

6.2 Harbour Point Bray (Phase 1) Ground Investigation 2021 (IGSL)

RECEIVED: 24/03/2025

IGSL Ltd

Harbour Point, Bray

**Ground Investigation
Report
FACTUAL**

RECEIVED: 24/03/2025

Project No. 22734

March 2021



**M7 Business Park
Naas
Co. Kildare
Ireland**

**T: +353 (45) 846176
E: info@igsl.ie
W: www.igsl.ie**

DOCUMENT ISSUE REGISTER

Distribution	Report Status	Revision	Date of Issue	Prepared By:	Approved By:
Atkins & Ballymore	Report, PDF by email	0	05 February 2021	John Lawler Professional Geologist BSc MSc PGeo EurGeol FGS	Paul Quigley Chartered Geotechnical Engineer & Registered Ground Engineering Adviser BEng CEng MICE MIEI FGS
Atkins & Ballymore	Report, PDF by email	1	30 March 2021	John Lawler	Paul Quigley

TABLE OF CONTENTS

RECEIVED: 24/03/2025

Foreword

1. Introduction

2. Fieldworks

2.1 General

2.2 Trial Pits

2.3 Cable Percussion Boreholes

2.4 Rotary Core Drillholes

2.5 Window Sampling / Driven Sampling

2.6 Soakaway Tests (to BRE 365)

2.7 In-situ Dynamic Cone Penetrometer [DCP] Testing

2.8 Groundwater Monitoring / Data Logger installation

2.9 Gas Monitoring

2.10 Surveying of Exploratory Hole Locations

3. Laboratory Testing

References

FIGURES

Figure 1 - Site Location Plan

APPENDICES

Appendix 1	- Trial Pit Records and Photographs
Appendix 2	- Cable Percussion Borehole Records
Appendix 3	- Rotary Core Drillhole Records & Photographs
Appendix 4	- Window Sample Logs and Photographs
Appendix 5	- Soakaway Test Records (to BRE365)
Appendix 6	- DCP Test Records
Appendix 7	- Groundwater & Gas Monitoring
Appendix 8	- Data Logger Reports
Appendix 9	- Geotechnical Laboratory Test Results - Soil
Appendix 10	- Chemical Testing – Soil
Appendix 11	- Chemical Testing - Water
Appendix 12	- Geotechnical Laboratory Test Records – Rock
Appendix 13	- Exploratory Hole Location Plan

RECEIVED: 24/03/2025

FOREWORD

The following conditions and notes on the geotechnical site investigation procedures should be read in conjunction with this report.

Standards

The ground investigation works for this project (**Harbour Point, Bray**) have been carried out by IGSL Limited in accordance with Eurocode 7 - Part 2: Ground Investigation & Testing (EN 1997-2:2007). This has been used together with complementary documents such as BS 5930 (2015) and BS 1377 (Parts 1 to 9) and the following European Norms:

- EN 1997-2 Eurocode 7: 2007 – Geotechnical Design – Part 2: Ground Investigation & Testing
- EN ISO 22475-1:2006 Geotechnical Investigation and Sampling – Sampling Methods & Groundwater Measurements
- EN ISO 14688-1:2017 Geotechnical Investigation and Testing – Identification and Classification of Soil, Part 1: Identification and Description
- EN ISO 14688-2:2017 Geotechnical Investigation and Testing – Identification and Classification of Soil, Part 2: Principles for a classification
- EN ISO 14689-1:2017 Geotechnical Investigation and Testing – Identification, description & classification of rock

Reporting

No responsibility can be held by IGSL Ltd for ground conditions between exploratory hole locations. The engineering logs provide ground profiles and configuration of strata relevant to the investigation depths achieved and caution should be taken when extrapolating between exploratory points. No liability is accepted for ground conditions extraneous to the investigation points. Unless specifically stated, no account has been taken of possible subsidence due to mineral extraction, mining works or karstification below or close to the site.

This report has been prepared for Ballymore and Atkins and the information should not be used without their prior written permission. IGSL Ltd accepts no responsibility or liability for this document being used other than for the purposes for which it was intended.

Boring Procedures

Unless otherwise stated, 'shell and auger' or cable percussive boring technique has been employed as defined by Section 6.3 of IS EN ISO 22475-1:2006. The boring operations, sampling and in-situ testing complies with the recommendations of IS EN 1997-2:2007 and BS 1377:1990 and EN ISO 22476-3:2005. The shell and auger boring technique allows for continuous sampling in clay and silt above the water table and sand and gravel below the water table (Table 2 of IS EN ISO 22475-1:2006).

It is highlighted that some disturbance and variation is unavoidable in particular ground (e.g. blowing sands, gravel / cobble dominant glacial deposits etc). Attention is drawn to this condition, whenever it is suspected. Where cobbles and boulders are recorded, no conclusion should be drawn concerning the size, presence, lithological nature, or numbers per unit volume of ground.

In-Situ Testing

Standard penetration tests were conducted strictly in accordance with Section 4.6 of IS EN 1997-2:2007. The SPT equipment (hammer energy test) has been calibrated in accordance with EN ISO 22476-3:2005 and the Energy Ratio (E_r). A calibration certificate is available upon request. The E_r is defined as the ratio of the actual energy E_{meas} (measured energy during calibration) delivered to the drive weight assembly into the drive rod below the anvil, to the theoretical energy (E_{theor}) as calculated from the drive weight assembly. The measured number of blows (N) reported on the

engineering logs are uncorrected. In sands, the energy losses due to rod length and the effect of the overburden pressure should be taken into account (see IS EN ISO 22476-3:2005).

Soil Sampling

Three categories of sampling methods are outlined in EN ISO 22475-1:2006. The categories are referenced A, B and C for any given ground conditions and are shown in Tables 1 and 2 of EN ISO 22475-1:2006. Reference should be made to EN 1997-2:2002 for guidelines on sample class and quality for strength and compressibility testing. Samples of quality classes 1 or 2 can only be obtained by using Category A sampling methods.

Class 1 thin wall undisturbed tube samples (UT100) were obtained in fine grained soils and strictly meet the requirements of EN 1997-2:2002 and EN ISO 22475-1:2006. Soil samples for laboratory tests are divided into five classes with respect to the soil properties that are assumed to remain unchanged during sampling, handling transport and storage. The minimum sample quality required for testing purposes to Eurocode 7 compatibility (EN 1997-2:2002) is shown in Table A.

Table A – Details of Sample Quality Requirements

EN 1997 Clause	Test	Minimum Sample Quality Class
5.5.3	Water Content	3
5.5.4	Bulk Density	2
5.5.5	Particle Density	N/S
5.5.6	Particle Size Analysis	N/S
5.5.7	Consistency Limits	4
5.5.8	Density Index	N/S
5.5.9	Soil Dispersivity	N/S
5.5.10	Frost Susceptibility	N/S
5.6.2	Organic Content	4
5.6.3	Carbonate Content	3
5.6.4	Sulphate Content	3
5.6.5	pH	3
5.6.6	Chloride Content	3
5.7	Strength Index	1
5.8	Strength Tests	1
5.9	Compressibility Tests	1
5.10	Compaction Tests	N/S
5.11	Permeability	2

N/S – not stated. Presume a representative sample of appropriate size.

Samples recovered from trial pits or trenches meet the requirements of IS EN ISO 22475-1. It is highlighted that unforeseen circumstances such as variations in geological strata may lead to lower quality sample classes being obtained.

Groundwater

The depth of entry of any influx of groundwater is recorded during the course of boring operations. However, the normal rate of boring does not usually permit the recording of an equilibrium level for any one water strike. Where possible, drilling is suspended for a period of twenty minutes to monitor the subsequent rise in water level. Groundwater conditions observed in the borings or pits are those appertaining to the period of investigation. It should be noted however, that groundwater levels are subject to diurnal, seasonal and climatic variations and can also be affected by drainage conditions, tidal variations etc.

Engineering Logging

Soil and rock identification has been based on the examination of the samples recovered and conforms with IS EN ISO 14688-1:2002 and IS EN ISO 14689-1:2004. Rock weathering classification conforms to IS EN ISO 14689-1:2003 while discontinuities (bedding planes, joints, cleavages, faults etc) are classified in accordance with 4.3.3 of IS EN ISO 14689-1:2003. Rock mechanical indices (TCR, SCR, RQD) are defined in accordance with IS EN ISO 22475-1:2006.

Where peat has been encountered, samples have been logged in accordance with the Von Post Classification (ref. Von Post, L. 1992. Sveriges Gologiska Undersoknings torvinventering och nogra av dess hittills vunna resultat (SGU peat inventory and some preliminary results) Svenska Mosskulturforeningens Tidskrift, Jonkoping, Swedden, 36, 1-37 and Hobbs N. B. Mire morphology and the properties of some British and foreign peats. QJEG, Vol. 19, 1986).

Retention of Samples

After satisfactory completion of all the scheduled laboratory tests on any sample, the remaining material will be discarded. Unless a period of retention of samples is agreed, it is our normal practice to discard all soil samples one month after submission of our final report.

1. INTRODUCTION

IGSL has undertaken a programme of geotechnical site investigation works at the Old Bray Golf Course, Bray, County Wicklow. The works were sited on both greenfield and brownfield lands to the east of the main town centre. The site itself straddles the county boundary between Dublin to the north and Wicklow to the south in a townland known as Corke Great. The west of the site is bound by the newly constructed Coláiste Ráithín second level school with the Dublin-Rosslare railline forming the eastern boundary. The site investigative works extended to the south towards the Dargle River (See Figure 1). It is understood that a mixed-use development of 571 residential houses and apartments, commercial and amenity space and infrastructure is proposed for the site.

Figure 1 – Site Location Plan



Ordnance Survey of Ireland Licence No. EN 0070021
© Ordnance Survey Ireland / Government of Ireland

The investigation comprised cable percussion boring, rotary drilling, machine-dug trial pits incorporating dynamic cone penetrometer testing, window sampling and soakaway testing to BRE365. The investigations were executed in accordance with BS 5930, Code of Practice for Site Investigations (2015) and EN 1997-2 Eurocode 7 Part 2 Ground Investigation & Testing and supervised by an IGSL geotechnical engineer.

Geotechnical and chemical laboratory testing was scheduled on a range of soil and water samples. The geotechnical testing included moisture contents, Atterberg Limits, particle size distribution [PSD] testing, permeability testing in triaxial cell, undrained triaxial, MCV, consolidation and dry density / moisture content relationship testing. Rock testing was also undertaken on a number of selected rock core samples (PLSI & UCS). Environmental testing was undertaken on soils in accordance with the specified suites listed in the specification namely Suite E1 and E2 in addition to the *Rilta* waste

acceptance parameters. This report presents the factual geotechnical data acquired from the 2020 investigation.

RECEIVED: 24/03/2025

2. FIELDWORK

2.1 General

The IGSL Limited fieldworks were undertaken in August and September 2020. The works which form this report comprise the following:

- Trial Pit (10 No.)
- Cable Percussion Boreholes (23 No.)
- Rotary Core Drillholes (19 No.)
- Window Sampling (10 No.)
- Soakaway Tests (to BRE 365) (3 No.)
- Dynamic Cone Penetrometer (10 No.)
- Groundwater Monitoring / Data Logger installation
- Gas Monitoring
- Surveying of Exploratory Hole Locations

ⁱ A re-setup was carried out at BH222 after encountering a shallow obstruction at 0.90m

2.2 Trial Pits

Trial pitting was undertaken at ten locations across the site c. 16 acre site. The locations were set out as per the Ground Investigation Schedule issued by Atkins. The trial pits were excavated, logged and sampled under the direction of an IGSL geotechnical engineer in accordance with BS 5930 (1999+A2:2010). Bulk disturbed samples (typically 20 to 30kg) were taken as the pits progressed.

The bulk samples were placed in heavy-duty polyethylene bags and sealed before being transported to Naas for laboratory testing. The trial pits were backfilled with the as-dug arisings and reinstated to the satisfaction of IGSL's site geotechnical engineer. The trial pit logs and photos are presented in Appendix 1 and include descriptions of the soils encountered, groundwater conditions and stability of the pit sidewalls.

2.3 Cable Percussion Boreholes

Cable percussive boring (200mm diameter) was undertaken at twenty-three locations using a Dando 2000 rig. The twenty-three locations included an additional borehole drilled after encountering an obstruction at shallow depth in BH222. The re-bore was called BH222A. The boreholes extended to depths of between 0.90m and 14.50m. At all locations, boring commenced through hand-dug service inspection pits. Disturbed bulk samples were recovered at 1m intervals or change of strata during boring and these are denoted 'B' on the engineering logs. Thin-walled undisturbed driven samples were also recovered where soil properties permitted. These are annotated 'U' on the logs. Where taken, environmental samples are noted as 'ENV' on the records.

Standard Penetration Tests (SPT's) were performed in the boreholes and given the nature of the soils, a solid cone was used. It is noted that the SPT N-Values reported are the number of blows for 300mm increment penetration (e.g. BH212 at 2.50m where N=29). These exclude the seating blow values, which represent the initial 150mm depth of penetration. Where partial penetration was achieved during testing, the number of blows is shown for the actual penetration depth achieved (e.g. BH205 at 3.0m where N=50/225mm). In accordance with Eurocode 7, the SPT hammer has been calibrated and the energy ratio (Er) value is incorporated on the engineering logs. It is highlighted that the SPT N-Values reported on the engineering logs are uncorrected for energy ratio.

A groundwater monitoring standpipe was installed in borehole BH207. The standpipe consisted of 50mm diameter HDPE pipework with proprietary 1mm slots and incorporated a pea gravel filter pack and cement / bentonite grout seal. A headwork cover was concreted in place.

Descriptions of the soils encountered, in-situ tests undertaken and samples recovered are presented on the borehole records in Appendix 2. Details of groundwater strikes and hard strata boring (i.e. chiselling) are also presented on the aforementioned records.

2.4 Rotary Core Drillholes

Rotary drilling was carried out (holes denoted RC_ & ROH_) using a tracked Comacchio GEO 305 and GEO 405. Symmetrex drilling was utilised within the overlying superficial deposits with coring techniques used in both the cohesive over-consolidated soils and underlying bedrock when encountered. In all, sixteen RC_ holes were undertaken with cores recovered in four (RC221-RC224). In total, three ROH_ holes were completed (ROH01, ROH02 & ROH04). As with cable percussion boreholes, Standard Penetration Tests (SPT's) were performed in the overburden strata with the resulting blowcounts presented on the logs. The rotary drilling in soils and bedrock produced 78mm diameter cores. Coring attempted in the overburden generally returned stiff brown slightly sandy gravelly CLAY. Where bedrock was recovered (RC221 – RC224), it was described as a medium strong to locally weak dark bluish grey metamorphosed MUDSTONE/SILTSTONE.

The cores were placed in 3m capacity timber boxes and logged by an IGSL engineering geologist. This included photography of the cores with a digital camera. Where rock core was recovered, a graphic fracture log is also presented alongside the mechanical indices. This illustrates the fracture state of the rock cores and allows easy identification of highly fractured / non-intact zones and discontinuity spacings. It should be noted that no correction for dip of the joints has been made and that the spacings shown are successive joint / core intersections within the core.

Groundwater monitoring standpipes were installed in nine of the drillholes on site. The standpipes consisted of 50mm diameter HDPE pipework with proprietary 1mm slots and incorporated a pea gravel filter pack and cement / bentonite grout seal. Headwork covers were concreted in place. Gas taps were placed atop selected wells to facilitate post-works gas monitoring. In the case of seven of the coreholes, data loggers were later installed to allow for monitoring through the period October to December 2020.

The core log records are presented in Appendix 3 and this includes engineering geological descriptions, details of the bedding / discontinuities and mechanical indices (TCR, SCR and RQD's) for each core run. Core photographs are also presented in Appendix 3 and these illustrate the structure and fracture state of the bedrock.

2.5 Window Sampling / Driven Sampling

Window sampling was carried out at ten locations using a Dando Terrier rig. The Terrier rig uses a 63.5kg weight to drive the window sampler and the material is retrieved in a semi-rigid plastic core liner. The window sample records are presented in Appendix 4 and include descriptions of the soils encountered and the total recovery per run. Images of sample recovery also feature in Appendix 4. 50mm diameter HDPE water monitoring standpipes were installed in nine of the ten sample holes. In addition, gas taps were fixed to the standpipes. Data loggers were later placed in a number of the wells to permit water level reading on a continuous basis throughout October, November and December 2020.

In the case of WS05B, a foul sewer was struck at a depth of 3.90m bgl. Given the location of the window sampling hole being adjacent to a railway embankment, coupled with its depth, careful consideration had to be given during subsequent excavation and repair. The temporary works which allowed for the repair were designed and implemented by IGSL with assistance ultimately from Irish Water.

2.6 Soakaway Tests (to BRE 365)

Three number infiltration tests were performed to assess the suitability of the sub-soils for dispersion of storm water through a soakaway system. The infiltration tests were each performed in

accordance with BRE Digest 365 'Soakaway Design'. To obtain a measure of the infiltration rate of the sub-soils, water was poured into each test pit, with records taken of the fall in water level against time. Following the first soak cycle, the procedure was repeated to ensure saturation of the sub-soils. The infiltration rate is the volume of water dispersed per unit of exposed area per unit of time, and is generally expressed as metres / minute or metres / second. Designs are based on the slowest infiltration rate, which is generally calculated from the final soak cycle. The soakaway design logs are presented in Appendix 5.

2.7 In-situ Dynamic Cone Penetrometer [DCP] Testing

An in-situ dynamic cone penetrometer test was carried out at each trial pit location in accordance with TRL recommended procedure* to estimate CBR values* of the indigenous deposits. Testing was carried out at depths ranging 0.30m to 0.60m below ground level. The test results complete with extrapolated CBR value are presented in Appendix 6 of this report.

**CBR values are estimated using the correlation derived by Kleyn and Van Heerden (1983), which is preferred by TRL.*

2.8 Groundwater Monitoring / Data Logger installation

Groundwater monitoring was undertaken manually six times following the fieldworks period. Levels were measured using an electric dipmeter. The recordings feature in Appendix 7. In addition, data loggers were inserted into seven rotary drillholes with continuous hourly monitoring from October 6th through to December 12th, 2020. The resulting information gleaned from the data loggers is presented in Appendix 8.

2.9 Gas Monitoring

Following installation of 50mm diameter standpipes, as mentioned previously, a gas tap was fitted to each well. This enabled gas monitoring following the fieldworks period. Gas level measurements, taken in accordance with CIRIA C665:2007, were performed using a calibrated GA5000 gas monitor. Both steady state and peak gas results are presented in Appendix 7 accompanied by groundwater measurements. The flow rate measurements recorded by the GA5000 were logged after the initial gas quantification readings were taken. The unit does not allow for simultaneous monitoring of gas quantities and gas flow. At all times the Geotech GA5000 portable gas analyser was used as per the guidelines whilst conforming to the on-screen notifications.

2.10 Surveying of Exploratory Hole Locations

Following completion of the exploratory works, surveying was carried out using GPS techniques. Co-ordinates (x, y) were measured to Irish Transverse Mercator and ground levels (z) established to Malin Head. The co-ordinates and ground levels are shown on the exploratory hole logs with locations shown on the exploratory hole plan in Appendix 13.

3. LABORATORY TESTING

Geotechnical laboratory testing was performed at IGSL's INAB-accredited laboratory in accordance with the methods set out in BS1377; British Standard Methods of Test for Soils for Civil Engineering Purposes; British Standards Institute:1990. The geotechnical testing included moisture contents, Atterberg Limits, particle size distribution [PSD] testing, permeability testing in triaxial cell, undrained triaxial, MCV, consolidation and dry density / moisture content relationship testing. The results from geotechnical testing on selected trial pit and borehole soils are presented in Appendix 9.

Chemical analysis incorporating pH levels, acid-soluble sulphate (%), total sulphur and water-soluble sulphate as SO_4 (g/l) in addition to organic matter contents were also undertaken on recovered soils. The chemical results are presented in Appendix 10.

Soil samples were selected from window sample holes, trial pits and boreholes for specialist Waste Acceptance Criteria (WAC) analysis. The results can be used to classify the material with regard to its potential for disposal to landfill. These results are also presented in the Chemtest reports in Appendix 10.

Environmental testing was also conducted on water samples bailed from existing wells on site. The resultant Chemtest reports feature in Appendix 11.

Geotechnical laboratory testing was carried out on selected rock cores. Point load strength index (PLSI) and uniaxial compressive strength (UCS) tests were conducted with the results presented in Appendix 12.

REFERENCES

- 1.0 BS 5930 (1999 + A2:2010) Code of Practice for Site Investigation, British Standards Institution (BSI).
- 2.0 BS 1377 (1990) Methods of Testing of Soils for Civil Engineering Purposes, BSI.
- 3.0 Eurocode 7, Part 2: Ground Investigation & Testing (EN 1997-2:2007)
- 4.0 Kleyn, E. & Van Heerden, M.J. (1983, July). *Using DCP Soundings to Optimize Pavement Rehabilitation*. Paper presented at the Annual Transportation Convention, Milner Park Showgrounds, Johannesburg.
- 5.0 Site Investigation Practice: Assessing BS 5930 (1986), Geological Society Special Publication, No. 2.

RECEIVED: 24/03/2025

Appendix 1

Trial Pit Records and Photographs

RECEIVED: 24/03/2025



TRIAL PIT RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

TRIAL PIT NO. TP201

SHEET Sheet 1 of 1

LOGGED BY F. Afonso

CO-ORDINATES 726,445.94 E
719,561.56 N

DATE STARTED 25/09/2020

DATE COMPLETED 25/09/2020

CLIENT Ballymore
ENGINEER Atkins

GROUND LEVEL (m) 10.17

EXCAVATION METHOD JCB

	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples			Vane Test (KPa)	Hand Penetrometer (KPa)
						Sample Ref	Type	Depth		
0.0	TOPSOIL		0.10	10.07						
	Firm brown gravelly very sandy CLAY with low cobble content and frequent rootlets. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. Cobbles are subangular to subrounded of multiple lithologies.					AA137966	Env B	0.50-0.50 0.50-0.50		
1.0	(Medium dense) Greyish brown slightly clayey very gravelly medium to coarse SAND with medium cobble content. Gravel is fine to coarse subrounded. Cobbles are subrounded of multiple lithologies.		0.80	9.37						
						AA137967	B	1.50-1.50		
2.0										
	End of Trial Pit at 2.50m		2.50	7.67		AA137968	B	2.50-2.50		
3.0										

Groundwater Conditions

Dry

Stability

Unstable from 0.80m

General Remarks

Pit commenced after scanning ground with CAT cable avoidance tool. Pit terminated at 2.50m due to sidewall instability.



TRIAL PIT RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

TRIAL PIT NO. TP202
SHEET Sheet 1 of 1

LOGGED BY F. Afonso

CO-ORDINATES 726,364.49 E
719,512.96 N

DATE STARTED 24/09/2020
DATE COMPLETED 24/09/2020

CLIENT ENGINEER Ballymore
Atkins

GROUND LEVEL (m) 11.08

EXCAVATION METHOD JCB

	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples			Vane Test (KPa)	Hand Penetrometer (KPa)
						Sample Ref	Type	Depth		
0.0	TOPSOIL Firm to stiff brown sandy gravelly CLAY with low cobble content and frequent rootlets. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. Cobbles are subangular to subrounded of multiple lithologies.		0.10	10.98		AA137963	Env B	0.50-0.50 0.50-0.50	20	
1.0	Medium dense greyish brown slightly clayey very gravelly medium to coarse SAND with medium cobble content. Gravel is fine to coarse subrounded. Cobbles are subrounded of multiple lithologies.		0.90	10.18		AA137964	B	1.50-1.50		
2.0										
3.0	End of Trial Pit at 2.90m		2.90	8.18		AA137965	B	2.50-2.50		

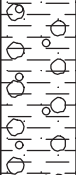
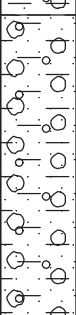
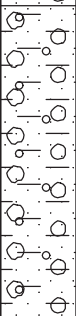
Groundwater Conditions
Dry

Stability
Unstable from 0.80m

General Remarks
Pit commenced after scanning ground with CAT cable avoidance tool

		TRIAL PIT RECORD						REPORT NUMBER 22734		
CONTRACT Harbour Point Bray						TRIAL PIT NO. TP203 SHEET Sheet 1 of 1				
LOGGED BY F. Afonso		CO-ORDINATES 726,507.10 E 719,598.03 N				DATE STARTED 25/09/2020 DATE COMPLETED 25/09/2020				
CLIENT ENGINEER Ballymore Atkins		GROUND LEVEL (m) 9.61				EXCAVATION METHOD JCB				
	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples			Vane Test (KPa)	Hand Penetrometer (KPa)
						Sample Ref	Type	Depth		
0.0	TOPSOIL									
	Firm brown gravelly very sandy CLAY with low cobble content and frequent rootlets. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. Cobbles are subangular to subrounded of multiple lithologies.		0.10	9.51		AA137972	Env B	0.50-0.50 0.50-0.50		
1.0	(Medium dense) Greyish brown slightly clayey very gravelly medium to coarse SAND with medium cobble content. Gravel is fine to coarse subrounded. Cobbles are subrounded of multiple lithologies.		0.80	8.81						
						AA137973	B	1.50-1.50		
2.0										
	End of Trial Pit at 2.50m		2.50	7.11		AA137974	B	2.50-2.50		
3.0										
Groundwater Conditions Dry										
Stability Unstable from 0.80m										
General Remarks Pit commenced after scanning ground with CAT cable avoidance tool. Pit terminated at 2.50m due to sidewall instability.										

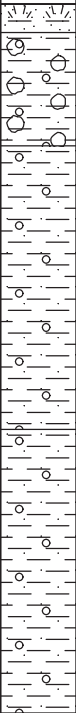
		TRIAL PIT RECORD						REPORT NUMBER 22734		
CONTRACT Harbour Point Bray						TRIAL PIT NO. TP204		SHEET Sheet 1 of 1		
LOGGED BY F. Afonso		CO-ORDINATES 726,516.51 E 719,549.49 N		DATE STARTED 25/09/2020		DATE COMPLETED 25/09/2020				
CLIENT Ballymore ENGINEER Atkins		GROUND LEVEL (m) 9.84		EXCAVATION METHOD JCB						
	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples			Vane Test (KPa)	Hand Penetrometer (KPa)
						Sample Ref	Type	Depth		
0.0	TOPSOIL									
	Firm brown gravelly very sandy CLAY with low cobble content and frequent rootlets. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. Cobbles are subangular to subrounded of multiple lithologies.		0.10	9.74						
	(Medium dense) Greyish brown slightly clayey very gravelly medium to coarse SAND with medium cobble content. Gravel is fine to coarse subrounded. Cobbles are subrounded of multiple lithologies.		0.70	9.14		AA137969	Env B	0.50-0.50 0.50-0.50		
1.0						AA137970	B	1.50-1.50		
2.0						AA137971	B	2.50-2.50		
3.0	End of Trial Pit at 3.00m		3.00	6.84						
Groundwater Conditions Dry										
Stability Unstable from 0.80m										
General Remarks Pit commenced after scanning ground with CAT cable avoidance tool										

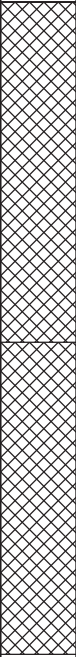
		TRIAL PIT RECORD						REPORT NUMBER		
CONTRACT		Harbour Point Bray						TRIAL PIT NO. TP205		
LOGGED BY		F. Afonso						SHEET Sheet 1 of 1		
CLIENT		Ballymore						DATE STARTED 24/09/2020		
ENGINEER		Atkins						DATE COMPLETED 24/09/2020		
		CO-ORDINATES 726,442.09 E 719,477.12 N						EXCAVATION METHOD JCB		
		GROUND LEVEL (m) 10.73								
	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples			Vane Test (KPa)	Hand Penetrometer (KPa)
						Sample Ref	Type	Depth		
0.0	TOPSOIL		0.10	10.63						
	Firm orangish brown gravelly very sandy CLAY with low cobble content and frequent rootlets. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. Cobbles are subangular to subrounded of multiple lithologies.					AA137960	Env B	0.50-0.50 0.50-0.50	22	
1.0	(Medium dense) Greyish brown slightly clayey gravelly medium to coarse SAND with low cobble content. Gravel is fine to coarse subrounded. Cobbles are subrounded of multiple lithologies.		0.80	9.93						
						AA137961	B	1.50-1.50		
2.0	(Medium dense) Greyish brown slightly clayey very gravelly medium to coarse SAND with medium cobble content. Gravel is fine to coarse subrounded. Cobbles are subrounded of multiple lithologies.		1.90	8.83						
						AA137962	B	2.50-2.50		
3.0	End of Trial Pit at 3.00m		3.00	7.73						
Groundwater Conditions Dry										
Stability Unstable from 0.80m										
General Remarks Pit commenced after scanning ground with CAT cable avoidance tool										

		TRIAL PIT RECORD						REPORT NUMBER 22734		
CONTRACT Harbour Point Bray						TRIAL PIT NO. TP207 SHEET Sheet 1 of 1				
LOGGED BY F. Afonso		CO-ORDINATES 726,448.36 E 719,400.85 N				DATE STARTED 24/09/2020 DATE COMPLETED 24/09/2020				
CLIENT ENGINEER Ballymore Atkins		GROUND LEVEL (m) 9.55				EXCAVATION METHOD JCB				
	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples			Vane Test (KPa)	Hand Penetrometer (KPa)
						Sample Ref	Type	Depth		
0.0	TOPSOIL Firm brown gravelly very sandy CLAY with low cobble content and frequent rootlets. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. Cobbles are subangular to subrounded of multiple lithologies.		0.10	9.45		AA137957	Env B	0.50-0.50 0.50-0.50		
1.0	(Medium dense) Greyish brown slightly clayey gravelly medium to coarse SAND. Gravel is fine to coarse subrounded.		0.90	8.65		AA137958	B	1.50-1.50		
2.0	(Medium dense) Greyish brown slightly clayey very gravelly medium to coarse SAND with medium cobble content. Gravel is fine to coarse subrounded. Cobbles are subrounded of multiple lithologies.		1.90	7.65		AA137959	B	2.50-2.50		
3.0	End of Trial Pit at 3.00m		3.00	6.55						
Groundwater Conditions Dry										
Stability Unstable from 1.60m										
General Remarks Pit commenced after scanning ground with CAT cable avoidance tool										

		TRIAL PIT RECORD						REPORT NUMBER 22734		
CONTRACT Harbour Point Bray						TRIAL PIT NO. TP208 SHEET Sheet 1 of 1				
LOGGED BY F. Afonso		CO-ORDINATES 726,491.25 E 719,426.98 N				DATE STARTED 24/09/2020 DATE COMPLETED 24/09/2020				
CLIENT ENGINEER Ballymore Atkins		GROUND LEVEL (m) 8.73				EXCAVATION METHOD JCB				
	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples			Vane Test (KPa)	Hand Penetrometer (KPa)
						Sample Ref	Type	Depth		
0.0	TOPSOIL									
	Firm brown slightly gravelly very sandy CLAY with low cobble content and frequent rootlets. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. Cobbles are subangular to subrounded of multiple lithologies.		0.10	8.63		AA137954	Env B	0.50-0.50 0.50-0.50	26	
1.0									30	
	(Medium dense) Greyish brown slightly clayey very gravelly medium to coarse SAND with high cobble content. Gravel is fine to coarse subrounded. Cobbles are subrounded of multiple lithologies.		1.40	7.33		AA137955	B	1.50-1.50		
2.0										
	End of Trial Pit at 2.30m		2.30	6.43		AA137956	B	2.30-2.30		
3.0										
Groundwater Conditions Dry										
Stability Unstable from 1.10m										
General Remarks Pit commenced after scanning ground with CAT cable avoidance tool. Pit terminated at 2.30m due to continued sidewall collapse.										

		TRIAL PIT RECORD						REPORT NUMBER 22734		
CONTRACT Harbour Point Bray						TRIAL PIT NO. TP209 SHEET Sheet 1 of 1				
LOGGED BY F. Afonso		CO-ORDINATES 726,613.14 E 719,463.80 N				DATE STARTED 25/09/2020 DATE COMPLETED 25/09/2020				
CLIENT ENGINEER Ballymore Atkins		GROUND LEVEL (m) 7.15				EXCAVATION METHOD JCB				
	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples			Vane Test (KPa)	Hand Penetrometer (KPa)
						Sample Ref	Type	Depth		
0.0	TOPSOIL									
	Firm brown sandy very gravelly CLAY with low cobble content and frequent rootlets. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. Cobbles are subangular to subrounded of multiple lithologies. (Possible MADE GROUND)		0.10	7.05						
	Firm orangish brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. (Possible MADE GROUND)		0.60	6.55		AA137975	Env B	0.50-0.50 0.50-0.50	28	
1.0						AA137976	B	1.00-1.00		
	Stiff light brown slightly sandy slightly gravelly CLAY with occasional organic matter. Sand is fine to coarse. Gravel is fine to medium.		1.40	5.75		AA137977	B	1.50-1.50	86	
2.0						AA137978	B	2.50-2.50		
3.0	End of Trial Pit at 2.90m		2.90	4.25						
Groundwater Conditions Dry										
Stability Good										
General Remarks Pit commenced after scanning ground with CAT cable avoidance tool										

		TRIAL PIT RECORD						REPORT NUMBER 22734		
CONTRACT Harbour Point Bray						TRIAL PIT NO. TP210 SHEET Sheet 1 of 1				
LOGGED BY D. Newell		CO-ORDINATES 726,589.65 E 719,426.43 N				DATE STARTED 25/09/2020 DATE COMPLETED 25/09/2020				
CLIENT ENGINEER Ballymore Atkins		GROUND LEVEL (m) 6.66				EXCAVATION METHOD JCB				
	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples			Vane Test (KPa)	Hand Penetrometer (KPa)
						Sample Ref	Type	Depth		
0.0	TOPSOIL Firm brown sandy gravelly CLAY with low cobble content and occasional rootlets. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. Cobbles are subangular to subrounded of multiple lithologies. (Possible MADE GROUND)		0.10	6.56						
	Firm to stiff brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.		0.50	6.16		AA148851	Env B	0.50-0.50 0.50-0.50	22	
1.0	Stiff brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.		1.50	5.16		AA148852	B	1.50-1.50		
2.0	End of Trial Pit at 2.50m		2.50	4.16		AA148853	B	2.50-2.50	28	
3.0										
Groundwater Conditions Dry										
Stability Good										
General Remarks Pit commenced after scanning ground with CAT cable avoidance tool. Pit terminated in stiff ground - slow progress.										

 TRIAL PIT RECORD							REPORT NUMBER 22734			
CONTRACT Harbour Point Bray						TRIAL PIT NO. TP211 SHEET Sheet 1 of 1				
LOGGED BY F. Afonso		CO-ORDINATES 726,509.56 E 719,370.93 N				DATE STARTED 24/09/2020 DATE COMPLETED 24/09/2020				
CLIENT ENGINEER Ballymore Atkins		GROUND LEVEL (m) 7.69				EXCAVATION METHOD JCB				
	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples			Vane Test (KPa)	Hand Penetrometer (KPa)
						Sample Ref	Type	Depth		
0.0	MADE GROUND comprising firm greyish brown sandy very gravelly CLAY with middle cobble content, frequent rootlets and occasional red bricks and plastics. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. Cobbles are subangular to subrounded of multiple lithologies					AA137951	Env B	0.50-0.50 0.50-0.50	26	
1.0	MADE GROUND comprising firm brownish grey sandy gravelly CLAY with low cobble content, frequent rootlets and occasional red bricks and plastics. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. Cobbles are subangular to subrounded of multiple lithologies		1.20	6.49		AA137952	B	1.50-1.50	32	
2.0	2.30m Black PVC pipe with gravel surround End of Trial Pit at 2.30m		2.30	5.39		AA137953	B	2.30-2.30		
3.0										
Groundwater Conditions Dry										
Stability Good										
General Remarks Pit commenced after scanning ground with CAT cable avoidance tool. Pit terminated upon encountering buried pipe at 2.30m.										

TP201 – 1 of 2



TP201 – 2 of 2



TP202 – 1 of 3



TP202 – 2 of 3



TP202 – 3 of 3



TP203 – 1 of 3



TP203 – 2 of 3



TP203 – 3 of 3



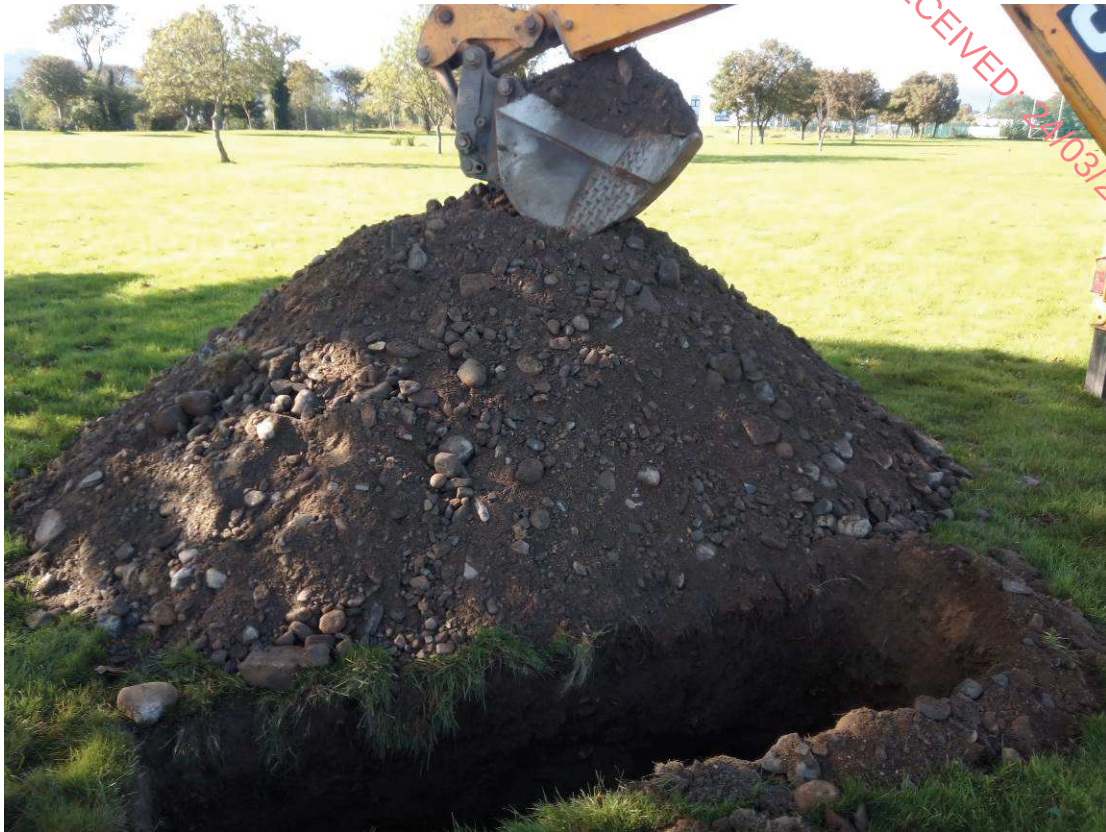
TP204 – 1 of 3



TP204 – 2 of 3



TP204 – 3 of 3



TP205 – 1 of 3



TP205 – 2 of 3



TP205 – 3 of 3



TP207 – 1 of 2



TP207 – 2 of 2



TP208 – 1 of 3



TP208 – 2 of 3



TP208 – 3 of 3



TP209 – 1 of 3



RECEIVED: 24/03/2025

TP209 – 2 of 3



TP209 – 3 of 3



TP210 – 1 of 3



RECEIVED: 24/03/2025

TP210 – 2 of 3



TP210 – 3 of 3



RECEIVED: 24/03/2025

TP211 – 1 of 4



RECEIVED: 24/03/2025

TP211 – 2 of 4



TP211 – 3 of 4



RECEIVED: 24/03/2025

TP211 – 4 of 4



Appendix 2

Cable Percussion Borehole Records

RECEIVED: 24/03/2025



GEOTECHNICAL BORING RECORD

REPORT NUMBER
22734
CONTRACT Harbour Point Bray

BOREHOLE NO. BH201

SHEET Sheet 1 of 1

CO-ORDINATES 726,357.88 E
719,535.30 N
GROUND LEVEL (m AOD) 13.74

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 9.50

DATE COMMENCED 20/08/2020
DATE COMPLETED 21/08/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	Light brown slightly clayey gravelly SAND with occasional roots		13.14	0.60						
1	Firm to stiff light brown very sandy gravelly CLAY				AA134066	B	1.00		N = 19 (3, 3, 4, 4, 5, 6)	
2	Dense grey fine to coarse silty sandy GRAVEL with occasional cobbles and boulders		12.04	1.70	AA134067	B	2.00		N = 32 (6, 6, 6, 7, 9, 10)	
3					AA134068	B	3.00		N = 35 (5, 7, 7, 9, 9, 10)	
4					AA134069	B	4.00		N = 37 (7, 6, 8, 8, 10, 11)	
5					AA134070	B	5.00		N = 39 (5, 6, 8, 9, 9, 13)	
6	Dense grey fine to coarse very sandy GRAVEL with some cobbles		8.14	5.60	AA134071	B	6.00		N = 36 (6, 7, 7, 9, 10, 10)	
7	Stiff to very stiff light brown sandy SILT		7.04	6.70	AA134072	U	7.00	100%rec 30 blows		
8					AA134073	B	8.00		N = 40 (6, 7, 9, 9, 10, 12)	
9					AA134074	B	9.00		N = 50/150 mm (11, 14, 37, 13)	
	Obstruction End of Borehole at 9.50 m		4.24	9.50						

HARD STRATA BORING/CHISELLING					WATER STRIKE DETAILS						
From (m)	To (m)	Time (h)	Comments		Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments	
9.3	9.5	1								No water strike	
					GROUNDWATER PROGRESS						
INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments		
Date	Tip Depth	RZ Top	RZ Base	Type	24-08-20	9.50	Nil	5.80	End of BH		
REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .						Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) UT - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample					

IGSL BH LOG 22734.GPJ IGSL GDT 24/3/21



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH202

SHEET Sheet 1 of 1

CO-ORDINATES 726,395.82 E
719,560.58 N
GROUND LEVEL (m AOD) 10.58RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 2.80DATE COMMENCED 24/08/2020
DATE COMPLETED 24/08/2020CLIENT Ballymore
ENGINEER AtkinsSPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		10.38	0.20						
	Firm light brown very sandy gravelly SILT/CLAY with occasional roots									
1	Stiff to very stiff mottled dark brown sandy gravelly CLAY with occasional cobbles and boulders		9.48	1.10	AA134475	B	1.00		N = 23 (2, 2, 4, 6, 6, 7)	
2					AA134476	B	2.00		N = 39 (6, 8, 9, 9, 10, 11)	
			7.78	2.80					N = 50/150 mm (12, 18, 21, 29)	
3	Obstruction End of Borehole at 2.80 m									
4										
5										
6										
7										
8										
9										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.6	2.8	1							No water strike

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample

 GEOTECHNICAL BORING RECORD										REPORT NUMBER 22734	
CONTRACT Harbour Point Bray								BOREHOLE NO. BH203 SHEET Sheet 1 of 1			
CO-ORDINATES 726,503.72 E 719,580.04 N GROUND LEVEL (m AOD) 10.31				RIG TYPE Dando 2000 BOREHOLE DIAMETER (mm) 200 BOREHOLE DEPTH (m) 8.50				DATE COMMENCED 28/08/2020 DATE COMPLETED 31/08/2020			
CLIENT Ballymore ENGINEER Atkins				SPT HAMMER REF. NO. SA7 ENERGY RATIO (%) 76.91				BORED BY WC PROCESSED BY F.C.			
Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details	
					Ref. Number	Sample Type	Depth (m)	Recovery			
0	TOPSOIL		10.11	0.20							
	Firm dark brown sandy SILT/CLAY		9.41	0.90							
1	Firm to stiff dark brown very sandy gravelly SILT/CLAY with some cobbles				AA139451	B	1.00		N = 15 (2, 2, 3, 3, 4, 5)		
2					AA139452	B	2.00		N = 22 (3, 4, 4, 5, 6, 7)		
3					AA139453	B	3.00		N = 29 (6, 6, 5, 6, 8, 10)		
4	Very stiff dark brown sandy gravelly SILT/CLAY with some cobbles		6.11	4.20	AA139454	B	4.00		N = 41 (10, 12, 14, 10, 9, 8)		
5	Stiff mottled brown gravelly SILT		5.21	5.10	AA139455	B	5.00		N = 27 (5, 5, 6, 8, 6, 7)		
6					AA139456	B	6.00		N = 33 (6, 6, 7, 8, 8, 10)		
7	Very stiff mottled brown gravelly SILT with some cobbles and occasional boulders		3.21	7.10	AA139457 Fail	B U	7.00 7.00				
8					AA139458	B	8.00		N = 50/245 mm (9, 11, 11, 14, 15, 10)		
9	Obstruction End of Borehole at 8.50 m		1.81	8.50							
HARD STRATA BORING/CHISELLING					WATER STRIKE DETAILS						
From (m)	To (m)	Time (h)	Comments		Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments	
3.9	4.1	1									
8.3	8.5	2								No water strike	
					GROUNDWATER PROGRESS						
INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments		
Date	Tip Depth	RZ Top	RZ Base	Type							
REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .					Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) UT - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample						

IGSL BH LOG 22734.GPJ IGSL GDT 24/3/21



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH204

SHEET Sheet 1 of 1

CO-ORDINATES 726,541.05 E
719,582.59 N
GROUND LEVEL (m AOD) 9.66

RIG TYPE Dando 1500
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 1.80

DATE COMMENCED 10/09/2020
DATE COMPLETED 11/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA4
ENERGY RATIO (%) 77.09

BORED BY DT
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		9.56	0.10						
	Soft to firm brown sandy gravelly SILT/CLAY		9.16	0.50						
	Firm to stiff brown sandy gravelly SILT/CLAY with occasional cobbles				AA146494	B	0.80		N = 25 (5, 6, 6, 5, 7, 7) N = 50/20 mm (25, 50)	
1	Dense grey coarse sandy angular GRAVEL		8.46	1.20	AA146495	B	1.00			
					AA146496	B	1.50			
2	Obstruction - Probable boulder End of Borehole at 1.80 m		7.86	1.80						
3										
4										
5										
6										
7										
8										
9										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
1.7	1.8	1.75							No water strike

GROUNDWATER PROGRESS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)

UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH205

SHEET Sheet 1 of 2

CO-ORDINATES 726,386.96 E
719,518.14 N
GROUND LEVEL (m AOD) 10.75

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 10.50

DATE COMMENCED 24/08/2020
DATE COMPLETED 25/08/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		10.45	0.30						
1	Stiff to very stiff light brown very sandy gravelly SILT/CLAY with occasional roots				AA134477	B	1.00		N = 35 (6, 6, 8, 9, 8, 10)	
2					AA134478	B	2.00		N = 49 (7, 9, 11, 11, 14, 13)	
3	Very stiff dark brown very sandy gravelly CLAY with some cobbles and occasional boulders		8.35	2.40	AA134479	B	3.00		N = 50/185 mm (12, 13, 23, 17, 10)	
4					AA134480	B	4.00		N = 50/190 mm (16, 9, 18, 19, 13)	
5					AA134481	B	5.00		N = 50/255 mm (9, 11, 11, 14, 15, 10)	
6	Medium dense to dense very silty gravelly SAND. Gravel is fine to medium.		5.05	5.70	AA134482	U	6.00	100%rec 35 blows		
7					AA134483	B	7.00		N = 30 (5, 6, 7, 7, 8, 8)	
8	Very stiff light brown sandy SILT		3.55	7.20	AA134484	U	8.00	90%rec 40 blows		
9					AA134485	B	9.00		N = 40 (7, 9, 9, 10, 10, 11)	

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
3.1	3.3	0.75							
4.2	4.5	0.75							
10.3	10.5	1							No water strike

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type	25-08-20			5.80	Start 2nd day

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)

UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH205

SHEET Sheet 2 of 2

CO-ORDINATES 726,386.96 E
719,518.14 N
GROUND LEVEL (m AOD) 10.75RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 10.50DATE COMMENCED 24/08/2020
DATE COMPLETED 25/08/2020CLIENT Ballymore
ENGINEER AtkinsSPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	Very stiff light brown sandy SILT (<i>continued</i>)	x x x x x x x x x	0.25	10.50	AA134486	U	10.00	90%rec 45 blows		
	Obstruction End of Borehole at 10.50 m									
11										
12										
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
3.1	3.3	0.75							
4.2	4.5	0.75							
10.3	10.5	1							No water strike

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH206

SHEET Sheet 1 of 1

CO-ORDINATES 726,557.76 E
719,562.15 N
GROUND LEVEL (m AOD) 9.10

RIG TYPE Dando 1500
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 6.50

DATE COMMENCED 09/09/2020
DATE COMPLETED 10/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA4
ENERGY RATIO (%) 77.09

BORED BY DT
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		9.00	0.10						
	Soft to firm brown sandy gravelly SILT/CLAY		8.50	0.60	AA146485	B	0.50			
	Firm brown sandy gravelly SILT/CLAY with occasional cobbles		8.20	0.90						
1	Firm brown very sandy very gravelly CLAY with occasional cobbles		7.90	1.20	AA146486	B	1.00			
	Dense grey fine to coarse sandy GRAVEL with occasional cobbles									
2					AA146487	B	2.00		N = 24 (5, 5, 6, 5, 6, 7)	
									N = 50/225 mm (25, 17, 16, 17)	
3					AA146488	B	3.00		N = 50/60 mm (18, 7, 50)	
			5.60	3.50						
4	Stiff to very stiff orange/brown sandy gravelly silty CLAY				AA146489	B	3.50			
					AA146490	U	4.00	100%rec		
					AA146491	B	4.50			
5					AA146492	B	5.00		N = 35 (5, 5, 8, 8, 9, 10)	
6					AA146493	B	6.00		N = 49/285 mm (4, 4, 7, 9, 12, 21)	
			2.60	6.50						
7	Obstruction End of Borehole at 6.50 m									
8										
9										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
3.2	3.5	1							
6.3	6.5	1							No water strike

GROUNDWATER PROGRESS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)

UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER
22734
CONTRACT Harbour Point Bray

BOREHOLE NO. BH207

SHEET Sheet 1 of 2

CO-ORDINATES 726,396.97 E
719,459.97 N
GROUND LEVEL (m AOD) 11.07

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 9.80

DATE COMMENCED 26/08/2020
DATE COMPLETED 27/08/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		10.87	0.20						
1	Stiff to very stiff dark brown very sandy gravelly SILT/CLAY				AA134487	B	1.00		N = 31 (4, 6, 8, 8, 8, 7)	
2					AA134488	B	2.00		N = 28 (6, 7, 7, 6, 7, 8)	
3					AA134489	B	3.00		N = 50/210 mm (10, 14, 15, 17, 18)	
4					AA134490	B	4.00		N = 44 (6, 8, 10, 10, 11, 13)	
5			5.67	5.40	AA134491	B	5.00		N = 34 (7, 8, 9, 9, 8, 8)	
6	Very stiff mottled brown sandy SILT		4.97	6.10	AA134492	B	6.00		N = 54/275 mm (3, 7, 9, 15, 17, 13)	
7	Very stiff dark brown sandy gravelly SILT/CLAY with occasional cobbles and boulders				AA134493	B	7.00		N = 50/225 mm (10, 12, 14, 14, 16, 6)	
8					AA134494	B	8.00		N = 50/265 mm (8, 11, 13, 13, 14, 10)	
9					AA134495	B	9.00		N = 50/225 mm (7, 8, 11, 15, 17, 7)	
	Obstruction		1.27	9.80						

HARD STRATA BORING/CHISELLING				WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
3.3	3.6	1		9.80	9.80	No	5.80	20	Rapid
9.6	9.8	1							
INSTALLATION DETAILS				GROUNDWATER PROGRESS					
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
27-08-00	9.80	1.00	9.80	50mm SP					
REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .				Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) UT - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample					



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH207

SHEET Sheet 2 of 2

CO-ORDINATES 726,396.97 E
719,459.97 N
GROUND LEVEL (m AOD) 11.07RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 9.80DATE COMMENCED 26/08/2020
DATE COMPLETED 27/08/2020CLIENT Ballymore
ENGINEER AtkinsSPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	End of Borehole at 9.80 m									
11										
12										
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
3.3	3.6	1							
9.6	9.8	1							

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					
27-08-00	9.80	1.00	9.80	50mm SP					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH208

SHEET Sheet 1 of 1

CO-ORDINATES 726,485.04 E
719,504.09 N
GROUND LEVEL (m AOD) 10.11

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 3.90

DATE COMMENCED 01/09/2020
DATE COMPLETED 01/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		9.81	0.30						
1	Stiff to very stiff dark brown very sandy gravelly SILT/CLAY with occasional cobbles				AA139451	B	1.00		N = 24 (3, 3, 4, 5, 7, 8)	
2					AA139452	B	2.00		N = 49/255 mm (8, 17, 18, 10, 10, 11)	
3					AA139453	B	3.00		N = 50/220 mm (10, 14, 16, 17, 17)	
4	Obstruction End of Borehole at 3.90 m		6.21	3.90						
5										
6										
7										
8										
9										

HARD STRATA BORING/CHISELLING					WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments		Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
3.6	3.9	2								No water strike
					GROUNDWATER PROGRESS					
INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments	
Date	Tip Depth	RZ Top	RZ Base	Type						
REMARKS	Standing on access 5hrs. 1hr erecting Covid 19 Safe Working Area. CAT scanned location and hand dug inspection pit carried out .					Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) UT - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample				



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH210

SHEET Sheet 1 of 2

CO-ORDINATES 726,535.60 E
719,521.76 N
GROUND LEVEL (m AOD) 9.36RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 12.80DATE COMMENCED 02/09/2020
DATE COMPLETED 03/09/2020CLIENT Ballymore
ENGINEER AtkinsSPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		9.16	0.20						
	Light brown sandy gravelly SILT/CLAY		8.56	0.80						
1	Medium dense to dense light brown very sandy GRAVEL with some cobbles (Possibly very gravelly sand)				AA141603	B	1.50		N = 25 (4, 5, 5, 6, 6, 8)	
2					AA141604	B	2.50		N = 50/85 mm (9, 16, 36, 14)	
3					AA141605	B	3.50		N = 49/255 mm (8, 10, 11, 14, 15, 9)	
4	Stiff dark brown sandy gravelly SILT/CLAY		5.16	4.20	AA141606	B	4.50		N = 37 (5, 18, 10, 10, 8, 9)	
5	Dense dark brown sandy silty/clayey GRAVEL with some cobbles (Possibly very gravelly clay)		4.06	5.30	AA141607	B	5.50		N = 39 (4, 6, 9, 10, 9, 11)	
6	Stiff to very stiff light brown sandy gravelly silty CLAY with some cobbles and occasional boulders		3.16	6.20	AA141608	B	6.50		N = 32 (5, 5, 6, 8, 8, 10)	
7					AA141609	B	7.50		N = 43 (6, 8, 10, 10, 11, 12)	
8					AA141610	B	8.50		N = 40 (5, 8, 8, 11, 11, 10)	
9	Very stiff light brown SILT		0.56	8.80						
			-0.54	9.90	AA141611	B	9.50		N = 41 (8, 8, 9, 10, 11, 11)	

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.7	2.9	1							
11.7	11.9	0.75							
12.6	12.8	2							

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS Standing on access 2hrs. 1hr erecting Covid 19 Safe Working Area. CAT scanned location and hand dug inspection pit carried out.

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH210

SHEET Sheet 2 of 2

CO-ORDINATES 726,535.60 E
719,521.76 N
GROUND LEVEL (m AOD) 9.36RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 12.80DATE COMMENCED 02/09/2020
DATE COMPLETED 03/09/2020CLIENT Ballymore
ENGINEER AtkinsSPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	Very stiff dark brown sandy gravelly silty CLAY with cobbles (continued)		-3.44	12.80	AA141612	U	10.50	100%rec 50 blows	N = 50/105 mm (14, 11, 21, 29) N = 50/105 mm (8, 17, 32, 18)	
11					AA141613	B	11.50			
12					AA141614	B	12.50			
13	Obstruction End of Borehole at 12.80 m									
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.7	2.9	1		12.80	12.80	No	10.00	20	Rapid
11.7	11.9	0.75							
12.6	12.8	2							

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS Standing on access 2hrs. 1hr erecting Covid 19 Safe Working Area. CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH211

SHEET Sheet 1 of 2

CO-ORDINATES 726,574.08 E
719,521.79 N
GROUND LEVEL (m AOD) 8.72

RIG TYPE Dando 1500
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 13.80

DATE COMMENCED 07/09/2020
DATE COMPLETED 09/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA4
ENERGY RATIO (%) 77.09

BORED BY DT
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		8.62	0.10						
	Brown very sandy gravelly SILT/CLAY		8.22	0.50						
	Light brown/orange sandy gravelly SILT/CLAY with occasional cobbles		7.92	0.80						
	Firm mottled brown/black sandy gravelly CLAY with some cobbles		7.82	0.90						
1	Stiff brown very sandy very gravelly CLAY		7.52	1.20	AA146464	B	1.20		N = 21 (3, 3, 5, 5, 5, 6)	
2	Medium dense grey/brown fine to coarse very sandy silty GRAVEL with some cobbles				AA146465	B	2.00		N = 50/205 mm (25, 18, 19, 13)	
3					AA146466	B	3.00		N = 50/225 mm (25, 16, 17, 17)	
4					AA146467	B	4.00		N = 31 (5, 5, 4, 4, 6, 17)	
			3.92	4.80	AA146468	B	4.50			
5	Stiff pink/brown sandy gravelly SILT/CLAY				AA146469	U	5.00	100%rec		
			3.12	5.60	AA146470	B	6.00		N = 31 (2, 4, 6, 6, 8, 11)	
6	Stiff brown sandy gravelly silty CLAY				AA146471	B	6.50			
7	Very stiff brown very sandy very gravelly CLAY with cobbles		1.92	6.80	AA146472	B	7.00		N = 43 (8, 10, 9, 10, 11, 13)	
					AA146473	B	7.50			
8					AA146474	U	8.00	100%rec		
					AA146475	B	8.50			
9					AA146476	U	9.00	100%rec		
					AA146477	B	9.50			

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
1.8	2	0.75							
3.5	3.9	1							
10	10.3	0.5							
13.6	13.8	1							

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type	08-09-20			8.50	End of 2nd day

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)

UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH211

SHEET Sheet 2 of 2

CO-ORDINATES 726,574.08 E
719,521.79 N
GROUND LEVEL (m AOD) 8.72

RIG TYPE Dando 1500
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 13.80

DATE COMMENCED 07/09/2020
DATE COMPLETED 09/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA4
ENERGY RATIO (%) 77.09

BORED BY DT
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	Very stiff brown very sandy very gravelly CLAY with cobbles (<i>continued</i>)		-1.88	10.60	AA146478	B	10.00		N = 50/75 mm (16, 9, 50) N = 50/170 mm (6, 10, 16, 24, 10) N = 50/195 mm (5, 11, 15, 20, 15) N = 50/150 mm (5, 20, 25, 25) N = 50/125 mm (4, 21, 28, 22)	
					AA146479	B	10.00			
					AA146480	B	10.50			
11	Dense grey fine to coarse sandy GRAVEL with some cobbles				AA146481	B	11.00			
12					AA146482	B	12.00			
13					AA146483	B	13.00			
					AA146484	B	13.50			
14	Obstruction End of Borehole at 13.80 m		-5.08	13.80						
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
1.8	2	0.75		10.60	10.60	No	8.80	20	Rapid
3.5	3.9	1							
10	10.3	0.5							
13.6	13.8	1							

GROUNDWATER PROGRESS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
					09-09-20	13.80	Nil	8.70	End of BH

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)
UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH212

SHEET Sheet 1 of 1

CO-ORDINATES 726,480.85 E
719,395.92 N
GROUND LEVEL (m AOD) 7.95

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 4.70

DATE COMMENCED 28/09/2020
DATE COMPLETED 29/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	MADE GROUND comprised of sandy gravelly CLAY with Cl.804 type granular FILL		6.75	1.20	AA141643	ENV	0.50		N = 50/285 mm (4, 7, 9, 11, 16, 14)	
1	Stiff to very stiff dark brown gravelly SILT/CLAY with occasional cobbles				AA141644 AA141645	ENV B	1.50 1.50			
2			5.05	2.90	AA141646 AA141647	ENV B	2.50 2.50		N = 29 (5, 5, 6, 6, 8, 9)	
3	Stiff to very stiff light brown sandy gravelly SILT/CLAY with some cobbles				AA141648 AA141649	ENV B	3.50 3.50			
4			3.25	4.70	AA141650 AA141651	ENV B	4.50 4.50		N = 30 (4, 5, 6, 7, 8, 9)	
5	Obstruction End of Borehole at 4.70 m									
6										
7										
8										
9										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.5	2.7	0.5							
4.5	4.7	2							No water strike

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)

UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH213

SHEET Sheet 1 of 2

CO-ORDINATES 726,544.05 E
719,454.95 N
GROUND LEVEL (m AOD) 8.32

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 11.10

DATE COMMENCED 10/09/2020
DATE COMPLETED 14/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		8.07	0.25						
	Medium dense to dense light brown fine to coarse sandy GRAVEL with occasional cobbles				AA146601	B	1.50		N = 50/225 mm (8, 10, 14, 14, 15, 7)	
1										
2					AA146602	B	2.50		N = 50/220 mm (10, 13, 14, 17, 19)	
3										
4					AA146603	B	3.50		N = 47 (8, 9, 11, 11, 12, 13)	
5	Stiff to very stiff dark brown gravelly SILT/CLAY with occasional cobbles		4.42	3.90						
6					AA146604	B	4.50		N = 30 (6, 6, 7, 8, 7, 8)	
7										
8					AA146605	B	5.50		N = 28 (4, 5, 7, 6, 8, 7)	
9										
					AA146606	B	6.50		N = 47 (3, 6, 12, 12, 12, 11)	
					AA146607	B	7.50		N = 43 (5, 8, 10, 10, 11, 12)	
					AA146608	B	8.50		N = 43 (9, 9, 11, 10, 11, 11)	
					AA146609	B	9.50		N = 50/225 mm (2, 7, 10, 14, 20, 6)	

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.2	2.5	0.75							
10.8	11.1	2							No water strike

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type	14-09-20			3.30	Start of 3rd Day

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)

UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH213

SHEET Sheet 2 of 2

CO-ORDINATES 726,544.05 E
719,454.95 N
GROUND LEVEL (m AOD) 8.32

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 11.10

DATE COMMENCED 10/09/2020
DATE COMPLETED 14/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	Stiff to very stiff dark brown gravelly SILT/CLAY with occasional cobbles <i>(continued)</i>		-2.48	10.80	AA146610	B	10.50		N = 50/255 mm (9, 11, 11, 13, 16, 10)	
11	Very stiff light brown very sandy gravelly silty CLAY		-2.78	11.10						
	Obstruction End of Borehole at 11.10 m									
12										
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING				WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.2	2.5	0.75							No water strike
10.8	11.1	2							
INSTALLATION DETAILS				GROUNDWATER PROGRESS					
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .				Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) UT - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample					



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH214

SHEET Sheet 1 of 1

CO-ORDINATES 726,594.19 E
719,464.75 N
GROUND LEVEL (m AOD) 7.41

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 4.80

DATE COMMENCED 15/09/2020
DATE COMPLETED 15/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		7.11	0.30						
	Very stiff light brown very sandy gravelly SILT/CLAY with occasional cobbles				AA001709	ENV	0.50			
1					AA001710 AA146611	ENV B	1.50 1.50		N = 44 (6, 8, 10, 10, 11, 13)	
2	Stiff mottled brown sandy gravelly SILT/CLAY with occasional cobbles		5.21	2.20						
					AA001711 AA146612	ENV B	2.50 2.50		N = 23 (4, 5, 6, 6, 5, 6)	
3	Stiff to very stiff light brown gravelly CLAY with cobbles		4.11	3.30						
					AA001712 AA146613	ENV U	3.50 3.50	100%rec 35 blows		
4					AA001713 AA146614	ENV B	4.50 4.50		N = 34 (6, 6, 6, 7, 8, 13)	
5	Obstruction End of Borehole at 4.80 m		2.61	4.80						
6										
7										
8										
9										

HARD STRATA BORING/CHISELLING				WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
4.6	4.6	1		2.20	2.20	3.30	1.90	20	Moderate
INSTALLATION DETAILS				GROUNDWATER PROGRESS					
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .				Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) UT - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample					



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH215

SHEET Sheet 1 of 2

CO-ORDINATES 726,622.65 E
719,429.37 N
GROUND LEVEL (m AOD) 4.67

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 13.30

DATE COMMENCED 17/09/2020
DATE COMPLETED 28/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		4.47	0.20						
	Dark brown sandy gravelly SILT/CLAY		4.07	0.60	AA141651	ENV	0.50			
1	Stiff light brown sandy gravelly SILT/CLAY with occasional cobbles				AA141652 AA141653	ENV B	1.50 1.50		N = 25 (4, 4, 6, 6, 7, 6)	
2					AA141654 AA141655	ENV B	2.50 2.50		N = 25 (5, 6, 6, 7, 6, 6)	
3					AA141656 AA141657	ENV B	3.50 3.50		N = 27 (4, 5, 6, 6, 7, 8)	
4	Stiff dark brown sandy gravelly CLAY with cobbles		0.77	3.90	AA141658 AA141659	ENV B	4.50 4.50		N = 26 (5, 5, 6, 6, 7, 7)	
5					AA141660 AA141661	ENV B	5.50 5.50		N = 26 (3, 5, 6, 6, 6, 8)	
6					AA141662 AA141663	ENV B	6.50 6.50		N = 30 (5, 6, 6, 7, 8, 9)	
7					AA141664 AA141665	ENV B	7.50 7.50		N = 29 (4, 6, 7, 7, 7, 8)	
8	Stiff to very stiff dark brown gravelly silty CLAY with cobbles		-3.63	8.30	AA141666 AA141667	ENV B	8.50 8.50		N = 36 (6, 8, 8, 9, 9, 10)	
9					AA141668 AA141669	ENV B	9.50 9.50		N = 31 (6, 7, 5, 8, 6, 12)	

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
13	13.3	1							No water strike

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)

UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH215

SHEET Sheet 2 of 2

CO-ORDINATES 726,622.65 E
719,429.37 N
GROUND LEVEL (m AOD) 4.67

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 13.30

DATE COMMENCED 17/09/2020
DATE COMPLETED 28/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	Stiff to very stiff dark brown gravelly silty CLAY with cobbles (<i>continued</i>)				AA141670 AA141671	ENV B	10.50 10.50		N = 50/225 mm (11, 14, 14, 15, 17, 4)	
11					AA141672 AA141673	ENV B	11.50 11.50			
12					AA141674 AA141675	ENV B	12.50 12.50			
13	Obstruction End of Borehole at 13.30 m		-8.63	13.30	AA141676	B	13.30		N = 50/225 mm (16, 9, 16, 16, 18)	
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING				WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
13	13.3	1							No water strike
INSTALLATION DETAILS				GROUNDWATER PROGRESS					
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .				Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) UT - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample					



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH216

SHEET Sheet 1 of 2

CO-ORDINATES 726,565.98 E
719,404.25 N
GROUND LEVEL (m AOD) 6.63

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 12.20

DATE COMMENCED 16/09/2020
DATE COMPLETED 17/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		6.43	0.20	AA146631	ENV	0.50			
	Light brown sandy gravelly SILT/CLAY		6.13	0.50						
	Firm dark brown sandy gravelly SILT/CLAY with occasional cobbles				AA146620 AA146632	B ENV	1.50 1.50		N = 16 (2, 3, 3, 3, 4, 6)	
1	Firm light brown sandy gravelly SILT/CLAY with occasional cobbles		5.23	1.40						
	Stiff light brown/grey SILT/CLAY		4.73	1.90	AA146621 AA146633	B ENV	2.50 2.50		N = 28 (3, 3, 6, 7, 7, 8)	
2										
			2.83	3.80	AA146622 AA146634	B ENV	3.50 3.50		N = 29 (5, 6, 6, 7, 8, 8)	
3										
	Very stiff light brown very sandy SILT/CLAY				AA146623 AA146635 AA146636	B ENV ENV	4.50 4.50 4.50		N = 50/275 mm (7, 8, 10, 13, 14, 13)	
4										
					AA146624	B	5.50		N = 50/225 mm (13, 12, 19, 13, 18)	
5										
					AA146625 AA146637	B ENV	6.50 6.50		N = 50/245 mm (11, 11, 12, 13, 16, 9)	
6										
	Stiff light brown very sandy gravelly SILT/CLAY		-0.57	7.20	AA146626 AA146638	B ENV	7.50 7.50		N = 30 (8, 9, 8, 8, 7, 7)	
7										
	Dense grey and grey/brown fine to coarse silty sandy GRAVEL with cobbles		-1.77	8.40	AA146627 AA146639	B ENV	8.50 8.50		N = 33 (6, 8, 8, 9, 8, 8)	
8										
	Very stiff mottled dark/light brown sandy gravelly silty CLAY		-2.87	9.50	AA146628 AA146640	B ENV	9.50 9.50		N = 45 (8, 8, 10, 10, 12, 13)	
9										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.1	9.3	1		7.20	7.20	9.50	6.80	20	Rapid
12	12.2	1							

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)

UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH216

SHEET Sheet 2 of 2

CO-ORDINATES 726,565.98 E
719,404.25 N
GROUND LEVEL (m AOD) 6.63

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 12.20

DATE COMMENCED 16/09/2020
DATE COMPLETED 17/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	Very stiff dark brown sandy gravelly silty CLAY		-3.77	10.40	AA146629 AA146641	B ENV	10.50		N = 48 (11, 11, 12, 12, 11, 13)	
11				10.50						
12					AA146630 AA146642	B ENV	11.50		N = 46 (9, 10, 10, 12, 11, 13)	
12							11.50			
	Obstruction End of Borehole at 12.20 m		-5.57	12.20						
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.1	9.3	1							
12	12.2	1							

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)

UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH217

SHEET Sheet 1 of 2

CO-ORDINATES 726,606.34 E
719,398.97 N
GROUND LEVEL (m AOD) 4.37RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 11.40DATE COMMENCED 22/09/2020
DATE COMPLETED 23/09/2020CLIENT Ballymore
ENGINEER AtkinsSPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		4.17	0.20						
	Light brown very sandy gravelly SILT/CLAY with occasional cobbles		3.47	0.90	AA146651 AA146655	ENV B	0.50 0.50			
1	Soft to firm dark brown sandy SILT/CLAY				AA146652 AA146653	ENV U	1.50 1.50	90%rec 10 blows		
2					AA146654	ENV	2.50		N = 10 (2, 2, 3, 2, 3, 2)	
3					AA146656 AA146657 FAIL	ENV B U	3.50 3.50 3.50			
4			-0.43	4.80	AA146658 AA146659	ENV U	4.50 4.50	30%rec 7 blows		
5	Firm to stiff light brown sandy gravelly SILT/CLAY				AA146660 AA146661	ENV B	5.50 5.50		N = 13 (2, 2, 3, 3, 3, 4)	
6			-2.33	6.70	AA146662 AA146663	ENV B	6.50 6.50		N = 39 (6, 8, 8, 10, 10, 11)	
7	Soft to firm light brown sandy gravelly SILT/CLAY				AA146664 AA146665	ENV B	7.50 7.50		N = 9 (2, 3, 2, 3, 2, 2)	
8	Stiff light brown sandy gravelly SILT/CLAY		-3.63	8.00	AA146666 AA146667	ENV B	8.50 8.50		N = 29 (4, 5, 6, 6, 8, 9)	
9					AA146668 AA146669	ENV B	9.50 9.50		N = 30 (5, 6, 6, 6, 8, 10)	

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
6.3 11.2	6.5 11.4	1 2		6.20	6.20	11.40	4.80	20	Moderate

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH217

SHEET Sheet 2 of 2

CO-ORDINATES 726,606.34 E
719,398.97 N
GROUND LEVEL (m AOD) 4.37

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 11.40

DATE COMMENCED 22/09/2020
DATE COMPLETED 23/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	Stiff light brown sandy gravelly SILT/CLAY (continued)		-6.03	10.40	AA146670 AA146671	ENV B	10.50		N = 21 (8, 8, 6, 6, 5, 4)	
	Firm to stiff dark brown sandy gravelly SILT/CLAY with occasional cobbles						10.50			
11			-7.03	11.40						
	Obstruction End of Borehole at 11.40 m									
12										
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING				WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
6.3	6.5	1							
11.2	11.4	2							
INSTALLATION DETAILS				GROUNDWATER PROGRESS					
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .				Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) UT - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample					



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH218

SHEET Sheet 1 of 2

CO-ORDINATES 726,631.70 E
719,398.74 N
GROUND LEVEL (m AOD) 3.98RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 13.30DATE COMMENCED 21/09/2020
DATE COMPLETED 23/09/2020CLIENT Ballymore
ENGINEER AtkinsSPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		3.73	0.25						
	Light brown sandy gravelly SILT/CLAY		3.08	0.90	AA141676	ENV	0.50			
1	Stiff dark brown very sandy gravelly SILT/CLAY with occasional cobbles		2.58	1.40	AA141677 AA141678	ENV B	1.50 1.50		N = 27 (4, 5, 6, 6, 7, 8)	
2	Stiff dark grey very sandy gravelly SILT/CLAY with some wood fragments		1.28	2.70	AA141679 AA141680	ENV B	2.50 2.50		N = 13 (3, 3, 3, 4, 3, 3)	
3	Firm dark brown sandy gravelly SILT/CLAY with occasional cobbles		-0.12	4.10	AA141681 AA141682	ENV U	3.50 3.50	100%rec 16 blows		
4	Loose to medium dense grey fine to coarse sandy silty GRAVEL		-2.92	6.90	AA141683 AA141684	ENV B	4.50 4.50		N = 11 (2, 2, 3, 2, 3, 3)	
5					AA141685 AA141686	ENV B	5.50 5.50		N = 13 (2, 3, 3, 4, 3, 3)	
6					AA141687 AA141688	ENV B	6.50 6.50		N = 12 (3, 2, 3, 3, 3, 3)	
7	Loose grey/brown silty/clayey gravelly SAND with some shells		-3.72	7.70	AA141689 AA141690	ENV B	7.50 7.50		N = 7 (3, 2, 2, 2, 2, 1)	
8	Soft dark brown peaty SILT		-5.22	9.20	AA141691 AA141692	ENV U	8.50 8.50	100%rec 8 blows		
9	Soft becoming firm dark brown SILT/CLAY with occasional shell fragments				AA141693 AA141694	ENV B	9.50 9.50		N = 6 (1, 2, 2, 1, 2, 1)	

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
13.1	13.3	2		4.70	4.70	7.70	3.80	20	Slow

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample

IGSL BH LOG 22734.GPJ IGSL GDT 24/3/21



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH218

SHEET Sheet 2 of 2

CO-ORDINATES 726,631.70 E
719,398.74 N
GROUND LEVEL (m AOD) 3.98

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 13.30

DATE COMMENCED 21/09/2020
DATE COMPLETED 23/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	Soft becoming firm dark brown SILT/CLAY with occasional shell fragments (<i>continued</i>)				AA141695	ENV U	10.50	100%rec	N = 15 (2, 3, 4, 4, 3, 4)	
					AA141696	U	10.50	8 blows		
11					AA141697	ENV U	11.50	100%rec		
					AA141698	U	11.50	12 blows		
12	Firm dark brown peaty SILT/CLAY		-8.82	12.80	AA141699	ENV B	12.50			
					AA141700	B	12.50			
13	Obstruction End of Borehole at 13.30 m		-9.32	13.30						
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
13.1	13.3	2		10.40	10.40	11.00	7.00	20	Moderate

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)

UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH219

SHEET Sheet 1 of 2

CO-ORDINATES 726,529.46 E
719,359.87 N
GROUND LEVEL (m AOD) 7.29

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 10.70

DATE COMMENCED 29/09/2020
DATE COMPLETED 30/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		7.14	0.15						
	MADE GROUND comprised of stiff dark brown sandy gravelly SILT/CLAY with some cobbles and large boulders				AA146674	B	0.50			
1					AA146675	ENV B	1.50			
					AA146676	B	1.50			
					AA146693	ENV	1.50			
2	MADE GROUND comprised of firm to stiff sandy SILT/CLAY with wire, wood and plastic fragments		5.29	2.00						
					AA146677	ENV B	2.50			
					AA146678	B	2.50			
3	Stiff dark brown sandy gravelly SILT/CLAY		4.29	3.00						
					AA146679	ENV B	3.50			
					AA146680	B	3.50			
4	Firm light brown very sandy gravelly SILT/CLAY with occasional cobbles		3.49	3.80						
					AA146681	ENV B	4.50			
					AA146682	B	4.50			
5										
					AA146683	ENV B	5.50			
					AA146684	B	5.50			
6										
					AA146685	ENV B	6.50			
					AA146686	B	6.50			
7	Soft dark brown/black PEAT		0.29	7.00						
	Firm dark brown very gravelly sandy silty CLAY		0.09	7.20						
					AA146687	ENV B	7.50			
					AA146688	B	7.50			
8										
	Stiff mottled brown sandy gravelly silty CLAY with some cobbles		-1.01	8.30						
					AA146689	ENV B	8.50			
					AA146690	B	8.50			
9										
					AA146691	ENV B	9.50			
					AA146692	B	9.50			

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.7	9.9	1							
10.5	10.7	2							No water strike

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)

UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH219

SHEET Sheet 2 of 2

CO-ORDINATES 726,529.46 E
719,359.87 N
GROUND LEVEL (m AOD) 7.29RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 10.70DATE COMMENCED 29/09/2020
DATE COMPLETED 30/09/2020CLIENT Ballymore
ENGINEER AtkinsSPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	Stiff mottled brown sandy gravelly silty CLAY with some cobbles (continued)		-3.41	10.70	AA146694	B	10.50			
11	Obstruction End of Borehole at 10.70 m									
12										
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.7	9.9	1							
10.5	10.7	2							No water strike

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample

 GEOTECHNICAL BORING RECORD REPORT NUMBER 22734										
CONTRACT Harbour Point Bray						BOREHOLE NO. BH221 SHEET Sheet 1 of 2				
CO-ORDINATES 726,573.03 E 719,326.03 N GROUND LEVEL (m AOD) 3.00			RIG TYPE Dando 2000 BOREHOLE DIAMETER (mm) 200 BOREHOLE DEPTH (m) 14.50			DATE COMMENCED 08/09/2020 DATE COMPLETED 09/09/2020				
CLIENT Ballymore ENGINEER Atkins			SPT HAMMER REF. NO. SA7 ENERGY RATIO (%) 76.91			BORED BY WC PROCESSED BY F.C.				
Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		2.80	0.20						
1	Very soft light brown sandy slightly silty CLAY				AA141627	U	1.50	90%rec	N = 5 (1, 2, 1, 1, 2, 1)	
2	Soft dark brown SILT/CLAY		0.70	2.30	AA141628	B	2.50			
3	Very soft dark grey slightly peaty SILT		-0.30	3.30	AA141629	U	3.50	100%rec		
4					AA141630	B	4.50			
5					AA141631	U	5.50	90%rec		
6	Very soft dark brown SILT with shells		-3.10	6.10	AA141632	B	6.50		N = 2 (0, 0, 1, 0, 1, 0)	
7	Very soft light brown SILT		-4.20	7.20	AA141633	U	7.50	100%rec	N = 3 (0, 1, 1, 0, 1, 1)	
8					AA141634	B	8.50			
9					AA141635	B	9.50			
HARD STRATA BORING/CHISELLING					WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments	
14.1	14.2	1		5.30	5.30	No	No	20	Seepage	
14.3	14.5	1								
INSTALLATION DETAILS					GROUNDWATER PROGRESS					
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments	
REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .					Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) UT - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample					

IGSL BH LOG 22734.GPJ IGSL GDT 24/3/21



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH222

SHEET Sheet 1 of 1

CO-ORDINATES 726,618.23 E
719,344.48 N
GROUND LEVEL (m AOD) 3.40

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 0.90

DATE COMMENCED 04/09/2020
DATE COMPLETED 04/09/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		3.20	0.20	AA141709	B	0.70			
	Light brown sandy clayey GRAVEL with some cobbles and occasional boulders		2.50	0.90						
1	Obstruction End of Borehole at 0.90 m									
2										
3										
4										
5										
6										
7										
8										
9										

HARD STRATA BORING/CHISELLING					WATER STRIKE DETAILS						
From (m)	To (m)	Time (h)	Comments		Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments	
										No water strike	
					GROUNDWATER PROGRESS						
INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments		
Date	Tip Depth	RZ Top	RZ Base	Type							
REMARKS	1hr Erecting Covid 19 Safe Working Area. CAT scanned location and hand dug inspection pit carried out. Obstruction encountered at 0.90m. Relocated to BH222A and attempted					Sample Legend					
						D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (.Jar + Vial + Tub) UT - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample					



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH222A

SHEET Sheet 1 of 2

CO-ORDINATES 726,619.24 E
719,345.03 N
GROUND LEVEL (m AOD) 3.40RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 12.90DATE COMMENCED 04/09/2020
DATE COMPLETED 07/09/2020CLIENT Ballymore
ENGINEER AtkinsSPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		3.20	0.20						
	Light brown sandy clayey GRAVEL with occasional cobbles		2.80	0.60						
	Loose dark brown sandy clayey GRAVEL (Possibly very gravelly clay)		2.30	1.10						
1	Very soft light brown slightly clayey sandy SILT				AA141615	U	1.50	75%rec 8 blows		
2					AA141616	B	2.50		N = 5 (1, 1, 2, 1, 1, 1)	
3	Very soft dark grey SILT		0.30	3.10	AA141617	U	3.50	100%rec 6 blows		
4					AA141618	B	4.50		N = 5 (1, 2, 1, 1, 2, 1)	
5					AA141619	U	5.50	90%rec 8 blows		
6					AA141620	B	6.50		N = 5 (0, 1, 1, 2, 1, 1)	
7					AA141621	U	7.50	Fail%rec 9 blows		
8	Very soft dark brown sandy SILT with shells		-4.90	8.30	AA141622	B	8.50		N = 4 (0, 0, 1, 1, 1, 1)	
9					AA141623	U	9.50	100%rec 10 blows		

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
12.7	12.9	2							

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type	07-09-20			2.60	Start 2nd day

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .Standing 2hrs to gain readmittance to site after lunch break.

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH222A

SHEET Sheet 2 of 2

CO-ORDINATES 726,619.24 E
719,345.03 N
GROUND LEVEL (m AOD) 3.40RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 12.90DATE COMMENCED 04/09/2020
DATE COMPLETED 07/09/2020CLIENT Ballymore
ENGINEER AtkinsSPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	Very soft dark brown sandy SILT with shells (continued)		-8.10	11.50	AA141624	B	10.50		N = 4 (1, 1, 1, 1, 1, 1)	
11										
12	Medium dense grey fine to coarse silty sandy GRAVEL		-9.50	12.90	AA141625	B	11.50			
13					AA141626	B	12.50		N = 28 (3, 4, 4, 6, 8, 10)	
14	Obstruction End of Borehole at 12.90 m									
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
12.7	12.9	2		11.50	11.50	No	3.20	20	Rapid

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .Standing 2hrs to gain readmittance to site after lunch break.

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH223

SHEET Sheet 1 of 2

CO-ORDINATES 726,635.90 E
719,297.75 N
GROUND LEVEL (m AOD) 2.39

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 12.30

DATE COMMENCED 05/10/2029
DATE COMPLETED 06/10/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	Stone FILL (Placed Hardcore)		2.19	0.20						
	Dark brown sandy gravelly SILT/CLAY				AA183901	ENV	0.50			
1			1.29	1.10						
	Soft to firm dark brown very sandy gravelly SILT/CLAY				AA183902	ENV	1.50		N = 10 (1, 2, 2, 2, 3, 3)	
					AA183903	B	1.50			
2					AA183904	ENV	2.50		N = 20 (3, 4, 4, 5, 5, 6)	
					AA183905	B	2.50			
3					AA183906	ENV	3.50		N = 3 (0, 1, 1, 1, 0, 1)	
					AA183907	B	3.50			
4	Very soft dark grey sandy SILT with occasional shell fragments		-1.71	4.10						
					AA183908	ENV	4.50			
					AA183909	U	4.50	90%rec 60 blows		
5			-3.01	5.40						
	Soft dark brown peaty SILT				AA183910	ENV	5.50		N = 5 (1, 2, 1, 1, 1, 2)	
					AA183911	B	5.50			
6			-3.81	6.20						
	Very soft light brown SILT				AA183912	ENV	6.50			
					AA183913	U	6.50	90%rec 7 blows		
7					AA183914	ENV	7.50		N = 4 (0, 1, 1, 1, 1, 1)	
					AA183915	B	7.50			
8					AA183916	ENV	8.50		N = 2 (0, 1, 1, 0, 1, 0)	
					AA183917	B	8.50			
			-6.51	8.90	AA183917	U	8.50			
9	Very soft dark brown SILT with shell fragments				AA183918	ENV	9.50		N = 3 (1, 1, 0, 1, 1, 1)	
					AA183919	B	9.50			

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
12.1	12.3	2		3.70	3.70	6.00	1.70	20	Rapid

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type	06-10-20			2.40	Start of 2nd day

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)

UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH223

SHEET Sheet 2 of 2

CO-ORDINATES 726,635.90 E
719,297.75 N
GROUND LEVEL (m AOD) 2.39

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 12.30

DATE COMMENCED 05/10/2029
DATE COMPLETED 06/10/2020

CLIENT Ballymore
ENGINEER Atkins

SPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91

BORED BY WC
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10		x x	-7.81	10.20						
	Loose grey fine to coarse GRAVEL with shell fragments	o o o o	-8.21	10.60	AA183920	ENV B	10.50		N = 12 (2, 3, 3, 3, 3, 3)	
	Firm dark brown peaty SILT with shell fragments	x x x x			AA183921		10.50			
11		x x x x	-8.91	11.30						
	Firm to stiff dark grey sandy SILT with occasional shell fragments	x x x x	-9.21	11.60	AA183922	ENV B	11.50		N = 24 (4, 5, 5, 6, 6, 7)	
	Medium dense grey fine to coarse GRAVEL with some cobbles and occasional boulders	o o o o			AA183923		11.50			
12	Obstruction End of Borehole at 12.30 m		-9.91	12.30						
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
12.1	12.3	2							

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)
UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH224

SHEET Sheet 1 of 2

CO-ORDINATES 726,606.14 E
719,297.94 N
GROUND LEVEL (m AOD) 1.56RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 12.20DATE COMMENCED 01/10/2020
DATE COMPLETED 02/10/2020CLIENT Ballymore
ENGINEER AtkinsSPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		1.41	0.15						
	Dark brown sandy SILT/CLAY		0.76	0.80	AA139459	ENV	0.50			
1	Very soft light grey sandy SILT/CLAY		0.06	1.50	AA139460 AA139461	ENV U	1.50 1.50	75%rec 12 blows		
2	Very soft dark grey SILT with shell fragments				AA139462 AA139463	ENV B	2.50 2.50		N = 3 (0, 1, 1, 0, 1, 1)	
3					AA139464 AA139465	ENV U	3.50 3.50	FAIL%rec		
4					AA139466 AA139467	ENV B	4.50 4.50			
5					AA139468 AA139469	ENV U	5.50 5.50	100%rec 6 blows		
6					AA139470 AA139471	ENV B	6.50 6.50			
7	Very soft dark brown SILT with shell fragments				AA139472 AA139473	ENV U	7.50 7.50	100%rec 8 blows	N = 2 (0, 1, 1, 0, 1, 0)	
8					AA139474 AA139475	ENV B	8.50 8.50			
9					AA139476 AA139477	ENV U	9.50 9.50			
	Very soft dark brown gravelly SILT		-7.24	8.80						

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
12.1	12.2	1.5		0.50	0.50		8.50	20	Moderate

GROUNDWATER PROGRESS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample



GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

BOREHOLE NO. BH224

SHEET Sheet 2 of 2

CO-ORDINATES 726,606.14 E
719,297.94 N
GROUND LEVEL (m AOD) 1.56RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 12.20DATE COMMENCED 01/10/2020
DATE COMPLETED 02/10/2020CLIENT Ballymore
ENGINEER AtkinsSPT HAMMER REF. NO. SA7
ENERGY RATIO (%) 76.91BORED BY WC
PROCESSED BY F.C.

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	Very soft dark brown gravelly SILT <i>(continued)</i>		-8.74	10.30	AA139478 AA139479	ENV B	10.50		N = 3 (1, 0, 1, 1, 0, 1)	
	Loose grey fine to coarse GRAVEL			10.50						
11			-9.64	11.20	AA139480 AA139481	ENV B	11.50		N = 36 (6, 4, 8, 9, 9, 10)	
	Dense grey fine to coarse sandy GRAVEL			11.50						
12	Obstruction End of Borehole at 12.20 m		-10.64	12.20						
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
12.1	12.2	1.5							

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned location and hand dug inspection pit carried out .

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)UT - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample

Appendix 3

Rotary Core Drillhole Records & Photographs

RECEIVED: 24/03/2025



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC202

SHEET Sheet 1 of 2

CO-ORDINATES 726,395.82 E
719,560.58 N

GROUND LEVEL (mOD) 10.58

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 04/09/2020

DATE COMPLETED 04/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0		0	0	0	0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	1.00	9.58		
1	1.50							SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY				
2		0	0	0								
3	3.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy CLAY	3.00	7.58		
4	4.50	0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SAND	3.60	6.98		
5		0	0	0								N = 56 (8, 12, 15, 17, 12, 12)
6	6.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	6.00	4.58		
7	7.50	0	0	0								N = 18 (2, 3, 5, 4, 3, 6)
8		0	0	0								N = 57 (1, 3, 8, 15, 16, 18)
9	9.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey GRAVEL	9.00	1.58		
		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL	9.60	0.98		
												N = 68 (5, 8, 12, 15, 16, 25)

REMARKS

Hole cased 0.00-10.20m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.60	9.60	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
04-09-20	10.20	1.20	10.20	50mm SP					



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC202

SHEET Sheet 2 of 2

CO-ORDINATES 726,395.82 E
719,560.58 N

GROUND LEVEL (mOD) 10.58

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 04/09/2020

DATE COMPLETED 04/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10	10.20				0 250 500			End of Borehole at 10.20 m	10.20	0.38		
11												
12												
13												
14												
15												
16												
17												
18												
19												

REMARKS

Hole cased 0.00-10.20m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.60	9.60	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
04-09-20	10.20	1.20	10.20	50mm SP	04-09-20	10.20	10.20	6.70	Water level recorded at end of drilling.



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC203

SHEET Sheet 1 of 3

CO-ORDINATES 726,503.72 E
719,580.04 N

GROUND LEVEL (mOD) 10.31

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 08/09/2020

DATE COMPLETED 09/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
1	1.50	0	0	0								
2		0	0	0								
3	3.00											
4		0	0	0								
4.50									4.50	5.81		
5		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey GRAVEL				
6	6.00											
7		0	0	0								
7.50												
8		0	0	0								
9	9.00								9.00	1.31		
		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL				

REMARKS

Hole cased 0.00-19.50m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
10.20	10.20	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
09-09-20	19.50	9.80	19.50	50mm SP					

 GEOTECHNICAL CORE LOG RECORD REPORT NUMBER 22734														
CONTRACT Harbour Point Bray							DRILL HOLE NO RC203							
CO-ORDINATES 726,503.72 E 719,580.04 N				RIG TYPE Geo305			SHEET Sheet 2 of 3							
GROUND LEVEL (mOD) 10.31				FLUSH Air/Mist			DATE COMMENCED 08/09/2020							
CLIENT Ballymore				INCLINATION (deg) -90			DATE COMPLETED 09/09/2020							
ENGINEER Atkins				CORE DIAMETER (mm) 78			DRILLED BY IGSL LOGGED BY D. O'Shea							
Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)		
10	10.50				0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL (<i>continued</i>)				N = 38 (2, 6, 8, 8, 10, 12)		
11		0	0	0										
12	12.00											N = 36 (6, 11, 13, 6, 7, 10)		
13		0	0	0										
14	13.50							SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SAND	13.50	-3.19		N = 58/200 mm (5, 8, 15, 18, 25)		
15		0	0	0										
16	15.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL	15.00	-4.69		N = 54/250 mm (1, 1, 3, 9, 26, 16)		
17		0	0	0								N = 60 (4, 7, 12, 13, 18, 17)		
18	16.50											N = 56/225 mm (7, 12, 17, 18, 21)		
19		0	0	0										
20	18.00													
21		0	0	0										
22	19.50											N = 51/245 mm (1, 5, 8, 12)		
End of Borehole at 19.50 m									19.50	-9.19				
REMARKS									WATER STRIKE DETAILS					
Hole cased 0.00-19.50m. Erect Covid 19 Safe Zone - 1hr.									Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
									10.20	10.20	N/S			Slow
INSTALLATION DETAILS									GROUNDWATER DETAILS					
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments					
09-09-20	19.50	9.80	19.50	50mm SP										



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC203

SHEET Sheet 3 of 3

CO-ORDINATES 726,503.72 E
719,580.04 N

GROUND LEVEL (mOD) 10.31

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 08/09/2020

DATE COMPLETED 09/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20					0 250 500							23, 8)
21												
22												
23												
24												
25												
26												
27												
28												
29												

REMARKS

Hole cased 0.00-19.50m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
10.20	10.20	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
09-09-20	19.50	9.80	19.50	50mm SP					



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC204

SHEET Sheet 1 of 2

CO-ORDINATES 726,541.05 E
719,582.59 N

GROUND LEVEL (mOD) 9.66

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 15/09/2020

DATE COMPLETED 16/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
1	1.50	0	0	0					1.70	7.96		
2		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL				
3	3.00								3.70	5.96		N = 22/70 mm (6, 22)
4	4.20							SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	4.20	5.46		
5	5.60	86	0	0				Returns of stiff reddish brown slightly sandy gravelly CLAY. Sand is fine. Gravel is angular to subrounded fine to medium of various lithologies.				
6	6.50	78	0	0					6.50	3.16		N = 45 (5, 6, 8, 11, 13, 13)
7	7.50	0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	7.00	2.66		
8		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL				N = 51/210 mm (9, 15, 17, 21, 13)
9	9.00											N = 51/250 mm (6, 9, 11, 13, 17, 10)
		0	0	0								

REMARKS

Hole cased 0.00-15.00m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
10.20	10.20	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC204

SHEET Sheet 2 of 2

CO-ORDINATES 726,541.05 E
719,582.59 N

GROUND LEVEL (mOD) 9.66

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 15/09/2020

DATE COMPLETED 16/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10	10.50				0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of SILT	10.20	-0.54		N = 17 (2, 4, 5, 5, 3, 4)
11		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL	11.00	-1.34		N = 52 (5, 8, 12, 12, 15, 13)
12	12.00											N = 55 (5, 7, 11, 12, 18, 14)
13		0	0	0								
14	13.50											
15		0	0	0				End of Borehole at 15.00 m	15.00	-5.34		N = 19 (3, 3, 4, 5, 4, 6)
16												
17												
18												
19												

REMARKS

Hole cased 0.00-15.00m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
10.20	10.20	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC206

SHEET Sheet 1 of 2

CO-ORDINATES 726,557.76 E
719,562.15 N

GROUND LEVEL (mOD) 9.10

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 14/09/2020

DATE COMPLETED 15/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
1	1.50	0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY	1.50	7.60		
2		0	0	0								
3	3.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	3.00	6.10		
4	4.50	0	0	0								
5		0	0	0								
6	6.00	0	0	0								
7	7.00								7.00	2.10		
8	8.00	50	0	0				Returns of cobbly GRAVEL. Gravel is angular to subrounded fine to medium of various lithologies.	8.00	1.10		N = 25/37 mm (20, 25)
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey GRAVEL	8.70	0.40		
9	9.50	0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of GRAVEL	9.80	-0.70		N = 22/35 mm (9, 22)

REMARKS

Hole cased 0.00-15.00m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC206

SHEET Sheet 2 of 2

CO-ORDINATES 726,557.76 E
719,562.15 N

GROUND LEVEL (mOD) 9.10

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 14/09/2020

DATE COMPLETED 15/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY (<i>continued</i>)	10.20	-1.10		N = 29 (3, 5, 5, 7, 8, 9)
11	11.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY				
12		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL	11.70	-2.60		N = 50/175 mm (5, 9, 17, 23, 10)
13	12.50											
14		0	0	0								N = 51/265 mm (5, 8, 12, 16, 17, 6)
15	14.00											
16		0	0	0								
17	15.00							End of Borehole at 15.00 m	15.00	-5.90		N = 52/212 mm (10, 14, 17, 13, 22)
18												
19												

REMARKS

Hole cased 0.00-15.00m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
					15-09-20	15.00	15.00	11.70	Water level recorded at end of drilling.

 GEOTECHNICAL CORE LOG RECORD REPORT NUMBER 22734															
CONTRACT Harbour Point Bray							DRILL HOLE NO RC208								
CO-ORDINATES 726,485.04 E 719,504.09 N					RIG TYPE Geo305		SHEET Sheet 1 of 2								
GROUND LEVEL (mOD) 10.11					FLUSH Air/Mist		DATE COMMENCED 06/09/2020								
CLIENT Ballymore					INCLINATION (deg) -90		DATE COMPLETED 06/09/2020								
ENGINEER Atkins					CORE DIAMETER (mm) 78		DRILLED BY IGSL								
							LOGGED BY D. O'Shea								
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)			
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY							
1	1.50	0	0	0					1.50	8.61					
2								SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey GRAVEL							
3	3.00	0	0	0											
4															
5	4.50	0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	4.50	5.61		N = 38 (4, 10, 15, 6, 8, 9)			
6												N = 42 (2, 5, 7, 11, 11, 13)			
7	7.50	0	0	0								N = 34 (3, 5, 5, 8, 10, 11)			
8												N = 32 (3, 4, 6, 7, 8, 11)			
9	9.00	0	0	0											
10	10.00								10.00	0.11					
REMARKS										End of Borehole at 10.00 m					
Hole cased 0.00-10.00m. Erect Covid 19 Safe Zone - 1hr.										WATER STRIKE DETAILS					
										Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
															No water strike recorded
										GROUNDWATER DETAILS					
INSTALLATION DETAILS										Date	Hole Depth	Casing Depth	Depth to Water	Comments	
Date	Tip Depth	RZ Top	RZ Base	Type											
07-09-20	9.00	0.80	9.00	50mm SP						07-09-20	10.00	10.00	6.90	Water level recorded at end of drilling.	

IGSL RC FI 10M 22734.GPJ IGSL GDT 4/11/20



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC208

SHEET Sheet 2 of 2

CO-ORDINATES 726,485.04 E
719,504.09 N

GROUND LEVEL (mOD) 10.11

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 06/09/2020

DATE COMPLETED 06/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10					0 250 500							N = 51/125 mm (4, 6, 16, 35)
11												
12												
13												
14												
15												
16												
17												
18												
19												

REMARKS

Hole cased 0.00-10.00m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
07-09-20	9.00	0.80	9.00	50mm SP					



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC212

SHEET Sheet 1 of 1

CO-ORDINATES 726,480.85 E
719,395.92 N

GROUND LEVEL (mOD) 7.95

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 30/09/2020

DATE COMPLETED 01/10/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey GRAVEL				
1	1.50	0	0	0								
2		0	0	0								
3	3.00											
4		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	3.80	4.15		
5	4.50							Returns of stiff reddish brown slightly sandy gravelly CLAY with a cobble. Sand is fine. Gravel is angular to subrounded fine to medium of various lithologies.	4.50	3.45		
6		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY	5.50	2.45		N = 40 (7, 7, 8, 10, 11, 11)
7	7.50											N = 39 (4, 5, 7, 9, 12, 11)
8		0	0	0								N = 43 (5, 7, 10, 11, 11, 11)
9	9.00											
10	10.00	0	0	0					10.00	-2.05		

REMARKS

End of Borehole at 10.00 m

WATER STRIKE DETAILS

Hole cased 0.00-10.00m. Erect Covid 19 Safe Zone - 1hr.

Water Strike

Casing Depth

Sealed At

Rise To

Time (min)

Comments

No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date

Hole Depth

Casing Depth

Depth to Water

Comments

Date

Tip Depth

RZ Top

RZ Base

Type



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC214

SHEET Sheet 1 of 2

CO-ORDINATES 726,594.19 E
719,464.75 N

GROUND LEVEL (mOD) 7.41

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 16/09/2020

DATE COMPLETED 17/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
1	1.50	0	0	0								
2		0	0	0								
3	3.00											
4		0	0	0								
5	4.50											
6		0	0	0								
7	5.70								5.70	1.71		
8		33	0	0				Returns of stiff brown slightly sandy gravelly CLAY with a cobble. Sand is fine. Gravel is angular to subrounded fine to medium of various lithologies.				N = 43 (5, 6, 10, 9, 12, 12)
9	7.20							SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SAND	7.20	0.21		
10		0	0	0								
11	8.70								8.70	-1.29		
12		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey cobbly GRAVEL				N = 18/65 mm (8, 18)
13	10.00								10.00	-2.59		

REMARKS

Hole cased 0.00-10.00m. Erect Covid 19 Safe Zone - 1 hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC214

SHEET Sheet 2 of 2

CO-ORDINATES 726,594.19 E
719,464.75 N

GROUND LEVEL (mOD) 7.41

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 16/09/2020

DATE COMPLETED 17/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10		93	0	0				Returns of stiff brown slightly sandy gravelly CLAY with occasional cobbles. Sand is fine. Gravel is angular to subrounded fine to medium of various lithologies.				N = 25/35 mm (10, 25)
11	11.50											N = 25/28 mm (5, 25)
12		94	0	0								N = 25/70 mm (10, 25)
13	13.10											N = 51/107 mm (13, 12, 25, 26)
14		100	0	0								
14.70								End of Borehole at 14.70 m	14.70	-7.29		
15												
16												
17												
18												
19												

REMARKS

Hole cased 0.00-10.00m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC215

SHEET Sheet 1 of 2

CO-ORDINATES 726,622.65 E
719,429.37 N

GROUND LEVEL (mOD) 4.67

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 21/09/2020

DATE COMPLETED 22/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
1	1.50	0	0	0								
2		0	0	0								
3	3.00											
4		0	0	0								
5	4.50											
6		0	0	0					5.70	-1.03		
7	6.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY				
8		0	0	0								
9	7.50											
		0	0	0								
	9.00											
		0	0	0								

REMARKS

Hole cased 0.00-17.50m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
13.20	13.20	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
22-09-20	18.50	13.50	18.50	50mm SP					



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC215

SHEET Sheet 2 of 2

CO-ORDINATES 726,622.65 E
719,429.37 N

GROUND LEVEL (mOD) 4.67

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 21/09/2020

DATE COMPLETED 22/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10	10.50				0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY (<i>continued</i>)				
11		0	0	0								
12	12.00											
13		0	0	0					13.20	-8.53		
14	13.50							SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL				
15		0	0	0								N = 53 (7, 8, 18, 12, 13, 10)
16	15.00											
17		0	0	0								N = 52/168 mm (9, 11, 13, 21, 18)
18	16.50											
19		0	0	0								N = 25/50 mm (5, 25)
	18.00											
	18.56							End of Borehole at 18.50 m	18.50	-13.83		N = 52/117 mm (6, 8, 20, 32)

REMARKS

Hole cased 0.00-17.50m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
13.20	13.20	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
22-09-20	18.50	13.50	18.50	50mm SP	22-09-20	18.50	17.50	5.60	Water level recorded at end of drilling.



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC216

SHEET Sheet 1 of 2

CO-ORDINATES 726,565.98 E
719,404.25 N

GROUND LEVEL (mOD) 6.63

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 18/09/2020

DATE COMPLETED 21/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
1	1.50	0	0	0								
2		0	0	0					2.70	3.93		
3	3.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY				
4		0	0	0								
5	4.50											
6		0	0	0								
7	6.00											
8		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SAND	7.20	-0.57		
9	7.50											
	9.00											
		0	0	0								

REMARKS

Hole cased 0.00-19.50m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
8.20	8.20	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

IGSL RC FI 10M 22734.GPJ IGSL GDT 4/11/20



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC216

SHEET Sheet 2 of 2

CO-ORDINATES 726,565.98 E
719,404.25 N

GROUND LEVEL (mOD) 6.63

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 18/09/2020

DATE COMPLETED 21/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10	10.50				0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	10.20	-3.57		
11		0	0	0								
12	12.00							Returns of stiff brown slightly sandy gravelly CLAY. Sand is fine. Gravel is angular to subrounded fine to medium of various lithologies.	12.20	-5.57		
13	13.50											
14		0	0	0								N = 26/48 mm (25, 26)
15	15.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SAND	15.50	-8.87		
16	16.50											N = 52/267 mm (3, 4, 6, 8, 13, 25)
17		0	0	0								N = 51/182 mm (4, 7, 12, 17, 22)
18	18.00											N = 45/139 mm (7, 12, 13, 32)
19		0	0	0								
19.50								End of Borehole at 19.50 m	19.50	-12.87		N = 50/114 mm (8, 18, 23, 27)

REMARKS

Hole cased 0.00-19.50m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
8.20	8.20	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
					21-09-20	19.50	19.50	6.10	Water level recorded at end of drilling.



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC217

SHEET Sheet 1 of 2

CO-ORDINATES 726,606.34 E
719,398.97 N

GROUND LEVEL (mOD) 4.37

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 28/09/2020

DATE COMPLETED 29/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
1	1.50	0	0	0								
2		0	0	0								
3	3.00											
4		0	0	0								
5	4.50											
6		0	0	0								
7		0	0	0					7.20	-2.83		
8	7.50							SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY				
9		0	0	0								
	9.00											
		0	0	0								

REMARKS

Hole cased 0.00-19.50m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC217

SHEET Sheet 2 of 2

CO-ORDINATES 726,606.34 E
719,398.97 N

GROUND LEVEL (mOD) 4.37

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 28/09/2020

DATE COMPLETED 29/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10	10.50				0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY (<i>continued</i>)				
11	11.70	0	0	0								
12		80	0	0								
13	13.20											N = 51/182 mm (6, 11, 14, 21, 16)
14	14.70	100	0	0								N = 27/45 mm (25, 27)
15		53	0	0								
16	16.20	0	0	0				Returns of stiff brown slightly sandy gravelly CLAY with a cobble. Sand is fine. Gravel is angular to subrounded fine to medium of various lithologies.	16.20	-11.83		N = 52/130 mm (12, 18, 26, 26)
17	17.00	0	0	0					17.70	-13.33		
18	18.50	0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey GRAVEL	18.00	-13.63		N = 26/58 mm (25, 26)
19	19.00	0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
	19.50							End of Borehole at 19.50 m	19.50	-15.13		N = 49 (10, 11, 11, 13, 15, 10)

REMARKS

Hole cased 0.00-19.50m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
					29-09-20	19.50	19.50	6.40	Water level recorded at end of drilling.



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC218

SHEET Sheet 1 of 2

CO-ORDINATES 726,631.70 E
719,398.74 N

GROUND LEVEL (mOD) 3.98

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 23/09/2020

DATE COMPLETED 24/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
1	1.50	0	0	0								
2		0	0	0								
3	3.00											
4		0	0	0								
5	4.50											
6		0	0	0								
7	6.00											
8		0	0	0								
9	7.50											
		0	0	0								
	9.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY	8.70	-4.72		
		0	0	0								

REMARKS

Hole cased 0.00-19.50m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
15.20	15.20	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC218

SHEET Sheet 2 of 2

CO-ORDINATES 726,631.70 E
719,398.74 N

GROUND LEVEL (mOD) 3.98

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 23/09/2020

DATE COMPLETED 24/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10	10.50				0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY (continued)				
11		0	0	0								
12	12.00											
13		0	0	0								
14	13.50											
15		0	0	0								
16	15.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL	15.20	-11.22		N = 15 (1, 2, 3, 3, 4, 5)
17		0	0	0								
18	16.50											N = 53/178 mm (12, 13, 15, 16, 22)
19		0	0	0								
20	18.00											N = 53 (8, 7, 12, 15, 9, 17)
21		0	0	0								
22	19.50							SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	18.80	-14.82		
23												
24								End of Borehole at 19.50 m	19.50	-15.52		N = 35 (4, 5, 8, 8, 10, 9)

REMARKS

Hole cased 0.00-19.50m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
15.20	15.20	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
					24-09-20	19.50	19.50	13.10	Water level recorded at end of drilling.



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC219

SHEET Sheet 1 of 2

CO-ORDINATES 726,529.46 E
719,359.87 N

GROUND LEVEL (mOD) 7.29

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 29/09/2020

DATE COMPLETED 29/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500							
1	1.50	0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY				N = 24 (4, 3, 5, 7, 6, 6)
2		0	0	0					2.70	4.59		
3	3.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey GRAVEL				N = 19 (3, 2, 3, 6, 5, 5)
4		0	0	0					4.20	3.09		
5	4.50							SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY				N = 10 (3, 5, 4, 2, 2, 2)
6		0	0	0					5.70	1.59		
7	6.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of silty CLAY				N = 18 (2, 5, 7, 4, 4, 3)
8		0	0	0								N = 12 (1, 2, 3, 3, 2, 4)
9	7.50											
		0	0	0								N = 13 (1, 2, 2, 4, 3, 4)
	9.00											
		0	0	0								

REMARKS

Hole cased 0.00-19.50m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
13.20	13.20	N/S			Slow
17.00	17.00	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
26-09-20	18.50	16.80	18.50	50mm SP					



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC219

SHEET Sheet 2 of 2

CO-ORDINATES 726,529.46 E
719,359.87 N

GROUND LEVEL (mOD) 7.29

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 29/09/2020

DATE COMPLETED 29/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10	10.50				0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY	10.20	-2.91		N = 63 (4, 6, 5, 5, 22, 31)
11	11.70	0	0	0				Returns of stiff brown slightly sandy gravelly CLAY. Sand is fine. Gravel is angular to subrounded fine to medium of various lithologies.	11.70	-4.41		N = 71 (6, 10, 10, 14, 21, 26)
13	13.20							SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL	13.20	-5.91		N = 38/100 mm (7, 11, 15, 23)
14	14.70	0	0	0								N = 25/50 mm (12, 25)
15	15.70	0	0	0								
16	16.20											
17	17.70	0	0	0								
18	18.50	0	0	0								
19								End of Borehole at 18.50 m	18.50	-11.21		

REMARKS

Hole cased 0.00-19.50m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
13.20	13.20	N/S			Slow
17.00	17.00	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
26-09-20	18.50	16.80	18.50	50mm SP	26-09-20	18.50	18.50	3.80	Water level recorded at end of drilling.



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC221

SHEET Sheet 1 of 3

CO-ORDINATES 726,573.03 E
719,326.03 N

GROUND LEVEL (mOD) 3.00

RIG TYPE Geo405

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 15/09/2020

DATE COMPLETED 15/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of TOPSOIL	0.20	2.80		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of brown sandy SILT/CLAY with occasional gravel	0.70	2.30		
1								SYMMETRIX DRILLING: No recovery, observed by driller as returns of dark brown sandy SILT/CLAY				
2									2.30	0.70		
3								SYMMETRIX DRILLING: No recovery, observed by driller as returns of dark brown SILT/CLAY				
4								SYMMETRIX DRILLING: No recovery, observed by driller as returns of dark grey slightly peaty SILT	3.30	-0.30		
5												
6								SYMMETRIX DRILLING: No recovery, observed by driller as returns of dark brown SILT with shells	6.10	-3.10		
7								SYMMETRIX DRILLING: No recovery, observed by driller as returns of light brown SILT	7.20	-4.20		
8												
9												

REMARKS

Hole cased 0.00-23.80m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
15.40	15.40	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC221

SHEET Sheet 2 of 3

CO-ORDINATES 726,573.03 E
719,326.03 N

GROUND LEVEL (mOD) 3.00

RIG TYPE Geo405

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 15/09/2020

DATE COMPLETED 15/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of dark brown sandy peaty SILT	10.20	-7.20		
11								SYMMETRIX DRILLING: No recovery, observed by driller as returns of medium dense grey fine to medium silty sandy GRAVEL	11.30	-8.30		
12												
13												
14								SYMMETRIX DRILLING: No recovery, observed by driller as returns of dark brown sandy gravelly CLAY with occasional cobbles	13.60	-10.60		
15								SYMMETRIX DRILLING: No recovery, observed by driller as returns of dark brown cobbly CLAY	14.50	-11.50		
16								SYMMETRIX DRILLING: No recovery, observed by driller as returns of cobbly GRAVEL	15.00	-12.00		
17								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL	16.50	-13.50		N = 56 (4, 7, 9, 12, 17, 18)
18								SYMMETRIX DRILLING: No recovery, observed by driller as returns of cobbly GRAVEL	18.00	-15.00		N = 35 (5, 6, 6, 9, 10, 10)
19								SYMMETRIX DRILLING: No recovery, observed by driller as returns of dark brown cobbly CLAY	19.50	-16.50		N = 66 (4, 7, 11, 19, 18, 18)

REMARKS

Hole cased 0.00-23.80m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
15.40	15.40	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC221

SHEET Sheet 3 of 3

CO-ORDINATES 726,573.03 E
719,326.03 N

GROUND LEVEL (mOD) 3.00

RIG TYPE Geo405

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 15/09/2020

DATE COMPLETED 15/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of dark brown cobbly CLAY (<i>continued</i>)				
21.00								Returns of firm, very dark brown slightly gravelly CLAY. Gravel is angular to subrounded fine to medium of various lithologies.	21.00-18.00			N = 25/10 mm (25, 25)
22		67	0	0								
22.50								SYMMETRIX DRILLING: No recovery, observed by driller as returns of cobbly GRAVEL	22.50-19.50			N = 62 (19, 11, 14, 17, 15, 16)
23		0	0	0								
23.80												
24		80	12	0				Medium strong to locally weak, medium to thinly bedded (foliated), dark blueish grey, fine-grained, interbedded and interlaminated MUDSTONE/SILTSTONE (metamorphosed), slightly weathered. Rock quality increases with depth.				
24.80												
25		100	21	13				Discontinuities are medium to closely spaced, smooth to locally rough, planar to locally stepped/curviplanar. Apertures are tight to locally open, locally clay-smeared & filled (at 27.13-27.20m), locally quartz-veined (1-8mm thick). Dips are 45-50°, 80° & irregular.				
25.80												
26		100	51	21								
27												
27.30												
28		100	25	11								
28.80												
29								End of Borehole at 28.80 m				

REMARKS

Hole cased 0.00-23.80m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
15.40	15.40	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
					15-09-20	28.80	23.80	19.30	Water level recorded at end of drilling.



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC222

SHEET Sheet 1 of 3

CO-ORDINATES 726,618.23 E
719,344.48 N

GROUND LEVEL (mOD) 3.40

RIG TYPE Geo405

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 17/09/2020

DATE COMPLETED 17/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of TOPSOIL	0.20	3.20		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of light brown sandy clayey GRAVEL with occasional cobbles	0.60	2.80		
1								SYMMETRIX DRILLING: No recovery, observed by driller as returns of dark brown sandy clayey GRAVEL (Possibly very gravelly clay)	1.10	2.30		
2								SYMMETRIX DRILLING: No recovery, observed by driller as returns of light brown slightly clayey sandy SILT				
3								SYMMETRIX DRILLING: No recovery, observed by driller as returns of dark grey SILT	3.10	0.30		
4												
5												
6												
7												
8									8.30	-4.90		
9								SYMMETRIX DRILLING: No recovery, observed by driller as returns of dark brown sandy SILT with shells				

REMARKS

Hole cased 0.00-24.000m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
14.90	14.90	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC222

SHEET Sheet 2 of 3

CO-ORDINATES 726,618.23 E
719,344.48 N

GROUND LEVEL (mOD) 3.40

RIG TYPE Geo405

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 17/09/2020

DATE COMPLETED 17/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of dark brown sandy SILT with shells (continued)				
11									11.50	-8.10		
12								SYMMETRIX DRILLING: No recovery, observed by driller as returns of grey fine to coarse silty sandy GRAVEL				
13								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	12.90	-9.50		
14								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL	13.50	-10.10		N = 40 (4, 7, 6, 9, 11, 14)
15												N = 25 (3, 5, 5, 6, 7, 7)
16									16.50	-13.10		
17								SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey sandy GRAVEL				N = 39 (4, 6, 7, 9, 11, 12)
18	18.00							Returns of firm, very dark brown slightly gravelly CLAY. Gravel is angular to subrounded fine to medium of various lithologies.	18.00	-14.60		N = 61 (6, 9, 11, 14, 17, 19)
19	19.50	27	0	0								N = 64 (6, 11, 12, 16, 17, 19)

REMARKS

Hole cased 0.00-24.000m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
14.90	14.90	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC222

SHEET Sheet 3 of 3

CO-ORDINATES 726,618.23 E
719,344.48 N

GROUND LEVEL (mOD) 3.40

RIG TYPE Geo405

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 17/09/2020

DATE COMPLETED 17/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20		87	0	0				Returns of firm, very dark brown slightly gravelly CLAY. Gravel is angular to subrounded fine to medium of various lithologies. (continued)				
21.00												N = 23 (3, 4, 5, 5, 6, 7)
22		20	0	0								
22.50												
23		47	0	0								
24.00								Returns of firm, very dark brown gravelly CLAY. Gravel is angular to subrounded fine to medium of various lithologies.	23.50-20.10			
24								Probable weathered ROCK - recovered as angular tabular gravel of MUDSTONE/SILTSTONE	24.00-20.60			N = 25/10 mm (25, 25)
25		100	17	11								
25.50								Medium strong to locally weak, medium to thinly bedded (foliated), dark blueish grey, fine-grained, interbedded and interlaminated MUDSTONE/SILTSTONE (metamorphosed), slightly weathered. Rock quality increases with depth.	25.20-21.80			
26		100	47	29				Discontinuities are medium to closely spaced, smooth to locally rough, planar to locally stepped/curviplanar. Apertures are tight to locally open, locally clay-smeared, locally quartz-veined (1-4mm thick). Dips are 45-50°, 80° & irregular.				
27.00												
27		100	74	21								
28.50												
29.00		100	62	34								
29								End of Borehole at 29.00 m	29.00-25.60			

REMARKS

Hole cased 0.00-24.000m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
14.90	14.90	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
					17-09-20	29.00	24.00	7.90	Water level recorded at end of drilling.



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC223

SHEET Sheet 1 of 3

CO-ORDINATES 726,635.90 E
719,297.75 N

GROUND LEVEL (mOD) 2.39

RIG TYPE Geo405

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 24/09/2020

DATE COMPLETED 25/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			HAND-DUG INSPECTION PIT: No recovery, observed by driller as returns of gravelly CLAY				
1									1.20	1.19		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of dark brown cobbly CLAY	1.50	0.89		N = 3 (1, 0, 0, 1, 1, 1)
2								SYMMETRIX DRILLING: No recovery, observed by driller as returns of SAND				
3								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy CLAY	3.00	-0.61		N = 16 (1, 1, 1, 4, 5, 6)
4									4.50	-2.11		N = 3 (1, 0, 0, 1, 1, 1)
5								SYMMETRIX DRILLING: No recovery, observed by driller as returns of SILT				N = 3 (1, 0, 1, 0, 1, 1)
6												N = 15 (1, 2, 3, 3, 4, 5)
7												N = 9 (1, 0, 1, 2, 3, 3)
8												
9												

REMARKS

Hole cased 0.00-24.000m. Erect Covid 19 Safe Zone - 1hr.
Hand-dug Inspection Pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.40 18.30	2.40 18.30	N/S N/S			Slow Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
25-09-20	29.00	24.00	29.00	50mm SP					



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC223

SHEET Sheet 3 of 3

CO-ORDINATES 726,635.90 E
719,297.75 N

GROUND LEVEL (mOD) 2.39

RIG TYPE Geo405

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 24/09/2020

DATE COMPLETED 25/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20		20	0	0				Returns of clayey angular GRAVEL. Gravel is tabular, angular to subrounded fine to medium of metamorphosed mudstone. Possible Weathered ROCK (continued)				
21	21.00											N = 25/30 mm (19, 25, 25)
22		20	0	0								
22.50									22.50	-20.11		N = 25/10 mm (25, 25)
23		27	0	0				Returns of angular purple GRAVEL. Gravel is tabular, angular to subrounded fine to medium of metamorphosed mudstone. Possible Weathered ROCK				
24	24.00								24.00	-21.61		N = 25/20 mm (25, 25)
25		80	6	0				Probable weathered ROCK - recovered as angular tabular gravel of MUDSTONE/SILTSTONE				
25.00												
26		100	40	22					25.70	-23.31		
26.00								Medium strong to locally weak, medium to thinly bedded (foliated), dark blueish grey, fine-grained, interbedded and interlaminated MUDSTONE/SILTSTONE (metamorphosed), slightly weathered. Rock quality increases with depth.				
27		100	59	25				Discontinuities are medium to closely spaced, smooth to locally rough, planar to locally stepped/curviplanar. Apertures are tight to locally open, locally clay-smeared, locally quartz-veined (1-7mm thick). Dips are 45-50°, 80° & irregular.				
27.50												
28		100	54	9								
29	29.00							End of Borehole at 29.00 m	29.00	-26.61		

REMARKS

Hole cased 0.00-24.000m. Erect Covid 19 Safe Zone - 1hr.
Hand-dug Inspection Pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.40	2.40	N/S			Slow
18.30	18.30	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
25-09-20	29.00	24.00	29.00	50mm SP	25-09-20	29.00	24.00	6.30	Water level recorded at end of drilling.



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC224

SHEET Sheet 1 of 3

CO-ORDINATES 726,606.14 E
719,297.94 N

GROUND LEVEL (mOD) 1.56

RIG TYPE Geo405

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 22/09/2020

DATE COMPLETED 22/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			HAND-DUG INSPECTION PIT: No recovery, observed by driller as returns of gravelly CLAY				
1									1.20	0.36		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of SAND	1.50	0.06		N = 1 (1, 0, 0, 1, 0, 0)
2								SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey SAND				
3								SYMMETRIX DRILLING: No recovery, observed by driller as returns of SAND	3.00	-1.44		N = 4 (1, 0, 1, 1, 1, 1)
4												N = 8/225 mm (1, 1, 2, 3, 3)
5												
6								SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey SAND	6.00	-4.44		N = 6 (1, 0, 1, 1, 2, 2)
7												
8								SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY	7.50	-5.94		N = 5 (1, 0, 1, 1, 1, 2)
9												N = 20 (2, 3, 3, 5, 6, 6)

REMARKS

Hole cased 0.00-21.000m. Erect Covid 19 Safe Zone - 1hr.
Hand-dug Inspection Pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
1.70	1.70	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO RC224

SHEET Sheet 2 of 3

CO-ORDINATES 726,606.14 E
719,297.94 N

GROUND LEVEL (mOD) 1.56

RIG TYPE Geo405

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 22/09/2020

DATE COMPLETED 22/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY (<i>continued</i>)	10.50	-8.94		N = 24 (3, 4, 5, 5, 7, 7)
11								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy CLAY				
12								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL	12.00	-10.44		N = 32 (2, 4, 6, 6, 9, 11)
13												N = 29 (4, 6, 7, 7, 7, 8)
14												
15								SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey sandy GRAVEL	15.00	-13.44		N = 64 (6, 11, 12, 16, 17, 19)
16												
17								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	16.50	-14.94		N = 52 (7, 9, 11, 12, 14, 15)
18	18.00											
19		27	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of cobbly CLAY	18.00	-16.44		N = 56 (5, 10, 12, 14, 14, 16)
19.50												
								Probable weathered ROCK - recovered as angular tabular gravel of MUDSTONE/SILTSTONE	19.50	-17.94		N = 50/70 mm (19, 21, 25, 25)

REMARKS

Hole cased 0.00-21.000m. Erect Covid 19 Safe Zone - 1hr.
Hand-dug Inspection Pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
1.70	1.70	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO ROH01

SHEET Sheet 1 of 1

CO-ORDINATES 726,379.55 E
719,522.56 N

GROUND LEVEL (mOD) 10.81

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 02/09/2020

DATE COMPLETED 02/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY				
1	1.50	0	0	0					2.00	8.81		
2		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey sandy GRAVEL				
3	3.00											
4		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of cobbly CLAY	4.00	6.81		
5	4.50							SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	4.60	6.21		
6		0	0	0								
7	6.00											
8		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of SAND	7.00	3.81		
9	7.50							SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	7.50	3.31		
	9.00											
								End of Borehole at 8.00 m	9.00	1.81		

REMARKS

Hole cased 0.00-9.00m. Erect Covid 19 Safe Zone - 1hr.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
02-09-20	9.00	6.00	9.00	50mm SP	02-09-20	9.00	9.00	6.50	Water level recorded at end of drilling.



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO ROH02

SHEET Sheet 1 of 2

CO-ORDINATES 726,620.02 E
719,414.97 N

GROUND LEVEL (mOD) 4.47

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 03/09/2020

DATE COMPLETED 03/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			HAND-DUG INSPECTION PIT: No recovery, observed by driller as returns of CLAY	1.00	3.47		
1	1.50	0	0	0				HAND-DUG INSPECTION PIT: No recovery, observed by driller as returns of gravelly CLAY	1.20	3.27		
2		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY				
3	3.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy CLAY	3.00	1.47		
4	4.50	0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of SAND	3.80	0.67		
5		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	4.50	-0.03		
6	6.00											
7	7.50	0	0	0								
8		0	0	0								
9	9.00											
		0	0	0								

REMARKS

Hole cased 0.00-11.60m. Erect Covid 19 Safe Zone - 1hr.
Hand-dug Inspection Pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
10.90	10.90	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
03-09-20	11.60	7.60	11.60	50mm SP					

 GEOTECHNICAL CORE LOG RECORD REPORT NUMBER 22734													
CONTRACT Harbour Point Bray							DRILL HOLE NO ROH02						
CO-ORDINATES 726,620.02 E 719,414.97 N				RIG TYPE Geo305			SHEET Sheet 2 of 2						
GROUND LEVEL (mOD) 4.47				FLUSH Air/Mist			DATE COMMENCED 03/09/2020						
CLIENT Ballymore				INCLINATION (deg) -90			DATE COMPLETED 03/09/2020						
ENGINEER Atkins				CORE DIAMETER (mm) 78			DRILLED BY IGSL LOGGED BY D. O'Shea						
Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)	
10	10.50				0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY (continued)	10.90	-6.43			
11	0	0	0					SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL	11.40	-6.93			
11.60								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	11.60	-7.13			
12								End of Borehole at 11.60 m					
13													
14													
15													
16													
17													
18													
19													
REMARKS								WATER STRIKE DETAILS					
Hole cased 0.00-11.60m. Erect Covid 19 Safe Zone - 1hr. Hand-dug Inspection Pit 0.00-1.20m								Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
								10.90	10.90	N/S			Slow
INSTALLATION DETAILS								GROUNDWATER DETAILS					
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments				
03-09-20	11.60	7.60	11.60	50mm SP	03-09-20	11.60	11.60	4.10	Water level recorded at end of drilling.				

IGSL RC FI 10M 22734.GPJ IGSL GDT 4/11/20



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO ROH04

SHEET Sheet 1 of 2

CO-ORDINATES 726,574.13 E
719,229.08 N

GROUND LEVEL (mOD) 1.43

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 10/09/2020

DATE COMPLETED 10/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			HAND-DUG INSPECTION PIT: No recovery, observed by driller as returns of CLAY				
1		0	0	0					1.20	0.23		
1.50								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	1.50	-0.07		
2		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY				
3									3.00	-1.57		
4		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of SILT				
4.50												
5		0	0	0								
6												
7		0	0	0								
7.50												
8		0	0	0								
9												
9.00												
		0	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SILT	9.50	-8.07		

REMARKS

Hole cased 0.00-13.00m. Erect Covid 19 Safe Zone - 1hr.
Hand-dug Inspection Pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.50	9.50	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
10-09-20	12.70	8.00	12.70	50mm SP



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

22734

CONTRACT Harbour Point Bray

DRILL HOLE NO ROH04

SHEET Sheet 2 of 2

CO-ORDINATES 726,574.13 E
719,229.08 N

GROUND LEVEL (mOD) 1.43

RIG TYPE Geo305

FLUSH Air/Mist

INCLINATION (deg) -90

CORE DIAMETER (mm) 78

DATE COMMENCED 10/09/2020

DATE COMPLETED 10/09/2020

CLIENT Ballymore

ENGINEER Atkins

DRILLED BY IGSL

LOGGED BY D. O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R. %	S.C.R. %	R.Q.D. %	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10	10.50				0 250 500		x o x	SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SILT (<i>continued</i>)				
11		0	0	0			x o x					
12	12.00						x o x					
13	13.00	0	0	0			x o x	SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	12.70-11.27	13.00-11.57		
								End of Borehole at 13.00 m				
14												
15												
16												
17												
18												
19												

REMARKS

Hole cased 0.00-13.00m. Erect Covid 19 Safe Zone - 1hr.
Hand-dug Inspection Pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.50	9.50	N/S			Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
10-09-20	12.70	8.00	12.70	50mm SP	10-09-20	13.00	13.00	1.20	Water level recorded at end of drilling.

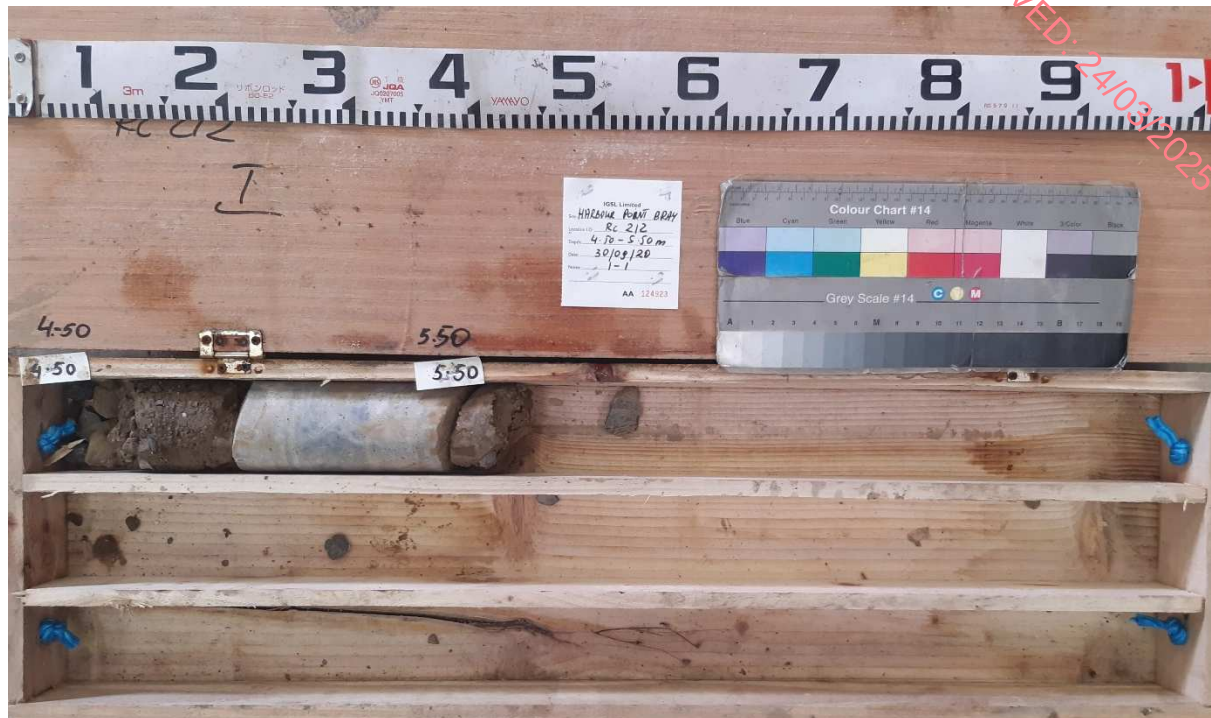
RC204 Box 1 of 1 – 4.20-6.50m



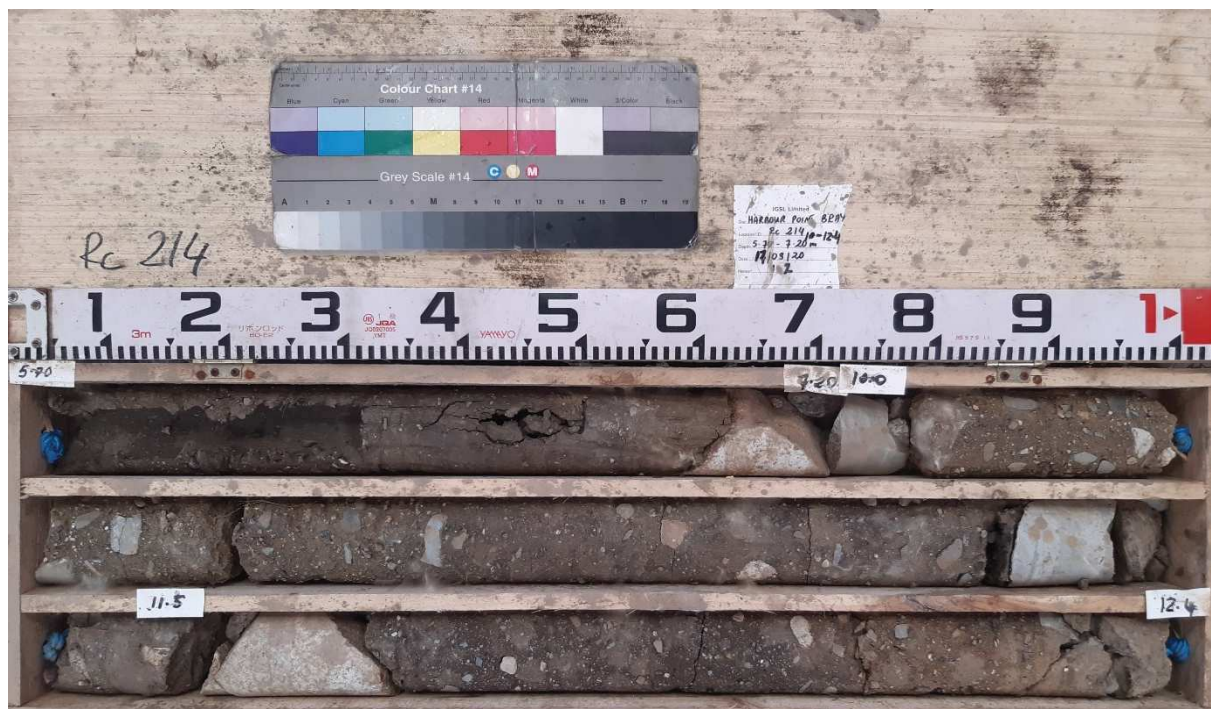
RC206 Box 1 of 1 – 7.00-8.00m



RC212 Box 1 of 1 – 4.50-5.50m



RC214 Box 1 of 2 – 5.70-12.40m



RC214 Box 2 of 2 – 12.40-14.70m



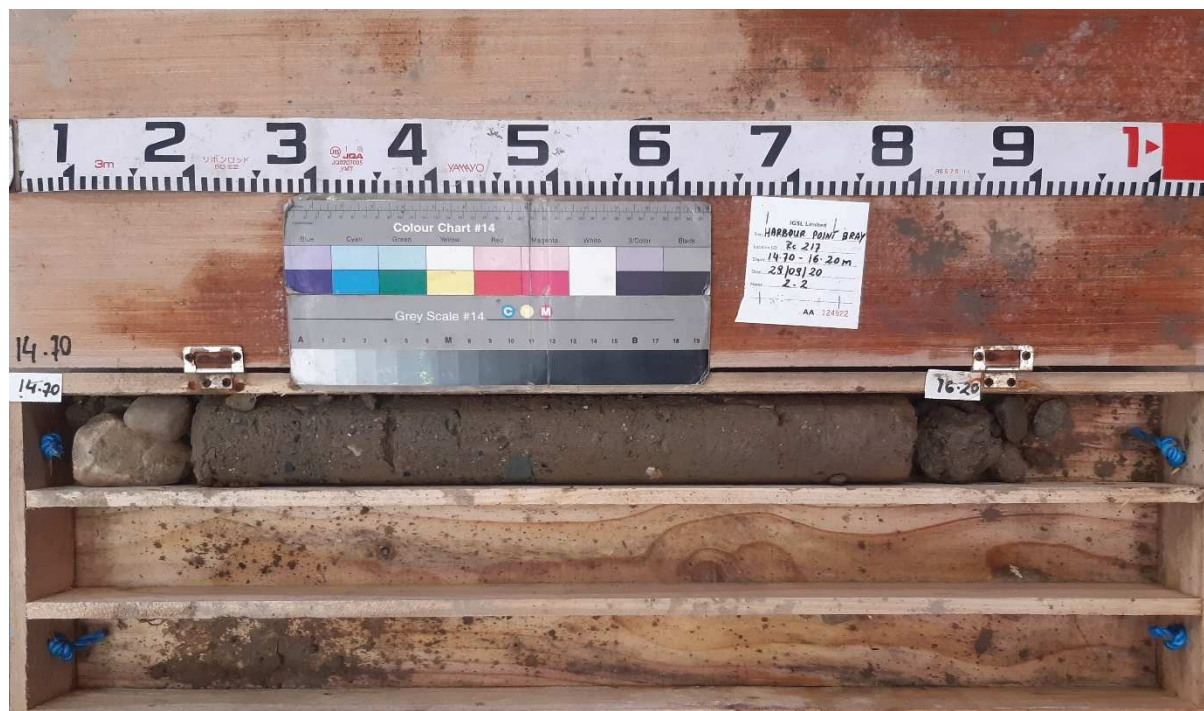
RC216 Box 1 of 1 – 12.20-15.50m



RC217 Box 1 of 2 – 11.70-14.70m



RC217 Box 2 of 2 – 14.70-16.20m



RC219 Box 1 of 1 – 11.70-13.20m



RC221 Box 1 of 2 – 15.00-25.80m



RC221 Box 2 of 2 – 25.80-28.80m



RC222 Box 1 of 3 – 18.00-24.00m



RC222 Box 2 of 3 – 24.00-27.00m



RC222 Box 3 of 3 – 27.00-29.00m



RC223 Box 1 of 2 – 18.00-26.00m



RC223 Box 2 of 2 – 26.00-29.00m



RC224 Box 1 of 3 – 16.50-22.50m



RC224 Box 2 of 3 – 22.50-25.50m



RC224 Box 3 of 3 – 25.50-26.50m



Appendix 4

Window Sample Logs and Photographs

RECEIVED: 24/03/2025



Window Sample Record

REPORT NUMBER

22734

CONTRACT Harbour Point, Bray

BOREHOLE NO. WS01A

SHEET Sheet 1 of 1

CO-ORDINATES 726,542.02 E
719,593.03 N

DATE DRILLED 24/08/2020

GROUND LEVEL (mOD) 9.45

DATE LOGGED 24/08/2020

CLIENT Ballymore

DRILLED BY CK

ENGINEER Atkins

LOGGED BY DN

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Depth of Sample Run (m)	Recovery (%)	Blowcount	Discrete Samples			Standpipe Details
								Ref. Number	Sample Type	Depth (m)	
0.0	TOPSOIL										
	Firm brown very sandy gravelly CLAY (recovered moist)		0.30	9.15				134855	ENV	0.30-0.90	
	(Loose) Grey brown slightly very gravelly SAND (recovered moist)		0.90	8.55	0.00-1.00	80	120	134856	ENV	0.90-2.50	
1.0					1.00-2.00	100	280				
2.0					2.00-2.50	100					
	Final Depth 2.50m		2.50	6.95							
3.0											
4.0											
5.0											

General Remarks

Refusal in sample drive at 2.50m. Standpipe installed.

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
24-08-20	0.90	0.30	0.90	50mm SP



Window Sample Record

REPORT NUMBER

22734

CONTRACT Harbour Point, Bray

BOREHOLE NO. WS01B

SHEET Sheet 1 of 1

CO-ORDINATES 726,558.02 E
719,568.02 N

DATE DRILLED 24/08/2020

GROUND LEVEL (mOD) 9.09

DATE LOGGED 24/08/2020

CLIENT Ballymore

DRILLED BY CK

ENGINEER Atkins

LOGGED BY DN

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Depth of Sample Run (m)	Recovery (%)	Blowcount	Discrete Samples			Standpipe Details
								Ref. Number	Sample Type	Depth (m)	
0.0	TOPSOIL										
	Firm brown very sandy gravelly CLAY (recovered moist)		0.30	8.79				134857	ENV	0.30-0.70	
	Soft to firm dark brown very sandy gravelly CLAY (recovered moist)		0.50	8.59							
	(Loose to medium dense) Grey/brown very gravelly SAND (recovered damp)		0.70	8.39	0.00-1.00	100	200	134858	ENV	0.70-2.00	
1.0											
	(Medium dense) Brown moist very gravelly SAND		1.70	7.39	1.00-2.00	100	400				
2.0					2.00-2.20	0					
	Final Depth 2.20m		2.20	6.89							
3.0											
4.0											
5.0											

General Remarks

Refusal in sample drive at 2.20m. Standpipe installed.

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
24-08-20	2.20	0.90	2.20	50mm SP



Window Sample Record

REPORT NUMBER

22734

CONTRACT Harbour Point, Bray

BOREHOLE NO. WS02B

SHEET Sheet 1 of 1

CO-ORDINATES 726,440.99 E
719,429.04 N

DATE DRILLED 26/08/2020

DATE LOGGED 26/08/2020

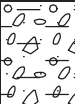
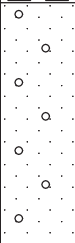
GROUND LEVEL (mOD) 10.49

CLIENT Ballymore

DRILLED BY CK

ENGINEER Atkins

LOGGED BY DN

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Depth of Sample Run (m)	Recovery (%)	Blowcount	Discrete Samples			Standpipe Details
								Ref. Number	Sample Type	Depth (m)	
0.0	(Loose to medium dense) Grey clayey very sandy GRAVEL (recovered moist)		0.50	9.99	0.00-1.00	80	180	134872	ENV	0.20-0.75	
	Firm to stiff brown very sandy gravelly CLAY (recovered moist)							134873	ENV	0.75-1.90	
	(Medium dense) Brown very gravelly SAND (recovered moist)										
1.0											
					1.00-1.90	100					
2.0	Final Depth 1.90m		1.90	8.59							
3.0											
4.0											
5.0											

General Remarks

Refusal in sample drive at 1.90m. Standpipe installed.

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
26-08-20	1.90	0.60	1.90	50mm SP



Window Sample Record

REPORT NUMBER

22734

CONTRACT Harbour Point, Bray

BOREHOLE NO. WS03A

SHEET Sheet 1 of 1

CO-ORDINATES 726,611.94 E
719,480.01 N

DATE DRILLED 24/08/2020

GROUND LEVEL (mOD) 8.00

DATE LOGGED 24/08/2020

CLIENT Ballymore

DRILLED BY CK

ENGINEER Atkins

LOGGED BY DN

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Depth of Sample Run (m)	Recovery (%)	Blowcount	Discrete Samples			Standpipe Details
								Ref. Number	Sample Type	Depth (m)	
0.0	TOPSOIL		0.25	7.75				134859	ENV	0.25-0.65	
	Firm to stiff brown sandy gravelly CLAY with occasional red brick fragment (MADE GROUND) (recovered moist)		0.65	7.35				134860	ENV	0.65-1.55	
	(Loose to medium dense) Grey brown very gravelly SAND (recovered damp)				0.00-1.00	100	200				
1.0					1.00-1.55	100					
	Final Depth 1.55m		1.55	6.45							
2.0											
3.0											
4.0											
5.0											

General Remarks

Refusal in sample drive at 1.55m. Standpipe installed.

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
24-08-20	1.60	0.30	0.65	50mm SP



Window Sample Record

REPORT NUMBER

22734

CONTRACT Harbour Point, Bray

BOREHOLE NO. WS03B

SHEET Sheet 1 of 1

CO-ORDINATES 726,610.00 E
719,473.02 N

DATE DRILLED 25/08/2020

GROUND LEVEL (mOD) 7.51

DATE LOGGED 25/08/2020

CLIENT Ballymore

DRILLED BY CK

ENGINEER Atkins

LOGGED BY DN

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Depth of Sample Run (m)	Recovery (%)	Blowcount	Discrete Samples			Standpipe Details
								Ref. Number	Sample Type	Depth (m)	
0.0	TOPSOIL										
	Soft to firm brown sandy gravelly CLAY (recovered moist)		0.30	7.21				134861	ENV	0.30-0.45	
	(Loose to medium dense) Grey brown very gravelly SAND		0.45	7.06				134862	ENV	0.45-1.60	
1.0					0.00-1.00	100	220				
					1.00-1.60	100					
1.60	Final Depth 1.60m			5.91							
2.0											
3.0											
4.0											
5.0											

General Remarks

Refusal in sample drive at 1.60m.

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
25-08-20	1.60	0.60	1.60	50mm SP



Window Sample Record

REPORT NUMBER

22734

CONTRACT Harbour Point, Bray

BOREHOLE NO. WS04A

SHEET Sheet 1 of 1

CO-ORDINATES 726,551.99 E
719,374.04 N

DATE DRILLED 25/08/2020

GROUND LEVEL (mOD) 6.86

DATE LOGGED 25/08/2020

CLIENT Ballymore

DRILLED BY CK

ENGINEER Atkins

LOGGED BY DN

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Depth of Sample Run (m)	Recovery (%)	Blowcount	Discrete Samples			Standpipe Details
								Ref. Number	Sample Type	Depth (m)	
0.0	Soft brown very sandy gravelly CLAY (MADE GROUND) (recovered moist)							134863	ENV	0.25-0.85	
	Firm brown sandy gravelly CLAY (MADE GROUND) (recovered moist)		0.40	6.46							
	(Loose) Light brown gravelly SAND (MADE GROUND) (recovered moist)		0.50	6.36							
			0.60	6.26							
			0.85	6.01	0.00-1.00	60	159	134864	ENV	0.85-1.70	
1.0	Firm to stiff brown sandy gravelly CLAY (MADE GROUND) (recovered moist)		1.00	5.86							
	COBBLE with occasional glass fragments (MADE GROUND)										
	Firm to stiff grey/brown very sandy very gravelly CLAY (recovered moist)		1.45	5.41							
	Firm to stiff grey/brown sandy gravelly CLAY (recovered moist)		1.70	5.16				134865	ENV	1.70-3.00	
2.0	Stiff brown mottled grey silty slightly sandy gravelly CLAY (recovered moist)		2.00	4.86	1.00-2.00	100	200				
	Firm to stiff brown very sandy very gravelly CLAY (recovered very moist)		2.20	4.66							
	Firm to stiff brown slightly sandy gravelly CLAY (recovered moist)		2.45	4.41							
	(Loose to medium dense) Grey very gravelly SAND - hydrocarbons odour (recovered damp)		2.80	4.06							
3.0	Firm to stiff brown very slightly sandy slightly gravelly CLAY (recovered moist)		3.00	3.86	2.00-3.00	100	162				
	Final Depth 3.00m										
4.0											
5.0											

General Remarks

Hydrocarbon odour from 2.45m - 2.80m. Standpipe installed.

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
25-08-20	3.00	0.45	1.45	50mm SP



Window Sample Record

REPORT NUMBER

22734

CONTRACT Harbour Point, Bray

BOREHOLE NO. WS04B

SHEET Sheet 1 of 1

CO-ORDINATES 726,530.02 E
719,367.99 N

DATE DRILLED 25/08/2020

GROUND LEVEL (mOD) 7.46

DATE LOGGED 25/08/2020

CLIENT Ballymore

DRILLED BY CK

ENGINEER Atkins

LOGGED BY DN

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Depth of Sample Run (m)	Recovery (%)	Blowcount	Discrete Samples			Standpipe Details
								Ref. Number	Sample Type	Depth (m)	
0.0	TOPSOIL										
	Soft to firm brown moist very sandy very gravelly CLAY (MADE GROUND) (recovered moist)		0.20	7.26				134866	ENV	0.20-1.50	
	Soft to firm grey/brown very sandy very gravelly CLAY with rare red brick fragments (MADE GROUND) (recovered moist)		0.50	6.96							
					0.00-1.00	80	131				
1.0	(Loose to medium dense) Grey/brown clayey very gavelly SAND with rare granite cobble (MADE GROUND) (recovered very moist)		1.30	6.16							
	Stiff dark grey very sandy gravelly CLAY with rare plastic (MADE GROUND) (recovered moist)		1.60	5.86				134867	ENV	1.50-2.35	
					1.00-2.00	60	167				
2.0	Soft to firm dark grey/black sandy gravelly CLAY (MADE GROUND) (recovered moist)		2.35	5.11							
	Stiff dark grey slightly sandy slightly gravelly CLAY (MADE GROUND) (recovered moist)		2.65	4.81				134868	ENV	2.35-3.00	
	Stiff dark grey/black sandy gravelly CLAY with rare plastic (MADE GROUND) (recovered moist)		2.85	4.61							
3.0					2.00-3.00	80	115				
	Firm to stiff dark brown sandy gravelly CLAY (recovered moist)		3.40	4.06							
	Firm to stiff light brown slightly silty very sandy slightly gravelly CLAY (recovered moist)		3.55	3.91				134869	ENV	3.00-5.00	
					3.00-4.00	80					
4.0											
	Stiff light brown slightly slightly sandy slightly gravelly CLAY (recovered moist)		4.60	2.86							
					4.00-5.00	60					
5.0	Final Depth 5.00m		5.00	2.46							

General Remarks
Standpipe installed.**INSTALLATION DETAILS**

Date	Tip Depth	RZ Top	RZ Base	Type
25-08-20	5.00	0.50	2.80	50mm SP



Window Sample Record

REPORT NUMBER

22734

CONTRACT Harbour Point, Bray

BOREHOLE NO. WS05A

SHEET Sheet 1 of 1

CO-ORDINATES 726,665.96 E
719,323.97 N

DATE DRILLED 26/08/2020

GROUND LEVEL (mOD) 3.73

DATE LOGGED 26/08/2020

CLIENT Ballymore

DRILLED BY CK

ENGINEER Atkins

LOGGED BY DN

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Depth of Sample Run (m)	Recovery (%)	Blowcount	Discrete Samples			Standpipe Details
								Ref. Number	Sample Type	Depth (m)	
0.0	(Loose) Grey angular coarse GRAVEL (MADE GROUND)		0.30	3.43	0.00-1.00	80		134874	ENV	0.20-1.00	
	Firm to stiff brown very sandy gravelly CLAY (MADE GROUND) (recovered damp)		0.40	3.33							
	Firm to stiff dark grey very sandy gravelly CLAY with rare granite cobble (MADE GROUND) (recovered moist)		0.65	3.08							
1.0	Stiff dark brown sandy gravelly CLAY with rare glass fragment (MADE GROUND) (recovered moist)		1.00	2.73	1.00-2.00	15		134875	ENV	1.80-3.00	
	(Loose) Grey very sandy GRAVEL (Poor Recovery - damp)		2.00	1.73							
	(Loose) grey moist sandy GRAVEL.		2.50	1.23							
2.0	Soft brown mottled grey sandy gravelly CLAY (recovered very moist)		3.00	0.73	2.00-3.00	60					
3.0	Final Depth 3.00m										
4.0											
5.0											

General Remarks
Standpipe installed.**INSTALLATION DETAILS**

Date	Tip Depth	RZ Top	RZ Base	Type
26-08-20	3.00	0.40	1.00	50mm SP

WS01A

RECEIVED: 24/03/2025



WS01B

RECEIVED: 24/03/2025



WS03A

RECEIVED: 24/03/2025



WS04A

RECEIVED 24/03/2025



WS04B

RECEIVED: 24/03/2025



WS05A

RECEIVED
24/03/2025



Appendix 5
Soakaway Test Records (to BRE365)

RECEIVED: 24/03/2025

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

Contract: Harbour Point Bray Contract No. 22734
 Test No. PT201 - Cycle1 Easting 726518.341
 Client Ballymore/ATKINS Northing 719519.558
 Date: 28/09/2020 Elevation 9.593

Summary of ground conditions

from	to	Description	Ground water
0.00	0.10	TOPSOIL	Dry
0.10	1.00	Firm brown gravelly very sandy CLAY with low cobble content.	
1.00	1.84	Medium dense greyish brown slightly clayey very gravelly medium to coarse SAND with a medium cobble content	

Field Data

Field Test

Depth to Water (m)	Elapsed Time (min)
1.45	0.00
1.47	1.00
1.49	2.00
1.51	3.00
1.53	4.00
1.55	5.00
1.57	6.00
1.59	7.00
1.60	8.00
1.61	9.00
1.62	10.00
1.64	12.00
1.66	14.00
1.68	16.00
1.70	18.00
1.73	20.00
1.79	25.00
1.84	29.00

Depth of Pit (D) 1.84 m
 Width of Pit (B) 0.70 m
 Length of Pit (L) 2.10 m

Initial depth to Water = 1.45 m
 Final depth to water = 1.84 m
 Elapsed time (mins)= 29.00

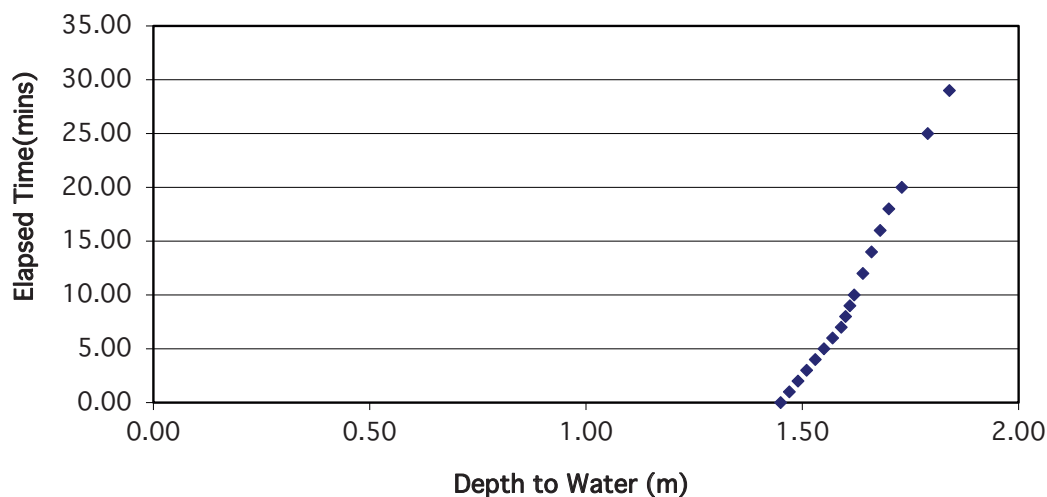
Top of permeable soil
 Base of permeable soil

Base area= 1.47 m²
 *Av. side area of permeable stratum over test period 1.092 m²
 Total Exposed area = 2.562 m²

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

f= 0.00772 m/min or 0.0001286 m/sec

Depth of water vs Elapsed Time (mins)



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

Contract: Harbour Point Bray Contract No. 22734
 Test No. PT201 - Cycle2 Easting 726518.341
 Client Ballymore/ATKINS Northing 719519.558
 Date: 28/09/2020 Elevation 9.593

Summary of ground conditions

from	to	Description	Ground water
0.00	0.10	TOPSOIL	Dry
0.10	1.00	Firm brown gavelly very sandy CLAY with low cobble content.	
1.00	1.84	Medium dense greyish brown slightly clayey very gravelly medium to coarse SAND with a medium cobble content	

Field Data

Field Test

Depth to Water (m)	Elapsed Time (min)
1.50	0.00
1.52	1.00
1.54	2.00
1.55	3.00
1.57	4.00
1.59	5.00
1.61	6.00
1.62	7.00
1.63	8.00
1.64	9.00
1.65	10.00
1.67	12.00
1.69	14.00
1.71	16.00
1.73	18.00
1.75	20.00
1.79	25.00
1.84	30.00

Depth of Pit (D) 1.84 m
 Width of Pit (B) 0.70 m
 Length of Pit (L) 2.10 m

Initial depth to Water = 1.50 m
 Final depth to water = 1.84 m
 Elapsed time (mins)= 30.00

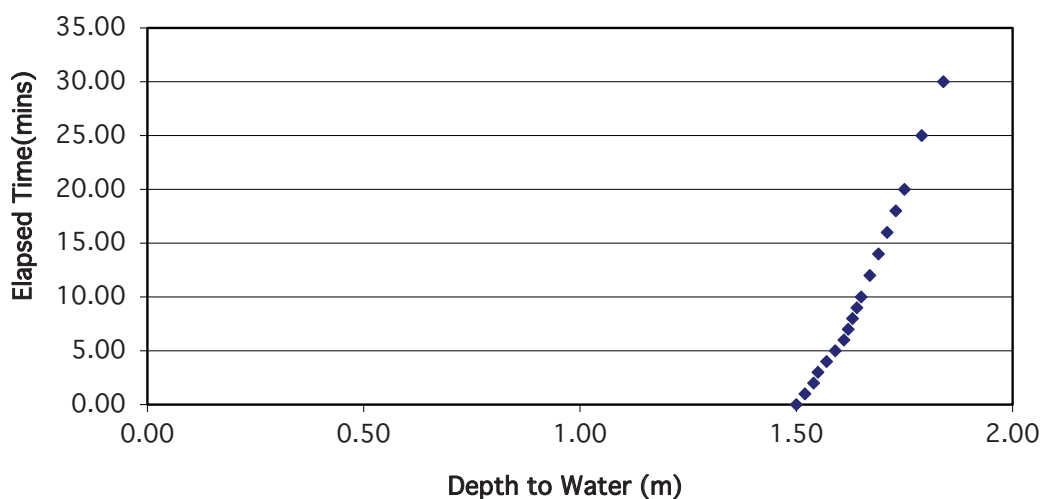
Top of permeable soil
 Base of permeable soil

Base area= 1.47 m²
 *Av. side area of permeable stratum over test period 0.952 m²
 Total Exposed area = 2.422 m²

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

f= 0.00688 m/min or 0.0001146 m/sec

Depth of water vs Elapsed Time (mins)



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

Contract: Harbour Point Bray Contract No. 22734
 Test No. PT201 - Cycle3 Easting 726518.341
 Client Ballymore/ATKINS Northing 719519.558
 Date: 28/09/2020 Elevation 9.593

Summary of ground conditions

from	to	Description	Ground water
0.00	0.10	TOPSOIL	Dry
0.10	1.00	Firm brown gravelly very sandy CLAY with low cobble content.	
1.00	1.84	Medium dense greyish brown slightly clayey very gravelly medium to coarse SAND with a medium cobble content	

Field Data

Field Test

Depth to Water (m)	Elapsed Time (min)
1.47	0.00
1.49	1.00
1.51	2.00
1.53	3.00
1.55	4.00
1.56	5.00
1.58	6.00
1.59	7.00
1.60	8.00
1.61	9.00
1.62	10.00
1.64	12.00
1.66	14.00
1.68	16.00
1.70	18.00
1.71	20.00
1.75	25.00
1.79	30.00
1.84	33.00

Depth of Pit (D) 1.84 m
 Width of Pit (B) 0.70 m
 Length of Pit (L) 2.10 m

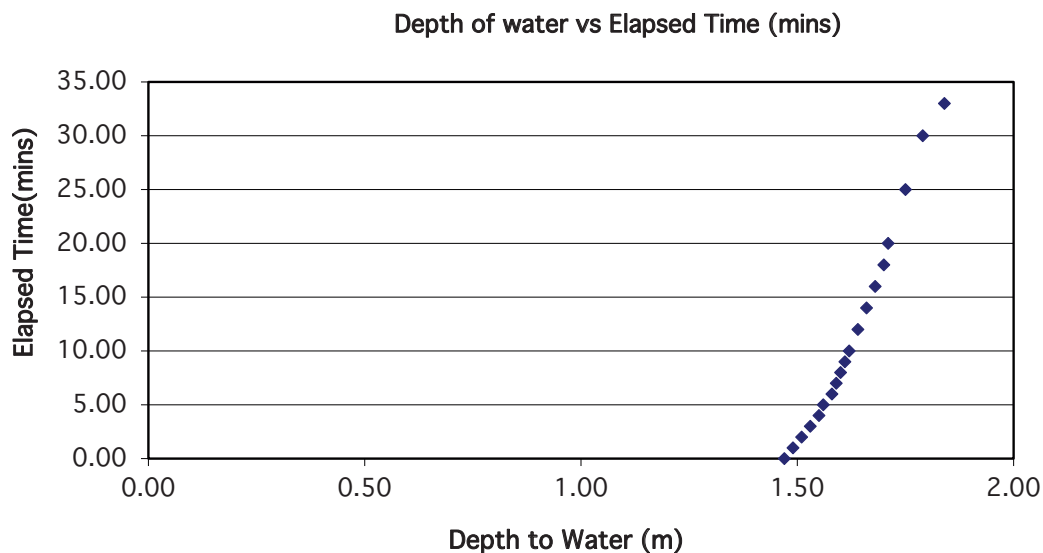
Initial depth to Water = 1.47 m
 Final depth to water = 1.84 m
 Elapsed time (mins)= 33.00

Top of permeable soil m
 Base of permeable soil m

Base area= 1.47 m²
 *Av. side area of permeable stratum over test period 1.036 m²
 Total Exposed area = 2.506 m²

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

f= 0.00658 m/min or 0.0001096 m/sec



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

Contract: Harbour Point Bray Contract No. 22734
 Test No. PT202 - Cycle1 Easting 726533.451
 Client Ballymore/ATKINS Northing 719396.769
 Date: 28/09/2020 Elevation 7.59

Summary of ground conditions

from	to	Description	Ground water
0.00	0.20	Grey GRAVEL (MADE GROUND)	Dry
0.20	1.00	Brown gravelly very sandy CLAY with a medium cobble content (MG)	
1.00	1.70	Medium dense greyish brown slightly clayey very gravelly medium to coarse SAND with a medium cobble content and occasional boulders	

Field Data

Field Test

Depth to Water (m)	Elapsed Time (min)
1.35	0.00
1.38	1.00
1.41	2.00
1.43	3.00
1.45	4.00
1.47	5.00
1.49	6.00
1.51	7.00
1.53	8.00
1.54	9.00
1.56	10.00
1.60	12.00
1.65	14.00
1.70	16.00

Depth of Pit (D) 1.70 m
 Width of Pit (B) 0.70 m
 Length of Pit (L) 2.30 m

Initial depth to Water = 1.35 m
 Final depth to water = 1.70 m
 Elapsed time (mins)= 16.00

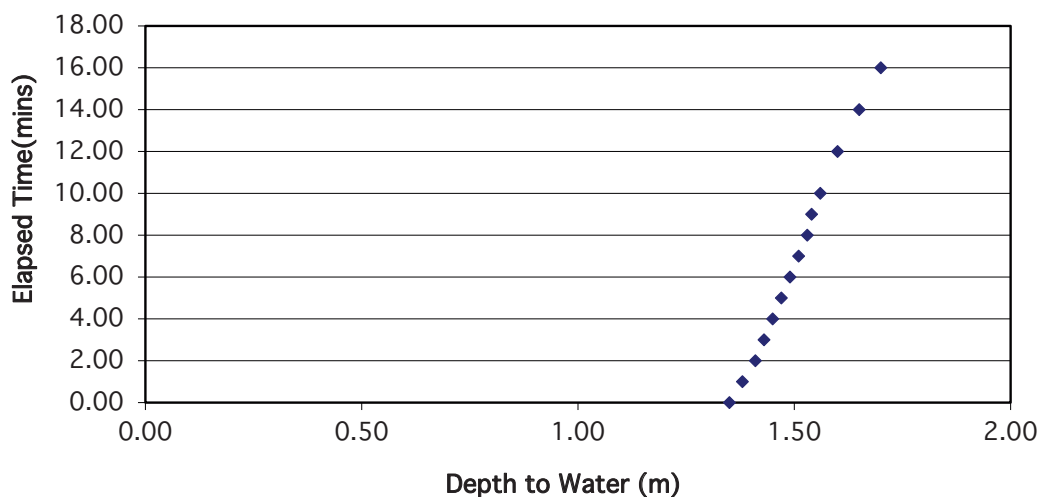
Top of permeable soil
 Base of permeable soil

Base area= 1.61 m²
 *Av. side area of permeable stratum over test period 1.05 m²
 Total Exposed area = 2.66 m²

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

f= 0.01324 m/min or 0.0002207 m/sec

Depth of water vs Elapsed Time (mins)



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

Contract:	Harbour Point Bray	Contract No.	22734
Test No.	PT202 - Cycle2	Easting	726533.451
Client	Ballymore/ATKINS	Northing	719396.769
Date:	28/09/2020	Elevation	7.59

Summary of ground conditions

from	to	Description	Ground water
0.00	0.20	Grey GRAVEL (MADE GROUND)	Dry
0.20	1.00	Brown gravelly very sandy CLAY with a medium cobble content (MG)	
1.00	1.70	Medium dense greyish brown slightly clayey very gravelly medium to coarse SAND with a medium cobble content and occasional boulders	

Field Data

Field Test

Depth to Water (m)	Elapsed Time (min)
1.40	0.00
1.43	1.00
1.46	2.00
1.48	3.00
1.50	4.00
1.52	5.00
1.54	6.00
1.55	7.00
1.56	8.00
1.58	9.00
1.59	10.00
1.62	12.00
1.65	14.00
1.68	16.00
1.70	18.00

Depth of Pit (D)	1.70	m
Width of Pit (B)	0.70	m
Length of Pit (L)	2.30	m

Initial depth to Water =	1.40	m
Final depth to water =	1.70	m
Elapsed time (mins)=	18.00	

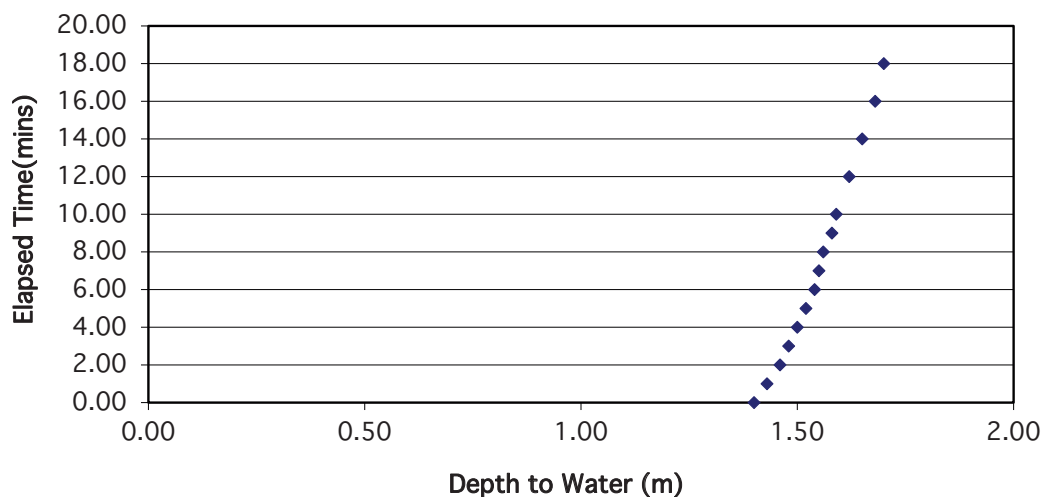
Top of permeable soil		m
Base of permeable soil		m

Base area=	1.61	m ²
*Av. side area of permeable stratum over test period	0.9	m ²
Total Exposed area =	2.51	m ²

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

f= 0.01069 m/min or 0.0001782 m/sec

Depth of water vs Elapsed Time (mins)



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

Contract:	Harbour Point Bray	Contract No.	22734
Test No.	PT202 - Cycle3	Easting	726533.451
Client	Ballymore/ATKINS	Northing	719396.769
Date:	28/09/2020	Elevation	7.59

Summary of ground conditions

from	to	Description	Ground water
0.00	0.20	Grey GRAVEL (MADE GROUND)	Dry
0.20	1.00	Brown gravelly very sandy CLAY with a medium cobble content (MG)	
1.00	1.70	Medium dense greyish brown slightly clayey very gravelly medium to coarse SAND with a medium cobble content and occasional boulders	

Field Data

Field Test

Depth to Water (m)	Elapsed Time (min)
1.35	0.00
1.37	1.00
1.40	2.00
1.42	3.00
1.44	4.00
1.46	5.00
1.47	6.00
1.48	7.00
1.50	8.00
1.52	9.00
1.53	10.00
1.57	12.00
1.61	14.00
1.65	16.00
1.68	18.00
1.70	20.00

Depth of Pit (D)	1.70	m
Width of Pit (B)	0.70	m
Length of Pit (L)	2.30	m

Initial depth to Water =	1.35	m
Final depth to water =	1.70	m
Elapsed time (mins)=	20.00	

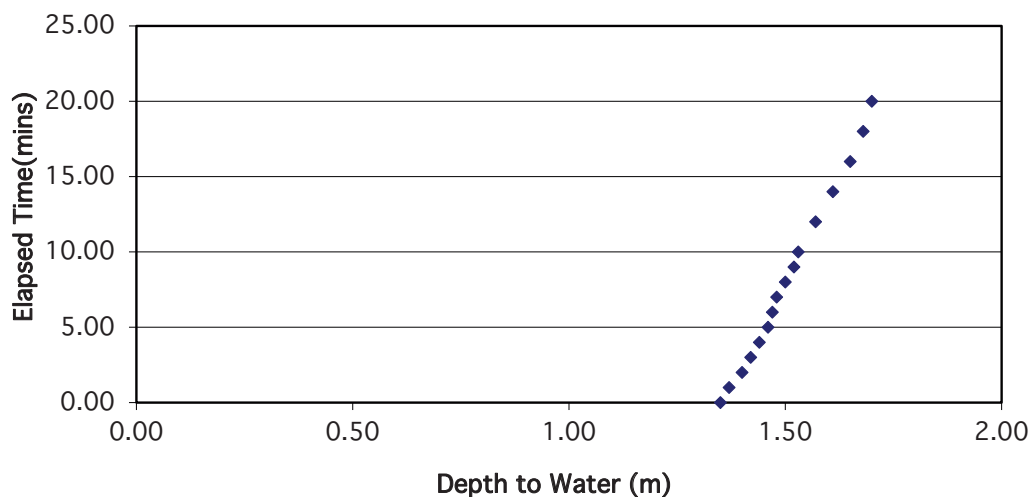
Top of permeable soil		m
Base of permeable soil		m

Base area=	1.61	m ²
*Av. side area of permeable stratum over test period	1.05	m ²
Total Exposed area =	2.66	m ²

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

f= 0.01059 m/min or 0.0001765 m/sec

Depth of water vs Elapsed Time (mins)



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

Contract: Harbour Point Bray Contract No. 22734
 Test No. PT203 - Cycle1 Easting 726645.516
 Client Ballymore/ATKINS Northing 719323.364
 Date: 28/09/2020 Elevation 3.113

Summary of ground conditions

from	to	Description	Ground water
0.00	0.10	TOPSOIL	Dry
0.10	0.50	Greyish brown sandy very gravelly CLAY with cobbles (MADE GROUND)	
0.50	1.70	Stiff grey sandy very gravelly CLAY with medium cobble content	

Field Data

Field Test

Depth to Water (m)	Elapsed Time (min)
1.36	0.00
1.37	1.00
1.38	2.00
1.385	3.00
1.39	4.00
1.40	5.00
1.41	6.00
1.42	7.00
1.43	8.00
1.435	9.00
1.44	10.00
1.45	12.00
1.46	14.00
1.47	16.00
1.48	18.00
1.49	20.00
1.53	25.00
1.57	30.00
1.65	40.00
1.70	50.00

Depth of Pit (D) 1.70 m
 Width of Pit (B) 0.70 m
 Length of Pit (L) 2.20 m

Initial depth to Water = 1.36 m
 Final depth to water = 1.70 m
 Elapsed time (mins)= 50.00

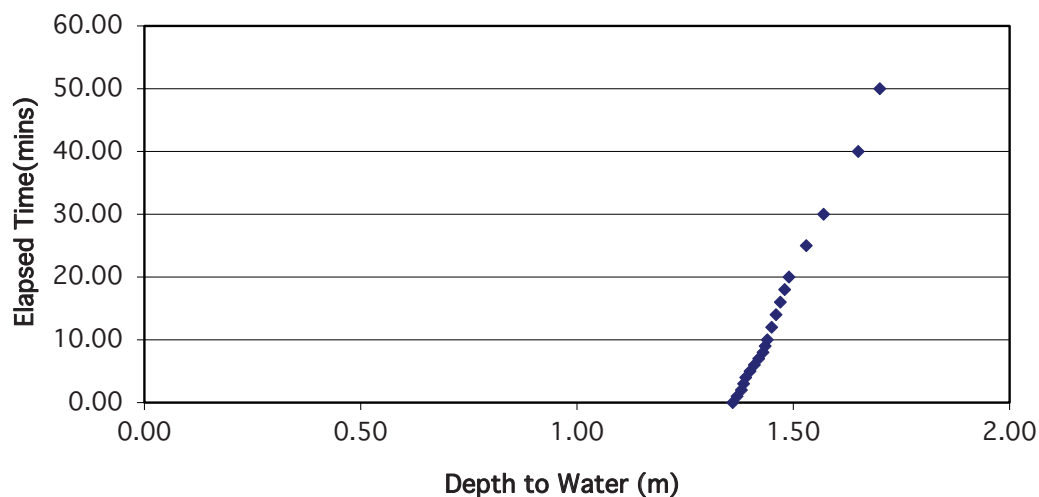
Top of permeable soil
 Base of permeable soil

Base area= 1.54 m²
 *Av. side area of permeable stratum over test period 0.986 m²
 Total Exposed area = 2.526 m²

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

f= 0.00415 m/min or 6.909E-05 m/sec

Depth of water vs Elapsed Time (mins)



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

Contract: Harbour Point Bray Contract No. 22734
 Test No. PT203 - Cycle2 Easting 726645.516
 Client Ballymore/ATKINS Northing 719323.364
 Date: 28/09/2020 Elevation 3.113

Summary of ground conditions

from	to	Description	Ground water
0.00	0.10	TOPSOIL	Dry
0.10	0.50	Greyish brown sandy very gravelly CLAY with cobbles (MADE GROUND)	
0.50	1.70	Stiff grey sandy very gravelly CLAY with medium cobble content	

Field Data

Field Test

Depth to Water (m)	Elapsed Time (min)
1.38	0.00
1.39	1.00
1.40	2.00
1.405	3.00
1.41	4.00
1.42	5.00
1.43	6.00
1.44	7.00
1.45	8.00
1.46	9.00
1.465	10.00
1.48	12.00
1.49	14.00
1.505	16.00
1.51	18.00
1.52	20.00
1.55	25.00
1.59	30.00
1.65	40.00
1.70	50.00

Depth of Pit (D) 1.70 m
 Width of Pit (B) 0.70 m
 Length of Pit (L) 2.20 m

Initial depth to Water = 1.38 m
 Final depth to water = 1.70 m
 Elapsed time (mins)= 50.00

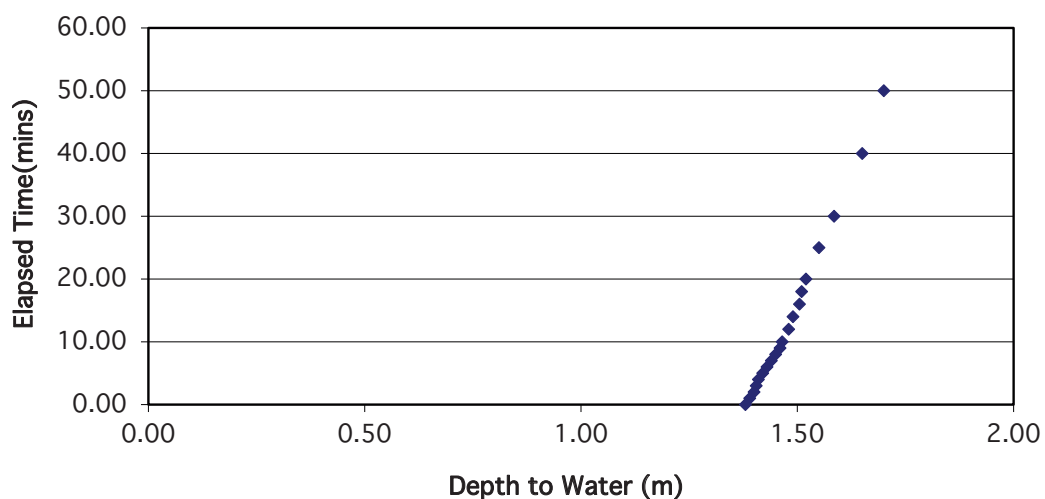
Top of permeable soil
 Base of permeable soil

Base area= 1.54 m²
 *Av. side area of permeable stratum over test period 0.928 m²
 Total Exposed area = 2.468 m²

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

f= 0.00399 m/min or 6.656E-05 m/sec

Depth of water vs Elapsed Time (mins)



PT201 – 1 of 2



PT201 – 2 of 2



PT202 – 1 of 3



PT202 – 2 of 3



PT202 – 3 of 3



PT203 – 1 of 2



RECEIVED: 24/03/2025

PT203 – 2 of 2



Appendix 6
DCP Test Records

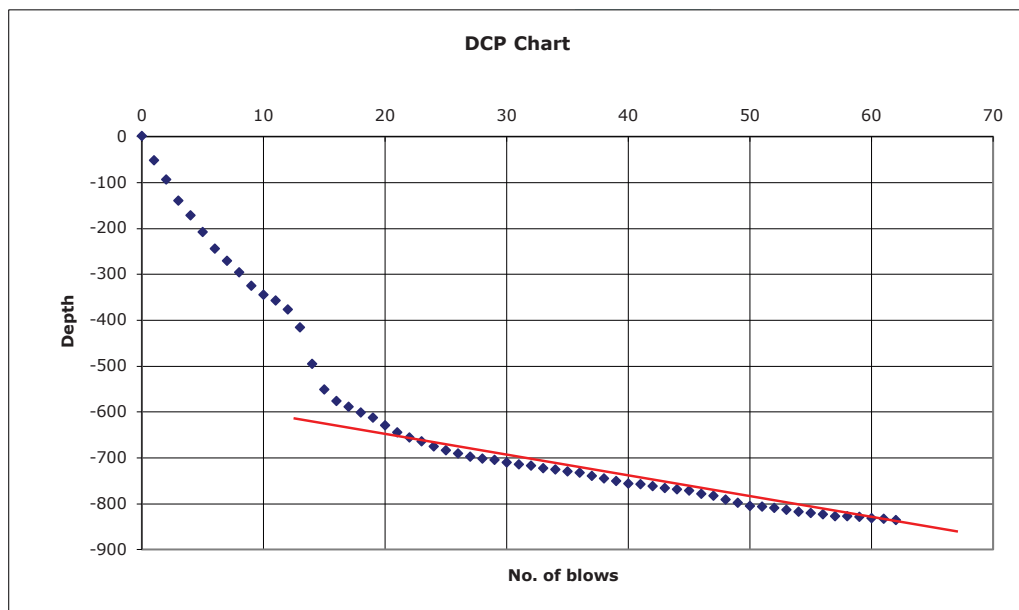
RECEIVED: 24/03/2025

Dynamic Cone Penetrometer



RECEIVED: 24/03/2025

Contract Harbour Point Bray				Date: 25/09/2020		Test No. DCP201			
Ref No. 22734									
Client Ballymore									
				DCP Zero Reading		63		mm	
Location TP201									
Direction				Start of Test at:		0.5m below GL			
Soil Description				Approximate Chainage					
Firm, brown, gravelly very sandy CLAY with low cobble content.									
No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm	
0	0	63	1	21	708	1	42	826	
1	1	115	1	22	719	1	43	830	
1	2	158	1	23	728	1	44	832	
1	3	203	1	24	739	1	45	835	
1	4	235	1	25	748	1	46	842	
1	5	272	1	26	755	1	47	847	
1	6	308	1	27	761	1	48	855	
1	7	335	1	28	765	1	49	862	
1	8	360	1	29	769	1	50	869	
1	9	389	1	30	774	1	51	870	
1	10	409	1	31	778	1	52	873	
1	11	421	1	32	781	1	53	877	
1	12	440	1	33	786	1	54	882	
1	13	480	1	34	790	1	55	884	
1	14	559	1	35	793	1	56	887	
1	15	615	1	36	797	1	57	891	
1	16	640	1	37	804	1	58	891	
1	17	652	1	38	809	1	59	893	
1	18	665	1	39	814	1	60	895	
1	19	677	1	40	820	1	61	897	
1	20	693	1	41	822	1	62	899	



Depth range (mm)	From	to	Penetration	mm / blow
	693	899		
Blows	20	62	42	

TRRL RN8 $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \cdot \text{Log}_{10}(\text{mm/blow})$

$\text{Log}_{10}(\text{CBR}) = 1.750$

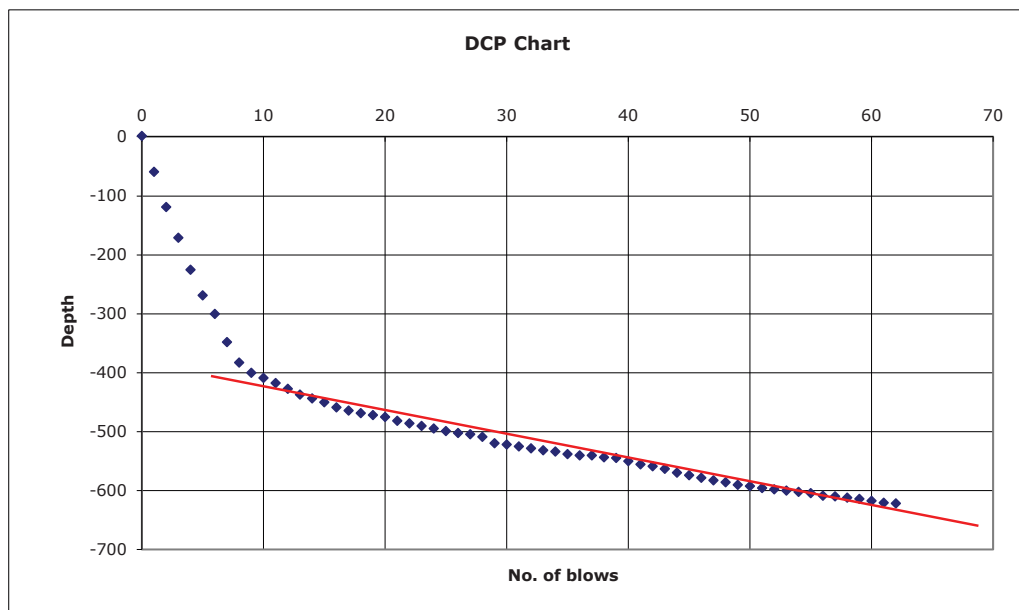
CBR = 56.236

Dynamic Cone Penetrometer



RECEIVED: 24/03/2025

Contract Harbour Point Bray Ref No. 22734 Client Ballymore				Date: 24/09/2020		Test No. DCP202		
				DCP Zero Reading		70 mm		
Location TP202								
Direction				Start of Test at:		0.6m below GL		
Soil Description Firm, brown, sandy gravelly CLAY with low cobble content.				Approximate Chainage				
No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm
0	0	70	1	21	553	1	42	630
1	1	130	1	22	557	1	43	634
1	2	190	1	23	561	1	44	640
1	3	242	1	24	565	1	45	645
1	4	296	1	25	570	1	46	649
1	5	340	1	26	573	1	47	653
1	6	371	1	27	575	1	48	657
1	7	419	1	28	580	1	49	661
1	8	454	1	29	590	1	50	663
1	9	471	1	30	593	1	51	666
1	10	480	1	31	596	1	52	669
1	11	489	1	32	599	1	53	671
1	12	498	1	33	602	1	54	673
1	13	508	1	34	605	1	55	675
1	14	514	1	35	609	1	56	680
1	15	521	1	36	611	1	57	681
1	16	530	1	37	611	1	58	683
1	17	535	1	38	614	1	59	685
1	18	539	1	39	615	1	60	688
1	19	543	1	40	621	1	61	691
1	20	546	1	41	626	1	62	693



Depth range (mm)	From	to	Penetration	mm / blow
	471	693		
Blows	9	62	53	4.1887

TRRL RN8 $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \cdot \text{Log}_{10}(\text{mm/blow})$

$\text{Log}_{10}(\text{CBR}) = 1.822$

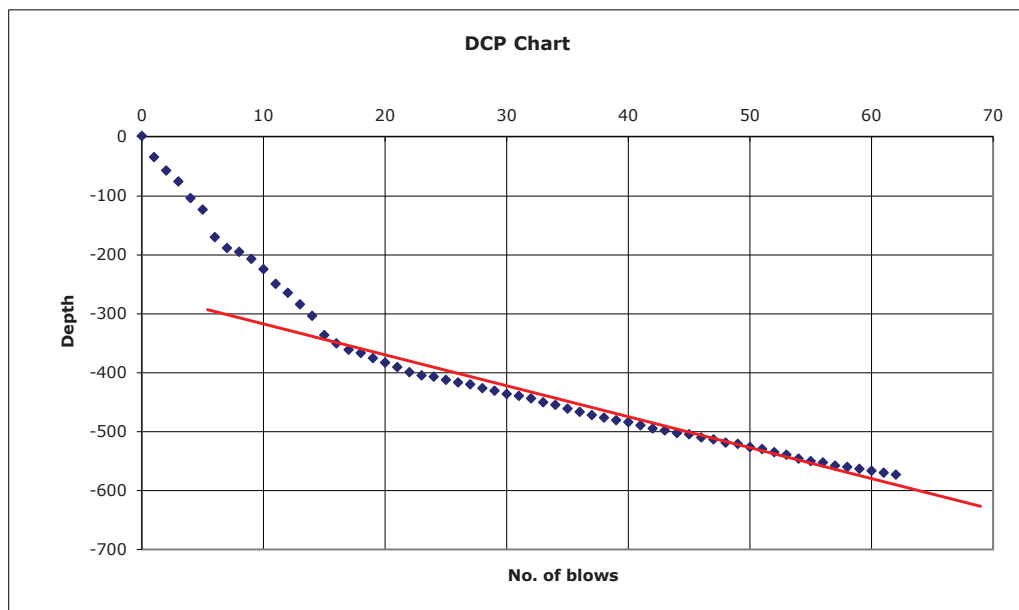
CBR = 66.445

Dynamic Cone Penetrometer



RECEIVED: 24/03/2025

Contract Harbour Point Bray Ref No. 22734 Client Ballymore				Date: 25/09/2020		Test No. DCP203		
				DCP Zero Reading		65 mm		
Location TP203				Start of Test at: 0.5m below GL				
Direction								
Soil Description Firm, brown, gravelly very sandy CLAY with low cobble content.				Approximate Chainage				
No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm
0	0	65	1	21	456	1	42	561
1	1	100	1	22	465	1	43	564
1	2	123	1	23	470	1	44	568
1	3	142	1	24	473	1	45	570
1	4	170	1	25	478	1	46	576
1	5	189	1	26	482	1	47	579
1	6	236	1	27	486	1	48	584
1	7	254	1	28	492	1	49	587
1	8	261	1	29	497	1	50	592
1	9	273	1	30	502	1	51	595
1	10	290	1	31	505	1	52	601
1	11	315	1	32	510	1	53	605
1	12	330	1	33	516	1	54	611
1	13	350	1	34	520	1	55	616
1	14	369	1	35	527	1	56	618
1	15	402	1	36	532	1	57	623
1	16	416	1	37	538	1	58	626
1	17	427	1	38	542	1	59	629
1	18	432	1	39	546	1	60	632
1	19	441	1	40	550	1	61	635
1	20	449	1	41	555	1	62	639



	From	to	Penetration	mm / blow
Depth range (mm)	402	639	237	
Blows	15	62	47	5.0426

TRRL RN8 $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \cdot \text{Log}_{10}(\text{mm/blow})$

$\text{Log}_{10}(\text{CBR}) = 1.737$

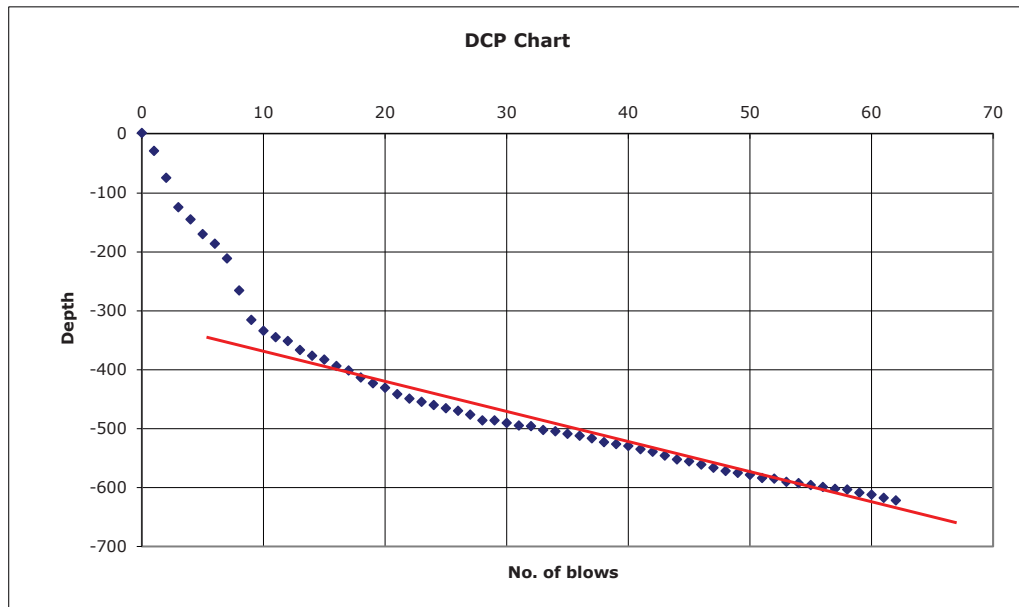
CBR = 54.613

Dynamic Cone Penetrometer



RECEIVED: 24/03/2025

Contract Harbour Point Bray Ref No. 22734 Client Ballymore				Date: 25/09/2020		Test No. DCP204		
Location TP204 Direction				DCP Zero Reading		60 mm		
Soil Description Firm, brown, gravelly very sandy CLAY with low cobble content.				Start of Test at:		0.5m below GL		
				Approximate Chainage				
No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm
0	0	60	1	21	502	1	42	600
1	1	90	1	22	510	1	43	606
1	2	135	1	23	515	1	44	613
1	3	185	1	24	521	1	45	616
1	4	206	1	25	526	1	46	622
1	5	231	1	26	531	1	47	627
1	6	247	1	27	537	1	48	633
1	7	272	1	28	547	1	49	636
1	8	326	1	29	547	1	50	639
1	9	376	1	30	551	1	51	645
1	10	395	1	31	555	1	52	646
1	11	406	1	32	557	1	53	651
1	12	412	1	33	563	1	54	653
1	13	427	1	34	565	1	55	656
1	14	437	1	35	570	1	56	660
1	15	444	1	36	573	1	57	663
1	16	455	1	37	577	1	58	664
1	17	462	1	38	584	1	59	670
1	18	474	1	39	587	1	60	673
1	19	484	1	40	590	1	61	678
1	20	492	1	41	596	1	62	682



	From	to	Penetration	mm / blow
Depth range (mm)	437	682	245	5.1042
Blows	14	62	48	

TRRL RN8 $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \cdot \text{Log}_{10}(\text{mm/blow})$

$\text{Log}_{10}(\text{CBR}) = 1.732$

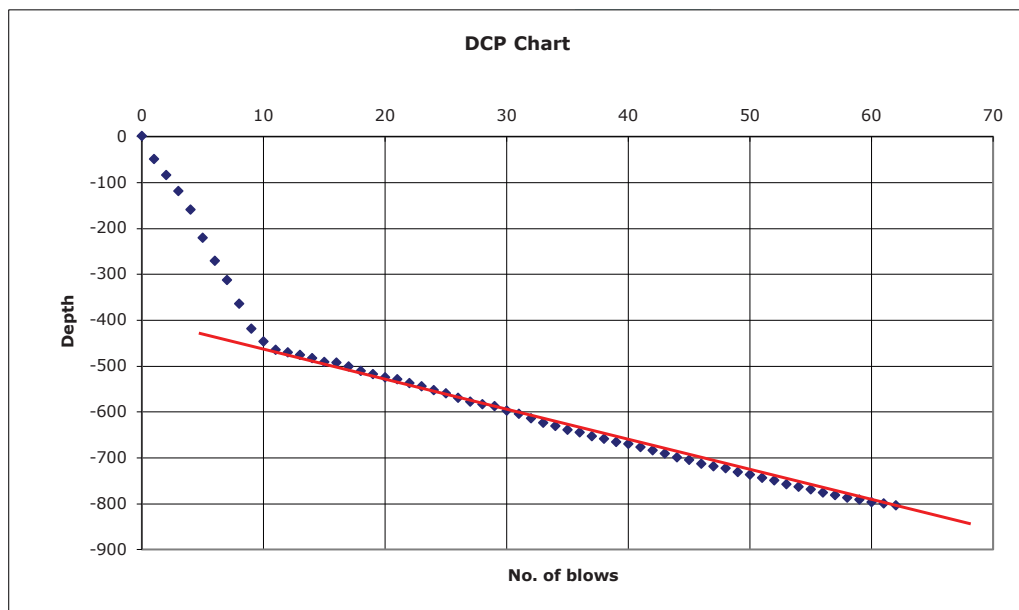
CBR = 53.917

Dynamic Cone Penetrometer



RECEIVED: 24/03/2025

Contract Harbour Point Bray Ref No. 22734 Client Ballymore				Date: 24/09/2020		Test No. DCP205		
				DCP Zero Reading		40 mm		
Location TP205				Start of Test at: 0.6m below GL				
Direction								
Soil Description Firm, brown, gravelly very sandy CLAY with low cobble content.				Approximate Chainage				
No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm
0	0	40	1	21	570	1	42	724
1	1	89	1	22	578	1	43	732
1	2	125	1	23	585	1	44	740
1	3	160	1	24	594	1	45	746
1	4	200	1	25	601	1	46	754
1	5	261	1	26	610	1	47	759
1	6	312	1	27	619	1	48	763
1	7	354	1	28	624	1	49	772
1	8	405	1	29	628	1	50	778
1	9	460	1	30	638	1	51	785
1	10	487	1	31	645	1	52	790
1	11	506	1	32	655	1	53	798
1	12	511	1	33	664	1	54	804
1	13	516	1	34	671	1	55	810
1	14	523	1	35	680	1	56	817
1	15	532	1	36	686	1	57	822
1	16	534	1	37	694	1	58	828
1	17	542	1	38	699	1	59	832
1	18	551	1	39	706	1	60	837
1	19	559	1	40	711	1	61	841
1	20	566	1	41	718	1	62	845



	From	to	Penetration	mm / blow
Depth range (mm)	506	845	339	
Blows	11	62	51	6.6471

TRRL RN8 $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \cdot \text{Log}_{10}(\text{mm/blow})$

$\text{Log}_{10}(\text{CBR}) = 1.610$

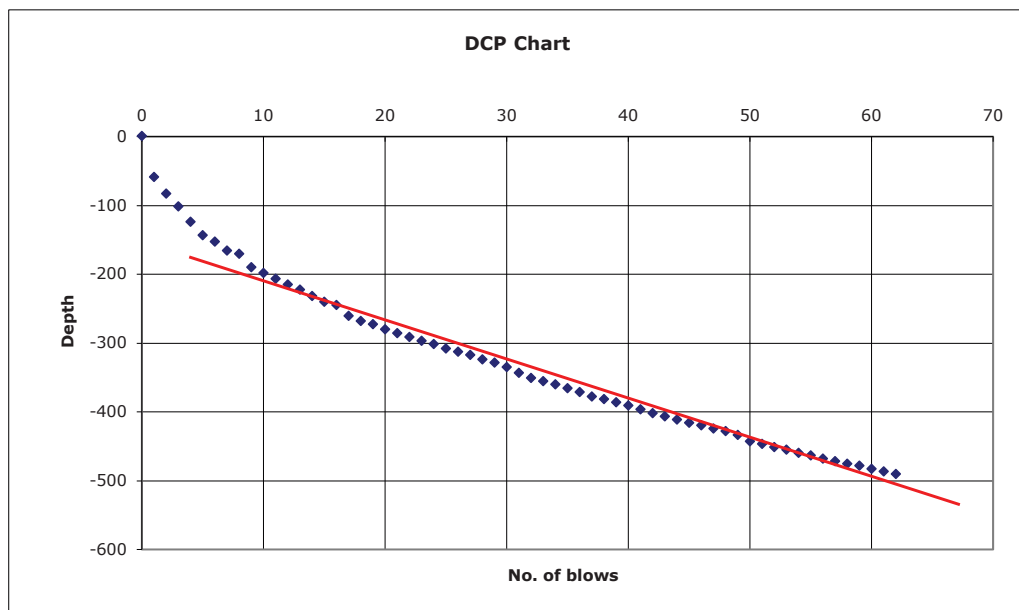
CBR = 40.783

Dynamic Cone Penetrometer



RECEIVED: 24/03/2025

Contract Harbour Point Bray Ref No. 22734 Client Ballymore			Date: 24/09/2020		Test No. DCP207			
Location TP207 Direction			DCP Zero Reading 89 mm		Start of Test at: 0.6m below GL			
Soil Description Firm, brown, gravelly very sandy CLAY with low cobble content.			Approximate Chainage					
No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm
0	0	89	1	21	375	1	42	491
1	1	148	1	22	381	1	43	496
1	2	172	1	23	386	1	44	501
1	3	191	1	24	391	1	45	505
1	4	213	1	25	397	1	46	509
1	5	233	1	26	402	1	47	514
1	6	242	1	27	407	1	48	517
1	7	255	1	28	413	1	49	523
1	8	260	1	29	418	1	50	532
1	9	279	1	30	424	1	51	536
1	10	288	1	31	433	1	52	541
1	11	296	1	32	440	1	53	544
1	12	304	1	33	445	1	54	549
1	13	312	1	34	450	1	55	553
1	14	321	1	35	455	1	56	557
1	15	330	1	36	461	1	57	561
1	16	334	1	37	467	1	58	565
1	17	350	1	38	471	1	59	568
1	18	357	1	39	476	1	60	572
1	19	362	1	40	480	1	61	576
1	20	370	1	41	486	1	62	580



Depth range (mm)	From	to	Penetration	mm / blow
	288	580		
Blows	10	62	292	5.6154
			52	

TRRL RN8 $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \cdot \text{Log}_{10}(\text{mm/blow})$

$\text{Log}_{10}(\text{CBR}) = 1.688$

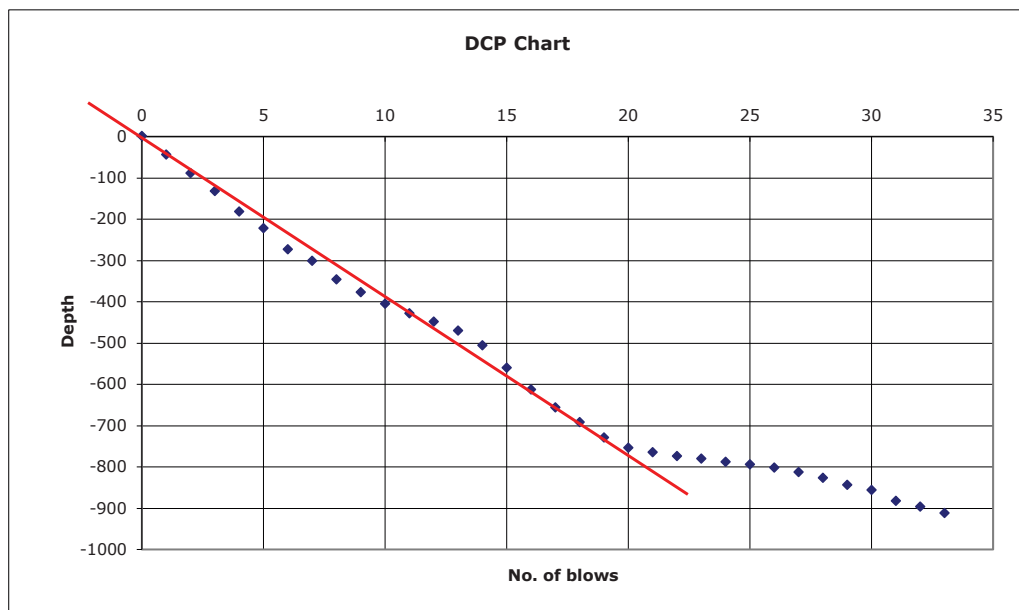
CBR = 48.742

Dynamic Cone Penetrometer



RECEIVED: 24/03/2025

Contract Harbour Point Bray Ref No. 22734 Client Ballymore				Date: 24/09/2020		Test No. DCP208		
Location TP208 Direction Soil Description Firm, orangish brown, gravelly very sandy CLAY.				DCP Zero Reading 45 mm		Start of Test at: 0.5m below GL Approximate Chainage		
No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm
0	0	45	1	21	811	1	42	
1	1	89	1	22	819	1	43	
1	2	134	1	23	826	1	44	
1	3	178	1	24	834	1	45	
1	4	227	1	25	840	1	46	
1	5	268	1	26	848	1	47	
1	6	319	1	27	859	1	48	
1	7	347	1	28	873	1	49	
1	8	391	1	29	890	1	50	
1	9	422	1	30	901	1	51	
1	10	450	1	31	928	1	52	
1	11	474	1	32	942	1	53	
1	12	494	1	33	958	1	54	
1	13	516	1	34		1	55	
1	14	551	1	35		1	56	
1	15	606	1	36		1	57	
1	16	659	1	37		1	58	
1	17	701	1	38		1	59	
1	18	737	1	39		1	60	
1	19	774	1	40		1	61	
1	20	800	1	41		1	62	



Depth range (mm)	From	to	Penetration	mm / blow
	89	800		
Blows	1	20	711	37.4211
			19	

TRRL RN8 $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \cdot \text{Log}_{10}(\text{mm/blow})$

$\text{Log}_{10}(\text{CBR}) = 0.817$

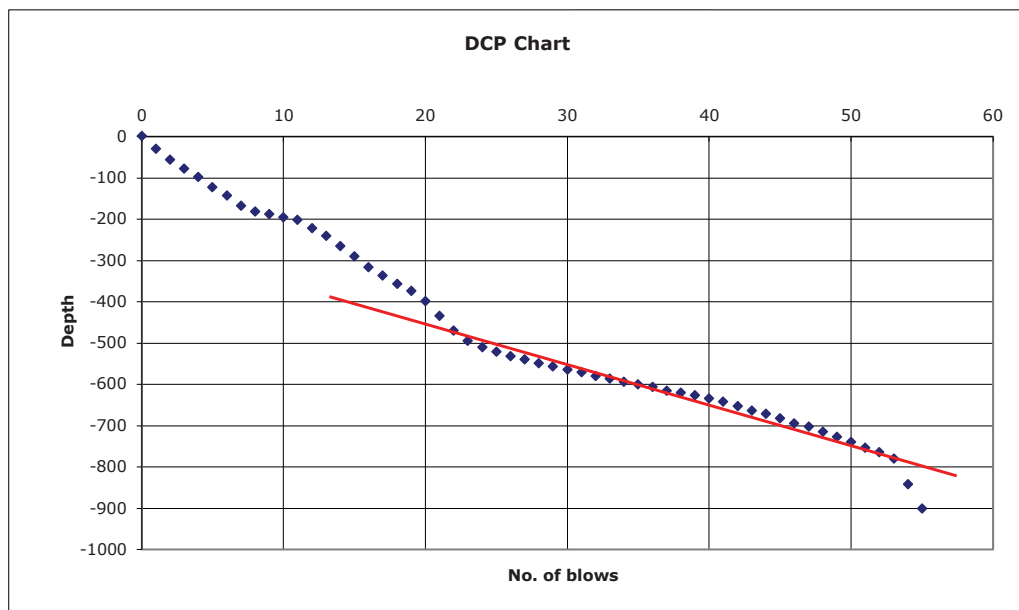
CBR = 6.565

Dynamic Cone Penetrometer



RECEIVED: 24/03/2025

Contract Harbour Point Bray Ref No. 22734 Client Ballymore				Date: 25/09/2020 Test No. DCP209				
				DCP Zero Reading 54 mm				
Location TP209 Direction				Start of Test at: 0.5m below GL				
Soil Description Firm, brown, gravelly very sandy CLAY with low cobble content.				Approximate Chainage				
No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm
0	0	54	1	21	489	1	42	708
1	1	85	1	22	524	1	43	719
1	2	110	1	23	550	1	44	726
1	3	132	1	24	565	1	45	737
1	4	153	1	25	576	1	46	750
1	5	177	1	26	587	1	47	757
1	6	198	1	27	595	1	48	770
1	7	222	1	28	604	1	49	782
1	8	236	1	29	612	1	50	794
1	9	242	1	30	620	1	51	808
1	10	250	1	31	626	1	52	820
1	11	257	1	32	635	1	53	835
1	12	277	1	33	641	1	54	896
1	13	296	1	34	649	1	55	956
1	14	320	1	35	655	1	56	
1	15	345	1	36	661	1	57	
1	16	371	1	37	670	1	58	
1	17	391	1	38	675	1	59	
1	18	411	1	39	682	1	60	
1	19	429	1	40	689	1	61	
1	20	453	1	41	697	1	62	



Depth range (mm)	From	to	Penetration	mm / blow
	550	835		
Blows	23	53	285	9.5000
			30	

TRRL RN8 $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \cdot \text{Log}_{10}(\text{mm/blow})$

$\text{Log}_{10}(\text{CBR}) = 1.447$

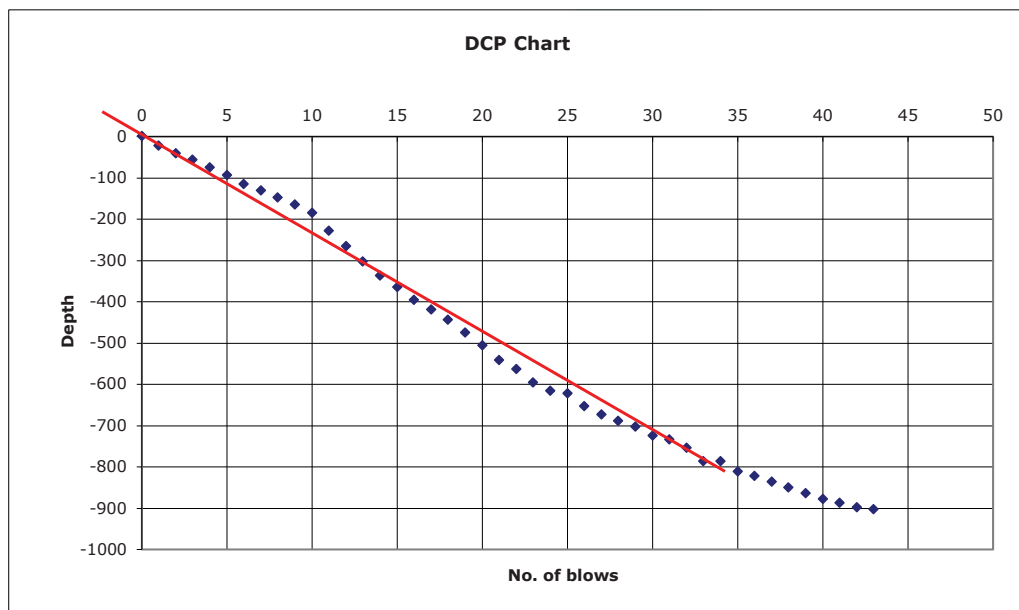
CBR = 27.961

Dynamic Cone Penetrometer



RECEIVED: 24/03/2025

Contract Harbour Point Bray Ref No. 22734 Client Ballymore				Date: 25/09/2020		Test No. DCP210		
				DCP Zero Reading		46 mm		
Location TP210				Start of Test at: 0.5m below GL				
Direction								
Soil Description Firm, brown, sandy gravelly CLAY with low cobble content.				Approximate Chainage				
No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm
0	0	46	1	21	588	1	42	945
1	1	69	1	22	609	1	43	950
1	2	87	1	23	643	1	44	
1	3	103	1	24	663	1	45	
1	4	122	1	25	669	1	46	
1	5	140	1	26	699	1	47	
1	6	162	1	27	720	1	48	
1	7	177	1	28	736	1	49	
1	8	194	1	29	750	1	50	
1	9	211	1	30	771	1	51	
1	10	232	1	31	781	1	52	
1	11	275	1	32	800	1	53	
1	12	312	1	33	833	1	54	
1	13	350	1	34	833	1	55	
1	14	383	1	35	857	1	56	
1	15	412	1	36	868	1	57	
1	16	442	1	37	882	1	58	
1	17	465	1	38	896	1	59	
1	18	490	1	39	911	1	60	
1	19	521	1	40	924	1	61	
1	20	552	1	41	933	1	62	



	From	to	Penetration	mm / blow
Depth range (mm)	69	833	764	23.1515
Blows	1	34	33	

TRRL RN8 $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \cdot \text{Log}_{10}(\text{mm/blow})$

$\text{Log}_{10}(\text{CBR}) = 1.038$

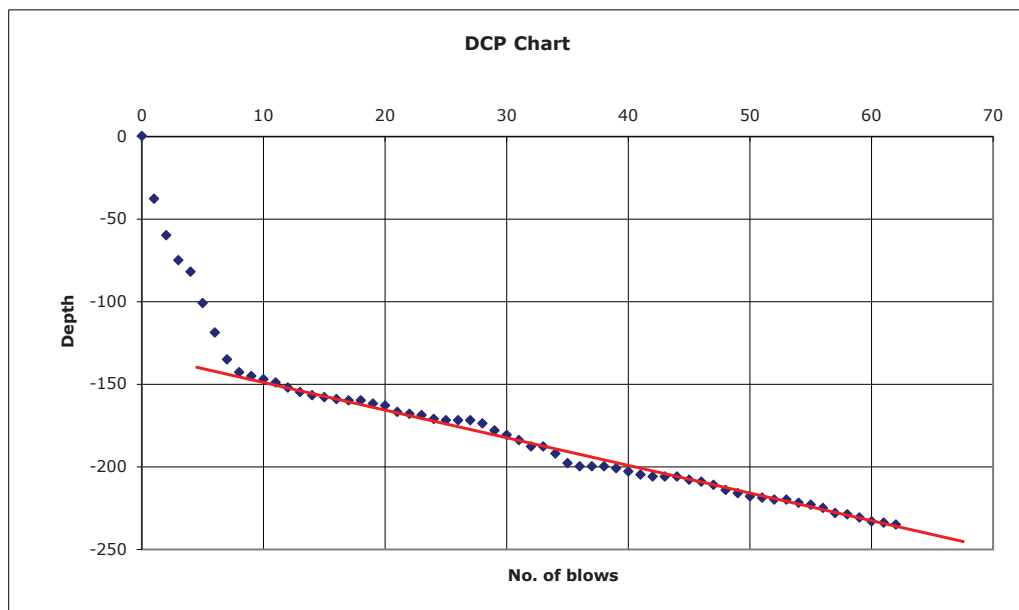
CBR = 10.905

Dynamic Cone Penetrometer



RECEIVED: 24/03/2025

Contract Harbour Point Bray Ref No. 22734 Client Ballymore				Date: 24/09/2020 Test No. DCP211				
				DCP Zero Reading 60 mm				
Location TP211 Direction				Start of Test at: 0.3m below GL				
Soil Description Firm, greyish brown, sandy very gravelly CLAY with medium cobble content.				Approximate Chainage				
No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm	No of Blows	Total Blows	Reading mm
0	0	60	1	21	227	1	42	266
1	1	98	1	22	228	1	43	266
1	2	120	1	23	229	1	44	266
1	3	135	1	24	231	1	45	268
1	4	142	1	25	232	1	46	269
1	5	161	1	26	232	1	47	271
1	6	179	1	27	232	1	48	274
1	7	195	1	28	234	1	49	276
1	8	203	1	29	238	1	50	278
1	9	205	1	30	241	1	51	279
1	10	207	1	31	244	1	52	280
1	11	209	1	32	248	1	53	280
1	12	212	1	33	248	1	54	282
1	13	215	1	34	252	1	55	283
1	14	217	1	35	258	1	56	285
1	15	218	1	36	260	1	57	288
1	16	219	1	37	260	1	58	289
1	17	220	1	38	260	1	59	291
1	18	220	1	39	261	1	60	293
1	19	222	1	40	263	1	61	294
1	20	223	1	41	265	1	62	295



	From	to	Penetration	mm / blow
Depth range (mm)	203	295	92	1.7037
Blows	8	62	54	

TRRL RN8 $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 \cdot \text{Log}_{10}(\text{mm/blow})$

$\text{Log}_{10}(\text{CBR}) = 2.235$

CBR = 171.956

Appendix 7**Groundwater & Gas Monitoring**

RC202
RC203
RC208
RC215
RC219
RC223
ROH01
ROH02
ROH04
BH207
WS01A
WS01B
WS02A
WS02B
WS03A
WS03B
WS04A
WS04B
WS05A

RECEIVED: 24/03/2025

Gas & Groundwater Monitoring

RECEIVED: 24/03/2025



Site Location: Harbour View, Bray
 Project No.: 22734
 Client: Ballymore Group
 Borehole Number: RC202

Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	5.89	5.79	5.82	5.58	5.5	5.61		
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0		
CO2(%)	0.0	1.9	1.3	1.0	1.1	1.1		
O2(%)	21.0	19.3	19.9	20.1	19.2	19.4		
CO(%)	1.0	1.0	0.0	0.0	0	0		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	78.9	78.9	78.8	78.9	79.7	79.5		
BAROMETRIC PRESURE (mb)	998	986	1016.0	1008	1012	1001		
GAS FLOW	0	0	0.0	0	0	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Borehole Number	RC203							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	9.28	9.25	9.44	9.29	9.31	9.26		
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0		
CO2(%)	0.5	0.8	0.1	0.2	0.2	0.3		
O2(%)	20.2	20.0	20.4	20.3	20.1	20.1		
CO(%)	1.0	1.0	1.0	1.0	1.0	1		
H2S(%)	0.0	0.0	0.0	0.0	0.0	0		
Balance(%)	78.3	79.2	79.5	78.5	78.7	78.6		
BAROMETRIC PRESURE (mb)	998	986	1016.0	1008	1012	1001		
GAS FLOW	0.0	-0.1	0.0	0	0	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								



RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Borehole Number	RC208							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	5.91	5.86	5.77	5.68	5.51	5.58		
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0		
CO2(%)	0.5	0.7	0.0	0.2	0.3	0.2		
O2(%)	20.1	19.9	20.9	20.0	20.1	20		
CO(%)	1.0	1.0	1.0	1.0	1	1		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	78.4	79.4	79.1	78.8	78.6	78.8		
BAROMETRIC PRESURE (mb)	998	986	1016	1008	1012	1001		
GAS FLOW	0.0	0.0	0.0	0	0	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								



RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Borehole Number	RC215							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	3.77	3.37	3.54	4.02	3.99	4		
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0		
CO2(%)	0.1	0.3	0.7	0.1	0.1	0.3		
O2(%)	20.0	18.0	14.7	18.3	19	18.7		
CO(%)	1.0	1.0	1.0	1.0	0	1		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	78.6	81.7	84.6	81.6	80.9	80		
BAROMETRIC PRESURE (mb)	998	986	1018	1008	1012	1001		
GAS FLOW	0.0	-0.4	-1.5	0	0	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								



RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Borehole Number	RC219							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	6.54	6.13	6.25	6.42	6.5	6.4		
CH4(%)	0.0	0.2	0.0	0.0	0.0	0.0		
CO2(%)	0.1	0.3	0.1	0.1	0.1	0.1		
O2(%)	20.3	20.5	20.2	20.1	19.8	19.9		
CO(%)	1.0	1.0	0.0	1.0	1	1		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	79.6	79.0	79.7	79.8	79.1	79		
BAROMETRIC PRESURE (mb)	998	986	1018	1008	1012	1001		
GAS FLOW	0.0	-0.7	-0.6	0	0	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								



RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Borehole Number	RC223							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	1.69	1.08	1.36	1.49	1.82	1.65		
CH4(%)	0.5	0.0	0.0	0.0	0.1	0.1		
CO2(%)	0.0	0.0	0.0	0.1	0.1	0.1		
O2(%)	19.9	18.8	19.5	20.1	19.5	19.7		
CO(%)	1.0	2.0	1.0	0.0	1	1		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	79.5	79.2	79.5	79.8	80.3	80.1		
BAROMETRIC PRESURE (mb)	999	987	1018	1008	1012	1001		
GAS FLOW	0.0	0.0	0.0	0	0	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								



RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Borehole Number	ROH01							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	4.81	4.79	4.86	4.98	4.49	4.69		
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0		
CO2(%)	0.0	0.0	0.0	0.0	0	0		
O2(%)	20.9	20.8	21.0	21.0	20.9	20.7		
CO(%)	0.0	0.0	0.0	0.0	0	0		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	79.1	79.2	78.9	78.8	79.1	79.3		
BAROMETRIC PRESURE (mb)	998	986	1016	1008	1012	1001		
GAS FLOW	0.0	0.0	0.0	0	0	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								



RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Borehole Number	ROH02							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	3.3	3.31	3.29	3.15	3.33	3.16		
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0		
CO2(%)	0.0	0.0	0.0	0.0	0	0		
O2(%)	20.4	20.5	20.6	20.4	20.2	20.1		
CO(%)	0.0	0.0	0.0	0.0	0	0		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	79.6	79.5	79.4	79.6	79.8	79.9		
BAROMETRIC PRESURE (mb)	998	986	1018	1008	1012	1001		
GAS FLOW	-0.2	-0.5	-1.2	-0.3	-0.1	-0.1		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								



RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Borehole Number	ROH04							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	0.3	0.2	0.35	0.48	0.87	0.54		
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0		
CO2(%)	0.0	0.1	0.0	0.0	0	0		
O2(%)	20.4	20.7	20.5	20.4	20.3	20.4		
CO(%)	0.0	0.0	0.0	0.0	0	0		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	79.6	79.2	79.5	79.6	79.7	79.6		
BAROMETRIC PRESURE (mb)	998	987	1018	1008	1012	1001		
GAS FLOW	0.0	0.0	-0.4	0	0	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								



RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Borehole Number	BH207							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	5.58	5.32	5.25	5.52	5.39	5.36		
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0		
CO2(%)	0.2	1.2	2.4	2.2	1.9	2		
O2(%)	20.6	19.6	18.9	18.5	18.4	18.5		
CO(%)	1.0	0.0	0.0	1.0	0	0		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	79.3	79.2	78.7	79.5	79.7	80		
BAROMETRIC PRESURE (mb)	998	986	1016.0	1008	1012	1001		
GAS FLOW	0.0	0	0.0	0	0	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								

RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Window Sample Number	WS01A							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	DRY	DRY	DRY	DRY	DRY	Dry		
CH4(%)	0.0	0.0	0.0	0	0.0	0.0		
CO2(%)	1.5	1.7	2.1	1.6	1.8	1.6		
O2(%)	19.2	19	18.5	19.1	19.2	19		
CO(%)	1.0	1.0	0.0	0	0	0		
H2S(%)	0.0	0.0	0.0	0	0	0		
Balance(%)	79.3	79.3	79.4	79.3	79	78.4		
BAROMETRIC PRESURE (mb)	999	986	1016	1008	1012	1001		
GAS FLOW	0	0	0	0	0	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								



RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Window Sample Number	WS01B							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	DRY	DRY	DRY	DRY	DRY	DRY		
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0		
CO2(%)	1.6	0.9	2.1	2.2	1.9	1.8		
O2(%)	19.3	19.7	18.5	17.3	17.6	17.9		
CO(%)	1.0	0.0	0.0	1.0	1	1		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	79.1	79.4	79.4	80.4	79.5	80.3		
BAROMETRIC PRESURE (mb)	999	986	1016	1008	1012	1001		
GAS FLOW	0	0	0	0	0	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								

RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Window Sample Number	WS02A							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	DRY	DRY	DRY	DRY	DRY	DRY		
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0		
CO2(%)	3.0	3.5	3.5	3.6	3.8	3.5		
O2(%)	17.8	17.8	17.6	17.0	17.3	17.5		
CO(%)	1.0	1.0	0.0	0.0	0	0		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	79.1	78.6	78.9	79.4	78.9	79		
BAROMETRIC PRESURE (mb)	1001	986	1016	1008	1012	1001		
GAS FLOW	0	-0.1	-0.1	0	-0.1	-0.1		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								

RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Window Sample Number	WS02B							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	DRY	DRY	DRY	DRY	DRY	DRY		
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0		
CO2(%)	0.7	0.6	0.5	0.4	0.5	0.6		
O2(%)	19.0	19.6	20.0	19.1	19.5	19.3		
CO(%)	1.0	1.0	0.0	1.0	0	1		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	80.3	79.9	79.5	80.5	80	79.1		
BAROMETRIC PRESURE (mb)	999	986	1016	1008	1012	1001		
GAS FLOW	0	0	-0.1	0	0	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								

RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Window Sample Number	WS03A							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	DRY	DRY	DRY	DRY	DRY	DRY		
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0		
CO2(%)	3.9	4.2	4.9	5.4	4.6	5.1		
O2(%)	16.6	16.6	15.1	13.2	16	15.3		
CO(%)	1.0	1.0	0.0	1.0	1	1		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	79.5	79.2	80.0	81.4	78.6	79.6		
BAROMETRIC PRESURE (mb)	999	986	1016	1008	1012	1001		
GAS FLOW	0	0	0	0	0	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								

RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Window Sample Number	WS03B							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	DRY	DRY	DRY	DRY	DRY	DRY		
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0		
CO2(%)	1.7	0.9	2.1	2.3	2.3	2.2		
O2(%)	19.1	19.7	19.3	17.0	18	17.6		
CO(%)	1.0	1.0	0.0	1.0	0	1		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	79.2	79.5	78.6	80.7	79.7	80.2		
BAROMETRIC PRESURE (mb)	999	986	1016	1008	1012	1001		
GAS FLOW	0	0	0	0	0	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								

RECEIVED: 24/03/2025

Gas & Groundwater Monitoring								
Site Location	Harbour View, Bray							
Project No.	22734							
Client	Ballymore Group							
Window Sample Number	WS04A							
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020		
WATER LEVEL (m bgl)	DRY	1.3	1.17	1	1.15	1.13		
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0		
CO2(%)	15.5	13.9	11.5	12.0	11.1	11.8		
O2(%)	4.2	6.5	7.5	6.0	6.6	6.3		
CO(%)	1.0	1.0	0.0	1.0	0	1		
H2S(%)	0.0	0.0	0.0	0.0	0	0		
Balance(%)	80.3	79.6	81.0	81.0	82.3	80.9		
BAROMETRIC PRESURE (mb)	999	986	1018	1008	1012	1001		
GAS FLOW	0	0	0	0	-0.2	0		
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good		
COMMENTS								



RECEIVED: 24/03/2025

RECEIVED: 24/03/2025



Gas & Groundwater Monitoring							
Site Location	Harbour View, Bray						
Project No.	22734						
Client	Ballymore Group						
Window Sample Number	WS04B						
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020	
WATER LEVEL (m bgl)	DRY	1.44	1.32	1.5	1.15	1.21	
CH4(%)	0.0	0.0	0.0	0.0	0.0	0.0	
CO2(%)	6.6	6.4	7.8	2.8	7.3	7.1	
O2(%)	8.6	7.7	4.2	16.2	3.3	5.3	
CO(%)	1.0	1.0	0.0	0.0	0	0	
H2S(%)	0.0	0.0	0.0	0.0	0	0	
Balance(%)	84.8	85.9	87.9	81.0	89.4	87.6	
BAROMETRIC PRESURE (mb)	999	986	1018	1008	1012	1001	
GAS FLOW	0	0	0	0	0	0	
WEATHER	Good	Rainy/Windy	Good	Good	Good	Good	
COMMENTS							

Gas & Groundwater Monitoring							
Site Location	Harbour View, Bray						
Project No.	22734						
Client	Ballymore Group						
Window Sample Number	WS05A						
Date	02/10/2020	20/10/2020	03/11/2020	12/11/2020	25/11/2020	17/12/2020	
WATER LEVEL (m bgl)	DRY	DRY				DRY	
CH4(%)	0.0	0.0				0.0	
CO2(%)	0.4	0.5				0.0	
O2(%)	18.5	18.9				18.6	
CO(%)	0.0	0.0				0.0	
H2S(%)	0.0	0.0				0.0	
Balance(%)	81.1	80.6				81.4	
BAROMETRIC PRESURE (mb)	999	987				1001	
GAS FLOW	0	0				0.0	
WEATHER	Good	Rainy/Windy				Good	
COMMENTS			Access gate locked	Access gate locked	Access gate locked		



RECEIVED: 24/03/2025

Appendix 8

Data Logger Reports

RC203	06-10-20 to 04-11-20
	04-11-20 to 03-12-20
	03-12-20 to 16-12-20
RC208	06-10-20 to 04-11-20
	04-11-20 to 03-12-20
	03-12-20 to 16-12-20
RC219	06-10-20 to 04-11-20
	04-11-20 to 03-12-20
	03-12-20 to 16-12-20
RC223	06-10-20 to 04-11-20
	04-11-20 to 03-12-20
	03-12-20 to 16-12-20
ROH01	06-10-20 to 04-11-20
	04-11-20 to 03-12-20
	03-12-20 to 16-12-20
ROH02	06-10-20 to 04-11-20
	04-11-20 to 03-12-20
	03-12-20 to 16-12-20
ROH04	06-10-20 to 04-11-20
	04-11-20 to 03-12-20
	03-12-20 to 16-12-20

RECEIVED: 24/03/2025

Project. Harbour Point Bray
Project No. 22734
Engineer. Atkins
Client. Ballymore
Borehole No. BH 203
Serial No. 580532



	DATE	TEMPERATURE	WATER LEVEL (m bgl)	REMARKS
1	06/10/2020 14:00	11.688	9.685	
2	06/10/2020 15:00	11.688	9.525	
3	06/10/2020 16:00	11.688	9.415	
4	06/10/2020 17:00	11.740	9.408	
5	06/10/2020 18:00	11.688	9.514	
6	06/10/2020 19:00	11.637	9.709	
7	06/10/2020 20:00	11.585	9.933	
8	06/10/2020 21:00	11.637	10.104	
9	06/10/2020 22:00	11.688	10.190	
10	06/10/2020 23:00	11.688	10.200	
11	07/10/2020 00:00	11.688	10.105	
12	07/10/2020 01:00	11.688	9.960	
13	07/10/2020 02:00	11.688	9.800	
14	07/10/2020 03:00	11.688	9.642	
15	07/10/2020 04:00	11.688	9.528	
16	07/10/2020 05:00	11.740	9.481	
17	07/10/2020 06:00	11.688	9.544	
18	07/10/2020 07:00	11.688	9.694	
19	07/10/2020 08:00	11.585	9.911	
20	07/10/2020 09:00	11.585	10.085	
21	07/10/2020 10:00	11.637	10.191	
22	07/10/2020 11:00	11.637	10.207	
23	07/10/2020 12:00	11.688	10.143	
24	07/10/2020 13:00	11.740	10.007	
25	07/10/2020 14:00	11.740	9.849	
26	07/10/2020 15:00	11.688	9.694	
27	07/10/2020 16:00	11.637	9.575	
28	07/10/2020 17:00	11.740	9.503	
29	07/10/2020 18:00	11.740	9.528	
30	07/10/2020 19:00	11.637	9.651	
31	07/10/2020 20:00	11.688	9.829	
32	07/10/2020 21:00	11.481	9.997	
33	07/10/2020 22:00	11.481	10.119	
34	07/10/2020 23:00	11.533	10.148	
35	08/10/2020 00:00	11.637	10.108	
36	08/10/2020 01:00	11.637	9.985	
37	08/10/2020 02:00	11.740	9.833	
38	08/10/2020 03:00	11.688	9.657	
39	08/10/2020 04:00	11.637	9.516	
40	08/10/2020 05:00	11.637	9.428	
41	08/10/2020 06:00	11.637	9.399	
42	08/10/2020 07:00	11.688	9.478	
43	08/10/2020 08:00	11.688	9.639	
44	08/10/2020 09:00	11.637	9.824	
45	08/10/2020 10:00	11.533	9.970	
46	08/10/2020 11:00	11.688	10.050	
47	08/10/2020 12:00	11.637	10.046	
48	08/10/2020 13:00	11.688	9.983	
49	08/10/2020 14:00	11.740	9.859	
50	08/10/2020 15:00	11.740	9.746	
51	08/10/2020 16:00	11.740	9.615	
52	08/10/2020 17:00	11.637	9.528	
53	08/10/2020 18:00	11.740	9.484	
54	08/10/2020 19:00	11.688	9.529	

Project. Harbour Point Bray
Project No. 22734
Engineer. Atkins
Client. Ballymore
Borehole No. BH 203
Serial No. 580532



	DATE	TEMPERATURE	WATER LEVEL (m bgl)	REMARKS
55	08/10/2020 20:00	11.637	9.638	
56	08/10/2020 21:00	11.637	9.819	
57	08/10/2020 22:00	11.637	9.972	
58	08/10/2020 23:00	11.637	10.063	
59	09/10/2020 00:00	11.533	10.105	
60	09/10/2020 01:00	11.585	10.054	
61	09/10/2020 02:00	11.792	9.947	
62	09/10/2020 03:00	11.688	9.826	
63	09/10/2020 04:00	11.740	9.698	
64	09/10/2020 05:00	11.792	9.587	
65	09/10/2020 06:00	11.637	9.517	
66	09/10/2020 07:00	11.637	9.514	
67	09/10/2020 08:00	11.740	9.612	
68	09/10/2020 09:00	11.637	9.757	
69	09/10/2020 10:00	11.637	9.902	
70	09/10/2020 11:00	11.533	10.007	
71	09/10/2020 12:00	11.533	10.051	
72	09/10/2020 13:00	11.585	10.036	
73	09/10/2020 14:00	11.740	9.950	
74	09/10/2020 15:00	11.792	9.853	
75	09/10/2020 16:00	11.740	9.744	
76	09/10/2020 17:00	11.688	9.635	
77	09/10/2020 18:00	11.740	9.567	
78	09/10/2020 19:00	11.740	9.528	
79	09/10/2020 20:00	11.585	9.589	
80	09/10/2020 21:00	11.637	9.706	
81	09/10/2020 22:00	11.585	9.861	
82	09/10/2020 23:00	11.585	10.019	
83	10/10/2020 00:00	11.585	10.108	
84	10/10/2020 01:00	11.585	10.143	
85	10/10/2020 02:00	11.688	10.114	
86	10/10/2020 03:00	11.740	10.056	
87	10/10/2020 04:00	11.637	9.946	
88	10/10/2020 05:00	11.740	9.833	
89	10/10/2020 06:00	11.688	9.746	
90	10/10/2020 07:00	11.688	9.674	
91	10/10/2020 08:00	11.688	9.667	
92	10/10/2020 09:00	11.688	9.725	
93	10/10/2020 10:00	11.637	9.838	
94	10/10/2020 11:00	11.637	9.959	
95	10/10/2020 12:00	11.637	10.042	
96	10/10/2020 13:00	11.585	10.089	
97	10/10/2020 14:00	11.637	10.063	
98	10/10/2020 15:00	11.637	10.006	
99	10/10/2020 16:00	11.688	9.939	
100	10/10/2020 17:00	11.688	9.844	
101	10/10/2020 18:00	11.740	9.748	
102	10/10/2020 19:00	11.740	9.676	
103	10/10/2020 20:00	11.740	9.633	
104	10/10/2020 21:00	11.637	9.664	
105	10/10/2020 22:00	11.637	9.776	
106	10/10/2020 23:00	11.585	9.914	
107	11/10/2020 00:00	11.533	10.049	
108	11/10/2020 01:00	11.533	10.157	
109	11/10/2020 02:00	11.585	10.202	

Project. Harbour Point Bray
Project No. 22734
Engineer. Atkins
Client. Ballymore
Borehole No. BH 203
Serial No. 580532



	DATE	TEMPERATURE	WATER LEVEL (m bgl)	REMARKS
110	11/10/2020 03:00	11.637	10.193	
111	11/10/2020 04:00	11.637	10.140	
112	11/10/2020 05:00	11.637	10.059	
113	11/10/2020 06:00	11.740	9.954	
114	11/10/2020 07:00	11.740	9.854	
115	11/10/2020 08:00	11.740	9.774	
116	11/10/2020 09:00	11.688	9.742	
117	11/10/2020 10:00	11.637	9.780	
118	11/10/2020 11:00	11.637	9.863	
119	11/10/2020 12:00	11.585	9.980	
120	11/10/2020 13:00	11.585	10.078	
121	11/10/2020 14:00	11.585	10.140	
122	11/10/2020 15:00	11.637	10.153	
123	11/10/2020 16:00	11.637	10.115	
124	11/10/2020 17:00	11.637	10.058	
125	11/10/2020 18:00	11.740	9.960	
126	11/10/2020 19:00	11.740	9.872	
127	11/10/2020 20:00	11.740	9.757	
128	11/10/2020 21:00	11.688	9.679	
129	11/10/2020 22:00	11.740	9.667	
130	11/10/2020 23:00	11.637	9.742	
131	12/10/2020 00:00	11.585	9.866	
132	12/10/2020 01:00	11.585	9.996	
133	12/10/2020 02:00	11.585	10.118	
134	12/10/2020 03:00	11.585	10.187	
135	12/10/2020 04:00	11.585	10.200	
136	12/10/2020 05:00	11.688	10.162	
137	12/10/2020 06:00	11.688	10.084	
138	12/10/2020 07:00	11.637	9.963	
139	12/10/2020 08:00	11.688	9.847	
140	12/10/2020 09:00	11.740	9.725	
141	12/10/2020 10:00	11.740	9.660	
142	12/10/2020 11:00	11.740	9.639	
143	12/10/2020 12:00	11.637	9.715	
144	12/10/2020 13:00	11.637	9.825	
145	12/10/2020 14:00	11.585	9.940	
146	12/10/2020 15:00	11.585	10.049	
147	12/10/2020 16:00	11.585	10.098	
148	12/10/2020 17:00	11.637	10.085	
149	12/10/2020 18:00	11.637	10.049	
150	12/10/2020 19:00	11.688	9.956	
151	12/10/2020 20:00	11.740	9.849	
152	12/10/2020 21:00	11.688	9.722	
153	12/10/2020 22:00	11.740	9.648	
154	12/10/2020 23:00	11.740	9.634	
155	13/10/2020 00:00	11.637	9.707	
156	13/10/2020 01:00	11.637	9.842	
157	13/10/2020 02:00	11.533	10.013	
158	13/10/2020 03:00	11.585	10.173	
159	13/10/2020 04:00	11.533	10.260	
160	13/10/2020 05:00	11.637	10.277	
161	13/10/2020 06:00	11.637	10.252	
162	13/10/2020 07:00	11.688	10.147	
163	13/10/2020 08:00	11.740	10.005	
164	13/10/2020 09:00	11.740	9.855	