Depth (m) (Thickness)	D	escription	Legend Age
					72.53	(0.20) - 0.20	Dark brown slightly sandy Firm brown slightly gravell		
						(0.30)	Firm brown siignily graveii	y sandy SILT.	**************************************
					72.23	0.50	Medium dense light brown coarse SAND with occasio cobbles and boulders.	grey gravelly very silty fine onal sub-rounded to sub-ang	to XXX
1.00	В				74 99	(1.00)			
					71.23	1.50	Medium dense to dense lic coarse SAND with occasion cobbles and boulders.	ght grey silty very gravelly fi onal sub-rounded to sub-ang	ne to Solo
2.00	В				70.33	- - - - - - - 2.40	Cliff II-bh	ulle OLAV with a seeding of	
						- - - - -	Stiff light grey sandy grave sub-rounded to sub-angula	ar cobbles and boulders.	
3.00	В					- (0.90) 			
					69.43	3.30	Complete at 3.30m		18 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Plan .							 Remarks		
							Trial pit stable. No groundwater encountere Trial pit terminated at 3.30m backfilled upon completion.	d. BGL due to obstruction or b	ooulder and
				·			Scale (approx)	Logged By	Figure No. 9551-03-20.TP07

	Grou	ınd Inv	estigation: /www.gii.ie	s Ireland	Ltd	Site Clonminch, Tullamore				
Machine: 1		Dimensi 0.7m W			Level (mOD) 70.49	Client DBFL		Job Number 9551-03-20		
		Location 234	829.5 E 223127.7 N	Dates 20	/05/2020	Project Contractor		Sheet 1/1		
Depth (m)	Sample / Tests	Water Depth (m)	Field Record	s Level (mOD)	Depth (m) (Thickness)	D	escription	Kegend Kater		
1.50	В			69.89 69.49 67.99	(0.20) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.40) - (0.		slightly gravelly SILT. y gravelly SILT with occasions of cobbles and boulders. ghtly clayey sandy gravelly ar to sub-rounded cobbles a			
Plan .					•	Remarks Trial pit spalling at 2.50m B0	GL.			
						Trial pit spalling at 2.50m BC No groundwater encountere Trial pit terminated at 2.70m backfilled upon completion.	d. BGL due to obstruction or l	poulder and		
						Soolo (ann-s-)	Longod P.:	Eigure No.		
						Scale (approx) 1:25	Logged By	Figure No. 9551-03-20.TP08		

	Grou	ınd In	vestigati www.g	ions Ire ii.ie	Site Clonminch, Tullamore Trial Pit Number TP09				
Machine:		Dimensi 0.7m W				Level (mOD) 70.89	Client DBFL		Job Number 9551-03-20
		Location 234	1 1787.5 E 22310	3.1 N	Dates 20)/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field R	ecords	Level (mOD)	Depth (m) (Thickness)	D	escription	Vater Variet
						(0.20)	Dark brown slightly sandy	slightly gravelly TOPSOIL.	
					70.69	0.20	Firm light brown slightly sa	andy slightly gravelly clayey	SILT.
						(0.60)			* * * * * * * * * * * * * * * * * * *
					70.09	0.80	Firm light grey sandy very	gravelly SILT with occasional cobbles.	al Oxfoxx
						<u>-</u>	sub-angular to sub-rounde	ed coddies.	× × × × × × × × × × × × × × × × × × ×
						(0.80)			× × × × × × × × × × × × × × × × × × ×
				69.29	1.60			× × × × × × × × × × × × × × × × × × ×	
					00.20	- 1.00	Medium dense to dense liq fine to coarse SAND with a and rare boulders	ght brown grey gravelly very occasional sub-rounded cob	silty * a () bles ()
						<u></u>			
						(1.20)			
						<u>-</u>			
					68.09	2.80			
					00.09	2.00	Complete at 3.00m		
						_ _ _ _			
						_ _ _			
Plan .							Remarks Trial pit stable.		
							No groundwater encountere Trial pit terminated at 2.80m backfilled upon completion.	d. BGL due to obstruction or b	ooulder and
							Scale (approx)	Logged By	Figure No.
							1:25	NM	9551-03-20.TP09

	Grou	nd Inv	estigatio/ www.gii.i	ns Ireland ie	Ltd	Site Clonminch, Tullamore Tri Nu T			
Machine: 1		Dimensio 0.7m W			70.87	Client DBFL		Job Number 9551-03-20	
		Location 234	710.7 E 223097.4		9/05/2020	Project Contractor		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Reco	ords Level (mOD)	Depth (m) (Thickness)	D	escription	Nater Water	
				70.05	(0.20)		slightly gravelly TOPSOIL.		
				70.67	0.20	Firm light brown slightly sa	andy slightly gravelly CLAY.		
					(0.80)			0.000	
					-				
				69.87	1.00	loose to medium dense lig gravelly fine to coarse SAI	ht brown grey slightly clayey ND with occasional sub-angund boulders.	llar	
					(0.80)	to sub-rounteed commers an	id boulders.	>:.0 ::	
					(0.00)	Trial pit walls spalling at	1.50m BGL.	×	
				69.07	7 1.80	Medium dense to dense lig	ght brown grey slightly clayey ND with occasional sub-angu	/ ************************************	
					-	to sub-rounded cobbles at	nd boulders.		
					(1.00)				
				68.07	7 2.80	Complete at 2.80m		\$ \$ 00 \$ \$ 00	
					<u>-</u>				
					_ - - -				
					<u>-</u> -				
					<u>-</u> -				
Plan					<u> </u>	Remarks			
						Trial pit spalling at 1.50m BO No groundwater encountere Trial pit terminated at 2.80m	GL. d. BGL due to obstruction or be	oulder and	
		-				backfilled upon completion.			
	•	•	•	•					
		•				Scale (approx)	Logged By	Figure No. 9551-03-20.TP10	

	Gro	und In	vestigati www.g	ions Ire _{ii.ie}	land	Ltd	Site Clonminch, Tullamore	Trial Pit Number TP11	
Machine: 1		Dimens i 0.7m W	ions / x 2.5m L			Level (mOD) 68.63	Client DBFL		
		Location 234	n 1808.5 E 22325	1.9 N	Dates 21	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field R	ecords	Level (mOD)	Depth (m) (Thickness)	D	escription	Legend see
					68.38 68.13	(0.25) - 0.50	Dark brown slightly sandy Firm light brown slightly sa Firm light brown grey grav occasional sub-angular to boulders.	andy slightly gravelly SILT.	
1.00	В				67.63	- (0.50) - 1.00	Stiff light brown grey very occasional sub-angular to boulders.	sandy very gravelly SILT wi sub-rounded cobbles and	th
2.00	В				66.13	- (1.50) 	Stiff grey sandy very grave sub-angular to sub-rounde	elly CLAY with occasional	* * * * * * * * * * * * * * * * * * *
3.00	В				65.63	3.00	Complete at 3.00m	is copples und poulders.	
Plan .							Remarks		
							Trial pit unstable. Side wall on No groundwater encountered Trial pit terminated at 3.0m Eupon completion.	d.	se and backfilled
		•					Scale (approx)	Logged By	Figure No. 9551-03-20.TP11

	Grou	ınd In	vestiga www	ations Irel .gii.ie	land l	Ltd	Site Clonminch, Tullamore	Trial Pit Number TP12	
Machine: 1		Dimens 0.7m W	ions / x 2.8m L			Level (mOD) 69.11	Client DBFL		Job Number 9551-03-20
		Locatio 23	n 4765.2 E 223	3283.3 N	Dates 21	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field	l Records	Level (mOD)	Depth (m) (Thickness)	D	escription	Kater Kater
					68.86 68.51 67.51	(0.25) - (0.35) - (0.35) - (0.60) - (1.00) - (1.00) - (1.00) - (1.00) - (1.00)	sub-angular to sub-rounde	ndy slightly gravelly SILT.	
					66.61	2.50 - - - - - - - - - - - - - - - - - - -	Stiff to very stiff light grey with occasional sub-angulaboulders. Complete at 3.00m	gravelly silty gravelly sandy ar to sub-rounded cobbles a	CLAY PARAMETERS OF THE PARAMET
Plan .							Remarks		
· · ·							Trial pit stable. No groundwater encountere Trial pit terminated at 3.0m E backfilled upon completion.	d. 3GL due to obstruction or bo	oulder and
							Scale (approx)	Logged By	Figure No. 9551-03-20.TP12

	Gro	ound In		ations Iı v.gii.ie	reland	Ltd	Site Clonminch, Tullamore			it er 3
Machine: 1		Dimens 0.7m W				Level (mOD) 69.07	Client DBFL		Job Numbe 9551-03	
		Location 234	n 4737.7 E 22	23247.3 N	Dates 21	/05/2020	Project Contractor		Sheet 1/1	
Depth (m)	Sample / Tes	Water Depth (m)	Fie	ld Records	Level (mOD)	Depth (m) (Thickness)	D	escription	Legend	Water
Plan					68.82 68.47 68.07 67.57	(0.25) - (0.35) - (0.35) - (0.40) - (0.50) - (1.00) - (1.00) - (0.50) - (0.50) - (0.50) - (0.50) - (0.50) - (0.50) - (0.50) - (0.50)	Soft to firm light brown slig SILT. Firm brown slightly sandy occasional sub-angular to boulders. Stiff grey sandy gravelly cl sub-angular to sub-rounded Medium dense to dense lic clayey fine to coarse SANI sub-rounded cobbles and	sub-rounded cobbles and ayey SILT with occasional	sitty	
							Trial pit stable. No groundwater encountere Trial pit terminated at 3.0m E	d. BGL due to obstruction or bo	ulder and	
							backfilled upon completion.			
			•			.	Scale (approx)	Logged By	Figure No. 9551-03-20.TP	
							1.20		-00.00 20.11	

	Grou	ınd In	vestigati www.gi	ons Irel	land l	Ltd	Site Clonminch, Tullamore	Trial Pit Number TP14	
Machine: 1		Dimens i 0.7m W				Level (mOD) 69.86	Client DBFL		Job Number 9551-03-20
		Location 234	n 4673.1 E 223236	6.4 N	Dates 21	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field Ro	ecords	Level (mOD)	Depth (m) (Thickness)	D	escription	Legend A
0.50	В				69.61	(0.25) - (0.25) - 0.25	Dark brown slightly sandy Soft to firm light brown slig	slightly gravelly TOPSOIL.	SILT.
					68.96	0.90	Stiff to very stiff light grey l occasional sub-angular to	orown gravelly sandy SILT v sub-rounded cobbles.	vith
1.50	В				68.16	1.70	Medium dense to dense b coarse SAND with occasio cobbles and boulders.	rown grey silty gravelly fine onal sub-angular to sub-rour	to ded
2.50	В					(1.30)			
					66.86	3.00	Complete at 3.00m		
Plan .						. 1	 Remarks		
							Trial pit stable. No groundwater encountere Trial pit terminated at 3.0m B backfilled upon completion.	d. 3GL due to obstruction or bo	oulder and
				٠					
						.	Scale (approx)	Logged By	Figure No. 9551-03-20.TP14

	Grou	nd In	vestigat www.g	ions Irel ii.ie	land l	Ltd	Site Clonminch, Tullamore	Trial Pit Number TP15	
Machine: 1		Dimens 0.7m W	ions / x 2.3m L			Level (mOD) 68.66	Client DBFL		Job Number 9551-03-20
		Locatio 23	n 4831.7 E 22330	00.5 N	Dates 21	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field R	lecords	Level (mOD)	Depth (m) (Thickness)	D	escription	Legend Nater
					68.41	(0.25) - (0.25) - (0.25) - (0.65)	Dark brown slightly sandy Soft to firm light brown slig	slightly gravelly TOPSOIL. htly sandy slightly gravelly S	SILT.
					67.76	0.90	Firm grey sandy gravelly 0 to sub-rounded cobbles.	CLAY with occasional sub-ar	ngular 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
					67.46 66.96	1.20	Very stiff grey sandy grave sub-angular to sub-rounde		6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 4 6 7 6 7
						(1.00)	coarse SAND with occasion cobbles and boulders.	rown gravelly very silty fine onal sub-angular to sub-rour	
					65.96 65.46	2.70 - - - - (0.50) - - - 3.20	Stiff light grey gravelly versub-angular to sub-rounde	y sandy SILT with occasiona od cobbles.	
					03.40	5.20 	Complete at 3.20m		
Plan .							Remarks Trial pit stable.		
							No groundwater encountere Trial pit terminated at 3.0m B backfilled upon completion.	d. 3GL due to obstruction or bo	oulder and
						.	Scale (approx)	Logged By	Figure No. 9551-03-20.TP15

	Grou	nd In	vestiga www.ç	tions Irel gii.ie	land l	Ltd	Site Clonminch, Tullamore	Trial Pit Number TP16		
Machine: 13		Dimens 0.7m W	ions / x 2.8m L			Level (mOD) 66.43	Client DBFL		Job Number 9551-03-20)
		Locatio 23	n 4844.2 E 2234	10.6 N	Dates 22	/05/2020	Project Contractor		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field I	Records	Level (mOD)	Depth (m) (Thickness)	D	escription	Legend X	
0.50 1.00 2.00	В В	·	Water strike(1) at 2.00m.	65.83 65.23 64.43	(0.25) - (0.25) - (0.35) - (0.60) - (0.60) - (0.80) - (0.50) - (0.50) - (0.50) - (0.50) - (0.50) - (0.50) - (0.50) - (0.50)	Stiff light grey brown mottle with occasional sub-angular boulders. Firm light grey brown mott with occasional sub-angular boulders. Medium dense brown grey coarse sub-angular to sub occasional sub-angular to boulders. Complete at 2.50m Remarks Trial pit unstable. sidewall occasional sub-angular to boulders.	ed sandy gravelly very silty (ar to sub-rounded cobles a led sandy gravelly very silty (ar to sub-rounded cobbles a led sandy gravelly very silty ar to sub-rounded cobbles a viclayey silty very sandy fine rounded GRAVEL with sub-rounded cobbles and led sandy gravelly very sandy fine rounded GRAVEL with sub-rounded cobbles and led sandy gravelly very sandy fine rounded GRAVEL with sub-rounded cobbles and led sandy gravelly very sandy fine rounded GRAVEL with sub-rounded cobbles and led sandy gravelly very sandy fine rounded GRAVEL with sub-rounded cobbles and led sandy gravelly very sandy fine rounded GRAVEL with sub-rounded GRAVEL with sub-rounded cobbles and led sandy gravelly very sandy fine rounded GRAVEL with sub-rounded GRAVEL with sub	clay nd Clay nd To	
		•		•		•	Trial pit terminated at 2.5m Eupon completion.	3GL due to sidewall collapse	and backfilled	
				•		•				
						.	Scale (approx)	Logged By	Figure No. 9551-03-20.TP16	

	Gro	und In		ations Ire v.gii.ie	Ltd	Site Clonminch, Tullamore Trial Pit Number TP17			
Machine : 1 Method : ⊺		Dimens 0.7m W				Level (mOD) 67.34	Client DBFL		Job Number 9551-03-20
		Locatio 23	n 4911.8 E 22	23386.4 N	Dates 22	2/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Fie	eld Records	Level (mOD)	Depth (m) (Thickness)	D	escription	Legend Face A
					67.09 66.34	(0.75)	Dark brown slightly sandy Firm light brown slightly sawith occasional sub-angulation boulders. Stiff brown slightly gravelly occasional sub-angular to boulders.	indy gravelly very clayey SII ar to sub-rounded cobbles a	LT
					65.74	1.60 - (0.70)	Very stiff brown sandy silty occasional sub-angular to	very gravelly CLAY with sub-rounded cobbles.	
			Water strike(1) at 2.6		65.04		Loose to medium dense b fine to coarse sub-angular occasional sub-angular to boulders.	clayey ith	
					64.54		Complete at 2.80m		
Plan .							Remarks Trial pit unstable. sidewall co	hllansed	
							Groundwater encountered a Trial pit terminated at 2.80m upon completion.	t 2.60m BGL.	se and backfilled
						s	Scale (approx)	Logged By	Figure No. 9551-03-20.TP17

	Grou	ınd In	vestigations www.gii.ie	Ireland	Ltd	Site Clonminch, Tullamore	Trial Pit Number TP18	
Machine: 1		Dimens 0.7m W			Level (mOD) 65.84	Client DBFL		Job Number 9551-03-20
		Locatio 23	n 4935.7 E 223461.3 N	Dates 22	2/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	D	escription	Kegend Page 7
1.00	В		Water strike(1) at 1.70	65.59 65.04	- (0.55) - 0.80		slightly gravelly TOPSOIL. In mottled slightly sandy sligly ccasional sub-angular to clayey gravelly fine to coarse-angular to sub-rounded col	0.000 0.000 0.000 0.000 0.000 0.000 0.000
Plan .						Remarks Trial pit unstable. sidewall cogroundwater encountered a	ollapsed.	
						Groundwater encountered a Trial pit terminated at 2.10m upon completion.	t 1.70m BGL. BGL due to sidewall collaps	e and backfilled
						Scale (approx)	Logged By	Figure No.
						1:25	NM	9551-03-20.TP18

	Gro	und In	vestigatio www.gii		land l	Ltd	Site Clonminch, Tull	amore			Trial Pi Number	er
Machine:		Dimens 0.7m W				Level (mO I 66.01) Client DBFL				Job Numbe 9551-03	
		Locatio 23	n 4860 E 223473.1	N	Dates 22	2/05/2020	Project Contrac	ctor			Sheet 1/1	
Depth (m)	Sample / Test	s Water Depth (m)	Field Re	cords	Level (mOD)	Depth (m) (Thickness)	D	escription	L	_egend	Water
Plan .			Water strike(1) a	at 1.20m.	65.76 65.61 64.81	(0.25 - (0.15 - (0.15 - 0.40 - (0.80	Firm light brown Firm to stiff light very silty CLAY cobbles. Firm to stiff grey occasional subboulders. Complete at 2.00 Remarks Trial pit unstable. Groundwater end	sidewall coountered at at 2.0 m	slightly gravelly TOPSOIL. In mottled slightly gravelly sational sub-angular to sub-rour y very gravelly CLAY with sub-rounded cobbles and to 1.2m BGL. BGL due to sidewall collapse	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		∑ 1
		•					Scale (approx)			Figure 9551-03		219

	Grou	nd In	vestiga www.	ations Irel .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	I Records	Level (mOD)	Depth (m) (Thickness)	D	escription	Nater Page 1
					70.90	(0.20)	Dark brown slightly sandy		
0.50	В				70.80	(0.70)	Soft to firm light brown slig	htly sandy slightly gravelly \$	SILT.
					70.10	(0.60)	Stiff light grey sandy grave sub-angular to sub-rounde	elly SILT with occasional decoration of the community of the control of the community of th	
1.50	В				69.50	- - - - - - - - - - -	Very stiff light grey brown s occasional sub-angular to boulders.	sandy very gravelly SILT wit sub-rounded cobbles and	h
						- (1.30) 			
					68.20	2.80	Complete at 2.80m		
Plan .			•			•	Remarks Trial pit stable.		
			•				No groundwater encountere Trial pit terminated at 2.80m backfilled upon completion.	d. BGL due to obstruction or b	ooulder and
			•						
							Scale (approx)	Logged By	Figure No. 9551-03-20.TP20

Clonminch, Tullamore - Trial Pit Photographs

TP01







TP02













TP04













TP06







TP07







TP08













TP10





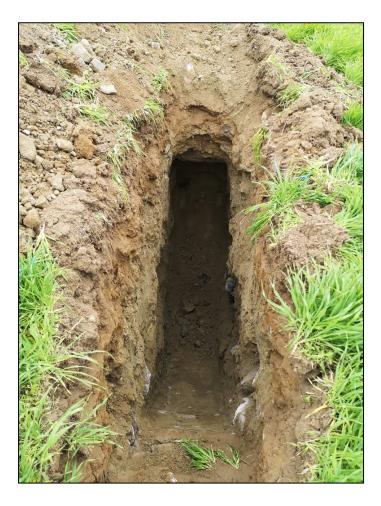








TP12







TP13







TP14







TP15







TP16







TP17







TP18







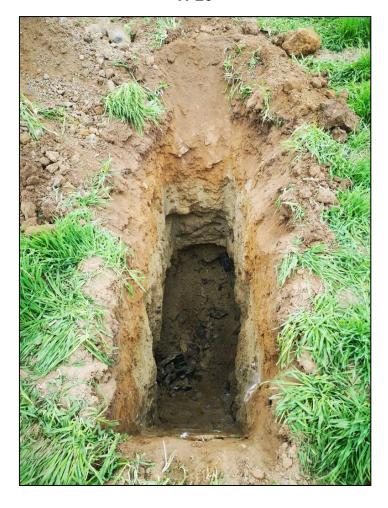
TP19



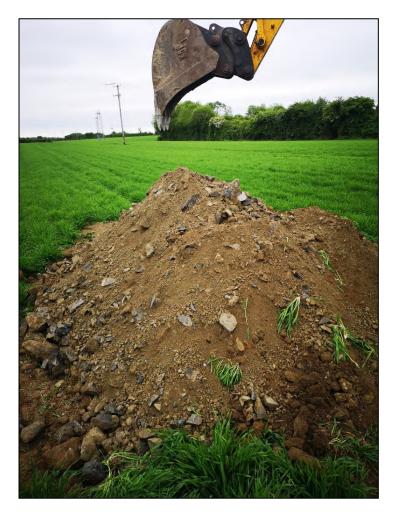




TP20







SK01







SK02







SK03







SK04













SK06













SK08













SK10













SK12







APPENDIX 3 – Soakaway Records



	Grou	ınd In	vestigatio www.gii.i	ns Ireland ie	Site Clonminch, Tullamore Trial Pit Number SK01			
Machine:		Dimensi 0.7m W			70.50	Client DBFL		Job Number 9551-03-20
		Location 234	n 1728.7 E 223159 N		1/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field Reco	ords Level (mOD)	Depth (m) (Thickness) D	escription	Kater Kater
				70.2 69.9 69.5	(0.30) 5	Firm light brown slightly sa occasional sub-rounded c Stiff light grey sandy grave sub-angular to sub-rounded	andy slightly gravelly SILT wobbles. Elly SILT with occasional ed cobbles and boulders. gravelly SILT with occasionaed cobbles and boulders.	
Plan .		•				Trial pit stable. No groundwater encountere	ed.	
		•				Trial pit terminated at 2.0m l soakaway.	BUL and dackfilled upon co	mpletion of
		٠						
						Scale (approx)	Logged By	Figure No.
						1:25	NM	9551-03-20.SK01

	Grou	nd In	vestigatio www.gii		land l	Ltd	Site Clonminch, Tullamore Trial Pit Number SK02			
Machine: 1		Dimens 0.7m W				Level (mOD) 70.62	Client DBFL		Job Number 9551-03-20	
		Locatio 23	n 4724.5 E 223134	3 N	Dates 21	/05/2020	Project Contractor		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Re	cords	Level (mOD)	Depth (m) (Thickness)	D	escription	Legend Nater	
Plan					70.37 70.07 69.62	(0.25) - (0.30) - (0.30) - (0.45) - (1.00) - (1.00) - (1.00) - (1.00)	Firm light grey sandy grav- sub-angular to sub-rounde	indy slightly gravelly SILT wobbles.		
		•		•		•	Trial pit stable. No groundwater encountere	d.	unlation of	
		•		•		•	Trial pit terminated at 2.0m E soakaway.	оот яни раскиней upon cor	превон от	
		•		•		•				
						.	Scale (approx)	Logged By	Figure No. 9551-03-20.SK02	

	Grou	ınd Inv	vestigatio www.gii	ons Irela .ie	_td	Site Clonminch, Tullamore Trial Num SK			
Machine: 1		Dimensi 0.7m W				Level (mOD) '0.13	Client DBFL		Job Number 9551-03-20
		Location 234	n 1782.3 E 223158		ates 21/	05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field Re	cords (r	_evel mOD)	Depth (m) (Thickness)	D	escription	Legend Nater
					69.88 69.63	(0.25) (0.25) (0.25) (0.25) (0.50) (1.50) (1.50)	Firm light brown slightly sad Firm light grey gravelly ver sub-angular to sub-rounder Complete at 2.00m		al
Plan .					•		Trial pit stable. No groundwater encountere	d.	
						.	Trial pit terminated at 2.0m E soakaway.	BGL and backfilled upon cor	mpletion of
						•			
						.	cale (approx)	Logged By	Figure No.
							1:25	NM	9551-03-20.SK03

	Grou	nd Inv	vestigatic www.gii.	ons Ireland ie	Clanmingh Tullamara			Trial Pi Number SK0	er		
Machine : 1		Dimensi 0.7m W				Level (mOD) 70.35	Client DBFL		!	Job Numbe 9551-03	
		Location 234	n 1776.3 E 223132.7	Date:	s 21/	/05/2020	Project Contractor			Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Rec	ords Lev	el D)	Depth (m) (Thickness	D	escription		Legend	Water
				70	.45	 					
				70).15	- 0.20 - - - - (0.50)	Firm light brown slightly sa	indy slightly gravelly SILT.	X	X X X X X X X X X X X X X X X X X X X	
				000					> > >	X X X X X X X X X X X X X X X X X X X	
				69	0.65	— 0.70 - - - -	Firm light grey gravelly ver sub-angular to sub-rounde	y sandy SILT with occasion d cobbles and boulders.	al		
						- - -			****		
						 (1.20) 			× × ×	Q.	
						- - - -			× × ×	Q:* <u>^</u> :_^.* :*	
				68	3.45		Constitute at 4 00m		× ×	() () () () () () () () () () () () () (
							Complete at 1.90m				
						- - - -					
						- - - -					
						- - - -					
						- - - -					
						- - - -					
Plan .							Remarks Trial pit stable.				
							No groundwater encountere Trial pit terminated at 1.90m soakaway.	d. BGL and backfilled upon co	ompletion	n of	
							Scale (approx)	Logged By	Figure	No.	
							1:25	NM	9551-0	3-20.SK	04

	Grou	ınd In	vestigati www.gii	ons Ire i.ie	Ltd	Site Clonminch, Tullamore			
Machine:		Dimens i 0.7m W				Level (mOD) 67.83	Client DBFL		Job Number 9551-03-20
		Location 234	n 4865 E 223326.7	N	Dates 22	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field Re	cords	Level (mOD)	Depth (m) (Thickness)	D	escription	Legend Nate.
					67.58 67.33 66.63	(0.25) - (0.50 - (0.70) - (0.70) - (0.30)	Soft to firm light grey brow occasional sub-angular to	slightly gravelly TOPSOIL. htty sandy slightly gravelly c n sandy gravelly clayey SILT sub-rounded cobbles. gravelly clayey very sandy S ar to sub-rounded cobbles.	with
Plan .				٠			Remarks Trial pit stable.		
							No groundwater encountere Trial pit terminated at 1.5m is soakaway.	ი. 3GL and backfilled upon com	pletion of
							Deale (company)	1	Figure N.
							Scale (approx) 1:25	Logged By	Figure No. 9551-03-20.SK05

	Grou	ınd In	vestigatio www.gii.	ons Irela .ie	_td	Site Clonminch, Tullamore SK0			
Machine: 1		Dimensi 0.7m W				Level (mOD) 88.04	Client DBFL		Job Number 9551-03-20
		Location 234	n 1919.5 E 223321.		ates 22/	05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field Rec	ords (i	Level mOD)	Depth (m) (Thickness)	D	escription	Legend ja k
0.50	В				67.79 67.44	(0.25) - (0.25) - (0.35) - (0.35)	Dark brown slightly sandy Firm brown slightly sandy Stiff light grey brown sandy occasional sub-angular to boulders	slightly gravelly clayey SILT	
1.00	В					(0.90)			
1.50	В				66.54		Complete at 1.50m		
Plan .		•				•	Remarks Trial pit stable.		
						.	No groundwater encountere Trial pit terminated at 1.5m E soakaway.	d. 3GL and backfilled upon col	mpletion of
		٠							
							Scale (approx)	Logged By	Figure No.
							1:25	NM	9551-03-20.SK06

	Grou	and In	vestiga www.g	tions Ire gii.ie	Ltd	Site Clonminch, Tullamore			
Machine :		Dimens 0.7m W				Level (mOD) 68.27	Client DBFL		Job Number 9551-03-20
		Location 234	n 4867.2 E 2232	79 N	Dates 21	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field	Records	Level (mOD)	Depth (m) (Thickness)	D	escription	Nater Water
					68.02 67.77 66.27	(0.25) - (0.50) - (1.00) - (1.50) - (0.50) - (0.50) - (0.50) - (0.50)	Firm to stiff light grey grave occasional sub-angular to boulders. Stiff to very stiff light grey occasional sub-angular to boulders. Complete at 2.00m	indy slightly gravelly clayey	
Plan .				•		•	Remarks Trial pit stable. No groundwater encountere	d.	
				•			Trial pit terminated at 2.0m E soakaway.	3GL and backfilled upon con	npletion of
		٠							
						. -			
						S	Scale (approx) 1:25	Logged By	Figure No. 9551-03-20.SK07

	Grou	ınd In	vestigat www.g	ions Ire ^{ii.ie}	Site Clonminch, Tullamore Sh				
Machine : 1		Dimens i 0.7m W				Level (mOD) 68.07	Client DBFL		Job Number 9551-03-20
		Location 234	n 4927.9 E 22327	9.4 N	Dates 21	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field R	ecords	Level (mOD)	Depth (m) (Thickness)	D	escription	Legend reg
					67.82 67.47		Stiff light grey brown sand occasional sub-angular to boulders. Complete at 2.00m	indy slightly gravelly clayey	SILT.
Plan .		•		•		•	Remarks Trial pit stable. No groundwater encountere	d.	
		•		•		•	Trial pit terminated at 2.0m I soakaway.	BGL and backfilled upon con	npletion of
				•		-			
						.	Scale (approx)	Logged By	Figure No.
						`	1:25	NM	9551-03-20.SK08

	Grou	ınd Inv	vestigati www.gi	ons Ire i.ie	Ltd	Site Clonminch, Tullamore St			
Machine: 1		Dimensi 0.7m W				Level (mOD) 66.37	Client DBFL		Job Number 9551-03-20
		Location 234	1 1816.2 E 223424	.2 N	Dates 22	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field Re	cords	Level (mOD)	Depth (m) (Thickness)	D	escription	Nater Water
					66.12 65.97 65.17 64.87	(0.15) (0.40) (0.80) (0.30) (0.30) (0.30) (0.30) (0.30) (0.30) (0.30) (0.30)	Stiff grey brown mottled sl with occasional sub-angul Firm grey brown mottled s with occasional sub-angul Complete at 1.50m	slightly gravelly TOPSOIL. ottled slightly sandy slightly ightly sandy gravelly silty Cl ar to sub-rounded cobbles. lightly sandy gravelly silty C ar to sub-rounded cobbles.	A
Plan .		•		•			Remarks Trial pit stable. No groundwater encountere	d.	
							Trial pit terminated at 1.5m l soakaway.	3GL and backfilled upon cor	npletion of
						•			
						•			
							Poolo (annuer)	Longod Pr	Eigure No
							Scale (approx) 1:25	Logged By	Figure No. 9551-03-20.SK09

	Grou	ınd Inv	vestigati www.gi		Ltd	Site Trial Num Clonminch, Tullamore SK			
Machine : 1		Dimensi 0.7m W				Level (mOD) 65.60	Client DBFL		Job Number 9551-03-20
		Location 234	n 972.3 E 223499	9.2 N	Dates 25	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field Re	ecords	Level (mOD)	Depth (m) (Thickness)	D	escription	Vater Water
					65.35 65.05 64.40 64.10	(0.65) -	slightly gravelly CLAY.	ey orange mottled slightly sa ightly sandy gravelly silty CL ar to sub-rounded cobbles.	
Plan .		•		•			Trial pit stable. No groundwater encountere	d.	unlation of
		•		•		•	Trial pit terminated at 1.5m Esoakaway.	оо and раскиней upon cor	прієвон от
				٠					
							Scale (approx)	Logged By	Figure No.
							1:25	NM	9551-03-20.SK10

	Grou	nd Inv	vestigat www.g	ions Ire ii.ie	Ltd	Site Clonminch, Tullamore SK1			
Machine: 1: Method: T		Dimensi 0.7m W				Level (mOD) 66.80	Client DBFL		Job Number 9551-03-20
		Location 234	1 1985.3 E 22354	16.4 N	Dates 25	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field R	lecords	Level (mOD)	Depth (m) (Thickness)	D	escription	Kegend Nater
0.50	В				66.55 66.10	(0.25) - (0.25) - 0.25 - (0.45) - (0.70	Dark brown slightly sandy Firm light brown slightly sa	andy slightly gravelly SILT.	
1.00	В				65.50	(0.60)		avelly very sandy CLAY with sub-rounded cobbles.	6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
1.50	В				65.50 65.30	(0.20)	Stiff grey brown mottled sa occasional sub-angular to Complete at 1.50m	andy gravelly CLAY with sub-rounded cobbles.	600 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Plan .							Remarks		
							Trial pit stable. No groundwater encountere Trial pit terminated at 1.5m B soakaway.	d. BGL and backfilled upon coi	mpletion of
		•		•			Scale (approx)	Logged By	Figure No.
							1:25	NM	9551-03-20.SK11

	Grou	ınd In	vestigat www.g	tions Ire gii.ie	Ltd	Site Clonminch, Tullamore Site			
Machine : 1 Method : [∏]		Dimens i 0.7m W				Level (mOD) 66.57	Client DBFL		Job Number 9551-03-20
		Location 234	n 1992.8 E 2235	71.6 N	Dates 25	/05/2020	Project Contractor		Sheet 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field F	Records	Level (mOD)	Depth (m) (Thickness)	D	escription	Nater Water
Plan					65.92 65.07	- (0.40) - 0.65 - (0.85) - (0.85) - (0.85) - (0.85) - (0.85)	CLAY.	slightly gravelly TOPSOIL. ghtly sandy slightly gravelly s ed slightly sandy slightly gravional sub-angular to sub-rou	× • • • • • • • • • • • • • • • • • • •
		•				•	Trial pit stable. No groundwater encountere	d.	polotion of
		•				•	Trial pit terminated at 1.5m I soakaway.	oce and packilled upon con	ιρισαστί Οι
				•		•			
							Scale (approx)	Logged By	Figure No.
							1:25	NM	9551-03-20.SK12



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 0.53	Depth of Pit 2.000		Diff 1.470	75% full 0.8975	25%full 1.6325
Length of pit (m) 2.200	Width of pit (m) 0.700			75-25Ht (m) 0.735	Vp75-25 (m3) 1.13
Tp75-25 (from g	raph) (s)	31500		50% Eff Depth 0.735	ap50 (m2) 5.803
	C 400E 00	(-		0.700	0.000





Tp75-25 (from graph) (s)

1.262E-05

f =

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

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

> 25%full 1.63

Vp75-25 (m3) 1.19

> ap50 (m2) 6.05

50% Eff Depth

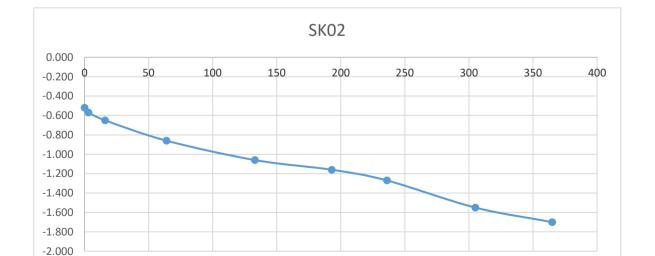
0.740

SK02 Soakaway Test to BRE Digest 365 Trial Pit Dimensions: 2.30m x 0.70m 2.00m (L x W x D)

Date	Time		r level 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 0.52	Depth of Pit 2.000		Diff 1.480	75% full 0.89
Length of pit (m) Width of pit (m) 2.300 0.700				75-25Ht (m) 0.740

15600

m/s





SK03
Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.20m x 0.70m 2.0m (L x W x D)

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

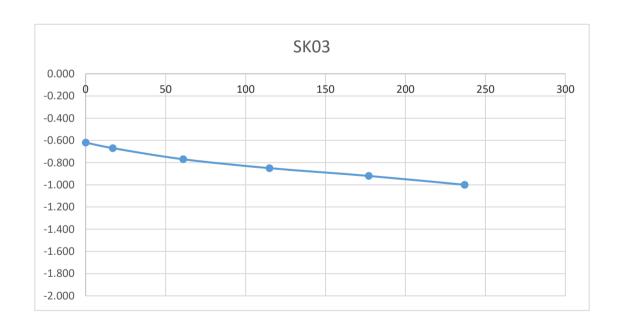
Tel: 01 601 5175 / 5176 Email: info@gii.ie

Email: info@gii.ie Web: www.gii.ie

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



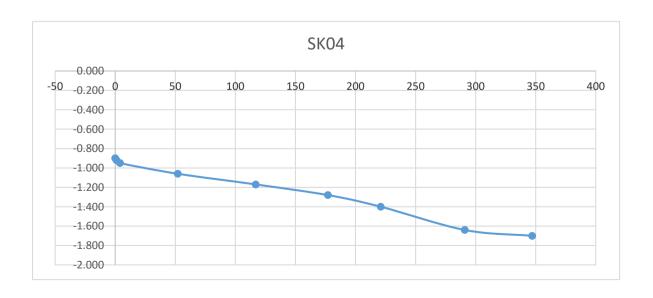


Catherinestown House, Hazelhatch Road, Newcastle, Co. Dublin. D22 YD52

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		r level 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)	. , ,			75-25Ht (m)	Vp75-25 (m3)
2.200	0.700			0.550	0.85
Tp75-25 (from g	raph) (s)	14400		50% Eff Depth 0.550	ap50 (m2) 4.73
f =	1.244E-05	m/s			



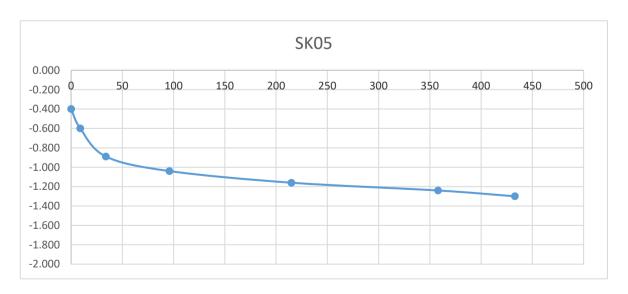


Catherinestown House, Hazelhatch Road, Newcastle, Co. Dublin. D22 YD52

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		r level 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 0.40	Depth of Pit 1.500		Diff 1.100	75% full 0.675	25%full 1.225
Length of pit (m) 2.100	Width of pit (m) 0.700			75-25Ht (m) 0.550	Vp75-25 (m3) 0.81
Tp75-25 (from g	raph) (s)	18600		50% Eff Depth 0.550	ap50 (m2) 4.55
f =	9.553E-06	m/s			





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

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

Email: info@gii.ie Web: www.gii.ie

SK06

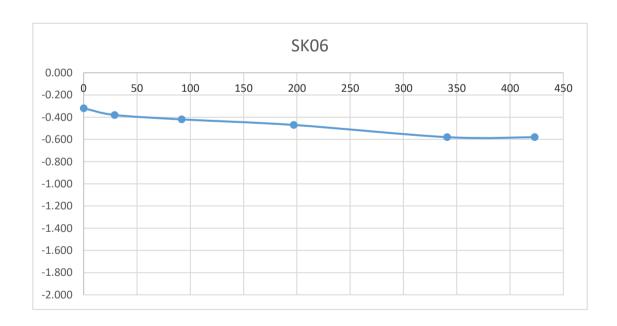
Soakaway Test to BRE Digest 365 Trial Pit Dimensions: 2.20m x 0.70m 1.50m (L x W x D)

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





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

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

Email: info@gii.ie Web: www.gii.ie

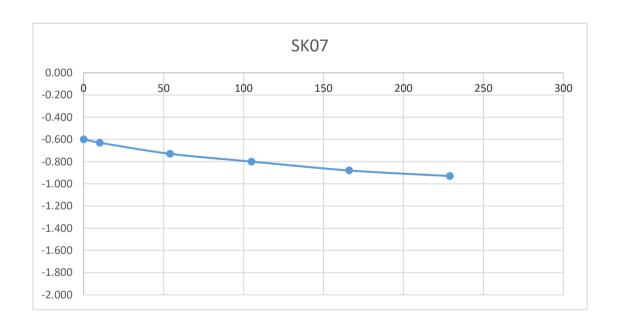
SK07 Soakaway Test to BRE Digest 365 Trial Pit Dimensions: 2.20m x 0.70m 2.0m (L x W x D)

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





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

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

Email: info@gii.ie Web: www.gii.ie

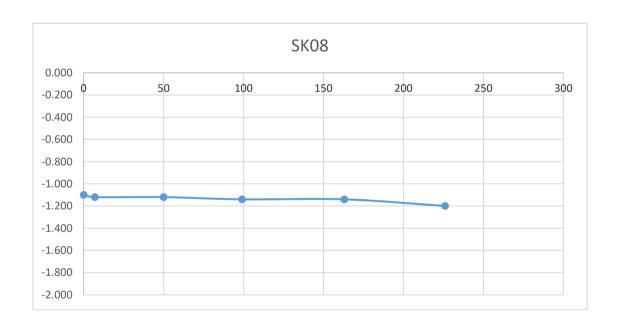
SK08

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





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

Tel: 01 601 5175 / 5176

Email: info@gii.ie Web: www.gii.ie

SK09

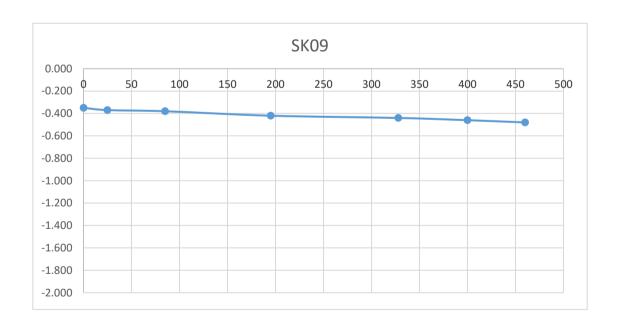
Soakaway Test to BRE Digest 365 Trial Pit Dimensions: 2.20m x 0.70m 1.50m (L x W x D)

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





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

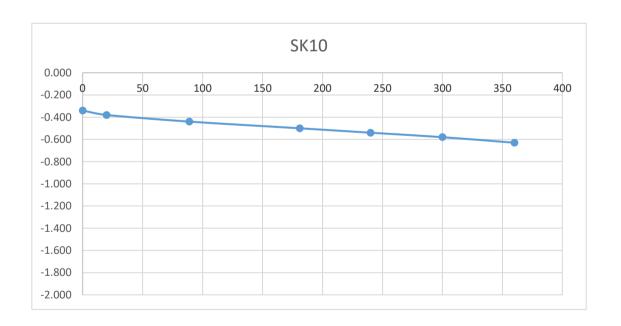
Trial Pit Dimensions: 2.20m x 0.70m 1.50m (L x W x D)

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





SK11 Soakaway Test to BRE Digest 365 Trial Pit Dimensions: 2.20m x 0.70m 1.50m (L x W x D) Catherinestown House, Hazelhatch Road, Newcastle, Co. Dublin. D22 YD52

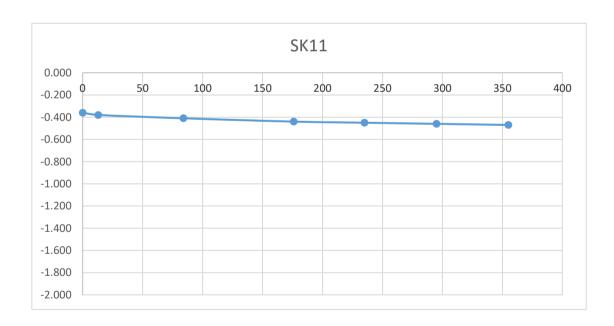
Tel: 01 601 5175 / 5176

Email: info@gii.ie Web: www.gii.ie

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





SK12 Soakaway Test to BRE Digest 365 Trial Pit Dimensions: 2.20m x 0.70m 1.50m (L x W x D) Catherinestown House, Hazelhatch Road, Newcastle, Co. Dublin. D22 YD52

Tel: 01 601 5175 / 5176

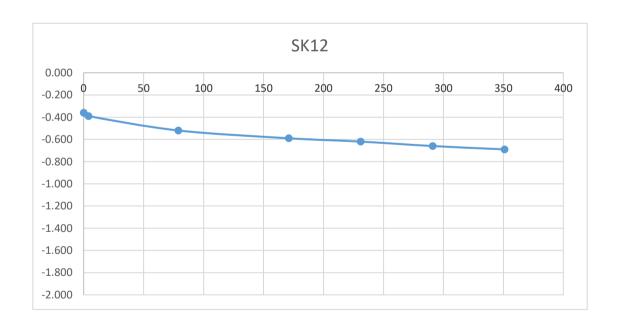
Email: info@gii.ie Web: www.gii.ie

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
		40 1 6 11 1

*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



0	Gro	und Investigations Ir	eland	Ltd	Site	inch, Tı	ullamo	ro					Prob Numl	
		www.gii.ie			Cionin	iiiicii, it	ullallio						DP	01
Method Dynamic Pro height 500m weight 50kg	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 71.13	Client DBFL								Job Numl 9551-0	
weight sokg		Location	Dates		Engine	er							Shee	
		234615.3 E 223124 N	27/0	05/2020									1/	1
Depth (m)	Blows for Depth Increment	t Field Records	Level (mOD)	Depth (m)	0 :	3 (6		for De _l			24 2	27	30
0.00-0.10	2		71.13	0.00										+
0.10-0.20	5			- 										+
0.30-0.40	8			 -										
0.40-0.50 0.50-0.60	4 7		70.63	0.50										
0.60-0.70	10			 										+
0.70-0.80 0.80-0.90	24 11			<u>-</u> 										+
0.90-1.00 1.00-1.10	12 12		70.13	 1.00										\downarrow
1.10-1.20	13			- -										
1.20-1.30 1.30-1.40	17 14													Γ
1.40-1.50 1.50-1.60	18 17		69.63	 _ 1.50										+
1.60-1.70	18		05.00	- - -										+
1.70-1.80 1.80-1.90	20 23													\perp
1.90-2.00 2.00-2.10	18 21		69.13											L
2.10-2.20	25		09.10											
														+
				- - -										+
			68.63	— 2.50 - —										\perp
				- -										
														Π
			68.13	3.00 										+
				- -									-	+
				 - 										L
			67.63	3.50										
				- -										Т
				- -										+
			67.13	4.00										\vdash
				 - 										
				- -										
			66.63	 4.50										\top
				<u>-</u> -										+
														\perp
			66.13	- - - 5.00										\perp
Remarks Refusal at	: 2.20m BGL. 25 blo	ows for 75mm.	1	-				,			;	Scale approx)	Logg By	jed
												1:25	NI	
												Figure		VI
												9551-0)3-20.Г)P01

	Gro	und Investigations Ir	eland	Ltd	Site								Prob Num	e ber
		und Investigations Ir www.gii.ie			Clonm	inch, Tu	llamore	•					DP	02
Method Dynamic Proheight 500m	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 69.50	Client DBFL								Job Num 9551-0	
weight ookg		Location 234725.7 E 223202.4 N	Dates 27/0	05/2020	Engine	er							Shee	
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	0 ;	3 6			for Dep			24 :	27	30
0.00-0.10	2		69.50	0.00					2 1	3	21		21	+
0.10-0.20	4													\perp
0.20-0.30 0.30-0.40	5 4			_ 										
0.40-0.50 0.50-0.60	4 4		69.00	 										T
0.60-0.70	5			_ -										+
0.70-0.80 0.80-0.90	18 20			 - 										+
0.90-1.00 1.00-1.10	17 21		68.50	 1.00										\downarrow
1.10-1.20	23			- -										L
1.20-1.30 1.30-1.40	16 19			- -										
1.40-1.50 1.50-1.60	22 18		68.00	 - 1.50										+
1.60-1.70	17													+
1.70-1.80 1.80-1.90	24 25			- -								1		\downarrow
			67.50	- - -										
			67.50	2.00 										Τ
				 _ 										+
				- -										+
			67.00	— 2.50 - -										\perp
				- -										
				 - 										
			66.50	3.00 										+
				- -										+
				 - 										\perp
			66.00	3.50										
				 - 										T
														+
			65.50	4.00										\vdash
				 _ 										L
				- -										
			65.00	4.50										T
				<u>-</u> -										+
				- -										+
			64.50	 5.00										\perp
Remarks Refusal at	1.90m BGL. 25 blo	ows for 75mm.			•	'		'		,		Scale (approx)	Logg By	ed
												1:25	NI	
											}	Figure		*1
												9551-0)3-20.E)P02

C	Gro	und Investigations Ir	eland	l Ltd	Site								Probe Numb	er
		www.gii.ie			Cionn	ninch, T	ullamo	re					DP)3
Method Dynamic Pro height 500m weight 50kg	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 69.21	Client DBFL								Job Numb 9551-0	
weight soky		Location 234880.3 E 223168.2 N	Dates	05/2020	Engine	er							Sheet	
Depth (m)	Blows for Depth Increment	field Records	(mOD)	Depth (m)	o	3	6	Blows				24 2	27 :	30
0.00-0.10	2		69.21	0.00										F
0.10-0.20	6			_										\vdash
0.30-0.40	7													L
0.40-0.50 0.50-0.60	3 3		68.71	0.50										
0.60-0.70	5													T
0.70-0.80 0.80-0.90	9 11			<u>-</u>										\vdash
0.90-1.00 1.00-1.10	14 17		68.21	1.00										L
1.10-1.20	18			<u>-</u> -										
1.20-1.30 1.30-1.40	16 13			_										T
1.40-1.50 1.50-1.60	15 20		67.71	1.50										+
1.60-1.70	18		07.71	1.50										\vdash
1.70-1.80 1.80-1.90	21 24			_										_
1.90-2.00 2.00-2.10	9 16		67.21	2.00										L
2.10-2.20	12		07.21											
2.20-2.30 2.30-2.40	13 12													T
2.40-2.50	20		00.74	- 0.50										\vdash
2.50-2.60	22 26		66.71	2.50 										_
				_										
				_										
			66.21	3.00										\vdash
				<u>-</u>										\vdash
			65.71	3.50										
				_										T
				_										\vdash
			65.21	4.00										\perp
				_										
			64.71	4.50										+
														₽
														L
			64.21	5.00										
Remarks Refusal at	2.70m BGL.	I	<u> U4.21</u>	<u> </u>					İ	İ		Scale approx)	Logg Bv	ed
, torusar at	U DUL.										(
												1:25 Figure	No.	//
												9551-0		P03

	Gro	und Investigations Ir	eland	Ltd	Site							Probe	er
		www.gii.ie			Clonm	inch, Tu	llamore					DP)4
Method Dynamic Pro height 500m weight 50kg	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 69.39	Client DBFL							Job Numl 9551-0	
weight ookg		Location 234883.6 E 223137.2 N	Dates 27/0	05/2020	Engine	er						Shee	
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	0 :	3 6		ows for I			24 2	27	30
0.00-0.10	2		69.39	0.00									-
0.10-0.20	4												L
0.20-0.30 0.30-0.40	5 4			- -									
0.40-0.50 0.50-0.60	4 4		68.89	 									
0.60-0.70	3			 									T
0.70-0.80 0.80-0.90	3 5			- - -									+
0.90-1.00 1.00-1.10	9 12		68.39	 - 1.00									\perp
1.10-1.20	21			- - -									
1.20-1.30 1.30-1.40	18 16			- - -									
1.40-1.50 1.50-1.60	17 12		67.89	 _ 1.50									T
1.60-1.70	18			- - -									\vdash
1.70-1.80 1.80-1.90	20 24			 - 									_
1.90-2.00	25		67.39	 2.00									
			07.00	- - -									
				- -									T
			66.89	- - - 2.50									\vdash
			00.09	2.50 - - -									\vdash
				 - _									_
			66.39	- - - - 3.00									
			00.39	3.00 									
				 									T
			05.00	- - -									\vdash
			65.89	3.50 									_
				 _ _									
				- 									
			65.39	4.00 									T
				<u>-</u> -									\vdash
													\perp
			64.89	4.50									
				= == =									
				-									T
Remarks Refusal at	2.0m BGL. 25 blo	ws for 75mm	64.39	5.00							Scale approx)	Logg Bv	<u>↓</u> ed
i tolusal al	. 2.3 DOL. 20 DIO												
											1:25 Figure	No.	//
											9551-0		P04

	Gro	und Investigations Ir	eland	l I td	Site							Probe Numl	er
	0.00	www.gii.ie	orar ra		Clonm	inch, Tu	lamore					DP)5
Method Dynamic Pro height 500m weight 50kg	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 71.57	Client DBFL							Job Numl 9551-0	
weight ookg		Location	Dates	DE/2020	Engine	er						Shee	
		234866.9 E 223075.2 N		05/2020									
Depth (m)	Blows for Depth Increment	Field Records	(mOD)	Depth (m)	0 .	4 8	Blo 12	ows for De			32 3	36	40
0.00-0.10	3		71.57	0.00									=
0.10-0.20	4												\vdash
0.20-0.30 0.30-0.40	5 7												
0.40-0.50 0.50-0.60	6 7		71.07	0.50									
0.60-0.70	5			 - -									\vdash
0.70-0.80 0.80-0.90	16 18			<u>-</u> -									\vdash
0.90-1.00 1.00-1.10	24 19		70.57	 - 1.00									
1.10-1.20	18			- - -									
1.20-1.30 1.30-1.40	23 18			- - -									Т
1.40-1.50 1.50-1.60	20 22		70.07										\vdash
1.60-1.70	16		70.07	1.50 									_
1.70-1.80 1.80-1.90	24 27			 - -									
1.90-2.00	31			<u>-</u>									
			69.57	2.00									T
				- -									\vdash
				- - -									
			69.07	2.50									
				 - 									
				<u> </u>									+
			68.57	3.00									\vdash
				- -									
			68.07	 3.50									\vdash
				<u>-</u> 									\vdash
				 - 									_
			67.57	- - - 4.00									
			07.57	4.00 									
				 - 									\vdash
				- 									\vdash
			67.07	4.50 									
				<u>-</u> -									
				 - 									T
Domo-l			66.57	5.00						 	Soal-	1.000	<u></u>
Remarks Refusal at	2.0m BGL.									(Scale approx)	By	вu
											1:25	NI	Л
											Figure		
											9551-0	3-20.D	P05

	Gro	und Investigations Ir	eland	l Ltd	Site								Prob Numl	e ber
S	0.0	und Investigations Ir www.gii.ie	0.0		Clonn	ninch, Tu	llamore	Э					DP	06
Method Dynamic Pro height 500m weight 50kg	ohe DPH Fall	Cone Dimensions Diameter 43.7mm	Ground	Level (mOD) 70.61	Client DBFL								Job Numl 9551-0	
weight ookg		Location 234845.9 E 223104.4 N	Dates	05/2020	Engine	er							Shee	
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	0	3 6				remen		24 :	27	30
0.00-0.10	1		70.61	0.00							<u> </u>			=
0.10-0.20	3			 - _										_
0.20-0.30 0.30-0.40	5 5			<u>-</u> -										
0.40-0.50 0.50-0.60	4 5		70.11	 										Т
0.60-0.70	6			<u>-</u> -										\vdash
0.70-0.80 0.80-0.90	14 15			 - -										_
0.90-1.00 1.00-1.10	11 10		69.61	1.00										_
1.10-1.20	9			<u>-</u> -										
1.20-1.30 1.30-1.40	5 12													Т
1.40-1.50 1.50-1.60	18 25		00.44	- 4.50										\vdash
1.50-1.60	25		69.11	— 1.50 - —										_
				= =										
				-										
			68.61	2.00 										T
				- -										\vdash
														_
			68.11	2.50										
				- -										
				<u>-</u> - -										T
			67.61	3.00										\vdash
				- -										_
				<u> </u>										
			67.11	 3.50										
				<u> </u>										+
														_
			66.61	 4.00										
			00.01	-										
				 - -										\vdash
				<u>-</u>										_
			66.11	4.50 										
				- -										
				<u>-</u>										T
Remarks	1.00 50		65.61	5.00								Scale (approx)	Logg	ed
Refusal at	1.60m BGL.													
											-	1:25 Figure	No.	VI
												9551-0)P06

	Gro	und Investigations Ir	eland	l Ltd	Site							Probe Numl	e oer
		www.gii.ie			Clonm	inch, T	ullamoi	re				DP)7
Method Dynamic Pro height 500m weight 50kg	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 73.23	Client DBFL							Job Numl 9551-0	
weight sokg		Location	Dates	25/2000	Engine	er						Shee	
	<u> </u>	234800 E 223054.9 N		05/2020								.,	
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	0 ;	3 (3	Blows			24 2	27	30
0.00-0.10	3		73.23	0.00									Ħ
0.10-0.20	4												_
0.20-0.30 0.30-0.40	3												
0.40-0.50 0.50-0.60	3 7		72.73	0.50									
0.60-0.70	8			 - -									+
0.70-0.80 0.80-0.90	15 18			<u>-</u> -									\perp
0.90-1.00 1.00-1.10	20 16		72.23	1.00									\perp
1.10-1.20	13			<u>-</u> -									
1.20-1.30 1.30-1.40	15 12												T
1.40-1.50 1.50-1.60	11 9		71.73										+
1.60-1.70	8		71.73	1.50 									_
1.70-1.80 1.80-1.90	9 12			 - - -									_
1.90-2.00 2.00-2.10	10 11		71.23	2.00									
2.10-2.20	8		71.20										
2.20-2.30 2.30-2.40	12 9			_									\vdash
2.40-2.50	14			-									\vdash
2.50-2.60 2.60-2.70	15		70.73	— 2.50 - -									_
2.70-2.80	12			<u>-</u> -									
2.80-2.90 2.90-3.00	10												
3.00-3.10	14		70.23	3.00									+
3.10-3.20 3.20-3.30	11 10			_ -									<u> </u>
3.30-3.40	11			 - 									
3.40-3.50 3.50-3.60	17 22		69.73	3.50									
3.60-3.70	25			 - 									T
3.70-3.80	28			- -									+
			69.23	4.00									\perp
				<u>-</u> -									
				_									
			68.73	 4.50									\vdash
			00.10	- - -									\vdash
				- - -									_
			69.00	- - - - 5.00									
Remarks Refusal at	3.80m BGL.	<u> </u>	68.23	5.00							Scale approx)	Logg By	ed
2.234.00													
										-	1:25 Figure	No.	/1
											9551-0		P07

	Gro	und Investigations Ir	eland	Ltd	Site								Prob Numl	e ber
		www.gii.ie			Clonm	inch, Tu	ıllamoı	e					DP	80
Method Dynamic Pro height 500m weight 50kg	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 71.49	Client DBFL								Job Numl 9551-0	
weight soky	•	Location 234749.5 E 223087.1 N	Dates 27/0	5/2020	Engine	er							Shee	
D. III	Diam's face							D I	f D	.41. 1				
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	o :	3 6		Blows				24 2	27	30
0.00-0.10	1		71.49	0.00										
0.10-0.20 0.20-0.30	3			- -										\vdash
0.30-0.40	5			 - 										
0.40-0.50 0.50-0.60	5 4		70.99	0.50										
0.60-0.70	4			 - 										
0.70-0.80 0.80-0.90	4 7			- -										_
0.90-1.00 1.00-1.10	8		70.49	 - 1.00										_
1.10-1.20	6			- -										
1.20-1.30 1.30-1.40	4 4													Г
1.40-1.50 1.50-1.60	4 8		69.99	 - 1.50										\vdash
1.60-1.70	18		09.99	- - - -										\vdash
1.70-1.80 1.80-1.90	22 25			- -										
1.60-1.90	25			- -										
			69.49	2.00										\vdash
				- -										\vdash
														
			68.99	2.50										
				- - -										T
				- -										\vdash
			68.49	3.00										_
				- - -										
				- -										
			67.99	 3.50										+
				- - -										_
				 - _										
				- - , , , , ,										
			67.49	4.00 - _										\top
				- -										\vdash
				- - 										L
			66.99	4.50										
														
				- -										\vdash
			66.49	5.00										\perp
Remarks Refusal at	1.90m BGL. 25 blo	ows for 75mm.										Scale approx)	Logg By	ed
												1:25	NI	М
											-	Figure		
												9551-0)3-20.D)P08

	Gro	und Investigations Ir	eland	l Ltd	Site								Probe	e oer
		www.gii.ie			Clonm	inch, Tu	ıllamo	re					DP)9
Method Dynamic Proheight 500m	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 72.19	Client DBFL								Job Numl 9551-0	
weight ookg		Location	Dates	25/0000	Engine	er							Shee	
		234711.9 E 223069.8 N	27/0	05/2020										
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	0 ;	3 6	6		for De _l			24 2	27	30
0.00-0.10	2		72.19	0.00										t
0.10-0.20	6													\vdash
0.20-0.30 0.30-0.40	6			 - 										
0.40-0.50 0.50-0.60	7 7		71.69	0.50										
0.60-0.70	5			 - _										T
0.70-0.80 0.80-0.90	3 3			<u>-</u> 										\vdash
0.90-1.00 1.00-1.10	9		71.19	1.00										1
1.10-1.20	10			= =										
1.20-1.30 1.30-1.40	9 8													
1.40-1.50 1.50-1.60	7 8		70.69	 - 1.50										\vdash
1.60-1.70	5		70.00	- - -										_
1.70-1.80 1.80-1.90	12 13			 - _ _										_
1.90-2.00 2.00-2.10	14 15		70.19	 2.00										
2.10-2.20	16		70.13											
2.20-2.30 2.30-2.40	18 20			<u>-</u> -										T
2.40-2.50	16			-										\vdash
2.50-2.60 2.60-2.70	14		69.69	— 2.50 - -										_
2.70-2.80	24			<u>-</u> -								1		
2.80-2.90	29													
			69.19	3.00										+
				_ _										\vdash
				 - 										
			68.69	3.50										
				 - 										T
				- -										+
			68.19	4.00										\vdash
				<u></u>										
			67.69	 4.50										+
														_
				- - -										\perp
			67.19	- 5.00										
Remarks Refusal at	2.90m BGL.	1	07.19	0.00						1		Scale approx)	Logg By	ed
oradai at														
											}	1:25 Figure	No.	/1
												9551-0		P09

	Gro	und Investigations Ir	eland	l I td	Site								Probe Numb	e ber
	0.00	www.gii.ie	O.G.		Clonm	iinch, Tu	llamore						DP'	10
Method Dynamic Pro height 500m weight 50kg	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 68.11	Client DBFL								Job Numb 9551-0	
weight bokg		Location	Dates		Engine	er							Sheet	
		234840.5 E 223316.4 N	28/0	05/2020									1/	1
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	0 :	3 6		ws for De				24 2	27 :	30
0.00-0.10	2		68.11	0.00			Ť		10				<u> </u>	=
0.10-0.20	5			_										
0.20-0.30 0.30-0.40	6 6			<u>-</u> -										
0.40-0.50 0.50-0.60	2 3		67.61	0.50										T
0.60-0.70	3			<u>-</u> -										\vdash
0.70-0.80 0.80-0.90	3 4													_
0.90-1.00 1.00-1.10	4 3		67.11	1.00										_
1.10-1.20	15			<u>-</u> -										
1.20-1.30 1.30-1.40	18 16													
1.40-1.50 1.50-1.60	18 30		66.61	1.50										\perp
1.60-1.70	24		00.01	- 1.00										30
1.70-1.80	25			<u> </u>										
				<u>-</u> -										
			66.11	2.00 										T
				<u>-</u> -										\vdash
														_
			65.61	2.50										
				<u> </u>										T
			65.11	3.00										\vdash
				- - -										_
				<u> </u>										
			64.61	3.50										
				_ _										_
				<u>-</u> -										\vdash
			64.11	4.00										_
				<u>-</u> -										
				<u> </u>										T
			63.61	4.50										_
			00.01	4.50 - -										_
				_										
			00.44	- 500										
Remarks	1 00m DOL 05 / 1	lows for 50mm	63.11	5.00						1]	Scale approx)	Logg	±— ed
neiusai at	1,80m BGL. 25 blo	ows ioi doiliiii.									(
												1:25 Figure	No.	۷
												9551-0)P10

Marchan		Gro	und Investigations In	eland	l I td	Site						Prob Numl	e ber
Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition	₹ I	Olo.	www.gii.ie	Cidila	Lta	Clonmi	nch, Tullaı	more				DP	11
Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Contact Cont	Dynamic Pro	obe DPH Fall	Cone Dimensions	Ground I	Level (mOD)							Numl	
Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popth Popt	weight sokg				DE/2020	Enginee	r						
0.00-0.10													
0.10-0.20 3 0 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.20-0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0.30 5 0	Depth (m)	Blows for Depth Increment	Field Records	(mOD)	Depth (m)	0 3	6				24 2	27	30
280-30-00 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		2		69.22	0.00								=
0.30-0.40 8													_
850-100 13	0.20-0.30 0.30-0.40				<u> </u>								
080-090 0 30 0 000 000 0 30 0 000 000 0 30 0 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 000 0	0.40-0.50 0.50-0.60			68.72	0.50								
080-090 230 130-110 13 110-120 14 110-120 13 14-110-120 25 67.72 1.50 67.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2.00 66.72 2	0.60-0.70	13											\perp
100-120 14 1-20-130 12 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 14 1-20-130 12 15 14 1-20-130 12 15 14 1-20-130 12 14 1-20-130 12 14 1-20-130 12 14 1-20-130 12 14 1-20-130 12 14 1-20-130 12 14 14 1-20-130 12 14 1-20-130 12 14 1-20-130 12 14 1-20-130 12 14 14 1-20-130 12 14 14 1-20-130 12 14 14 14 14 14 14 14 14 14 14 14 14 14	0.70-0.80 0.80-0.90	30 23			_ 								30
1.10-1.20				68 22	 								
1.40-1.50 25 26 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00					- -								
1.40-1.50 25 26 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 27 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00	1.20-1.30 1.30-1.40	22 26			- -								Т
66.72 - 2.50 66.72 - 2.50 66.72 - 2.50 66.72 - 3.50 66.72 - 3.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72 - 4.50 66.72				07.70	- 4.50								\vdash
66.72 2.50 66.72 3.00 66.72 3.50 66.72 4.50 66.72 4.50 64.72 4.50 64.72 4.50 64.72 5.00 Figure No.				67.72	1.50 - -								\perp
66.72 2.50 66.72 3.00 66.72 3.50 66.72 4.50 66.72 4.50 64.72 4.50 64.72 4.50 64.72 5.00 Figure No.					<u></u>								
66.72 2.50 66.72 3.00 66.72 3.50 66.72 4.50 66.72 4.50 64.72 4.50 64.72 4.50 64.72 5.00 Figure No.					<u>-</u> -								
66.22 — 3.00 66.22 — 3.00 66.22 — 4.00 65.22 — 4.00 64.72 — 4.50 64.72 — 4.50 64.72 — 5.00 Remarks Refusal at 1.50m BGL. 25 blows for 75mm. Scale (approx) Figure No.				67.22	2.00								\vdash
66.22 — 3.00 66.22 — 3.00 66.22 — 4.00 65.22 — 4.00 64.72 — 4.50 64.72 — 4.50 64.72 — 5.00 Remarks Refusal at 1.50m BGL. 25 blows for 75mm. Scale (approx) Figure No.					- -								\vdash
66.22 — 3.00 66.22 — 3.00 66.22 — 4.00 65.22 — 4.00 64.72 — 4.50 64.72 — 4.50 64.72 — 5.00 Remarks Refusal at 1.50m BGL. 25 blows for 75mm. Scale (approx) Figure No.					- - -								
65.72 - 3.50 65.72 - 4.00 65.22 - 4.00 66.72 - 4.50 64.72 - 4.50 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72				66.72	2.50								
65.72 - 3.50 65.72 - 4.00 65.22 - 4.00 66.72 - 4.50 64.72 - 4.50 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72					 - 								
65.72 - 3.50 65.72 - 4.00 65.22 - 4.00 66.72 - 4.50 64.72 - 4.50 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72 - 5.00 64.72					<u> </u>								+
65.22				66.22	3.00								_
65.22													
65.22					- -								
64.72				65.72	 3.50								
64.72					<u>-</u> 								+
64.72					 - 								_
64.72				65.22	4.00								
Remarks Refusal at 1.50m BGL. 25 blows for 75mm. Scale (approx) By Figure No. Signature				05.22	4.00 								
Remarks Refusal at 1.50m BGL. 25 blows for 75mm. Scale (approx) By Figure No. Signature					<u></u>								\vdash
Remarks Refusal at 1.50m BGL. 25 blows for 75mm. Scale (approx) By Figure No. Signature					_ 								_
Remarks Refusal at 1.50m BGL. 25 blows for 75mm. Scale (approx) 1:25 NM Figure No.				64.72	4.50 - _								
Remarks Refusal at 1.50m BGL. 25 blows for 75mm. Scale (approx) 1:25 NM Figure No.					<u>-</u> -								
Remarks Refusal at 1.50m BGL. 25 blows for 75mm. Scale (approx) 1:25 NM Figure No.					 - 								T
1:25 NM Figure No.	Domarko			64.22	5.00					 	Scale	Loca	<u>—</u>
Figure No.	Refusal at	1.50m BGL. 25 blo	ows for 75mm.							Ġ	approx)	By	eu
													VI

Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition Composition		Gro	und Investigations Ir	eland	l Ltd	Site							Probe Numl	e ber
Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 19 Diameter 1	-V		www.gii.ie			Clonn	ninch, Tu	ıllamoı	re				DP'	12
Designation Part	Dynamic Proheight 500m	nm. Hammer											Numl	
0.00-0.10	weight ookg				05/2020	Engine	er							
000-100 1 1 0 1 0 0 1 0 0 0 0 0 0 0 0 0	Depth (m)	Blows for Depth Increment	t Field Records	Level (mOD)	Depth (m)	0	3 6					24 3	7	30
200-30	0.00-0.10	1		69.12	0.00	l i			Ĭ					=
0.30-0.40 5 0.30-0.50 3 0.30-0.50 3 0.30-0.50 3 0.30-0.50 3 0.30-0.50 3 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6 0.30-0.50 6					 - _									_
89-08-08 3 8 8 8 8 9 8 9 8 9 8 9 9 8 9 9 9 9 9					<u>-</u> -									
030-030	0.40-0.50 0.50-0.60			68.62	 									
080-090 9 8 100-110 13 1 1-10-120 177 130-130 160 160 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130 170-130	0.60-0.70	3			<u> </u>									\vdash
100-120 17 120-130 18 130-140 20 12 130-150 10 130-170 13 130-170 13 130-170 13 130-170 13 130-170 13 130-170 13 130-170 13 130-170 15 130-170 15 130-170 15 130-170 15 130-170 15 130-170 15 130-170 15 130-170 15 130-170 15 130-170 15 130-170 15 130-170 15 130-170 15 130-170 15 130-170 15 130-170 15 14 240-250 16 250-260 13 260-270 10 250-270 10 250-270 10 250-270 10 250-270 10 250-270 10 250-270 10 250-270 10 250-270 10 250-270 10 250-270 10 250-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-270 10 260-2	0.70-0.80 0.80-0.90				<u>-</u> -									_
120-140 120 120 130-140 120 130-140 150 120 150-140-150 150 120 150-140-150 150 120 150-140-150 150 120 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-150 150-140-15	0.90-1.00 1.00-1.10			68.12	1.00				-					_
130-140 20 10 12 150-160 10 10 10 10 10 10 10 10 10 10 10 10 10	1.10-1.20	17			_									
150-160 10 160-170 13 170-180 18 180-190 15 190-200 210 11 200-210 11 200-210 11 200-220 10 200-230 11 200-230 12 230-230 10 230-230 12 230-230 13 24 66.12 3.00 66.12 4.00 66.12 4.00 66.12 4.00 66.12 4.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.12 5.00 66.1	1.20-1.30 1.30-1.40	18 20			- -									
1.80-1.70 13 15 18 18 18 19 19 19 19 19	1.40-1.50 1.50-1.60			67.62	 - 1.50									
180-190 15		13			<u>-</u> -									\vdash
2002-10 11 210-220 10 220-230 11 220-230 11 220-230 11 220-230 11 220-230 11 220-230 11 220-230 11 220-230 11 220-230 10 220-230-230 13 220-230 10 220-230-230 12 230-230 12 230-230 12 230-230 12 230-230 12 24 14 220-230 12 14 14 220-230-230 12 14 14 14 14 14 14 14 14 14 14 14 14 14	1.70-1.80 1.80-1.90				- - 									
210-220 10 220-230 11 10 240-250 12 250-200 13 2 260-270 10 270-280 14 220-230 240 250 20 20 20 20 20 20 20 20 20 20 20 20 20				67.12	2.00									
230-240 10 240-250 13 260-270 10 270-280 14 280-290 20 290-300 22 300-3.10 24 66.12 3.00 66.12 4.00 66.12 4.00 68.12 4.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00 68.12 5.00														
240-250 12 250-260 13 2 250-260 13 2 250-260 13 2 250-260 13 2 250-260 14 250-200 20 20 20 20 20 20 20	2.20-2.30 2.30-2.40				- -									
260-270	2.40-2.50			66 62	- - - 2 50									_
280-290 20 290-300 22 300-3.10 24 66.12 3.00 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66.12 66				00.02										_
2.90-3.00	2.70-2.80 2.80-2.90	14 20			<u>-</u> -									_
65.62 3.50 65.12 4.00 65.12 4.00 64.12 5.00 Scale (approx) By Figure No.	2.90-3.00			00.40	- 2.00									
65.12	3.00-3.10	24		00.12	3.00 									
65.12					 - -									_
65.12					- - 									_
64.62				65.62	3.50 _ 									_
64.62					<u>-</u> -									
64.62					- - -									
Remarks Refusal at 3.10m BGL. Scale (approx) By Figure No. Signature Signatu				65.12	4.00									+
Remarks Refusal at 3.10m BGL. Scale (approx) By Figure No. Signature Signatu					<u>-</u> -									_
Remarks Refusal at 3.10m BGL. Scale (approx) By Figure No. Signature Signatu					 - 									
Remarks Refusal at 3.10m BGL. Scale (approx) 1:25 NM Figure No.				64.62	4.50									
Remarks Refusal at 3.10m BGL. Scale (approx) 1:25 NM Figure No.					- - -									
Remarks Refusal at 3.10m BGL. Scale (approx) 1:25 NM Figure No.														_
1:25 NM Figure No.				64.12	5.00						<u> </u>			_
Figure No.	Remarks Refusal at	3.10m BGL.										Scale approx)	Logg By	ed
														VI

Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue Continue		Gro	und Investigations	s Ireland I td	Site	Probe Number
Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Concession Con	~	Gio	www.gii.ie	s irciaria Lta	Clonminch, Tullamore	DP13
Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideration Consideratio	Dynamic Pi height 500r	mm. Hammer	Cone Dimensions			Number
Martine File Necotion File Necotion Martine	weight 50k	y.			Engineer	
0.00-0.10	Depth (m)	Blows for Depth Increment	Field Records	Level Depth (mOD) (m)		27 20
280-30-00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		2		69.97 0.00	0 3 6 9 12 15 18 21 24	30
0.30-0.40 6 6 0.30-0.50 7 2 2 7 2 9 7 9 9 9 9 9 9 9 9 9 9 9 9 9	0.10-0.20	3		_		
0.50-0.00 3 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50	0.20-0.30 0.30-0.40			_		
0.50-0.70 2 77-0.40 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2 70-0.80 2	0.40-0.50	6		60.47 0.50		
080-90 6 9 1.00 10 12 1.00 10 10 10 10 10 10				0.50		
100-110 12 110 12 110 12 110 12 12	0.70-0.80 0.80-0.90	2 6		-		
1.01-1.20 10 18 13.01-1.40 18 22 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50 25 14.01-1.50	0.90-1.00	9		69.07		
129-140-150 25				08.97		
1.40-1.50 25 68.47 1.50 67.47 2.50 66.97 3.00 66.47 3.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.47 4.50 66.4		18		_		+ +
67.97 — 2.00 — 67.97 — 2.00 — 67.47 — 2.50 — 66.97 — 3.00 — 66.97 — 3.00 — 66.97 — 4.00 — 65.97 — 4.50 — 65.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 4.50 — 66.97 — 66.97 — 4.50 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 66.97 — 6				<u>-</u>		
67.47 2.50 66.97 3.00 66.47 3.50 65.47 4.50 65.47 4.50 65.47 5.00 Remarks Retusal at 1.50m BGL. 25 blows for 50mm. Comparison Com				68.47 — 1.50		
67.47 2.50 66.97 3.00 66.47 3.50 65.47 4.50 65.47 4.50 65.47 5.00 Remarks Retusal at 1.50m BGL. 25 blows for 50mm. Comparison Com				-		
67.47 2.50 66.97 3.00 66.47 3.50 65.47 4.50 65.47 4.50 65.47 5.00 Remarks Retusal at 1.50m BGL. 25 blows for 50mm. Comparison Com				_		
66.97 - 3.00 66.97 - 3.00 66.97 - 4.00 65.97 - 4.00 65.97 - 4.50 65.97 - 4.50 65.97 - 5.00 Remarks Refusal at 1.50m BGL. 25 blows for 50mm. Scale (approx) Figure No.				67.97 2.00		
66.97 - 3.00 66.97 - 3.00 66.97 - 4.00 65.97 - 4.00 65.97 - 4.50 65.97 - 4.50 65.97 - 5.00 Remarks Refusal at 1.50m BGL. 25 blows for 50mm. Scale (approx) Figure No.				-		
66.97 - 3.00 66.97 - 3.00 66.97 - 4.00 65.97 - 4.00 65.97 - 4.50 65.97 - 4.50 65.97 - 5.00 Remarks Refusal at 1.50m BGL. 25 blows for 50mm. Scale (approx) Figure No.				_		
66.47				67.47 2.50		
66.47				_		+ +
66.47				-		
65.97				66.97 - 3.00		
65.97				<u>-</u>		
65.97						
65.97				66 47 - 3 50		+ +
65.47						
65.47				_		
65.47						
Remarks Refusal at 1.50m BGL. 25 blows for 50mm. Scale (approx) By Figure No. Signature				65.97 — 4.00		
Remarks Refusal at 1.50m BGL. 25 blows for 50mm. Scale (approx) By Figure No. Signature				-		
Remarks Refusal at 1.50m BGL. 25 blows for 50mm. Scale (approx) By Figure No. Signature				_		
Remarks Refusal at 1.50m BGL. 25 blows for 50mm. Scale (approx) 1:25 NM Figure No.				65.47 4.50		
Remarks Refusal at 1.50m BGL. 25 blows for 50mm. Scale (approx) 1:25 NM Figure No.				<u>-</u>		
Remarks Refusal at 1.50m BGL. 25 blows for 50mm. Scale (approx) 1:25 NM Figure No.				_		+ +
1:25 NM Figure No.				64.97 5.00		
Figure No.	Refusal a	at 1.50m BGL. 25 blo	ows for 50mm.		Scale (appro	Logged By
					1:25	NM
9551-03-20 DP13						

	Gro	und Investigations l	Ireland	l I td	Site									Prob Num	e ber
	O lo	www.gii.ie	ii Oidi id	Lia	Clon	minch, T	ullamo	ore						DP	14
Method Dynamic Proheight 500m weight 50kg	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		L evel (mOD) 69.14	Client DBFI	_								Job Num 9551-0	
Wolght bong	•	Location	Dates		Engine	er								Shee	
		234711.1 E 223219.7 N	28/0	05/2020										1/	/1
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	0	3	6				rement		24	27	30
0.00-0.10 0.10-0.20	3		69.14	0.00											
0 20-0 30	4			- -											+
0.30-0.40	5														\perp
0.50-0.60	6		68.64	0.50											
0.60-0.70	12														
0.70-0.80 0.80-0.90	17 21			<u>-</u> -											+
0.90-1.00 1.00-1.10	19 18		68.14	1.00										-	+
1.10-1.20	24												L_		
1.20-1.30	25			- 											
			67.64	 - 1.50											+
				- -											+
				 _ 											_
			07.44	- - -											
			67.14	2.00 											
															+
				- -											+
			66.64	2.50 											
				- -											
				 _ 											\top
			66.14	3.00											+
															\perp
			65.64	3.50											
				 - 											+
				- -											+
			65.14	 4.00											1
				- - -											
			64.64	- - - - 4.50											+
				- - -											+
				 _ 											
			04.44	- - - 5.00											
Remarks	1		64.14	5.00			-		+	1			Scale	Logg By	±—. jed
Refusal at	1.30m BGL. 25 blo	ows for 75mm.										(6	approx	By	
													1:25 Figure	No.	М
														NO. 03-20.E	DP14

	Gro	und Investigations Ir	eland	l Ltd	Site								Probe Numl	er
		www.gii.ie			Clonn	ninch, Tu	ullamor	e					DP'	15
Method Dynamic Pro height 500m weight 50kg	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 67.29	Client DBFL								Job Numl 9551-0	
weight sokg		Location 234858.8 E 223367.1 N	Dates	05/2020	Engine	er							Shee	
Donath	Plane for							Blows	for Do	nth Inc				
Depth (m)	Blows for Depth Increment	Field Records	(mOD)	Depth (m)	o	3 6						24 2	27	30
0.00-0.10	3		67.29	0.00										
0.10-0.20	13			- -										\vdash
0.30-0.40	14			 - 										L
0.40-0.50 0.50-0.60	5 8		66.79	0.50										
0.60-0.70	5													
0.70-0.80 0.80-0.90	12 14													\vdash
0.90-1.00 1.00-1.10	15 17		66.29	1.00										_
1.10-1.20	10			 - 										
1.20-1.30 1.30-1.40	7 12			- -										
1.40-1.50 1.50-1.60	13 16		65.79	 										T
1.60-1.70	11			<u>-</u> -										\vdash
1.70-1.80 1.80-1.90	8 6			- - - -										_
1.90-2.00 2.00-2.10	5 8		65.29											L
2.10-2.20	13			<u>-</u> -										
2.20-2.30 2.30-2.40	21 14			- - -										Т
2.40-2.50	25		64.79											\vdash
			04.79	2.50 										\vdash
				 - -										
				<u>-</u> -										
			64.29	3.00 										T
				- - -										\vdash
				 - 										L
			63.79	3.50										
				<u>-</u> -										+
			63.29	4.00										\vdash
				 = 										
				- -										
			62.79	 4.50										T
				<u>-</u> -										\vdash
				 - -										L
			62.29	 5.00										
Remarks Refusal at	2.50m BGL. 25 blo	ows for 50mm.	02.23	0.00					I			Scale approx)	Logg By	ed
											-	1:25 Figure	No.	//
												9551-0		P15

	Gro	und Investigations Ir	eland	l Ltd	Site							Probe Numb	er
~	0.00	www.gii.ie	o.aa		Clonn	ninch, T	ullamo	re				DP'	16
Method Dynamic Pro height 500m weight 50kg	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 67.76	Client DBFL							Job Num l 9551-0	
weight 50kg		Location	Dates		Engine	er						Sheet	
		234923.4 E 223360.9 N	28/0	05/2020								1/	1
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	0	3	6	Blows			24 2	27 :	30
0.00-0.10	1		67.76	0.00									Ħ
0.10-0.20	4												\perp
0.20-0.30 0.30-0.40	6 5			<u> </u>]						
0.40-0.50 0.50-0.60	3 4		67.26	0.50									
0.60-0.70	6			 - 									T
0.70-0.80 0.80-0.90	4 5			<u>-</u> -									\vdash
0.90-1.00 1.00-1.10	6		66.76	1.00									L
1.10-1.20	11			<u>-</u> -									
1.20-1.30 1.30-1.40	10 12												
1.40-1.50 1.50-1.60	18 22		66.26	 1.50									\vdash
1.60-1.70	26		00.20	- - -									\vdash
1.70-1.80 1.80-1.90	18 24			- - -									<u> </u>
1.90-2.00 2.00-2.10	15 16		65.76	2.00									
2.10-2.20	15		05.70	2.00									
2.20-2.30 2.30-2.40	13 10			<u>-</u> -									\vdash
2.40-2.50	9		05.00	- 0.50									\vdash
2.50-2.60 2.60-2.70	10		65.26	— 2.50 —									_
2.70-2.80 2.80-2.90	4 3												
2.90-3.00	4			<u>-</u> -									
3.00-3.10 3.10-3.20	6		64.76	3.00 									T
3.20-3.30	3			- - -									\vdash
3.30-3.40 3.40-3.50	9			 - 									1
3.50-3.60	16		64.26	3.50 									
3.60-3.70 3.70-3.80	21			<u>-</u> 									
3.70-3.80 3.80-3.90	24 27			 - 									
			63.76	4.00									\vdash
				_									\perp
			63.26	4.50									
				<u> </u>									T
				<u>-</u> -									+
			62.76	5.00									\perp
Remarks Refusal at	3.90m BGL.										Scale approx)	Logg By	ed
											1:25	NN	Л
											Figure		
											9551-0	3-20.D	P16

	Gro	und Investigations Ir	eland	l L td	Site									Probe Numb))er
~	0.00	www.gii.ie	O.G. TG		Clonn	ninch, T	ullamoi	е						DP1	17
Method Dynamic Pro height 500m weight 50kg	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 69.23	Client DBFL									Job Num k 9551-0	
weight sokg		Location	Dates		Engine	er								Sheet	
		234912.9 E 223412.1 N	28/0	05/2020										1/	1
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	0	3	6	Blows					24 2	27 :	30
0.00-0.10	1		69.23	0.00											F
0.10-0.20	3														L
0.20-0.30 0.30-0.40	4 4			<u>-</u> -											
0.40-0.50 0.50-0.60	3 5		68.73	0.50											
0.60-0.70	9			 - -											
0.70-0.80 0.80-0.90	11 12			<u>-</u> -											\vdash
0.90-1.00 1.00-1.10	13 16		68.23	1.00											L
1.10-1.20	11			<u>-</u> -						Н					
1.20-1.30 1.30-1.40	20 24														
1.40-1.50 1.50-1.60	15 17		67.73	 1.50						<u></u>					_
1.60-1.70	21		07.70	- - -											\vdash
1.70-1.80 1.80-1.90	16 11			- - -								!			_
1.90-2.00 2.00-2.10	14 12		67.23	2.00											
2.10-2.20	9		07.23	2.00											
2.20-2.30 2.30-2.40	7 18			_											
2.40-2.50	12		00.70	-											\vdash
2.50-2.60 2.60-2.70	11 12		66.73	— 2.50 - —											_
2.70-2.80	11			<u> </u>											
2.80-2.90 2.90-3.00	13			- -											
3.00-3.10 3.10-3.20	20 17		66.23	3.00 											
3.20-3.30	18			- -											_
3.30-3.40 3.40-3.50	19 17			 - 											L
3.50-3.60	20		65.73	3.50											
3.60-3.70 3.70-3.80	22														
0.70-0.00	24			 											\vdash
			65.23	4.00											_
				 - _											
				- -											
			64.73	4.50											
				<u>-</u> -											_
				- - -											_
			64.23	 5.00											
Remarks Refusal at	3.80m BGL.					•		•	•	•	•		Scale (approx)	Logge By	ed
													1:25	NN	
												-	Figure		-
													9551-0	3-20.D	P17

	Gro	und Investigations Ir	eland	Ltd	Site	ninah T	مسمالين						Prob Numl	e ber
		www.gii.ie			Cioni	ninch, T	ullamo	re					DP	18
Method Dynamic Pro height 500m weight 50kg	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 66.18	Client DBFL								Job Num l 9551-0	
weight 50kg		Location	Dates		Engine	er							Shee	
		234855.8 E 223436.9 N	28/0)5/2020										
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	0	3	6			rement		24 2	27	30
0.00-0.10	1		66.18	0.00										+
0.10-0.20	5													_
0.20-0.30 0.30-0.40	5 4													
0.40-0.50 0.50-0.60	17 11		65.68	0.50										
0.60-0.70	10			 - 										_
0.70-0.80 0.80-0.90	17 21			<u>-</u> -										_
0.90-1.00 1.00-1.10	16 9		65.18	 1.00										
1.10-1.20	13			- -										
1.20-1.30 1.30-1.40	8 5													T
1.40-1.50 1.50-1.60	2		64.60	- - - 1 FO										+
1.60-1.70	6		64.68	— 1.50 - -			-							_
1.70-1.80 1.80-1.90	5 6			_ - - -										_
1.90-2.00 2.00-2.10	12 13		64.18	 2.00										
2.10-2.20	6		04.10											
2.20-2.30 2.30-2.40	5 6													\vdash
2.40-2.50	10			- - -										\vdash
2.50-2.60 2.60-2.70	12		63.68	— 2.50 - —										_
2.70-2.80	8			- -										
2.80-2.90 2.90-3.00	14													
3.00-3.10	16		63.18	3.00 										\vdash
3.10-3.20 3.20-3.30	26 25			- -										_
				 _ 										
			62.68	3.50 										
				 - 										
				- -										_
			62.18	4.00										_
				- -										
				- -										
			61.68	 4.50										
				<u>-</u> -										\vdash
				 - 										L
			61.18	- 5.00										
Remarks Refusal at	: 3.30m BGL. 25 blo	ows for 75mm.	01.10	0.00								Scale (approx)	Logg By	ed
												1:25	NI	
											-	Figure		VI
												9551-0	3-20.0)P18

	Gro	und Investigations	Ireland	Ltd	Site								Prob Num	e ber
	0.0	www.gii.ie			Clonn	ninch, Tu	ıllamor	е					DP	19
Method Dynamic Pr height 500n weight 50kg	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 66.18	Client DBFL								Job Num 9551-0	
g cong		Location	Dates	E/2020	Engine	er							Shee	
		234883.6 E 223473.8 N		5/2020										
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	o O	3 6				rement 18 2		24	27	30
0.00-0.10	2		66.18	0.00										Ħ
0.10-0.20	6			-										+
0.30-0.40	4			 -										
0.40-0.50 0.50-0.60	4 12		65.68	0.50										
0.60-0.70	15			 										1
0.70-0.80 0.80-0.90	12 7			—										+
0.90-1.00 1.00-1.10	6		65.18	 1.00										
1.10-1.20	7			- -										
1.20-1.30 1.30-1.40	8 9			- -										T
1.40-1.50	7			_										+
1.50-1.60 1.60-1.70	9		64.68	— 1.50 -										_
1.70-1.80	17			- - -										
1.80-1.90 1.90-2.00	12			- -										
2.00-2.10	7		64.18	2.00										+
2.10-2.20 2.20-2.30	8			- -									-	+
2.30-2.40	22			- -										
2.40-2.50	25		63.68	2.50										
				 -										\top
				- -										+
			63.18	 3.00										_
				- -										
				 - _										
			62.68	- - - 3.50										+
			02.00	- 0.00 - -										+
				 - -										
				- ·										
			62.18	4.00 - -										\top
				- -										+
				 -										_
			61.68	4.50										
				- -										
				- -										+
			61.18	5.00									-	\perp
Remarks Refusal at	2.50m BGL. 25 blo	ows for 50mm.									(Scale approx	Logg By	ed
												1:25	NI	M
												Figure		
												9551-0	03-20.E)P19

	Gro	und Investigations Ir	eland	l Ltd	Site								Prob Num	e ber
		www.gii.ie			Clonn	ninch, T	ullamo	re					DP	20
Method Dynamic Pro height 500m weight 50kg	obe DPH, Fall nm. Hammer	Cone Dimensions Diameter 43.7mm		Level (mOD) 70.77	Client DBFL								Job Num 9551-0	
weight sokg	,	Location 234569.3 E 223168.5 N	Dates 27/0	05/2020	Engine	er							Shee	
Depth (m)	Blows for Depth Increment		Level (mOD)	Depth (m)				Blows	for De	pth Inc	rement			
		Field Records			0	3 (3					24 2	27	30
0.00-0.10 0.10-0.20	2 2		70.77	0.00										Π
0.20-0.30 0.30-0.40	4 5			 										+
0.40-0.50	4			- -										+
0.50-0.60 0.60-0.70	5		70.27	0.50										퇶
0.70-0.80	3			- -										
0.80-0.90	5			- - -										T
1.00-1.10	9		69.77	1.00										+
1.10-1.20 1.20-1.30	9													\perp
1.30-1.40	12			<u></u>										
1.40-1.50 1.50-1.60	13 18		69.27	1.50										
1.60-1.70	20			 _ 										+
1.70-1.80 1.80-1.90	13 21			- -										+
1.90-2.00 2.00-2.10	17 15		68.77											\perp
2.10-2.20	18			- - -										
2.20-2.30 2.30-2.40	25 26			-										T
2.40-2.50 2.50-2.60	13 15		68.27											+
2.60-2.70	11		00.27											+
2.70-2.80 2.80-2.90	10 14			 - _										\perp
2.90-3.00	22 25			- - -										
3.00-3.10	25		67.77	3.00 										+
				<u>-</u> -										+
				 - 										\downarrow
			67.27	3.50										
				_ 										
				 - 										+
			66.77	4.00										+
				 -										\perp
				- -										
			66.27	4.50										T
				<u>-</u> -										+
				- - -										\perp
			65.77	5.00										\perp
Remarks Refusal at	: 3.10m BGL. 25 blo	ows for 50mm.		· · · · ·		,		1		*		Scale (approx)	Logg By	ed
												1:25	NI	M
												Figure		
												9551-0)3-20.E)P20

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



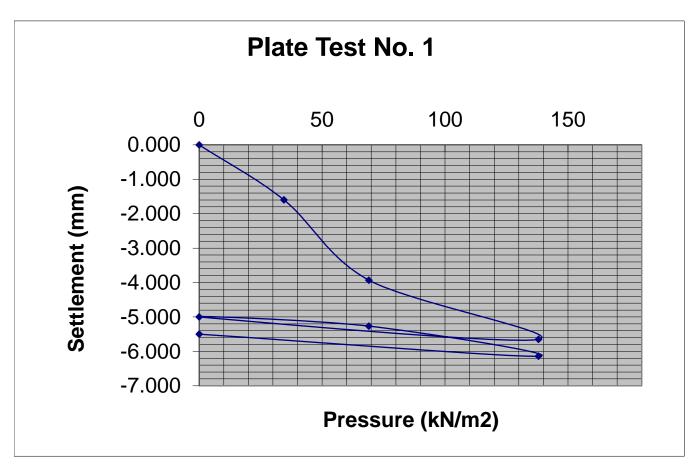
LOCATION Clonminch, Tullamore

CONTRACT NO. 9551-03-20 DATE

19/05/2020

CLIENT DBFL **DEPTH NOTES PLATE DIAMETER** 457mm **TEST NO.** CBR01 **SAMPLES** Firm light brown slightly sandy slightly gravelly Silt

0.30m



MATERIAL

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



LOCATION Clonminch, Tullamore **MATERIAL**

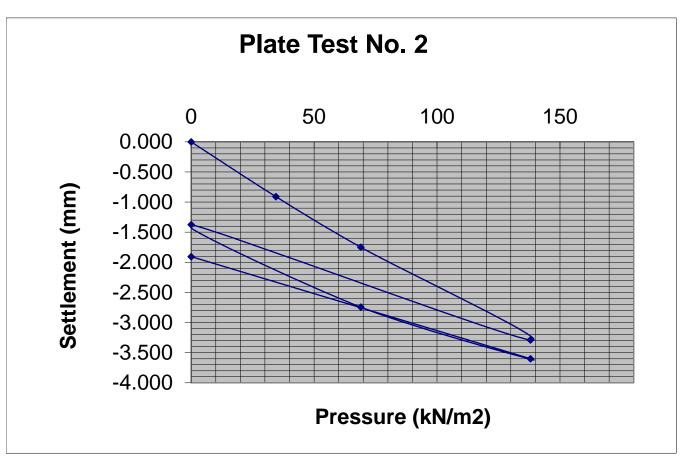
CONTRACT NO. 9551-03-20 DATE 20/05/2020

CLIENT DBFL

DEPTH NOTES PLATE DIAMETER 457mm **TEST NO. SAMPLES** CBR02

Firm brown slightly sandy slightly gravelly

0.35m



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



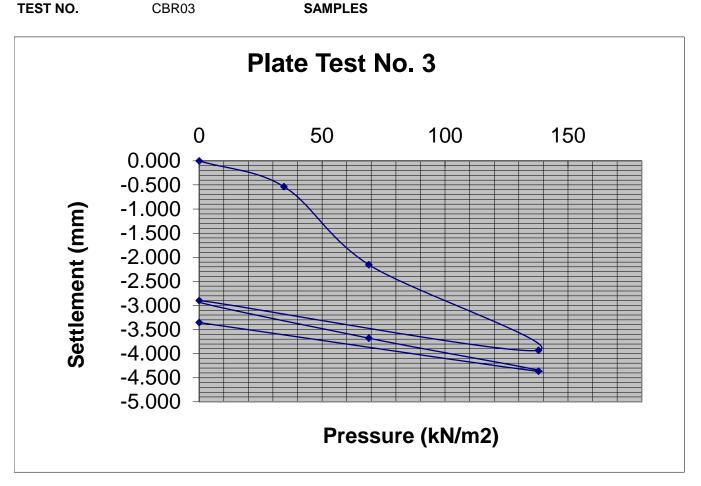
LOCATION Clonminch, Tullamore MATERIAL

CONTRACT NO. 9551-03-20 **DATE** 20/05/2020

CLIENT DBFL DEPTH
PLATE DIAMETER 457mm NOTES
TEST NO. CREATER CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL

Firm light brown slightly sandy slightly gravelly Silt

0.40m



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



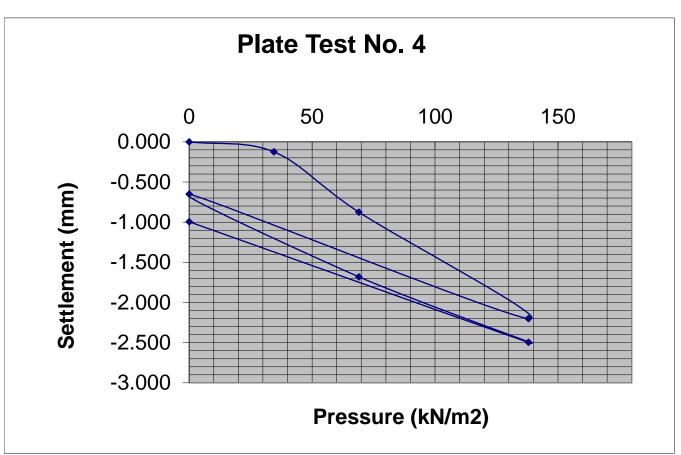
LOCATION Clonminch, Tullamore **MATERIAL**

CONTRACT NO. 9551-03-20 DATE 20/05/2020

CLIENT DBFL

DEPTH NOTES PLATE DIAMETER 457mm **TEST NO.** CBR04 **SAMPLES** Firm light brown slightly sandy slightly gravelly Silt

0.30m



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

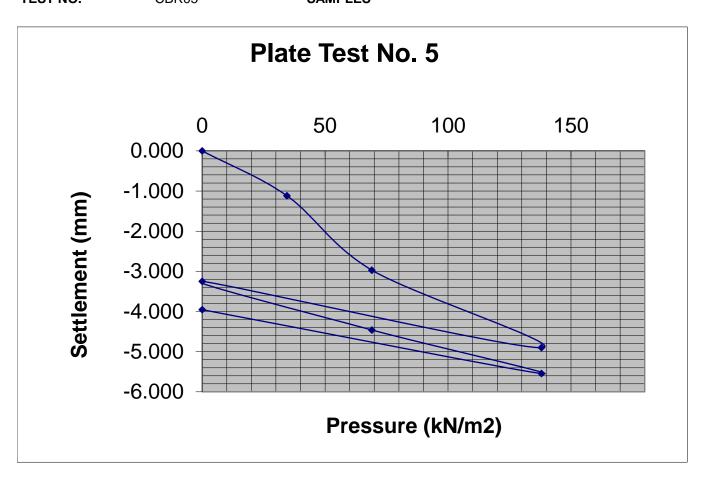


LOCATION Clonminch, Tullamore **MATERIAL**

CONTRACT NO. 9551-03-20 DATE 20/05/2020

CLIENT DBFL **DEPTH NOTES PLATE DIAMETER** 457mm **TEST NO.** CBR05 **SAMPLES** Firm light brown slightly sandy slightly gravelly Silt

0.40m



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



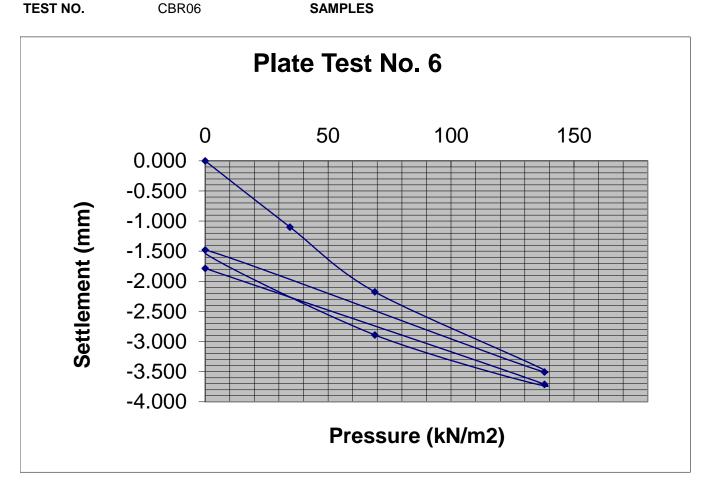
LOCATION Clonminch, Tullamore MATERIAL

CONTRACT NO. 9551-03-20 **DATE** 20/05/2020

CLIENT DBFL DEPTH
PLATE DIAMETER 457mm NOTES

Firm light brown slightly sandy slightly gravelly Silt

0.30m



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



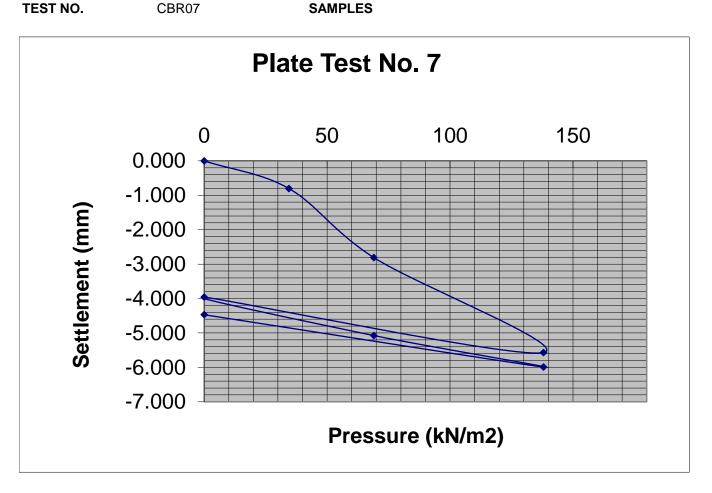
LOCATION Clonminch, Tullamore MATERIAL

CONTRACT NO. 9551-03-20 **DATE** 20/05/2020

CLIENTDBFLDEPTHPLATE DIAMETER457mmNOTES

Firm light brown slightly sandy slightly gravelly Silt

0.40m



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



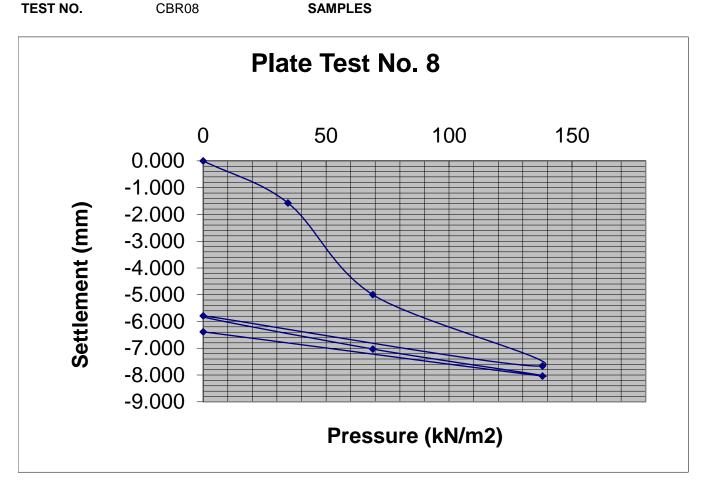
LOCATION Clonminch, Tullamore **MATERIAL**

CONTRACT NO. 9551-03-20 **DATE** 20/05/2020

CLIENTDBFLDEPTHPLATE DIAMETER457mmNOTESTEST NO.CBR08SAMPLI

Firm light brown slightly sandy slightly gravelly Silt

0.30m



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



LOCATION Clonminch, Tullamore MATERIAL

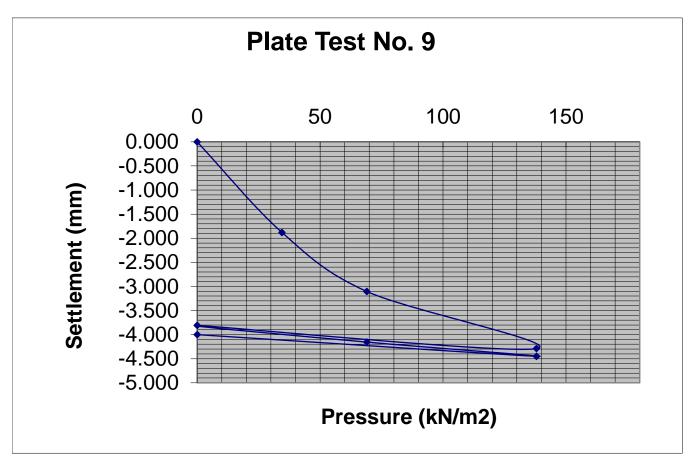
CONTRACT NO. 9551-03-20 **DATE** 20/05/2020

CLIENT DBFL

PLATE DIAMETER457mmNOTESTEST NO.CBR09SAMPLES

Firm light brown slightly sandy slightly gravelly Silt

0.40m



DEPTH

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



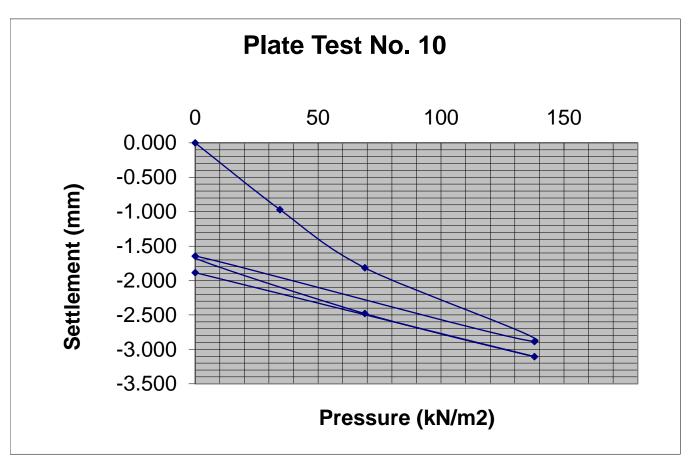
LOCATION Clonminch, Tullamore **MATERIAL**

CONTRACT NO. 9551-03-20 DATE 21/05/2020

CLIENT DBFL

DEPTH NOTES PLATE DIAMETER 457mm **TEST NO.** CBR10 **SAMPLES** Firm light brown slightly sandy slightly gravelly Silt

0.30m



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



LOCATION Clonminch, Tullamore **MATERIAL**

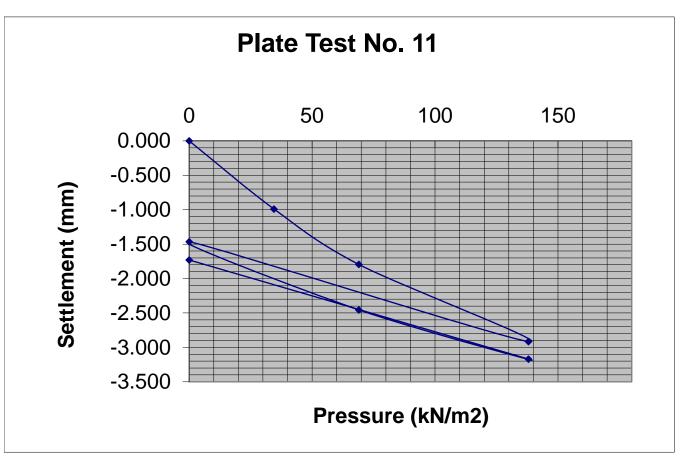
CONTRACT NO. 9551-03-20 **DATE** 21/05/2020

CLIENT 21/05/2020

PLATE DIAMETER457mmNOTESTEST NO.CBR11SAMPLES

Firm light brown slightly sandy slightly gravelly Silt

0.35m



DEPTH

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



LOCATION Clonminch, Tullamore **MATERIAL**

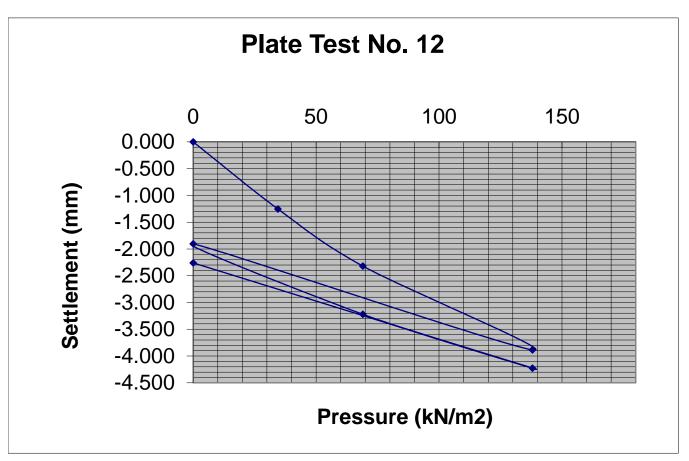
CONTRACT NO. 9551-03-20 DATE 21/05/2020

CLIENT DBFL

DEPTH NOTES PLATE DIAMETER 457mm **TEST NO. SAMPLES** CBR12

Firm brown slightly sandy slightly gravelly

0.30m



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



LOCATION Clonminch, Tullamore **MATERIAL**

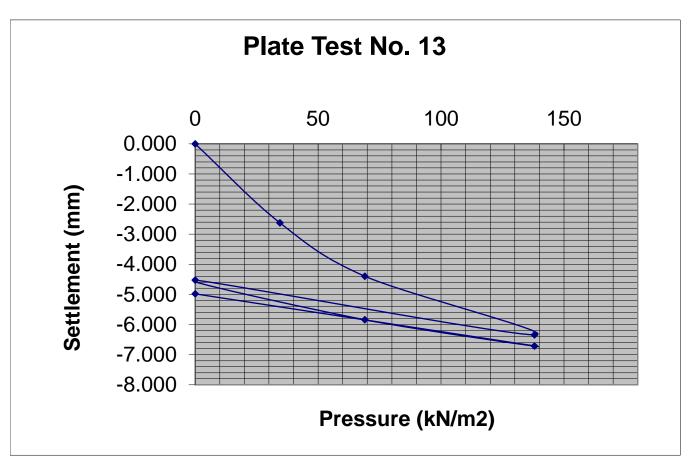
CONTRACT NO. 9551-03-20 DATE 22/05/2020

CLIENT DBFL

DEPTH NOTES PLATE DIAMETER 457mm **TEST NO. SAMPLES** CBR13

Firm light brown slightly sandy slightly gravelly clayey Silt

0.50m



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 %

Clonminch

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	



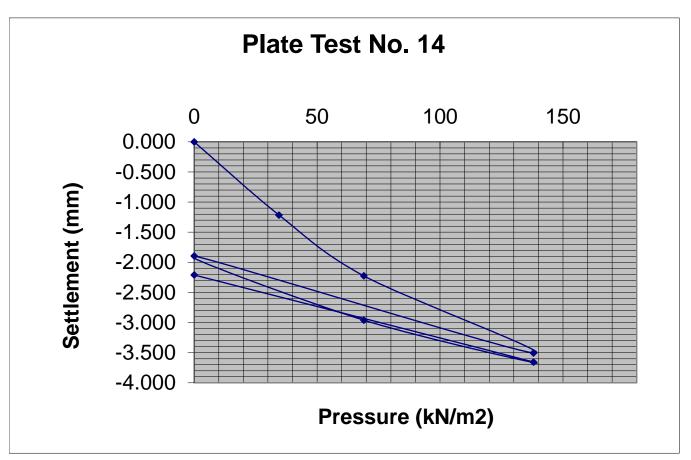
LOCATION Clonminch, Tullamore **MATERIAL**

CONTRACT NO. 9551-03-20 DATE 21/05/2020

CLIENT DBFL

DEPTH NOTES PLATE DIAMETER 457mm TEST NO. CBR14 **SAMPLES** Firm brown slightly sandy slightly gravelly

0.40m



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 %

Clonminch

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	



LOCATION Clonminch, Tullamore MATERIAL

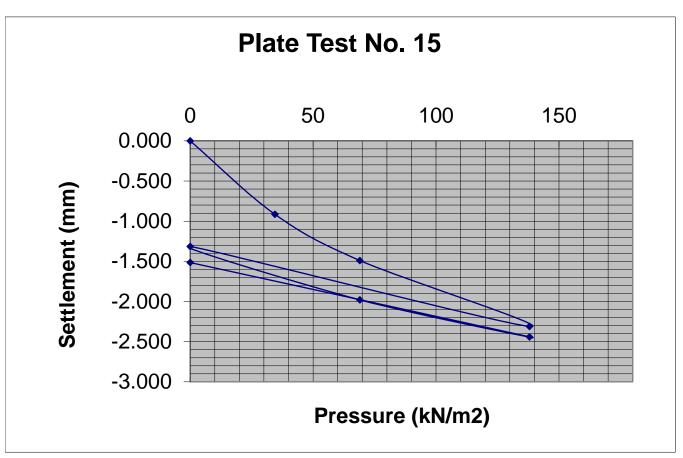
CONTRACT NO. 9551-03-20 **DATE** 21/05/2020

CLIENT DBFL

PLATE DIAMETER457mmNOTESTEST NO.CBR15SAMPLES

Firm light brown slightly sandy slightly gravelly Silt

0.30m



DEPTH

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		



LOCATION Clonminch, Tullamore MATERIAL

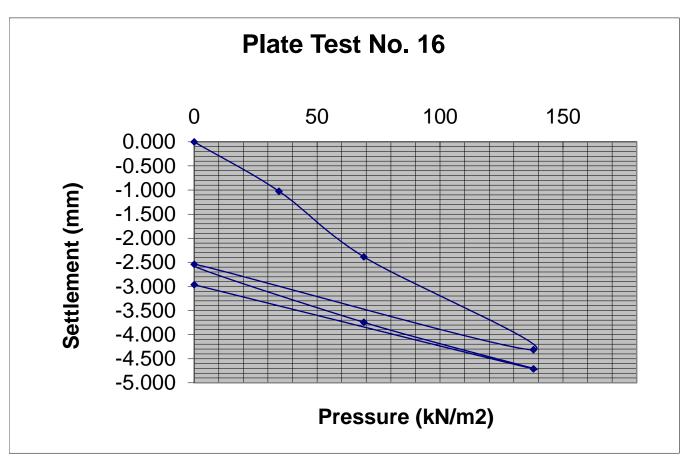
CONTRACT NO. 9551-03-20 **DATE** 21/05/2020

DATE 21/05/2020 **CLIENT** DBFL

CLIENTDBFLDEPTHPLATE DIAMETER457mmNOTESTEST NO.CBR16SAMPLES

Firm light brown slightly sandy slightly gravelly Silt

0.30m



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 %

Clonminch

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	



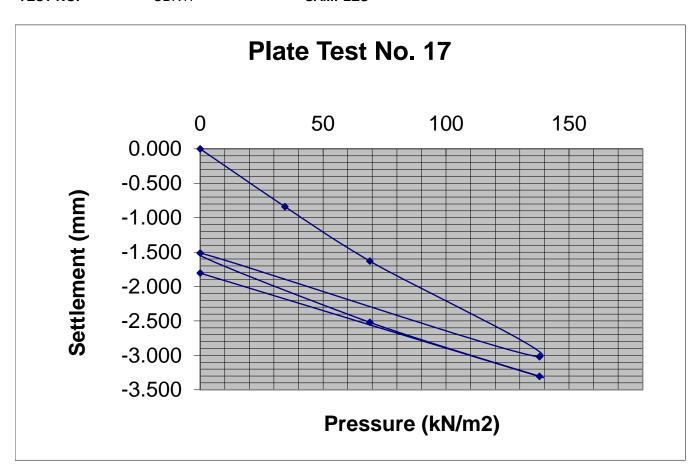
LOCATION Clonminch, Tullamore MATERIAL

CONTRACT NO. 9551-03-20 **DATE** 22/05/2020

CLIENTDBFLDEPTHPLATE DIAMETER457mmNOTESTEST NO.CBR17SAMPLES

Firm light brown slightly sandy slightly gravelly Silt

0.40m



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	

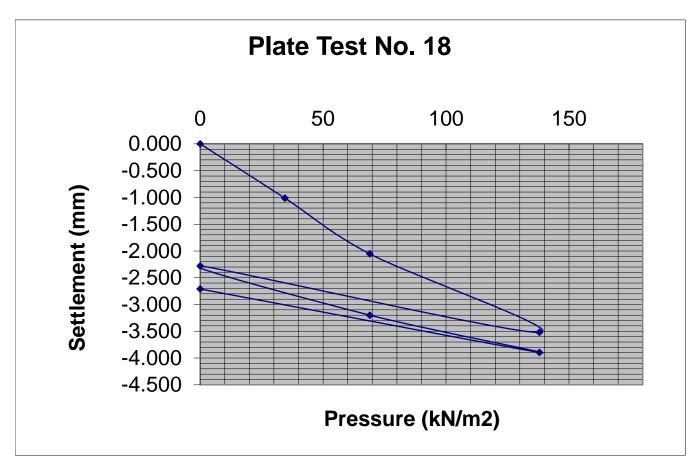


LOCATION Clonminch, Tullamore **MATERIAL**

CONTRACT NO. 9551-03-20 **DATE** 22/05/2020

CLIENT DBFL DEPTH
PLATE DIAMETER 457mm NOTES
TEST NO. CBR18 SAMPLES

Firm to stiff grey mottled brown slightly sandy slightly gravelly Clay with occasional sub-angular to sub-rounded 0.35m



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 %

Clonminch

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



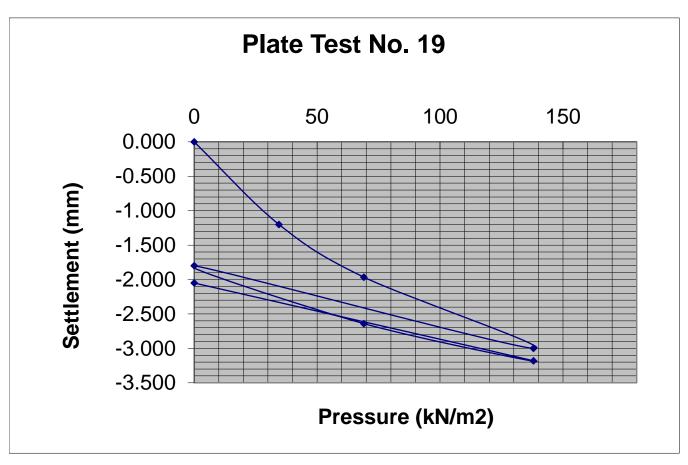
LOCATION Clonminch, Tullamore **MATERIAL**

CONTRACT NO. 9551-03-20 DATE 22/05/2020

CLIENT DBFL

DEPTH NOTES PLATE DIAMETER 457mm TEST NO. CBR19 **SAMPLES** Firm to stiff brown slightly sandy slightly gravelly silty Clay

0.30m



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 %

Clonminch

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



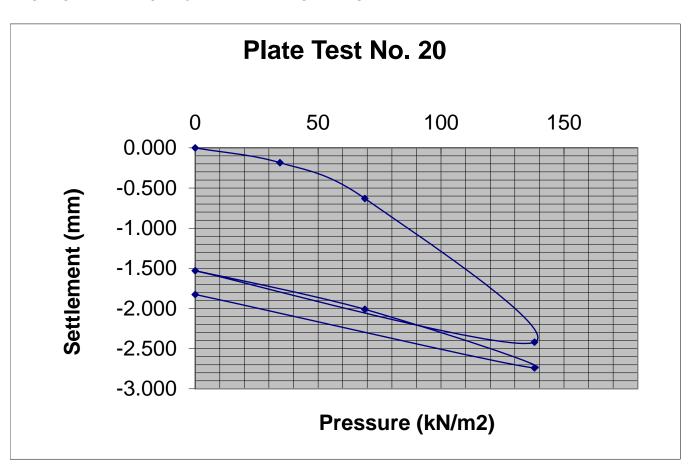
LOCATION Clonminch, Tullamore MATERIAL

CONTRACT NO. 9551-03-20 **DATE** 22/05/2020

CLIENTDBFLDEPTHPLATE DIAMETER457mmNOTESTEST NO.CBR20SAMPLES

Firm to stiff dark brown grey slightly sandy slightly gravelly Clay

0.40m



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** Index Properties Particle Bulk Cell **Undrained Triaxial Tests** Lab <425um BH/TP Depth sample Moisture Density LL PLЫ Density Presssure Compressive Strain at Vane Remarks Mg/m3 % % % Mg/m3 Stress kPa Failure % kPa No No. kPa TP01 53.8 29 21 8 1.00 11.9 TP08 1.50 В 10.7 50.7 25 17 8 TP14 0.50 В 17.2 75.1 40 Non Plastic TP18 Non Plastic В 1.00 8.8 39.1 23 7 SK06 1.50 12.2 54.9 27 20 NMTL 9551-03-20 Job ref No. NMTL 3202 GII Project ID: Notes:

1. All BS tests carried out using preferred (definitive) method unless otherwise stated.

Clonminch, Tullamore

Location

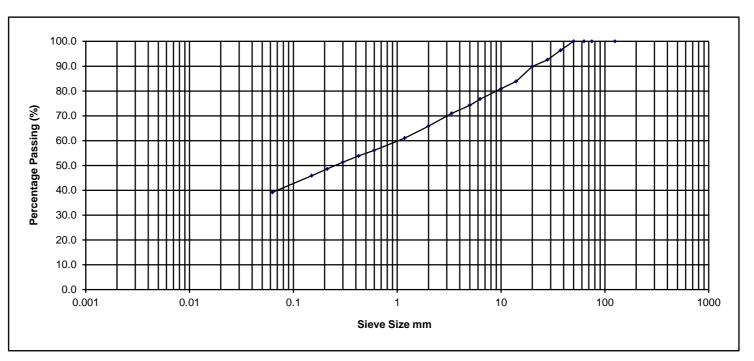
02/07/2020

NMTL LTD Contract: Clonminch, Tullamore Unit 18c, Tullow Industrial Estate Client: **Ground Investigations Ireland Ltd** Tullow **Engineer: Conor Finnerty County Carlow GII Project ID** 9551-03-20 Tel: 00353 59 9180822 Date: 02/07/2020 Sb/Tch/Ms Checked: Вс Tested By: Mob: 00353 872575508 Job ref No. **NMTL 3202** billa@nmtl.ie High 50-70 Extremely High Very High Low Intermediate 70 0-35 70-90 90 + 35-50 60 Plasticity Index 50 40 30 20 10 0 60 20 40 80 100 120 0 **Liquid Limit**

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		

Determination of Particle Size Distribution

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



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

NM

TL

Ltd

Operator

Sample Description Dark brown/light brown slightly sandy slightly gravelly clayey SILT.

Project No. BH/TP No. NMTL 3202 TP01 B

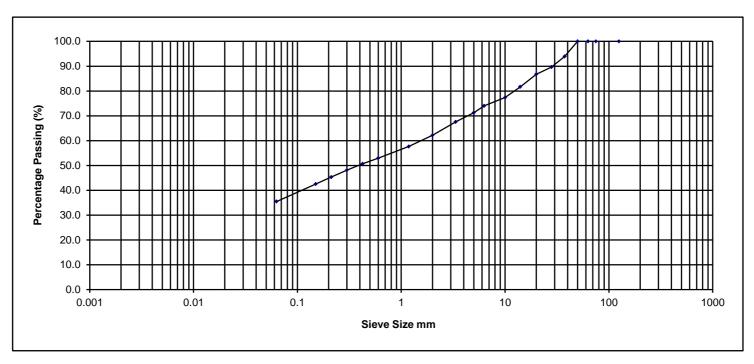
1.00m

Project	oject Clonminch, Tullamore				GII PROJECT	ID: 9551-03-20	Sample No.
Tzr	Checked	Nc	Approved	Вс	Date sample tested	29/06/2020	Depth

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		

Determination of Particle Size Distribution

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



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

NM

TL

Ltd

Operator

Sample Description Light brown slightly sandy gravelly clayey SILT.

Project No. BH/TP No. NMTL 3202 TP08 B

1.50m

Project		Clonminch, Tu	ullamore		GII PROJEC	Sample No.	
Tzr	Checked	Nc	Approved	Вс	Date sample tested	29/06/2020	Depth

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

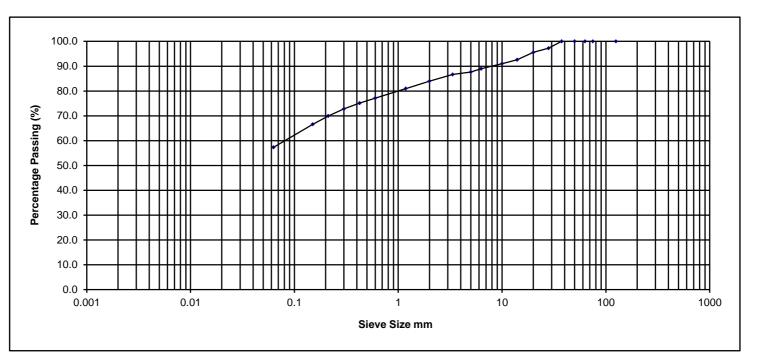
NM

TL

Ltd

Determination of Particle Size Distribution

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



Percentage Particle Size

Clay	Fine	Medium Coarse	Fine Medium C	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 В

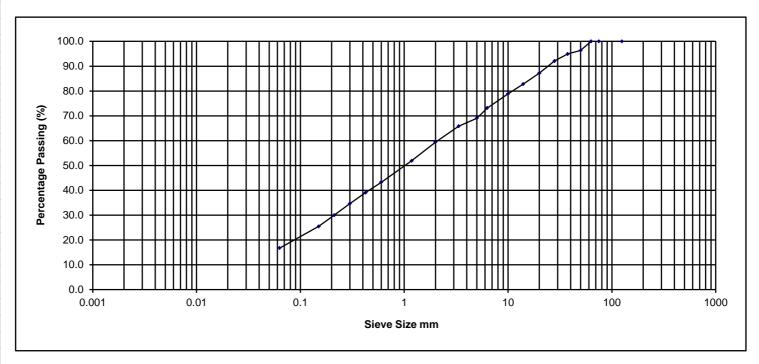
0.50m

Clonminch, Tullamore GII PROJECT ID: 9551-03-20 Sample No. Project Approved Bc 29/06/2020 Depth Tzr Checked Date sample tested Operator Nc

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

Determination of Particle Size Distribution

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



Percentage Particle Size

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

Sample Description Light brown silty gravelly SAND. NM

Operator

Ltd

Project No. BH/TP No. NMTL 3202 TP18

TL

Clonminch, Tullamore Project Checked Approved Bc Tzr Nc

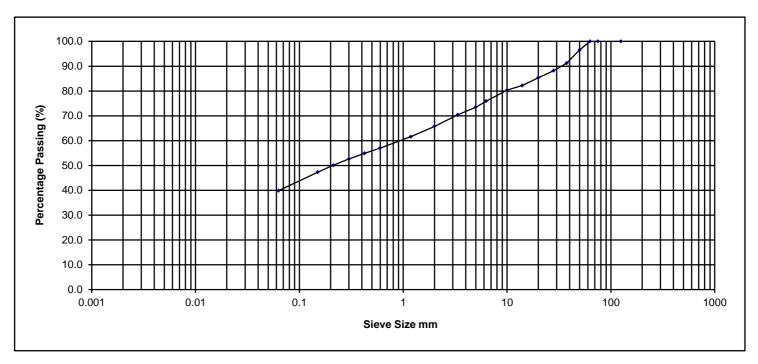
GII PROJECT ID: 9551-03-20 Sample No. Date sample tested 29/06/2020 Depth

В 1.00m

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

Determination of Particle Size Distribution

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



Percentage Particle Size

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

NM

TL

Ltd

Operator

Sample Description Brown/light brown slightly sandy slightly gravelly clayey SILT.

Project No. BH/TP No.

NMTL 3202 SK06 B

1.50m

Project		Clonminch, To	ullamore		GII PROJECT	ID: 9551-03-20	Sample No.
Tzr	Checked	Nc	Approved	Вс	Date sample tested	29/06/2020	Depth

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 %

Penetration

protrusion

73.4

64.1

58.7

55.5

51.2

48.2

44.1

42.1

39.4

38.2

37.3

37.3

mm

SINGLE POINT MOISTURE CONDITION VALUE TEST

Project Name:		Job ref.	NMTL_3202
Clonr	ninch, Tullamore	Borehole/	TP01
	GII Projrct ID: 9551-03-20	Pit No.	
Soil description:		Sample no.	В
Dark brown/light bro	wn 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

Date Received

17/06/2020

* Delete as appropriate

Total

n

number

of blows

2

3

4

6

8

12

16

24

32

48

64

96

128 192

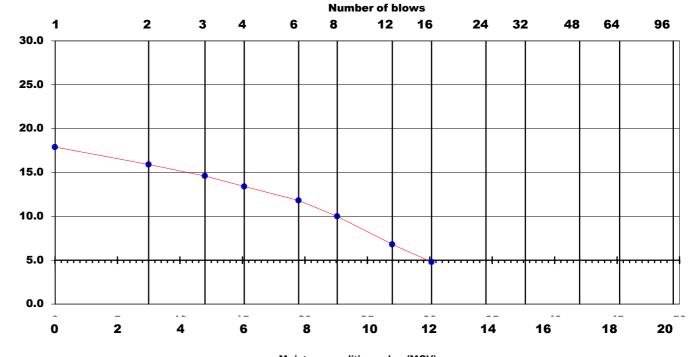
256

Change in	
penetration	
n to 4n	

mm

etration 4n	
17.9 15.9 14.6 13.4 11.8 10.0 6.8 4.8	Change in penetration (n-4n), mm





Moisture condition value (MCV)

NMTL Ltd

Operator	Checked	Approved
Ms	Nc	Вс

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 %

Penetration

protrusion

64.3

54.5

48.8

45.3 40.9

38.2

36.3

35.8 35.8

35.5

mm

Change in

penetration

19.0

16.3

12.5 9.5

5.1

2.7

n to 4n

mm

SINGLE POINT MOISTURE CONDITION VALUE TEST

Project Name:		Job ref.	NMTL_3202
Clonmir	nch, Tullamore	Borehole/	TP08
	GII Projrct ID: 9551-03-20	Pit No.	
Soil description:		Sample no.	В
Light brown slightly sar	ndy gravelly clayey SILT.	Depth	1.50m
Test method	BS 1377 : Part 4 : 1990 : 5	Date Tested	29/06/2020
		Date Sampled	N/A

Total

n

number

of blows

2

3

6

8 12

16

24 32

MCV	7.9	Natural

MCV	7.9		Natural			Date Re	ceived	17/06/20	020		
••						120.07.0		1.7700/2			
					Number of b	lows					
1		2	3 4	6	8 12	16	24	32	48	64	9
30.0											
25.0										+	
20.0										+	
15.0										+	
10.0										+	
5.0			 		 						
0.0											
0	2	4	6	8	10	12	14	16		18	2
				Moisture	condition valu	e (MCV)					

NMTL Ltd

Operator	Checked	Approved
Ms	Nc	Вс

^{*} Delete as appropriate

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 %

SINGLE POINT	MOISTURE	CONDITION	VALUE TEST
--------------	----------	-----------	------------

Project Name:		Job ref.	NMTL_3202
Clonm	inch, Tullamore	Borehole/	TP014
	GII Projrct ID: 9551-03-20	Pit No.	
Soil description:		Sample no.	В
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

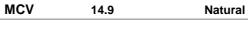
Date Received

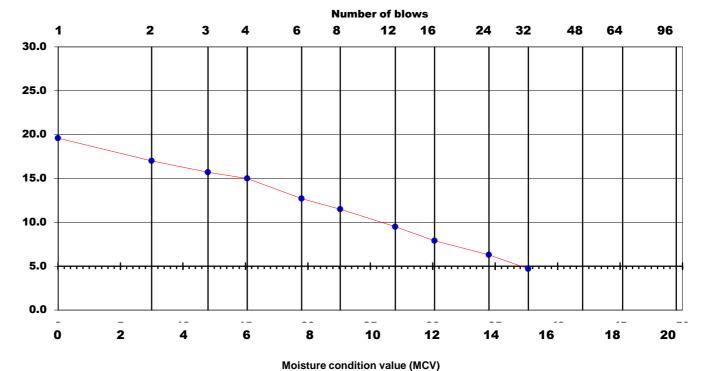
17/06/2020

^{*} Delete as appropriate

Doioto do appi	opriato	
Total	Penetration	Change in
number	or	penetration
of blows	protrusion	n to 4n
n	mm	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		

Change in penetration (n-4n), mm





NMTL Ltd

256

Operator	Checked	Approved
Ms	Nc	Вс

Single sample mass		
Initial sample mass		1480 g
Moisture content		8.0 %
Dry mass		1370.0 g
Mass retained		
on 20mm sieve	а	12.8 %

Penetration

Change in

SINGLE POINT	MOISTURE	CONDITION	VALUE TEST

Project Name:		Job ref.	NMTL_3202
Clonr	ninch, Tullamore	Borehole/	TP018
	GII Projrct ID: 9551-03-20	Pit No.	
Soil description:		Sample no.	В
Light brown silty gra	velly SAND.	Depth	1.0m
Test method	BS 1377 : Part 4 : 1990 : 5	Date Tested	29/06/2020
		Date Sampled	N/A

* Delete as appropriate

Total

MCV 6.8

2

4

6

8

1

30.0

25.0

20.0

15.0

10.0

5.0 -

0.0

0

Change in penetration (n-4n), mm

2

	Natura	al			Date	e Received	l 17,	17/06/2020			
			N	umber of b	lowe						
3	3 4	6	8	12	16	24	32	2 48	64	96	
											Н
											Н
											Н
,			,								
			, , , , , ,	117171111			1			1111111	

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

Operator Checked Approved Nc

14

16

18

Вс

20

12

10

Moisture condition value (MCV)

Ms

NMTL Ltd

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 %

SINGLE POINT MOISTURE COND	ITION VALUE TEST
----------------------------	------------------

Project Nam	e:		Job ref.	NMTL_3202	
	Clonminch, Tu	ıllamore	Borehole/	SK06	
		GII Projrct ID: 9551-03-20	Pit No.		
Soil descripti	ion:		Sample no.	В	
Brown/light brown	own slightly sand	dy slightly gravelly clayey SILT.	Depth	1.50m	
Test method	l B	S 1377 : Part 4 : 1990 : 5	Date Tested	29/06/2020	
			Date Sampled	N/A	
MCV	10.2	Natural	Date Received	17/06/2020	

* Delete as appropriate

MCV 10 2 Natural

							ber of b						
1		2	3	4	6	8	12	16	24	32	48	64	96
30.0													
25.0													
20.0													
15.0													
10.0													
5.0 +		 	 	 						+		····	
0.0													
0	2	4		6	8		10	12	1	4	16	18	20

Total	Penetration	Change in
number	or	penetration
of blows	protrusion	n to 4n
n	mm	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		

NMTL Ltd

Operator	Checked	Approved
Ms	Nc	Вс



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:

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

Please include all sections of this report if it is reproduced $% \left\{ \left(1\right) \right\} =\left\{ \left($

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							
Sample ID	TP02	TP16							
Depth	1.00	1.00					Please se	e attached n	otes for all
COC No / misc							abbrevi	ations and a	cronyms
Containers	Т	Т							
Sample Date	05/06/2020	05/06/2020							
Sample Type	Soil	Soil							
Batch Number	1	1					LOD/LOR	Units	Method
Date of Receipt									No.
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

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

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 HCI (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 guoted, 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.

EMT Job No.: 20/7240

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
В	Indicates analyte found in associated method blank.
DR	Dilution required.
М	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
со	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
ТВ	Trip Blank Sample
ОС	Outside Calibration Range

EMT Job No: 20/7240

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	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