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

IGSL Ltd

Harbour Point, Bray

TRCEINED: 24/03/2025 **Ground Investigation** Report **FACTUAL**

Project No. 22734

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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.

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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	рН	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 hittils 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 publin 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.

2. FIELDWORK

2.1 General

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

- o Trial Pit (10 No.)
- Cable Percussion Boreholes (23 No.1)
- o Rotary Core Drillholes (19 No.)
- Window Sampling (10 No.)
- Soakaway Tests (to BRE 365) (3 No.)
- Dynamic Cone Penetrometer (10 No.)
- o Groundwater Monitoring / Data Logger installation
- Gas Monitoring 0
- Surveying of Exploratory Hole Locations

¹A 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.

Appendix 1

Trial Pit Records and Photographs

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TAIM, PIT NO. **TP201** CONTRACT Harbour Point Bray SHEET Sheet 1 of 1 **CO-ORDINATES** 726,445,94 E DATE STARTED 25/09/2020 **LOGGED BY** F. Afonso 719,561.56 N DATE COMPLETED 25/09/2020 GROUND LEVEL (m) 10.17 **EXCAVATION** JCB CLIENT Ballymore **METHOD ENGINEER** Atkins Hand Penetrometer (KPa) Samples Vane Test (KPa) Water Strike Geotechnical Description Elevation Sample Ref Legend Depth (m) Depth Type **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. Env 0.50-0.50 AA137966 В 0.50-0.50 - 0.80 9.37 (Medium dense) Greyish brown slightly clayey very gravelly medium to coarse SAND with medium cobble O content. Gravel is fine to coarse subrounded. Cobbles are 0 subrounded of multiple lithologies. AA137967 В 1.50-1.50 2.0 2.50 7.67 End of Trial Pit at 2.50m AA137968 2.50-2.50 В 3.0 **Groundwater Conditions** Dry 24/3/21

Stability

IGSL.GDT

GPJ

IGSL TP LOG

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.



REPORT NUMBER

22734

TAIM, PIT NO. **TP202** CONTRACT Harbour Point Bray SHEET Sheet 1 of 1 **CO-ORDINATES** 726,364.49 E DATE STARTED 24/09/2020 **LOGGED BY** F. Afonso 719,512.96 N DATE COMPLETED 24/09/2020 GROUND LEVEL (m) 11.08 **EXCAVATION** JCB CLIENT Ballymore **METHOD ENGINEER** Atkins Hand Penetrometer (KPa) Samples Vane Test (KPa) Water Strike Geotechnical Description Elevation Sample Ref Legend Depth (m) Depth Type **TOPSOIL** 0.10 10.98 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. Env 0.50-0.50 20 AA137963 В 0.50-0.50 <u></u> -0.90 10.18 9 Medium dense greyish brown slightly clayey very gravelly 0 medium to coarse SAND with medium cobble content. Gravel is fine to coarse subrounded. Cobbles are subrounded of multiple lithologies. AA137964 В 1.50-1.50 - _ 2.0 AA137965 2.50-2.50 В 0 _°O_ 2.90 8.18 End of Trial Pit at 2.90m 3.0 **Groundwater Conditions** Dry 24/3/21

I.GPJ IGSL.GDT

IGSL TP LOG

Stability

Unstable from 0.80m

General Remarks

Pit commenced after scanning ground with CAT cable avoidance tool



REPORT NUMBER

22734

TAIM, PIT NO. **TP203** CONTRACT Harbour Point Bray SHEET Sheet 1 of 1 **CO-ORDINATES** 726,507,10 E DATE STARTED 25/09/2020 **LOGGED BY** F. Afonso 719,598.03 N DATE COMPLETED 25/09/2020 GROUND LEVEL (m) 9.61 **EXCAVATION** JCB CLIENT Ballymore **METHOD ENGINEER** Atkins Hand Penetrometer (KPa) Samples Vane Test (KPa) Water Strike Geotechnical Description Elevation Sample Ref Legend Depth (m) Depth Type **TOPSOIL** 0.10 9.51 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. Env 0.50-0.50 AA137972 В 0.50-0.50 - 0.80 8.81 (Medium dense) Greyish brown slightly clayey very gravelly medium to coarse SAND with medium cobble O content. Gravel is fine to coarse subrounded. Cobbles are 0 subrounded of multiple lithologies. AA137973 В 1.50-1.50 2.0 2.50 7.11 End of Trial Pit at 2.50m AA137974 2.50-2.50 В 3.0 **Groundwater Conditions** Dry 24/3/21

Stability

IGSL.GDT

GPJ

IGSL TP LOG

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.



REPORT NUMBER

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CONTRACT Harbour Point Bray							TAIAL, P SHEET	THIM PIT NO. TP204 SHEET Sheet 1 of 1				
LOG	GED BY	F. Afonso		CO-ORDINATES 726,516.51 E 719,549.49 N GROUND LEVEL (m) 9.84				DATE STARTED 25/09/20 DATE COMPLETED 25/09/20				
CLIE	NT INEER	Ballymore Atkins	GROUND LE	VEL (m)	9.84			EXCAVA METHOI		JCB		
									Samples	Samples		
		Geotechnical Description	n	Legend	Depth (m)	Elevation	Water Strike	Sample Ref	Туре	Depth	Vane Test (KPa	Hand Penetrometer (KPa)
0.0	Firm bro content Gravel i Cobbles	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				9.74			<u> </u>			
- - - - - 1.0	(Mediun gravelly content.	(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		
- - - - - - - -								AA137970) В	1.50-1.50		
-				0 0 0 0 0 0	3.00	6.84		AA137971	В	2.50-2.50		
3.0	End of 1	Гrial Pit at 3.00m										
Grou Dry	l Indwater (Conditions										
Stab i Unsta	ility able from	0.80m										
Gene Pit co	eral Rema ommence	rks d after scanning ground with CA ⁻	Γ cable avoidance	tool								



REPORT NUMBER

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CON	CONTRACT Harbour Point Bray							THIAL, P		TP2	05 et 1 of 1		
LOG	GED BY	F. Afonso	CO-ORDINAT		726,4 719,4	42.09 E 77.12 N			TARTED OMPLET		9/2020 9/2020		
CLIE	NT INEER	Ballymore Atkins	GROUND LE	GROUND LEVEL (m) 10.			10.73		EXCAVATION JCB METHOD				
									Samples	30	S)	neter	
		Geotechnical Descriptio	n	Legend	Depth (m)	Elevation	Water Strike	Sample Ref	Туре	Depth	Vane Test (KPa)	Hand Penetrometer (KPa)	
0.0	TOPSOIL 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. (Medium dense) Greyish brown slightly clayey gravelly medium to coarse SAND with low cobble content. Gravel				0.10	9.93		AA137960	Env) B	0.50-0.50 0.50-0.50	22		
- 1.0	multiple	coarse subrounded. Cobbles a lithologies.			1.90	8.83		AA137961	В	1.50-1.50			
2.0	gravelly content.	n dense) Greyish brown slightly of medium to coarse SAND with m Gravel is fine to coarse subrour ded of multiple lithologies.	edium cobble					AA137962	? В	2.50-2.50			
3.0	End of T	rial Pit at 3.00m			3.00	7.73							
Ground Dry Stabi		Conditions											
Unst	able from												
Pit co	eral Rema ommence	rks d after scanning ground with CA	T cable avoidance	tool									



REPORT NUMBER

22734

TAIM, PIT NO. **TP207** CONTRACT Harbour Point Bray SHEET Sheet 1 of 1 **CO-ORDINATES** 726,448,36 E DATE STARTED 24/09/2020 **LOGGED BY** F. Afonso 719,400.85 N DATE COMPLETED 24/09/2020 GROUND LEVEL (m) 9.55 **EXCAVATION** JCB CLIENT Ballymore **METHOD ENGINEER Atkins** Hand Penetrometer (KPa) Samples Vane Test (KPa) Water Strike Geotechnical Description Elevation Sample Ref Legend Depth (m) Depth Type **TOPSOIL** 0.10 9.45 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. Env 0.50-0.50 AA137957 В 0.50-0.50 0.90 8.65 (Medium dense) Greyish brown slightly clayey gravelly medium to coarse SAND. Gravel is fine to coarse <u>-</u>0. subrounded. AA137958 В 1.50-1.50 <u>-</u>0. 1.90 7.65 (Medium dense) Greyish brown slightly clayey very . 0 gravelly medium to coarse SAND with medium cobble 2.0 content. Gravel is fine to coarse subrounded. Cobbles are O subrounded of multiple lithologies. AA137959 2.50-2.50 В 0 0 Ö 3.00 6.55 3.0 End of Trial Pit at 3.00m **Groundwater Conditions** Dry 24/3/21 GDT

Stability

GPJ

IGSL

Unstable from 1.60m

General Remarks

Pit commenced after scanning ground with CAT cable avoidance tool



REPORT NUMBER

22734

TAIM, PIT NO. **TP208** CONTRACT Harbour Point Bray SHEET Sheet 1 of 1 **CO-ORDINATES** 726.491.25 E DATE STARTED 24/09/2020 **LOGGED BY** F. Afonso 719,426.98 N DATE COMPLETED 24/09/2020 GROUND LEVEL (m) **EXCAVATION** JCB CLIENT Ballymore **METHOD ENGINEER Atkins** Hand Penetrometer (KPa) Samples Vane Test (KPa) Water Strike Geotechnical Description Elevation Sample Ref Legend Depth (m) Depth Type **TOPSOIL** 0.10 8.63 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. Env 0.50-0.50 26 AA137954 В 0.50-0.50 30 1.40 7.33 ... (Medium dense) Greyish brown slightly clayey very gravelly medium to coarse SAND with high cobble AA137955 В 1.50-1.50 content. Gravel is fine to coarse subrounded. Cobbles are Ó subrounded of multiple lithologies. 2.0 - <u>.</u> 2.30 6.43 End of Trial Pit at 2.30m AA137956 В 2.30-2.30 3.0 **Groundwater Conditions** Dry 24/3/21

Stability

IGSL.GDT

GPJ

IGSL TP LOG

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.



REPORT NUMBER

22734

TAIM, PIT NO. **TP209** CONTRACT Harbour Point Bray SHEET Sheet 1 of 1 **CO-ORDINATES** 726.613.14 E DATE STARTED 25/09/2020 **LOGGED BY** F. Afonso 719,463.80 N DATE COMPLETED 25/09/2020 GROUND LEVEL (m) 7.15 **EXCAVATION** JCB CLIENT Ballymore **METHOD ENGINEER Atkins** Hand Penetrometer (KPa) Samples Vane Test (KPa) Water Strike Geotechnical Description Elevation Sample Ref Legend Depth (m) Depth Type **TOPSOIL** 0.10 7.05 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) <u></u> Env 0.50-0.50 28 0.60 6.55 AA137975 В 0.50-0.50 Firm orangish brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. (Possible MADE GROUND) ō 1.0 AA137976 В 1.00-1.00 __o_ 1.40 5.75 Stiff light brown slightly sandy slightly gravelly CLAY with occasional organic matter. Sand is fine to coarse. Gravel AA137977 В 1.50-1.50 86 17/0 is fine to medium. 2.0 AA137978 2.50-2.50 В <u>, o</u> 4.25 2.90 End of Trial Pit at 2.90m 3.0 **Groundwater Conditions** Dry 24/3/21 IGSL.GDT

Stability Good

GPJ

IGSL

General Remarks

Pit commenced after scanning ground with CAT cable avoidance tool TP LOG



REPORT NUMBER

22734

TAIM, PIT NO. **TP210** CONTRACT Harbour Point Bray SHEET Sheet 1 of 1 **CO-ORDINATES** 726,589.65 E DATE STARTED 25/09/2020 **LOGGED BY** D. Newell 719,426.43 N DATE COMPLETED 25/09/2020 GROUND LEVEL (m) 6.66 **EXCAVATION** JCB CLIENT Ballymore **METHOD ENGINEER Atkins** Hand Penetrometer (KPa) Samples Vane Test (KPa) Water Strike Geotechnical Description Elevation Sample Ref Legend Depth (m) Depth Type **TOPSOIL** 0.10 6.56 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) 0.50 6.16 Env 0.50-0.50 22 Firm to stiff brown slightly sandy slightly gravelly CLAY. AA148851 В 0.50-0.50 Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. 1.0 1.50 5.16 Stiff brown slightly sandy slightly gravelly CLAY. Sand is AA148852 В 1.50-1.50 fine to coarse. Gravel is fine to coarse subangular to subrounded. 2.0 2.50 4.16 End of Trial Pit at 2.50m AA148853 2.50-2.50 В 28 3.0 **Groundwater Conditions** Dry 24/3/21

Stability Good

IGSL.GDT

GPJ

IGSL TP LOG

General Remarks

Pit commenced after scanning ground with CAT cable avoidance tool. Pit terminated in stiff ground - slow progress.



REPORT NUMBER

22734

CON	TRACT	Harbour Point Bray						TAIAL P	IT NO.	TP2 Shee	11 t 1 of 1	
LOG	GED BY	F. Afonso	CO-ORDINAT	ES		09.56 E 70.93 N		DATE ST)/2020)/2020	
CLIE	NT NEER	Ballymore	GROUND LE	/EL (m)	7.69			EXCAVA METHOL	ATION	JCB		
ENGI	NEEK	Atkins							Samples	2) ₂	er
						Φ				КРа	tromet	
		Geotechnical Descr	ription	Legend	Depth (m)	Elevation	Water Strike	Sample Ref	Type	Depth	Vane Test (KPa)	Hand Penetrometer (KPa)
1.0	very gra rootlets fine to c subroun	MADE GROUND comprising firm greyish brown sandy ery gravelly CLAY with middle cobble content, frequent potlets and occasional red bricks and plastics. Sand is ne to coarse. Gravel is fine to coarse subangular to ubrounded. Cobbles are subangular to subrounded of hultiple lithologies						AA137951	Env B	0.50-0.50 0.50-0.50	26	
2.0	gravelly and occ coarse. subroun	GROUND comprising firm brocLAY with low cobble contentional red bricks and plasting Gravel is fine to coarse subaded. Cobbles are subangula lithologies	ent, frequent rootlets cs. Sand is fine to angular to		1.20	6.49		AA137952	В	1.50-1.50		
3.0	2.30m E End of T	Black PVC pipe with gravel s Frial Pit at 2.30m	urround		2.30	5.39		AA137953	В	2.30-2.30		
Dry		Conditions				ı						ı
Stabi Good												
	eral Rema ommence	rks d after scanning ground with	CAT cable avoidance	tool. Pit t	erminate	ed upon e	encount	tering burie	d pipe at	2.30m.		



TP201 – 2 of 2





TP202 – 2 of 3







TP203 – 2 of 3







TP204 - 2 of 3







TP205 – 2 of 3







TP207 – 2 of 2





TP208 – 2 of 3





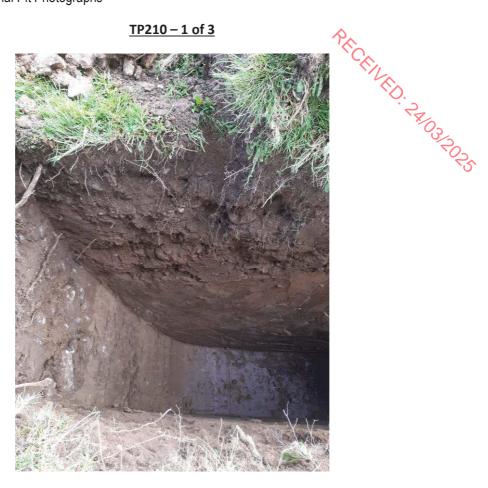


TP209 - 2 of 3



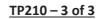


TP210 – 1 of 3



TP210 – 2 of 3









TP211 - 2 of 4





TP211 – 4 of 4



Appendix 2

Cable Percussion Borehole Records

PRICEINED. 24/03/2025



REPORT NUMBER

22734

BOREHOLE NO. **BH201** CONTRACT Harbour Point Bray SHEET Sheet 1 of 1 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,357.88 E DATE COMMENCED 20/08/2020 **BOREHOLE DIAMETER (mm)** 719,535.30 N 200 DATE COMPLETED 21/08/2020 **GROUND LEVEL (m AOD)** 13.74 **BOREHOLE DEPTH (m)** 9.50 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%)** 76.91 **ENGINEER PROCESSED BY Atkins** OF.C Samples Standpipe Details Ξ Ξ Elevation Sample Type Recovery Ref. Number Field Test Legend Depth (Depth (Description Depth (m) Results - 0 Light brown slightly clayey gravelly SAND with occasional roots -a 13.14 0.60 Firm to stiff light brown very sandy gravelly CLAY N = 19 (3, 3, 4, 4, 5, 6) AA134066 1.00 0 12.04 1.70 Dense grey fine to coarse silty sandy GRAVEL with occasional cobbles and boulders N = 32 (6, 6, 6, 7, 9, 10) AA134067 В 2.00 -2 200 3 AA134068 В 3.00 (5, 7, 7, 9, 9, 10) AA134069 N = 37В 4.00 4 (7, 6, 8, 8, 10, 11) N = 39 (5, 6, 8, 9, 9, 13) AA134070 В 5.00 -5 000 5.60 8.14 Dense grey fine to coarse very sandy GRAVEL with some cobbles N = 36 (6, 7, 7, 9, 10, 10) AA134071 В 6.00 6 7.04 6.70 Stiff to very stiff light brown sandy SILT ·× ·× AA134072 7.00 . × .× 30 blows × × × × × × × N = 40 (6, 7, 9, 9, 10, 12) × AA134073 В 8 00 8 × × N = 50/150 mm (11, 14, 37, 13) AA134074 В 9.00 9 4.24 Obstruction End of Borehole at 9.50 m HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Time Time To (m) Comments From (m) Comments Depth (h) To (min) 9.3 9.5 1 24/3/21 No water strike .GDT IGSL. **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Comments GPJ Date Depth Depth Date Tip Depth RZ Top RZ Base Type 24-08-20 End of BH 22734. 5.80 9.50 Nil Log REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend ВН D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Same location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample IGSL al Sample (Jar + Vial + Tub) W - Water Sample



REPORT NUMBER

_]@	BSL/												22134	
CON	TRACT	Harl	oour Poir	nt Bray							ВОНЕНО	LE NO		
CO-C	ORDINA	TES		395.82 E 560.58 N	RIG TY BOREH	PE HOLE DIAM	ETER (n	nm)	Dando 20 200	000	SHEET DATE CC			
GRO	UND LE	EVEL (m	AOD)	10.58		BOREHOLE DEPTH (m)					DATE CO	MPLE	TED 24/08/2020	
CLIE	NT NEER	Ball _e Atkir	ymore			AMMER RE BY RATIO (9			SA7 76.91		BORED E		WC Y O5C	
	IVEEI	Auxii	10		LINEITO	TIANO (70.51	Sar	nples	OLD D		
Depth (m)			De	scription		Legend	Elevation	Depth (m)	Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe
	TOPSO					74 18 . 74 18 . 7	10.38	0.20						
1	Firm lig occasio	ht browi onal root	n very sa s	ndy gravelly (SILT/CLAY with	-XO X	9.48	1.10	AA134475	Б	1.00		N = 23	
;	Stiff to CLAY v	very stiff vith occa	mottled asional co	dark brown s obbles and bo	andy gravelly oulders			1110	AA134473	Ь	1.00		(2, 2, 4, 6, 6, 7)	
2									AA134476	В	2.00		N = 39 (6, 8, 9, 9, 10, 11)	
	Obstruction of		e at 2.80	m		- 10 -	7.78	2.80					N = 50/150 mm (12, 18, 21, 29)	
4														
5														
6														
7														
8														
9														
HAR	RD STR	ATA BO	RING/CH	ISELLING				<u> </u>			<u> </u>		 ATER STRIKE DET	AILS
rom		o (m)	(n)	Comments		Wate Strik	er Ca e De	sing epth	Sealed At	Ris To		me in)	Comments	
2.6	6	2.8	1										No water strike	
												GR	OUNDWATER PRO	GRE
		ION DET		p RZ Base	Туре	Dat		Hole Depth	Casing Depth	De V	epth to Vater	Comme	nts	
REMA	ARKS	1hr Erec	cting Cov	id 19 Safe W d dug inspec	orking Area . CA tion pit carried ou	T scanned t .		B - Bulk	ple Legen all Disturbed (tub)			Samp	Undisturbed 100mm Diameter	
								LB - La Env - E	rge Bulk Disturbe nvironmental San	nple (Jar	+ Vial + Tub)	W - W	ndisturbed Piston Sample Vater Sample	



REPORT NUMBER

22734

BOREHOLE NO. **BH203** CONTRACT Harbour Point Bray SHEET Sheet 1 of 1 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,503.72 E DATE COMMENCED 28/08/2020 **BOREHOLE DIAMETER (mm)** 719,580.04 N 200 DATE COMPLETED 31/08/2020 **GROUND LEVEL (m AOD)** 10.31 **BOREHOLE DEPTH (m)** 8.50 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%) ENGINEER** 76.91 **PROCESSED BY Atkins** OF.C Samples Standpipe Details (E Ξ Elevation Sample Type Recovery Ref. Number Field Test Legend Depth (Depth Description Depth (m) Results - 0 TOPSOIL <u>,\.\/</u> 0.20 10.11 Firm dark brown sandy SILT/CLAY 9.41 0.90 Firm to stiff dark brown very sandy gravelly SILT/CLAY with some cobbles N = 15<u>~</u> AA139451 1.00 (2, 2, 3, 3, 4, 5)N = 22(3, 4, 4, 5, 6, 7) AA139452 В 2.00 2 N = 293 AA139453 В 3.00 (6, 6, 5, 6, 8, 10) AA139454 В 4.00 4 6.11 4.20 (10. 12. 14, 10, 9, 8) Very stiff dark brown sandy gravelly SILT/CLAY with $\overline{\otimes}$ some cobbles 0 5.21 N = 27(5, 5, 6, 8, 6, 7) 5.10 AA139455 В 5.00 -5 Stiff mottled brown gravelly SILT ο× × × × × N = 33×°× AA139456 В 6.00 6 × (6, 6, 7, 8, 8, 10) ×c × × % × × 3.21 7.10 AA139457 7.00 7.00 Very stiff mottled brown gravelly SILT with some Fail X cobbles and occasional boulders N = 50/245 mm (9, 11, 11, 14, 15, 10) AA139458 В 8 00 8 1.81 8.50 Obstruction End of Borehole at 8.50 m 9 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Time Water Casing Sealed Rise Time To (m) Comments From (m) Comments Depth То (h) At (min) 4.1 3.9 24/3/21 No water strike 2 8.5 8.3 IGSL.GDT **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments GPJ Depth Depth Date Tip Depth RZ Top RZ Base Туре 22734. Log REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend ВН D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample IGSL tal Sample (Jar + Vial + Tub) W - Water Sample



REPORT NUMBER

/0	ദ്ളൂ	/												22/34			
СО	NTRAC	T Ha	ırbou	ır Point l	Bray						- 1	вонено	LE NO				
СО	ORDIN	IATES		726,54	1.05 F	RIG T	YPE			Dando 15	inn t	SHEET	<u> </u>	Sheet 1 of 1			
		LEVEL (r	m AC	719,58	2.59 N 9.66	BORE	HOLE DIAMI	•	nm)	200 1.80		DATE COMMENCED 10/09/2020 DATE COMPLETED 11/09/2020					
	ENT		llymo	-			AMMER REF			SA4		BORED E	3Y	DT			
	SINEER		kins	510		I	GY RATIO (9			77.09		PROCES		*/_			
												nples		1 32			
Depth (m)								on	Depth (m)	<u></u>	Φ	ĺ	<u>></u>	Field Test	Standpipe Details		
pth				Desc	ription		lenc	Elevation	돭	Ref. Number	n p	£ .	ove	Results	ndp		
De							Legend	Ele	De	N Re	Sample Type	Depth	(m) Recovery		Sta		
0	TOPS	SOIL					31 14: 31 14: S	9.56	0.10	 			-				
			own s	sandy g	ravelly SIL	T/CLAY	- - 	9.16	0.50	_							
						T/CLAY with	- XO	0.10	0.00	7							
	occas	ional col	bbles	s			——————————————————————————————————————			AA146494	В	0.80		N 05			
1							5-6	8.46	1.20	AA146495	В	1.00		N = 25 (5, 6, 6, 5, 7, 7)			
	Dense	e grey co	oarse	sandy	angular Gl	RAVEL	0.000				_						
							0000	7.86	1.80	AA146496	В	1.50					
		uction - I						7.00	1.00					N = 50/20 mm (25, 50)			
2	End o	of Boreho	ole at	t 1.80 m													
3																	
J																	
4																	
5																	
6																	
7																	
8																	
.																	
9																	
12.	DD 07	DATA	OD''	10/01 "					Ь				<u> </u>	ATER CTRUCT			
		RATA BO	OKIN Tir	mρ			Wate	r Ca	sing	Sealed	Ris	e Tir	ma	ATER STRIKE DETA	AILS		
		To (m)	(h		omments		Strike		epth	At	To			Comments			
1	.7	1.8	1.7						T					No water strike			
														No water strike			
													GR	OUNDWATER PRO	GRESS		
NIC	TALLA	TION DE	T A II	<u> </u>			Dat	_	Hole	Casing	De	epth to			JOC		
	NSTALLATION DETAILS Date Tip Depth RZ Top RZ Base Type						Dat		Depth	Depth	Ň	oth to Cater C	Comme	HIS			
	Date	1.020															
_	Date	,5 2 6															
RE		1hr Ere	ectino	g Covid	19 Safe W	orking Area . CA	AT scanned		Samr	ole Legen	d						
RE		1hr Ere	ecting n and	g Covid d hand d	19 Safe W	orking Area . CA	AT scanned ut .		Samp D - Smal B - Bulk	Ole Legene Il Disturbed (tub) Disturbed ge Bulk Disturbe	d		Samp	Undisturbed 100mm Diameter ole ndisturbed Piston Sample			



REPORT NUMBER

22734

BOREHOLE NO. **BH205** CONTRACT Harbour Point Bray SHEET Sheet 1 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,386.96 E DATE COMMENCED 24/08/2020 **BOREHOLE DIAMETER (mm)** 719,518.14 N 200 DATE COMPLETED 25/08/2020 **GROUND LEVEL (m AOD)** 10.75 **BOREHOLE DEPTH (m)** 10.50 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%) ENGINEER PROCESSED BY Atkins** 76.91 25.C Samples Standpipe Details Ξ Ξ Elevation Sample Type Recovery Ref. Number Field Test Legend Depth (Depth Description Depth (m) Results - 0 TOPSOIL 711. 711 10.45 0.30 Stiff to very stiiff light brown very sandy gravelly X SILT/CLAY with occasional roots X 0 N = 35AA134477 В 1.00 (6, 6, 8, 9, 8, 10) X - 8 N = 49 (7, 9, 11, 11, 14, 13) AA134478 В 2.00 2 8.35 2.40 Very stiff dark brown very sandy gravelly CLAY with some cobbles and occasional boulders N = 50/185 mm3 AA134479 В 3.00 (12, 13, 23, 17, 10) N = 50/190 mmAA134480 В 4.00 4 (16, 9, 18, 19, 13) N = 50/255 mm (9, 11, 11, 14, 15, 10) AA134481 В 5.00 -5 5.05 5.70 Medium dense to dense very silty gravelly SAND. XO × Gravel is fine to medium. AA134482 U 6.00 100%rec 6 35 blows 0 × 8 xo N = 30 (5, 6, 7, 7, 8, 8) AA134483 7.00 3.55 7.20 Very stiff light brown sandy SILT ·× × · × . × .× × × × × AA134484 U 8 00 90%rec 8 × × 40 blows × × × × × × N = 40 (7, 9, 9, 10, 10, 11) AA134485 × В 9.00 9 × × HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Rise Time Time To (m) Comments From (m) Comments Depth (h) At To (min) 3.3 3.1 0.75 24/3/21 No water strike 0.75 4.2 4.5 10.3 10.5 1 IGSL.GDT **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** GPJ Date Comments Depth Depth Date Tip Depth RZ Top RZ Base Type 25-08-20 22734. Start 2nd day 5.80 Log REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend ВН D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample IGSL tal Sample (Jar + Vial + Tub) W - Water Sample



22734.GPJ IGSL.GDT 24/3/21

BH LOG

IGSL

GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

BOREHOLE NO. **BH205** CONTRACT Harbour Point Bray SHEET Sheet 2 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,386.96 E DATE COMMENCED 24/08/2020 **BOREHOLE DIAMETER (mm)** 719,518.14 N 200 DATE COMPLETED 25/08/2020 **GROUND LEVEL (m AOD)** 10.75 **BOREHOLE DEPTH (m)** 10.50 SPT HAMMER REF. NO. CLIENT SA7 **BORED BY** WC Ballymore **ENGINEER ENERGY RATIO (%)** 76.91 **PROCESSED BY** Atkins 25C Samples Standpipe Details (E Ξ Elevation Ref. Number Sample Type Recovery Field Test Legend Depth (Depth (Description Depth (m) Results AA134486 10.00 90%rec Very stiff light brown sandy SILT (continued) × 45 blows 0.25 10.50 Obstruction End of Borehole at 10.50 m 12 13 14 15 17 18 19 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Time Water Casing Sealed Rise Time From (m) To (m) Comments Comments (h) Depth То (min) 3.1 3.3 0.75 No water strike 4.5 4.2 0.75 10.3 10.5 1 **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments Depth Depth Tip Depth RZ Top RZ Base Date Type REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Samp UT - Undisturbed 100mm Diamete location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample ital Sample (Jar + Vial + Tub) W - Water Sample



REPORT NUMBER

22734

BOREHOLE NO. **BH206** CONTRACT Harbour Point Bray SHEET Sheet 1 of 1 **RIG TYPE** Dando 1500 **CO-ORDINATES** 726,557.76 E DATE COMMENCED 09/09/2020 **BOREHOLE DIAMETER (mm)** 719,562.15 N 200 DATE COMPLETED 10/09/2020 **GROUND LEVEL (m AOD)** 9.10 **BOREHOLE DEPTH (m)** 6.50 SPT HAMMER REF. NO. SA4 CLIENT Ballymore **BORFD BY** DT **ENERGY RATIO (%)** 77.09 **ENGINEER PROCESSED BY** OF.C **Atkins** Samples Standpipe Details (E Ξ Elevation Sample Type Recovery Ref. Number Field Test Legend Depth (Depth Description Depth (m) Results - 0 TOPSOIL 11, 11, 9.00 0.10 _<u>X</u>0-__. Soft to firm brown sandy gravelly SILT/CLAY X 8.50 0.60 AA146485 В 0.50 Firm brown sandy gravelly SILT/CLAY with occasional <u>__</u> 8.20 0.90 cobbles <u>9</u>-AA146486 В 1.00 7.90 1.20 Firm brown very sandy very gravelly CLAY with N = 24(5, 5, 6, 5, 6, 7) occasional cobbles Dense grey fine to coarse sandy GRAVEL with occasional cobbles N = 50/225 mm (25, 17, 16, 17) AA146487 В 2.00 2 N = 50/60 mm (18, 7, 50) 0000 3 AA146488 В 3.00 5.60 3.50 AA146489 В 3.50 Stiff to very stiff orange/brown sandy gravelly silty $\overline{\times}$ CLAY X AA146490 U 4.00 100%rec 4 0. X ō AA146491 В 4.50 N = 35 (5, 5, 8, 8, 9, 10) AA146492 В 5.00 · 5 N = 49/285 mmAA146493 В 6.00 6 (4, 4, 7, 9, 12, 21) 0 2.60 6.50 Obstruction End of Borehole at 6.50 m 8 9 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Time Time Comments From (m) To (m) Comments (h) Strike Depth То At (min) 3.2 3.5 1 24/3/21 No water strike 6.5 6.3 1 .GDT IGSL. **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments GPJ Depth Depth Tip Depth RZ Top RZ Base Date Type 22734. Log REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend ВН D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample IGSL tal Sample (Jar + Vial + Tub) W - Water Sample



REPORT NUMBER

22734

BOREHOLE NO. **BH207** CONTRACT Harbour Point Bray SHEET Sheet 1 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,396.97 E DATE COMMENCED 26/08/2020 **BOREHOLE DIAMETER (mm)** 719,459.97 N 200 DATE COMPLETED 27/08/2020 **GROUND LEVEL (m AOD)** 11.07 **BOREHOLE DEPTH (m)** 9.80 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%) ENGINEER** 76.91 **PROCESSED BY Atkins** 25.C Samples Standpipe Details Ξ Ξ Recovery Elevation Sample Type Ref. Number Field Test Legend Depth (Depth Description Depth (m) Results - 0 TOPSOIL 1.1/ 0.20 10.87 Stiff to very stiff dark brown very sandy gravelly XO SILT/CLAÝ 0. N = 31AA134487 1.00 (4, 6, 8, 8, 8, 7)ō N = 28(6, 7, 7, 6, 7, 8) AA134488 В 2.00 2 N = 50/210 mm 3 AA134489 В 3.00 (10, 14, 15, 17, 18) AA134490 N = 44 (6, 8, 10, 10, 11, 13) В 4.00 4 Ω N = 34 (7, 8, 9, 9, 8, 8) AA134491 В 5.00 -5 8 5.67 5.40 Very stiff mottled brown sandy SILT × × × × 4.97 N = 54/275 mm (3, 7, 9, 15, 17, 13) 6.10 AA134492 В 6.00 F 6 Very stiff dark brown sandy gravelly SILT/CLAY with occasional cobbles and boulders N = 50/225 mmAA134493 7.00 (10, 12, 14, 14, 16, 6) N = 50/265 mm (8, 11, 13, 13, 14, 10) AA134494 В 8 00 8 N = 50/225 mm (7, 8, 11, 15, 17, 7) AA134495 В 9.00 9 1.27 9.80 Obstruction HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Time Time Rise Comments From (m) To (m) Comments Strike Depth То (h) Αt (min) 3.6 3.3 9.80 No 5.80 20 Rapid 9.80 1 24/3/21 9.8 9.6 1 .GDT IGSL. **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Comments GPJ Date Depth Depth Date Tip Depth RZ Top RZ Base Type 27-08-00 9.80 1.00 9.80 50mm SP P0G REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend ВН D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample IGSL al Sample (Jar + Vial + Tub) W - Water Sample



IGSL.GDT 24/3/21

22734.GPJ

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GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

BOREHOLE NO. Harbour Point Bray **BH207** CONTRACT SHEET Sheet 2 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,396.97 E DATE COMMENCED 26/08/2020 **BOREHOLE DIAMETER (mm)** 719,459.97 N 200 DATE COMPLETED 27/08/2020 **GROUND LEVEL (m AOD)** 11.07 **BOREHOLE DEPTH (m)** 9.80 SPT HAMMER REF. NO. SA7 **BORED BY** WC **CLIENT** Ballymore **ENGINEER ENERGY RATIO (%)** 76.91 **PROCESSED BY** Ø5C Atkins Samples Standpipe Details (E Ξ Recovery Elevation Sample Type Field Test Ref. Number Legend Depth (Depth (Description Depth (m) Results End of Borehole at 9.80 m 11 12 13 14 15 17 18 19 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Time Water Casing Sealed Rise Time Comments From (m) To (m) Comments (h) Depth At То (min) 3.3 3.6 1 9.8 1 9.6 **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments Depth Depth Date Tip Depth RZ Top RZ Base Type 27-08-00 50mm SP 9.80 1.00 9.80 REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) UT - Undisturbed 100mm Diamete location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample W - Water Sample



REPORT NUMBER

	ger															22701	
COI	NTRAC	T Ha	ırbour F	Point B	ray								BOREL	HOLE N	Ο.	BH208 Sheet 1 of 1	
	ORDIN	ATES .EVEL (1	71	26,485 19,504)				YPE Dando HOLE DIAMETER (mm) 200 HOLE DEPTH (m) 3.90								D 01/09/2020	
	ENT SINEER		llymore kins)			1	MER REF			SA7 76.91			BY ESSED	вү	wc O _F C	
													nples			2	
Depth (m)				Descr	iption			Legend	Elevation	Depth (m)	Ref. Number	Sample Type	Depth	Recovery	6000	Field Test Results	Standpipe Details
0	TOPS	OIL						7, 1, 7, 1,	9.81	0.30							
- 1	Stiff to SILT/0	very sti CLAY wi	iff dark th occa	brown sional	very sand cobbles	dy gravel	ly				AA139451	В	1.00			N = 24 (3, 3, 4, 5, 7, 8)	
2								X X			AA139452	В	2.00		(N = 49/255 mm (8, 17, 18, 10, 10, 11)	
3											AA139453	В	3.00			N = 50/220 mm (10, 14, 16, 17, 17)	
: [6.21	3.90							
5 - 6 - 7	End o	f Boreho	ole at 3.	90 M													
8																	
НА	RD ST	RATA B			LLING										WAT	ER STRIKE DET	AILS
		Го (m)	Time (h)	Coi	mments			Wate Strike		asing epth	Sealed At	Ris To		Time (min)	Con	nments	
3	.6	3.9	2													water strike	
										Hole	Casing	Dρ	nth to			NDWATER PRO	GRESS
	TALLA ⁻ Date	Tip De		Top I	RZ Base	Ту	ре	Dat	e	Depth	Depth	W	pth to ater	Comm	ents		
REMARKS Standing on access 5hrs. 1hr erecting Covid 19 S Area. CAT scanned location and hand dug inspectout.									king arried	Sam D - Sma B - Bulk LB - Lar Env - Er	ple Legen Il Disturbed (tub) Disturbed ge Bulk Disturbe ivironmental San	d od nple (Jar	+ Vial + Tub	Sa P -	- Undist mple Undistu - Water	turbed 100mm Diameter rbed Piston Sample Sample	



REPORT NUMBER

	719,521.76 N	RIG TYPE BOREHOLI				Dando 20 200			·	Sheet 1 of 2 D 02/09/2020	
	ROUND LEVEL (m AOD) 9.36	BOREHOLI	REHOLE DEPTH (m) HAMMER REF. NO.					DATE CO		WC	
NC	GINEER Atkins	ENERGY R	IERGY RATIO (%)					PROCESS	SED BY	~ 05 c	
Depui (III)	Description		Legend	Elevation	Depth (m)	Ref. Number	Sample S Type	Depth (m)	Recovery	Field Test Results	Standpipe
)	TOPSOIL Light brown sandy gravelly SILT/CLAY	 _	(D	9.16	0.20						
1 2	Medium dense to dense light brown very sandy GRAVEL with some cobbles (Possibly very grav sand)	0			0.80	AA141603	В	1.50		N = 25 (4, 5, 5, 6, 6, 8)	
3						AA141604	В	2.50		N = 50/85 mm (9, 16, 36, 14)	
1		.0	0 0 0 0 0 0 0	5.16	4.20	AA141605	В	3.50		N = 49/255 mm (8, 10, 11, 14, 15, 9)	
5	Stiff dark brown sandy gravelly SILT/CLAY	-X	(-	4.06	F 00	AA141606	В	4.50		N = 37 (5, 18, 10, 10, 8, 9)	
6	Dense dark brown sandy silty/clayey GRAVEL v some cobbles (Possibly very gravelly clay)	vith 90		3.16	5.30 6.20	AA141607	В	5.50		N = 39 (4, 6, 9, 10, 9, 11)	
7	Stiff to very stiff light brown sandy gravelly silty (with some cobbles and occasional boulders	CLAY &		-	. =0	AA141608	В	6.50		N = 32 (5, 5, 6, 8, 8, 10)	
3						AA141609	В	7.50		N = 43 (6, 8, 10, 10, 11, 12)	
9	Very stiff light brown SILT	- <u>-</u> - <u>-</u> - <u>-</u> - <u>-</u>	2 × × × × × ×	0.56	8.80	AA141610	В	8.50		N = 40 (5, 8, 8, 11, 11, 10)	
		×	× × ×	-0.54	9.90	AA141611	В	9.50		N = 41 (8, 8, 9, 10, 11, 11)	
HA	ARD STRATA BORING/CHISELLING	1	144 :			0	F:			ER STRIKE DET	AILS
2	m (m) To (m) Time (h) Comments 2.7 2.9 1 1.7 11.9 0.75 2.6 12.8 2		Water Strike	Cas De	pth	Sealed At	Ris To			mments	
									GROU	INDWATER PRO	GRE
	Date Tip Depth RZ Top RZ Base Type	9	Date	- 1	Hole Depth	Casing Depth	De W	pth to Co	omments		
r F N	MARKS Standing on access 2hrs. 1hr erecting C	ovid 19 Sa	ofe Worki	na	Sami	ole Legen					



REPORT NUMBER

ONTRACT	ATES 726,535.60 E	RIG TYP				Dando 20	00	SHEET DATE CO		BH210 Sheet 2 of 2	
ROUND L	719,521.76 N .EVEL (m AOD) 9.36		OLE DIAME			200 12.80		DATE CO			
CLIENT ENGINEER	Ballymore Atkins	SPT HAI	SPT HAMMER REF. NO. ENERGY RATIO (%)					BORED E		wc O5C	
≘				_ ا	(L			nples		20	٥
(III)	Description		Legend	Elevation	Depth (m)	Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standbibe
Very s cobble	tiff dark brown sandy gravelly silty C es <i>(continued)</i>	LAY with				AA141612	U	10.50	100%rec 50 blows		
12			X			AA141613	В	11.50		N = 50/105 mm (14, 11, 21, 29)	
Obstru	uction f Borehole at 12.80 m		Ž - X	-3.44 1	12.80	AA141614	В	12.50		N = 50/105 mm (8, 17, 32, 18)	
LIIU OI	Dorentie at 12.00 III										
14											
15											
6											
17											
8											
19											
HARD STF	RATA BORING/CHISELLING								WA	TER STRIKE DET	AILS
2.7	To (m) Time (h) Comments 2.9 1 11.9 0.75		Water Strike 12.80	Deptl	h	Sealed At No	Ris To 10.0) (m	in) Co	nmments Rapid	
	12.8 2								GRO	UNDWATER PRO	GRE
NSTALLAT Date	TION DETAILS Tip Depth RZ Top RZ Base	Туре	Date	Ho De		Casing Depth	De W	pth to later C	omment	S	
EMARKS	Standing on access 2hrs. 1hr erect Area. CAT scanned location and ha	ing Covid 19	Safe Worki	ing !	Samp	Disturbed (tub)	d 		UT - Und Sample	isturbed 100mm Diameter	



REPORT NUMBER

(]ত	SL/												
CONT	RACT Harb	our Poi	nt Bray							BOREHO	DLE NO.	BH211 Sheet 1 of 2	
	RDINATES	719,	,574.08 E ,521.79 N	I	OLE DIAM	•	nm)	Dando 15 200	500			CED 07/09/2020	
CLIEN	JND LEVEL (m IT Bally	more	8.72		OLE DEPT MMER REI			13.80 SA4		BORED	<u> </u>	DT	
ENGIN	NEER Atkin	S		ENERG	ENERGY RATIO (%)				Car	PROCES	SED BY	<u>∕</u>	ı
Depth (m)		De	escription		Legend	Elevation	Depth (m)	Ref. Number	Sample 7	Depth (m)	Recovery	Field Test Results	Standpipe
0 T	OPSOIL				31.31.3	8.62	0.10						-
	Brown very sand			I A)/ith		8.22	0.50						
0	ccasional cobb	les	idy gravelly SILT/C			7.92 7.82	0.80						
1 \F	Firm mottled bro come cobbles	wn/blac	ck sandy gravelly C	CLAY with		7.52	1.20		В	1.20		N = 21 (3, 3, 5, 5, 5, 6)	
			very gravelly CLAY										
2 N	ilty GRAVEL w	grey/bro ith some	own fine to coarse verse v verse verse ver	ery sandy				AA146465	В	2.00		N = 50/205 mm	
					800B							(25, 18, 19, 13)	
					9 %								
3					X = O &			AA146466	В	3.00		N = 50/225 mm (25, 16, 17, 17)	
					80×80°								
					0000			A A	_			N = 31	
4					\$0,000 V			AA146467	В	4.00		(5, 5, 4, 4, 6, 17)	
					\$ 1.0 X	3.92	4.80	AA146468	В	4.50			
5 S	Stiff pink/brown	sandy g	gravelly SILT/CLAY	,	<u> </u>			AA146469	U	5.00	100%rec	;	
						3.12	5.60						
S	Stiff brown sand	y grave	elly silty CLAY		<u>~</u>	0.12	3.00						
6								AA146470	В	6.00		N = 31 (2, 4, 6, 6, 8, 11)	
						1.00	0.00	AA146471	В	6.50			
		very sai	ndy very gravelly C	LAY with		1.92	6.80	AA146472	В	7.00		N = 43	
7 C	cobbles				0 0			AA1464/2	. B	7.00		(8, 10, 9, 10, 11, 13)	
					3-3-			AA146473	В	7.50			
8								AA146474	U	8.00	100%rec	;	
								AA146475	В	8.50			
								, 53170473		0.00			
9					@			AA146476	U	9.00	100%rec		
								AA146477	В	9.50			
LAD	D STDATA DOS	DINIO/O'	JICEL LINIC								147	TED CTDUC DET	A.I. 6
rom (D STRATA BOF	Time	Comments		Wate		sing	Sealed	Ris		me C	ATER STRIKE DETA	AILS
1.8	2	(h) 0.75	20		Strik	e D	epth	At	To) (m	nin)		
3.5 10		1 0.5											
13.6		1											
NCT 4	ALL ATION DET	AII C			Det		Hole	Casing	De	epth to		DUNDWATER PRO	GRE
Da	ALLATION DET		op RZ Base	Type	08-09-		Depth	Depth	V	valei	Commer End of 2nd of		
		1		. / - ~	33 33						J. Liid	y	
REMA	ARKS 1hr Erec	ting Cov	vid 19 Safe Workin	g Area . CAT	scanned		Sam	ple Legen	d			adiatushed 100 D'	
	location	and han	nd dug inspection p	it carried out			D - Sma	all Disturbed (tub) Disturbed)		UT - Ur Sample	ndisturbed 100mm Diameter	



REPORT NUMBER

22734

BOREHOLE NO. **BH211** CONTRACT Harbour Point Bray SHEET Sheet 2 of 2 **RIG TYPE** Dando 1500 **CO-ORDINATES** 726,574.08 E DATE COMMENCED 07/09/2020 **BOREHOLE DIAMETER (mm)** 719,521.79 N 200 DATE COMPLETED 09/09/2020 **GROUND LEVEL (m AOD)** 8.72 **BOREHOLE DEPTH (m)** 13.80 SPT HAMMER REF. NO. SA4 CLIENT Ballymore **BORFD BY** DT **ENERGY RATIO (%) ENGINEER PROCESSED BY Atkins** 77.09 **25**€ Samples Standpipe Details Ξ Ξ Elevation Ref. Number Sample Type Recovery Field Test Legend Depth (Depth Description Depth (m) Results AA146478 10.00 N = 50/75 mmVery stiff brown very sandy very gravelly CLAY with <u>O</u>. В AA146479 10.00 (16, 9, 50) <u>.</u> cobbles (continued) -1.88 10.60 AA146480 В 10.50 Dense grey fine to coarse sandy GRAVEL with some N = 50/170 mmAA146481 В 11.00 11 (6, 10, 16, 24, 10) N = 50/195 mm (5, 11, 15, 20, 15) AA146482 В 12.00 12 N = 50/150 mm (5, 20, 25, 25) 13 AA146483 В 13.00 N = 50/125 mm AA146484 В 13.50 (4, 21, 28, 22) -5.08 13.80 Obstruction 14 End of Borehole at 13.80 m 15 17 18 19 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Rise Time Time From (m) To (m) Comments Comments Strike Depth То (h) Αt (min) 2 10.60 1.8 0.75 10.60 No 8.80 20 Rapid 24/3/21 3.9 3.5 1 0.5 10 10.3 GDT 13.6 13.8 IGSL. **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** GPJ Comments Date Depth Depth Date Tip Depth RZ Top RZ Base Туре 09-09-20 End of BH 22734. 13.80 8.70 Nil BH LOG REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample IGSL tal Sample (Jar + Vial + Tub) W - Water Sample



24/3/21

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GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

BOREHOLE NO. BH212 CONTRACT Harbour Point Bray SHEET Sheet 1 of 1 Dando 2000 **RIG TYPE CO-ORDINATES** 726,480.85 E DATE COMMENCED 28/09/2020 **BOREHOLE DIAMETER (mm)** 719,395.92 N 200 DATE COMPLETED 29/09/2020 **GROUND LEVEL (m AOD)** 7.95 **BOREHOLE DEPTH (m)** 4.70 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENGINEER ENERGY RATIO (%)** 76.91 **PROCESSED BY Atkins 25**€ Samples Standpipe Details Ξ Ξ Recovery Elevation Sample Type Ref. Number Field Test Legend Depth (Depth (Description Depth (m) Results - 0 MADE GROUND comprised of sandy gravelly CLAY with Cl.804 type granular FILL AA141643 ENV 0.50 6.75 1.20 Stiff to very stiff dark brown gravelly SILT/CLAY with **₩** N = 50/285 mm (4, 7, 9, 11, 16, 14) occasional cobbles AA141644 AA141645 1.50 1.50 2 N = 29 (5, 5, 6, 6, 8, 9) AA141646 AA141647 ENV 2.50 2.50 5.05 2.90 Stiff to very stiff light brown sandy gravelly SILT/CLAY -3 with some cobbles N = 30(4, 5, 6, 7, 8, 9) AA141648 AA141649 ENV 3.50 3.50 4 N = 38/105 mm (6, 12, 18, 20) AA141650 AA141651 4.50 4.50 ENV 3.25 4.70 Obstruction End of Borehole at 4.70 m 6 8 9 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Rise Time Time To (m) Comments From (m) Comments Depth То (h) At (min) 2.7 2.5 0.5 No water strike 4.5 4.7 2 **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments Depth Depth Date Tip Depth RZ Top RZ Base Туре REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample tal Sample (Jar + Vial + Tub) W - Water Sample



24/3/21

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GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

BOREHOLE NO. **BH213** CONTRACT Harbour Point Bray SHEET Sheet 1 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,544.05 E DATE COMMENCED 10/09/2020 **BOREHOLE DIAMETER (mm)** 719,454.95 N 200 DATE COMPLETED 14/09/2020 **GROUND LEVEL (m AOD)** 8.32 **BOREHOLE DEPTH (m)** 11.10 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%) ENGINEER** 76.91 **PROCESSED BY Atkins 25**€ Samples Standpipe Details Ξ Ξ Elevation Sample Type Recovery Ref. Number Field Test Legend Depth (Depth (Description Depth (m) Results - 0 TOPSOIL 711. 711 8.07 0.25 Medium dense to dense light brown fine to coarse sandy GRAVEL with occasional cobbles N = 50/225 mm (8, 10, 14, 14, 15, 7) AA146601 В 1.50 2 N = 50/220 mm (10, 13, 14, 17, 19) AA146602 В 2.50 3 N = 47AA146603 В 3.50 (8, 9, 11, 11, 12, 13) 000 4.42 3.90 Stiff to very stiff dark brown gravelly SILT/CLAY with \ 4 O R occasional cobbles AA146604 В 4.50 (6, 6, 7, 8, 7, 8) -5 N = 28(4, 5, 7, 6, 8, 7) AA146605 В 5.50 6 N = 47AA146606 В 6.50 (3, 6, 12, 12, 12, 11) N = 43 (5, 8, 10, 10, 11, 12) AA146607 В 7.50 8 N = 43 (9, 9, 11, 10, 11, 11) AA146608 В 8.50 9 N = 50/225 mmAA146609 В 9.50 (2, 7, 10, 14, 20, 6) HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Time Water Casing Sealed Rise Time Comments From (m) To (m) Comments Depth (h) At To (min) 2.2 2.5 0.75 No water strike 10.8 11.1 2 **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments Depth Depth Date Tip Depth RZ Top RZ Base Туре 14-09-20 Start of 3rd Day 3.30 REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample tal Sample (Jar + Vial + Tub) W - Water Sample



IGSL.GDT 24/3/21

22734.GPJ

BH LOG

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GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

BOREHOLE NO. **BH213** CONTRACT Harbour Point Bray SHEET Sheet 2 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,544.05 E DATE COMMENCED 10/09/2020 **BOREHOLE DIAMETER (mm)** 719,454.95 N 200 DATE COMPLETED 14/09/2020 **GROUND LEVEL (m AOD)** 8.32 **BOREHOLE DEPTH (m)** 11.10 SPT HAMMER REF. NO. SA7 WC **CLIENT** Ballymore **BORFD BY ENGINEER ENERGY RATIO (%)** 76.91 **PROCESSED BY** Atkins **25**€ Samples Standpipe Details (E Ξ Elevation Sample Type Recovery Ref. Number Field Test Legend Depth (Depth (Description Depth (m) Results Stiff to very stiff dark brown gravelly SILT/CLAY with Ð occasional cobbles (continued) N = 50/255 mm (9, 11, 11, 13, 16, 10) AA146610 В 10.50 -2.48 10.80 Very stiff light brown very sandy gravelly silty CLAY -XO -2.78 11.10 Obstruction End of Borehole at 11.10 m 12 13 14 15 17 18 19 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Time Water Casing Sealed Rise Time From (m) To (m) Comments Comments (h) Depth То Αt (min) 2.2 2.5 0.75 No water strike 11.1 10.8 2 **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments Depth Depth Tip Depth RZ Top RZ Base Date Type REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample ntal Sample (Jar + Vial + Tub) W - Water Sample



REPORT NUMBER

22734

BOREHOLE NO. **BH214** CONTRACT Harbour Point Bray SHEET Sheet 1 of 1 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,594.19 E DATE COMMENCED 15/09/2020 **BOREHOLE DIAMETER (mm)** 719,464.75 N 200 DATE COMPLETED 15/09/2020 **GROUND LEVEL (m AOD)** 7.41 **BOREHOLE DEPTH (m)** 4.80 SPT HAMMER REF. NO. CLIENT SA7 **BORED BY** WC Ballymore **ENGINEER ENERGY RATIO (%)** 76.91 **PROCESSED BY** 75C Atkins Samples Standpipe Details Ξ Ξ Elevation Sample Type Recovery Ref. Number Field Test Legend Depth (Description Depth (Depth (m) Results - 0 TOPSOIL 711. 111 7.11 0.30 Very stiff light brown very sandy gravelly SILT/CLAY AA001709 ENV 0.50 with occasional cobbles AA001710 AA146611 1.50 1.50 N = 44 (6, 8, 10, 10, 11, 13) F2 5.21 2.20 Stiff mottled brown sandy gravelly SILT/CLAY with **®** N = 23 (4, 5, 6, 6, 5, 6) occasional cobbles AA001711 AA146612 ENV B 2.50 2.50 0 ___ -3 4.11 3.30 Stiff to very stiff light brown gravelly CLAY with <u>.</u> AA001712 AA146613 ENV 3.50 3.50 cobbles 100%rec 35 blows N = 34 (6, 6, 6, 7, 8, 13) AA001713 AA146614 4.50 4.50 ENV 2.61 4.80 Obstruction -5 End of Borehole at 4.80 m 6 8 9 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Rise Time Time Comments From (m) To (m) Comments Strike Depth То (min) (h) Αt 4.6 4.6 3.30 1.90 2.20 2.20 20 Moderate 1 24/3/21 IGSL.GDT **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments GPJ Depth Depth Tip Depth RZ Top RZ Base Date Туре 22734. BH LOG REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample IGSL tal Sample (Jar + Vial + Tub) W - Water Sample



REPORT NUMBER

22734

BOREHOLE NO. **BH215** CONTRACT Harbour Point Bray SHEET Sheet 1 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,622.65 E DATE COMMENCED 17/09/2020 **BOREHOLE DIAMETER (mm)** 719,429.37 N 200 DATE COMPLETED 28/09/2020 **GROUND LEVEL (m AOD)** 4.67 **BOREHOLE DEPTH (m)** 13.30 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%) ENGINEER** 76.91 **PROCESSED BY Atkins 25**€ Samples Standpipe Details Ξ Ξ Elevation Sample Type Recovery Ref. Number Field Test Legend Depth (Depth Description Depth (m) Results - 0 TOPSOIL 1.1/ 0.20 4.47 Dark brown sandy gravelly SILT/CLAY -X0 4.07 0.60 AA141651 ENV 0.50 Sitff light brown sandy gravelly SILT/CLAY with $\overline{\otimes}$ occasional cobbles AA141652 AA141653 1.50 1.50 N = 25 (4, 4, 6, 6, 7, 6) 2 N = 25(5, 6, 6, 7, 6, 6) AA141654 AA141655 ENV B 2.50 2.50 3 N = 27(4, 5, 6, 6, 7, 8) AA141656 AA141657 ENV 3.50 3.50 0.77 3.90 Stiff dark brown sandy gravelly CLAY with cobbles 9 AA141658 AA141659 4.50 4.50 ENV (5, 5, 6, 6, 7, 7)-5 N = 26(3, 5, 6, 6, 6, 8) AA141660 ENV 5.50 5.50 AA141661 <u>-</u> 6 AA141662 AA141663 N = 30(5, 6, 6, 7, 8, 9) ENV 6.50 6.50 ⁻듗` . 0 _ N = 29 (4, 6, 7, 7, 7, 8) AA141664 AA141665 7.50 7.50 ENV <u>-00</u> <u>. O .</u> -3.63 8.30 Stiff to very stiff dark brown gravelly silty CLAY with N = 36 (6, 8, 8, 9, 9, 10) AA141666 AA141667 8.50 8.50 ENV cobbles -6 X 9 N = 31AA141668 AA141669 ENV 9.50 9.50 (6, 7, 5, 8, 6, 12)HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Time Water Casing Sealed Rise Time Comments From (m) To (m) Comments Depth (h) At To (min) 13 13.3 1 24/3/21 No water strike IGSL.GDT **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Comments GPJ Date Depth Depth Date Tip Depth RZ Top RZ Base Type 22734. Log REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend ВН D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample IGSL al Sample (Jar + Vial + Tub) W - Water Sample



REPORT NUMBER

22734

BOREHOLE NO. **BH215** CONTRACT Harbour Point Bray SHEET Sheet 2 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,622.65 E DATE COMMENCED 17/09/2020 **BOREHOLE DIAMETER (mm)** 719,429.37 N 200 DATE COMPLETED 28/09/2020 **GROUND LEVEL (m AOD)** 4.67 **BOREHOLE DEPTH (m)** 13.30 SPT HAMMER REF. NO. SA7 WC **CLIENT** Ballymore **BORFD BY ENGINEER ENERGY RATIO (%)** 76.91 **PROCESSED BY** Atkins **25**€ Samples Standpipe Details Ξ Ξ Elevation Sample Type Recovery Ref. Number Field Test Legend Depth (Depth (Description Depth (m) Results Stiff to very stiff dark brown gravelly silty CLAY with cobbles (continued) N = 50/225 mm (11, 14, 14, 15, 17, 4) AA141670 AA141671 ENV 10.50 10.50 1 N = 60/265 mm (12, 13, 16, 17, 17, 10) AA141672 AA141673 ENV 11.50 11.50 12 N = 50/225 mm (16, 9, 16, 16, 18) AA141674 AA141675 ENV B 12.50 12.50 13 -8.63 13.30 AA141676 13.30 Obstruction End of Borehole at 13.30 m 14 15 17 18 19 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Rise Time Time Comments From (m) To (m) Comments Depth То (h) Αt (min) 13 13.3 1 IGSL.GDT 24/3/21 No water strike **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments 22734.GPJ Depth Depth Tip Depth RZ Top RZ Base Date Type BH LOG REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Samp location and hand dug inspection pit carried out . IGSL Sample P - Undisturbed Piston Sample ntal Sample (Jar + Vial + Tub) W - Water Sample



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GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

BOREHOLE NO. **BH216** CONTRACT Harbour Point Bray SHEET Sheet 1 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,565.98 E DATE COMMENCED 16/09/2020 **BOREHOLE DIAMETER (mm)** 719,404.25 N 200 DATE COMPLETED 17/09/2020 **GROUND LEVEL (m AOD)** 6.63 **BOREHOLE DEPTH (m)** 12.20 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%) ENGINEER PROCESSED BY Atkins** 76.91 25.C Samples Standpipe Details Ξ Ξ Elevation Recovery Ref. Number Sample Field Test Legend Depth (Depth Description Depth (m) Type Results - 0 TOPSOIL <u>,\\. /</u>, 0.20 6.43 Light brown sandy gravelly SILT/CLAY -X0 6.13 0.50 AA146631 ENV 0.50 Firm dark brown sandy gravelly SILT/CLAY with <u>@</u> occasional cobbles Χľ 0. 5.23 1.40 Firm light brown sandy gravelly SILT/CLAY with $\overline{\otimes}$ AA146620 AA146632 1.50 1.50 N = 16 (2, 3, 3, 3, 4, 6) ENV occasional cobbles X(. 4.73 1.90 Stiff light brown/grey SILT/CLAY × -× -× × N = 28(3, 3, 6, 7, 7, 8) AA146621 AA146633 2.50 2.50 FNV 3 X N = 29(5, 6, 6, 7, 8, 8) AA146622 3.50 3.50 AA146634 FNV 2.83 3.80 Very stiff light brown very sandy SILT/CLAY AA146623 AA146635 AA146636 N = 50/275 mm4.50 (7. 8. 10. 13. 14. 13) ENV ENV 4.50 4.50 · 5 N = 50/225 mm (13, 12, 19, 13, 18) AA146624 В 5.50 6 AA146625 AA146637 N = 50/245 mm6.50 6.50 (11, 11, 12, 13, 16, 9) ENV -0.57 7.20 Stiff light brown very sandy gravelly SILT/CLAY $\overline{\times}$ N = 30AA146626 AA146638 7.50 7.50 B ENV X (8, 9, 8, 8, 7, 7) _____ -X-₽8 __X_ ⊕_--1.77 8.40 Dense grey and grey/brown fine to coarse silty sandy N - 33AA146627 8.50 (6, 8, 8, 9, 8, 8) GRAVEL with cobbles AA146639 ENV 8.50 800 00 20 S 9 300 -2.87 9.50 N = 45AA146628 9.50 Very stiff mottled dark/light brown sandy gravelly silty (8, 8, 10, 10, 12, 13) AA146640 ENV 9.50 0 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Time Time Casing Sealed Rise Comments From (m) To (m) Comments Strike Depth То (h) Αt (min) 9.50 9.1 9.3 7.20 7.20 6.80 20 Rapid 1 12.2 12 1 **GROUNDWATER PROGRESS** Depth to Hole Casing **INSTALLATION DETAILS** Comments Date Depth Depth Date Tip Depth RZ Top RZ Base Type REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample al Sample (Jar + Vial + Tub) W - Water Sample



REPORT NUMBER

22734

BOREHOLE NO. **BH216** CONTRACT Harbour Point Bray SHEET Sheet 2 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,565.98 E DATE COMMENCED 16/09/2020 **BOREHOLE DIAMETER (mm)** 719,404.25 N 200 DATE COMPLETED 17/09/2020 **GROUND LEVEL (m AOD)** 6.63 **BOREHOLE DEPTH (m)** 12.20 SPT HAMMER REF. NO. SA7 WC **CLIENT** Ballymore **BORED BY ENGINEER ENERGY RATIO (%)** 76.91 **PROCESSED BY** 75C Atkins Samples Standpipe Details (E Ξ Elevation Recovery Sample Type Ref. Number Field Test Legend Depth (Depth (Description Depth (m) Results - 10 <u>7</u> 0 10.40 -3.77 N = 48 (11, 11, 12, 12, 11, 13) Very stiff dark brown sandy gravelly silty CLAY AA146629 AA146641 -XO B ENV 10.50 10.50 ____ 0. 11 AA146630 AA146642 B ENV 11.50 11.50 N = 46 (9, 10, 10, 12, 11, 13) 2 12 -5.57 12.20 Obstruction End of Borehole at 12.20 m 13 14 15 17 18 19 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Time Water Casing Sealed Rise Time From (m) To (m) Comments Comments (h) Depth То Αt (min) 9.3 9.1 1 IGSL.GDT 24/3/21 12.2 1 12 **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments 22734.GPJ Depth Depth Tip Depth RZ Top RZ Base Date Type BH LOG REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Samp UT - Undisturbed 100mm Diamete location and hand dug inspection pit carried out . IGSL Sample P - Undisturbed Piston Sample ntal Sample (Jar + Vial + Tub) W - Water Sample



REPORT NUMBER

22734

BOREHOLE NO. **BH217** CONTRACT Harbour Point Bray SHEET Sheet 1 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,606.34 E DATE COMMENCED 22/09/2020 **BOREHOLE DIAMETER (mm)** 719,398.97 N 200 DATE COMPLETED 23/09/2020 **GROUND LEVEL (m AOD)** 4.37 **BOREHOLE DEPTH (m)** 11.40 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%) ENGINEER** 76.91 **PROCESSED BY Atkins 25**€ Samples Standpipe Details Ξ Ξ Elevation Sample Type Recovery Ref. Number Field Test Legend Depth (Depth Description Depth (m) Results - 0 TOPSOIL 1.1/ 0.20 4.17 Light brown very sandy gravelly SILT/CLAY with AA146651 AA146655 ENV occasional cobbles X 0.50 0 3.47 0.90 Soft to firm dark brown sandy SILT/CLAY AA146652 AA146653 ENV 1.50 1.50 90%red 10 blows 2 N = 10 (2, 2, 3, 2, 3, 2) AA146654 ENV 2 50 3 AA146656 ENV 3.50 3.50 AA146657 B U FAIL 3.50 4 AA146658 AA146659 4.50 4.50 ENV -0.43 4.80 30%rec 7 blows Firm to stiff light brown sandy gravelly SILT/CLAY XO X N = 13(2, 2, 3, 3, 3, 4) AA146660 ENV 5.50 5.50 AA146661 6 2 N = 39AA146662 ENV 6.50 6.50 -2.33 6.70 (6, 8, 8, 10, 10, 11) AA146663 Soft to firm light brown sandy gravelly SILT/CLAY X ___ 0 AA146664 AA146665 7.50 7.50 ENV -----X (2, 3, 2, 3, 2, 2) -3.63 8.00 Stiff light brown sandy gravelly SILT/CLAY -XO N = 29AA146666 AA146667 ENV 8.50 0. (4, 5, 6, 6, 8, 9) 8.50 9 N = 30AA146668 AA146669 ENV 9.50 9.50 (5, 6, 6, 6, 8, 10) XO. HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Time Time Rise Comments From (m) To (m) Comments Strike Depth То (h) At (min) 6.3 6.5 6.20 6.20 11.40 4.80 20 Moderate 24/3/21 11.4 2 11.2 IGSL.GDT **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Comments GPJ Date Depth Depth Date Tip Depth RZ Top RZ Base Туре 22734. Log REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend ВН D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample IGSL al Sample (Jar + Vial + Tub) W - Water Sample



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BOREHOLE NO. **BH217** CONTRACT Harbour Point Bray SHEET Sheet 2 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,606.34 E DATE COMMENCED 22/09/2020 **BOREHOLE DIAMETER (mm)** 719,398.97 N 200 DATE COMPLETED 23/09/2020 **GROUND LEVEL (m AOD)** 4.37 **BOREHOLE DEPTH (m)** 11.40 SPT HAMMER REF. NO. SA7 **BORED BY** WC **CLIENT** Ballymore **ENGINEER ENERGY RATIO (%)** 76.91 **PROCESSED BY** 75C **Atkins** Samples Standpipe Details (E Ξ Elevation Recovery Sample Type Ref. Number Field Test Legend Depth (Depth (Description Depth (m) Results Stiff light brown sandy gravelly SILT/CLAY $\overline{\times}$ 10.40 -6.03 (continued) N = 21(8, 8, 6, 6, 5, 4) Firm to stiff dark brown sandy gravelly SILT/CLAY AA146670 AA146671 ENV 10.50 10.50 with occasional cobbles __X(0. \times.-11 -7.03 11.40 Obstruction End of Borehole at 11.40 m 12 13 14 15 17 18 19 HARD STRATA BORING/CHISELLING **WATER STRIKE DETAILS** Water Casing Sealed Rise Time Time From (m) To (m) Comments Comments (h) Depth То Αt (min) 6.3 6.5 11.2 11.4 2 **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments Depth Depth Tip Depth RZ Top RZ Base Date Type REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample ntal Sample (Jar + Vial + Tub) W - Water Sample



REPORT NUMBER

22734

BOREHOLE NO. **BH218** CONTRACT Harbour Point Bray SHEET Sheet 1 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,631.70 E DATE COMMENCED 21/09/2020 **BOREHOLE DIAMETER (mm)** 719,398.74 N 200 DATE COMPLETED 23/09/2020 **GROUND LEVEL (m AOD)** 3.98 **BOREHOLE DEPTH (m)** 13.30 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%)** 76.91 **ENGINEER PROCESSED BY Atkins** 25C Samples Standpipe Details (E Ξ Elevation Sample Type Recovery Ref. Number Field Test Legend Depth (Depth Description Depth (m) Results - 0 TOPSOIL <u>,\l, 1,</u> 0.25 3.73 Light brown sandy gravelly SILT/CLAY _X0 AA141676 ENV 0.50 X 3.08 0.90 0 Stiff dark brown very sandy gravelly SILT/CLAY with ₹ occasional cobbles X(-2.58 1.40 Stiff dark grey very sandy gravelly SILT/CLAY with <u>~</u> AA141677 AA141678 1.50 1.50 N = 27 (4, 5, 6, 6, 7, 8) some wood fragments X 0. 2 <u>−</u><u></u> ,X N = 13(3, 3, 3, 4, 3, 3) AA141679 AA141680 ENV 2.50 2.50 1.28 2.70 Firm dark brown sandy gravelly SILT/CLAY with **®** occasional cobbles -3 _X(. 0 AA141681 AA141682 ENV 3.50 3.50 100%rec 16 blows -0.12 4.10 4 Loose to medium dense grey fine to coarse sandy silty GRAVEL AA141683 AA141684 4.50 4.50 N = 11(2, 2, 3, 2, 3, 3) ENV -5 N = 13 (2, 3, 3, 4, 3, 3) AA141685 ENV 5.50 5.50 AA141686 6 80 AA141687 AA141688 N = 12ENV 6.50 6.50 (3, 2, 3, 3, 3, 3)-2.92 6.90 Loose grey/brown silty/clayey gravelly SAND with . .x o. some shells N = 7(3, 2, 2, 2, 2, 1) -× -c AA141689 AA141690 7.50 7.50 ENV σ -3.72 7.70 Soft dark brown peaty SILT × × ₽8 × 1/1/ × × × × <u>\\ /</u> / × AA141691 ENV 8.50 × AA141692 8.50 100%rec 8 blows × × × × 9 -5.22 9.20 × Soft becoming firm dark brown SILT/CLAY with _×. _X occasional shell fragments ×-AA141693 AA141694 N = 6ENV 9.50 (1, 2, 2, 1, 2, 1)9.50 <u>x</u> -HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Casing Water Time Time Sealed Rise Comments From (m) To (m) Comments Strike Depth То (h) Αt (min) 13.1 13.3 7.70 Slow 2 4.70 4.70 3.80 20 24/3/21 GDT IGSL. **GROUNDWATER PROGRESS** Depth to Hole Casing **INSTALLATION DETAILS** Comments GPJ Date Depth Depth Date Tip Depth RZ Top RZ Base Type 22734. Log REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend ВН D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Same location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample IGSL al Sample (Jar + Vial + Tub) W - Water Sample



REPORT NUMBER

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COI	NTRAC	T Ha	ırbour Poi	nt Bray							BOREH SHEET	OLE NO.	BH218 Sheet 2 of 2	
	ORDIN	ATES LEVEL (r	719	,631.70 E ,398.74 N 3.98		PE OLE DIAM OLE DEPT		nm)	Dando 20 200 13.30	00	DATE C	\	CED 21/09/2020	
CLI	ENT SINEER	Ва	Ilymore	0.00	SPT HAI	MMER REI MRATIO (9	F. NO.	;	SA7 76.91			BY SSED BY	WC	
ENC	AIINEEN	Air	ui is		ENERG	HATIO (/o)		76.91		nples	33ED B I		
Depth (m)			D	escription		Legend	Elevation	Depth (m)	Ref. Number	Sample Type	<u> </u>	Recovery	Field Test Results	Standpipe Details
- 10 	Soft b	ecoming ional sh	g firm darl ell fragme	k brown SILT/CLAY ents <i>(continued)</i>	with	X X X X X X X X X X X X X X X X X X X			AA141695 AA141696 AA141697 AA141698	U	10.50 10.50 11.50	100%rec 8 blows 100%rec 12 blows		
- 13	Firm o	dark brov	wn peaty	SILT/CLAY		× × × × × × × × × × × × × × × × × × ×	-8.82 -9.32	12.80	AA141699 AA141700	ENV B	12.50 12.50		N = 15 (2, 3, 4, 4, 3, 4)	
14 15 16 16 17	Obstru End o		ole at 13.3	80 m										
- 18 - 19 - HA	RD STI	RATA BO		HISELLING									ATER STRIKE DET	AILS
Fron	n (m)	To (m)	Time (h)	Comments		Wate Strike	er Ca e De	sing epth	Sealed At	Ris To		ime min) C	omments	
13	3.1	13.3	2			10.40		0.40	11.00	7.0		20	Moderate	
								Hole	Casina	De	oth to		OUNDWATER PRO	GRESS
	TALLA Date	TION DE		op RZ Base	Туре	Dat		Hole Depth	Casing Depth	W	oth to ater	Commer	nts	
INSTALLATION DETAILS Date Tip Depth RZ Top RZ Base Type REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT solocation and hand dug inspection pit carried out .								LB - Larg	ple Legend Il Disturbed (tub) Disturbed ge Bulk Disturbed vivronmental Sample (Jar + Via		+ Vial + Tub)	Sample P - Und	ndisturbed 100mm Diameter e sisturbed Piston Sample tter Sample	



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GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

BOREHOLE NO. **BH219** CONTRACT Harbour Point Bray SHEET Sheet 1 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,529.46 E DATE COMMENCED 29/09/2020 **BOREHOLE DIAMETER (mm)** 719,359.87 N 200 DATE COMPLETED 30/09/2020 **GROUND LEVEL (m AOD)** 7.29 **BOREHOLE DEPTH (m)** 10.70 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%)** 76.91 **ENGINEER PROCESSED BY Atkins** 25C Samples Standpipe Details Ξ Ξ Elevation Sample Type Recovery Ref. Number Field Test Legend Depth (Depth Description Depth (m) Results - 0 TOPSOIL 7.14 0.15 MADE GROUND comprised of stiff dark brown sandy gravelly SILT/CLAY with some cobbles and large AA146674 В 0.50 boulders AA146675 AA146676 AA146693 ENV 1.50 1.50 1.50 N = 28 (6, 6, 6, 7, 8, 7) B ENV 5.29 2.00 2 MADE GROUND comprised of firm to stiff sandy SILT/CLAY with wire, wood and plastic fragments AA146677 AA146678 ENV 2.50 2.50 (3, 4, 4, 5, 4, 6)4.29 3.00 3 Stiff dark brown sandy gravelly SILT/CLAY X X N = 23AA146679 0. ENV 3.50 3.50 (3, 5, 5, 6, 5, 7)AA146680 3.49 3.80 Firm light brown very sandy gravelly SILT/CLAY with <u>~</u> 4 occasional cobbles AA146681 AA146682 4.50 4.50 N = 17 (3, 3, 4, 4, 4, 5) ENV -5 N = 14 (2, 3, 3, 3, 4, 4) AA146683 ENV 5.50 5.50 AA146684 6 AA146685 AA146686 N = 8ENV 6.50 6.50 (2, 2, 2, 2, 2, 2) 7.00 7.20 0.29 Soft dark brown/black PEAT 0.09 -X0 Firm dark brown very gravelly sandy silty CLAY N = 16 AA146687 AA146688 7.50 7.50 ENV X (2, 5, 5, 4, 4, 3) <u>.</u> -X--8 X $\bar{\phi}$ -1.01 8.30 Stiff mottled brown sandy gravelly silty CLAY with N = 23 (4, 4, 5, 5, 6, 7) AA146689 AA146690 ENV 8.50 some cobbles 8.50 9 N = 30AA146691 ENV 9.50 (6, 6, 7, 7, 8, 8)AA146692 9.50 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Time Time Comments From (m) To (m) Comments Depth (h) At To (min) 9.7 9.9 No water strike 2 10.5 10.7 **GROUNDWATER PROGRESS** Depth to Water Hole Casing **INSTALLATION DETAILS** Comments Date Depth Depth Date Tip Depth RZ Top RZ Base Type REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample al Sample (Jar + Vial + Tub) W - Water Sample



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COI	NTRAC	T Ha	ırbour Po	oint Bray	,								BOREHO	DLE NC			
	ORDIN		719	6,529.46 9,359.87	7 N			DLE DIAM		nm) :	Dando 20 200	00	DATE CO		ICED 29/09		
		LEVEL (ı		7.2	29			LE DEPT			10.70		DATE CO		<u> </u>	/2020	
	ENT SINEER		Ilymore kins					MMER REI RATIO (9			SA7 76.91		BORED PROCES		WC Y O5C		
	AIINEEN	1 Atr	MIIS				LINLINGI	IIAIIO (0)		76.91	Sar	nples	SLD D			
Depth (m)			С	Descripti	on			Legend	Elevation	Depth (m)	Ref. Number	Sample Type	· -	Recovery	Field Te Results	86 5	Standpipe Details
10	Stiff n	nottled b cobbles	rown sar (continu	ndy grav <i>ıed)</i>	elly sil	ty CLAY w	vith		-3.41	10.70	AA146694	В	10.50				
-112 -13 -14 -15 -16		uction of Boreho	ole at 10.	.70 m													
19																	
НА	RD ST	RATA BO	ORING/C	HISELL	ING									\ \	 ATER STRIK	E DET	AILS
		To (m)	Time (h)	Comm				Wate			Sealed	Ris		me	Comments		
9	.7	9.9 10.7	1 2					Sunk		epth	At	To	, (11	nin)	No water str	rike	
														GF	OUNDWATE	R PRO	GRES
	TALLA Date	TION DE	TAILS	Top R7	Base	Тур	oe	Dat		Hole Depth	Casing Depth	De W	epth to Vater	Comme			
	<u>- αιυ</u>	TIP De	μι 11 <u></u>	TOP INZ	عممت	1 YL	,,,										
REM	MARKS	1hr Ere	ecting Connection	ovid 19 S and dug	Safe Winspec	orking Ar tion pit ca	ea . CAT rried out	scanned		LB - Larg	Disturbed (tub) Disturbed e Bulk Disturbed rironmental Sam	d	+ Vial + Tub)	Sam P - U	Undisturbed 100mm E ole ndisturbed Piston Sar Vater Sample		



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REPORT NUMBER

22734

BOREHOLE NO. **BH221** CONTRACT Harbour Point Bray SHEET Sheet 1 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,573.03 E DATE COMMENCED 08/09/2020 **BOREHOLE DIAMETER (mm)** 719,326.03 N 200 DATE COMPLETED 09/09/2020 **GROUND LEVEL (m AOD)** 3.00 **BOREHOLE DEPTH (m)** 14.50 SPT HAMMER REF. NO. CLIENT SA7 **BORED BY** WC Ballymore **ENGINEER ENERGY RATIO (%)** 76.91 **PROCESSED BY Atkins 25**€ Samples Standpipe Details Ξ Ξ Recovery Elevation Sample Type Ref. Number Field Test Legend Depth (Depth (Description Depth (m) Results 11/ - 0 TOPSOIL 0.20 2.80 Very soft light brown sandy slightly silty CLAY AA141627 1.50 90%rec F2 0.70 2.30 Soft dark brown SILT/CLAY N = 5 (1, 2, 1, 1, 2, 1) AA141628 В 2 50 -3 -0.30 3.30 Very soft dark grey slightly peaty SILT × AA141629 U 3.50 100%rec × × 4 × × × N = 4 (1, 1, 0, 1, 1, 2) × AA141630 В 4.50 × × × -5 × W, AA141631 U 5.50 90%red × -3.10 6.10 Very soft dark brown SILT with shells × N = 2(0, 0, 1, 0, 1, 0) AA141632 6.50 7.20 -4.20 Very soft light brown SILT × × × AA141633 U 7.50 100%red × × × × × 8 N = 3(0, 1, 1, 0, 1, 1) × AA141634 В 8.50 9 AA141635 В 9.50 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Rise Time Time From (m) To (m) Comments Comments (h) Strike Depth То Αt (min) 14.1 14.2 5.30 No 5.30 No 20 1 Seepage 14.5 14.3 1 **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments Depth Depth Date Tip Depth RZ Top RZ Base Туре REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Same location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample al Sample (Jar + Vial + Tub) W - Water Sample



REPORT NUMBER

22734

BOREHOLE NO. **BH221** CONTRACT Harbour Point Bray SHEET Sheet 2 of 2 Dando 2000 **RIG TYPE CO-ORDINATES** 726,573.03 E DATE COMMENCED 08/09/2020 **BOREHOLE DIAMETER (mm)** 719,326.03 N 200 DATE COMPLETED 09/09/2020 **GROUND LEVEL (m AOD)** 3.00 **BOREHOLE DEPTH (m)** 14.50 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%)** 76.91 **ENGINEER PROCESSED BY** OF.C **Atkins** Samples Standpipe Details Ξ Ξ Elevation Sample Type Ref. Number Recovery Field Test Legend Depth (Depth (Description Depth (m) Results 10 -7.20 10.20 Soft to firm dark brown sandy peaty SILT N = 11(2, 2, 3, 3, 3, 2) AA141636 U 10.50 80%rec 7/1/ × F 11 -8.30 11.30 Medium dense grey silty sandy fine to medium N = 20 (4, 4, 5, 4, 5, 6) AA141637 11.50 **GRAVEL** 12 N = 15 (3, 3, 4, 4, 3, 4) AA141638 В 12.50 13 -10.60 13.60 AA141639 N = 46В 13.50 (4, 4, 6, 8, 13, 19) Stiff dark brown sandy gravelly CLAY with occasional <u>.</u> 0 14 . -11.50 14.50 AA141640 В 14.50 Obstruction End of Borehole at 14.50 m 15 17 18 19 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Rise Time Time To (m) Comments From (m) Comments (h) Strike Depth At То (min) 14.1 14.2 11.80 14.00 3.20 11.80 20 Rapid 1 24/3/21 14.5 14.3 1 IGSL.GDT **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments 22734.GPJ Depth Depth Tip Depth RZ Top RZ Base Туре BH LOG REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample IGSL tal Sample (Jar + Vial + Tub) W - Water Sample



REPORT NUMBER

	GSL /														22701	
COI	NTRACT	Harl	our Poi	nt Bray								BOREHO	OLE N	Э.	BH222	
	ORDINA		719,	618.23 E 344.48 N 3.40		RIG TYPE BOREHO BOREHO	LE DIAMI		nm)	Dando 20 200 0.90	00	DATE C			Sheet 1 of 1 04/09/2020 04/09/2020	
	ENT GINEER	Bally Atkir	/more			SPT HAN				SA7 76.91		BORED PROCES		N N	WC 5C	
LIVO	AINLLN	ALNII	15			LINEITOT	TIATIO (7	9)		70.91	Sar	nples	JOLD	, (2130	
Depth (m)			De	escription			Legend	Elevation	Depth (m)	Ref. Number	Sample Type	· ·	Recovery	F	Field Test Results	Standpipe Details
0	TOPSO Light brocobbles	own sar	ıdy claye casional	ey GRAVEL boulders	with some			3.20 2.50	0.20	AA141709	В	0.70				
- 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8	Obstruction End of B		e at 0.90	m												
HA	RD STR	ТА ВО	RING/CH	IISELLING										VATEF	R STRIKE DET	 TAILS
ron	m (m) To	(m)	Time (h)	Comments			Wate Strike		sing epth	Sealed At	Ris To		ime nin)	Comn	nents	
			\ ·/										,		vater strike	
									Hole	Casing	Do	onth to			DWATER PRO	OGRESS
	TALLATI			D7.D-			Dat	е	Depth	Depth	N De	epth to Vater	Comm	ents		
	Date	пр Дері	n H∠ I'c	p RZ Base	е Тур	pe										
REM	 	ocation encount	and han	vid 19 Safe N nd dug inspe 0.90m. Relo	ection pit ca	arried out.	Obstruction	on ed	D - Smal B - Bulk LB - Lard	DIE Legeno I Disturbed (tub) Disturbed ge Bulk Disturber vironmental Sam	d	+ Vial + Tub)	San P -	nple	ed 100mm Diameter d Piston Sample nple	



REPORT NUMBER

22734

BOREHOLE NO. **BH222A** CONTRACT Harbour Point Bray SHEET Sheet 1 of 2 Dando 2000 **RIG TYPE CO-ORDINATES** 726,619.24 E DATE COMMENCED 04/09/2020 **BOREHOLE DIAMETER (mm)** 719,345.03 N 200 DATE COMPLETED 07/09/2020 **GROUND LEVEL (m AOD)** 3.40 **BOREHOLE DEPTH (m)** 12.90 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%) ENGINEER** 76.91 **PROCESSED BY Atkins** OF.C Samples Standpipe Details Ξ Ξ Recovery Elevation Sample Type Ref. Number Field Test Legend Depth (Depth (Description Depth (m) Results - 0 TOPSOIL 1.1/ 0.20 3.20 Light brown sandy clayey GRAVEL with occasional 2.80 0.60 cobbles Loose dark brown sandy clayey GRAVEL (Possibly 000 very gravelly clay) 2.30 1.10 Very soft light brown slightly clayey sandy SILT × × AA141615 1.50 75%rec 8 blows × × × × . × × 2 × N = 5 (1, 1, 2, 1, 1, 1) × AA141616 В 2 50 × 0.30 3.10 -3 Very soft dark grey SILT × × × × × AA141617 U 100%rec 3.50 × 6 blows × × × × × 4 × × × × N = 5 (1, 2, 1, 1, 2, 1) AA141618 В 4.50 × × × × × × × -5 × × × × AA141619 U 5.50 90%red × × × × × 6 N = 5(0, 1, 1, 2, 1, 1) AA141620 В 6.50 AA141621 U 7.50 Fail%rec 9 blows -4.90 8.30 Very soft dark brown sandy SILT with shells ·× N = 4(0, 0, 1, 1, 1, 1) AA141622 В 8.50 · × .× × 9 × × × × × × AA141623 U 9.50 100%rec × 10 blows × × HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Rise Time Time To (m) Comments Comments From (m) Depth (h) To (min) 12.7 12.9 2 24/3/21 IGSL.GDT **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** GPJ Date Comments Depth Depth Date Tip Depth RZ Top RZ Base Туре 07-09-20 Start 2nd day 2.60 22734. Log REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend BH D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out .Standing 2hrs Sample P - Undisturbed Piston Sample IGSL to gain readmittance to site after lunch break. al Sample (Jar + Vial + Tub) W - Water Sample



IGSL.GDT 24/3/21

22734.GPJ

BH LOG

IGSL

GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

BOREHOLE NO. **BH222A** CONTRACT Harbour Point Bray SHEET Sheet 2 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,619.24 E DATE COMMENCED 04/09/2020 **BOREHOLE DIAMETER (mm)** 719,345.03 N 200 DATE COMPLETED 07/09/2020 **GROUND LEVEL (m AOD)** 3.40 **BOREHOLE DEPTH (m)** 12.90 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%) ENGINEER** 76.91 **PROCESSED BY** 75C **Atkins** Samples Standpipe Details Ξ Ξ Elevation Sample Type Ref. Number Recovery Field Test Legend Depth (Depth (Description Depth (m) Results Very soft dark brown sandy SILT with shells (continued) · × × N = 4(1, 1, 1, 1, 1, 1) AA141624 В 10.50 × × × 11 ×. × -8.10 11.50 AA141625 11.50 Medium dense grey fine to coarse silty sandy **GRAVEL** 12 N = 28 (3, 4, 4, 6, 8, 10) AA141626 В 12.50 -9.50 12.90 Obstruction End of Borehole at 12.90 m 14 15 17 18 19 HARD STRATA BORING/CHISELLING **WATER STRIKE DETAILS** Water Casing Sealed Rise Time Time Comments From (m) To (m) Comments (h) Strike Depth At То (min) 12.7 12.9 2 11.50 3.20 11.50 No 20 Rapid **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments Depth Depth Tip Depth RZ Top RZ Base Type REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out .Standing 2hrs Sample P - Undisturbed Piston Sample to gain readmittance to site after lunch break. tal Sample (Jar + Vial + Tub) W - Water Sample



24/3/21

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GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

BOREHOLE NO. **BH223** CONTRACT Harbour Point Bray SHEET Sheet 1 of 2 Dando 2000 **RIG TYPE CO-ORDINATES** 726,635.90 E DATE COMMENCED 05/10/2029 **BOREHOLE DIAMETER (mm)** 719,297.75 N 200 DATE COMPLETED 06/10/2020 **GROUND LEVEL (m AOD)** 2.39 **BOREHOLE DEPTH (m)** 12.30 SPT HAMMER REF. NO. CLIENT SA7 **BORED BY** WC Ballymore **ENERGY RATIO (%)** 76.91 **ENGINEER PROCESSED BY Atkins** OF.C Samples Standpipe Details (E Ξ Elevation Sample Type Ref. Number Recovery Field Test Legend Description Depth (Depth Depth (m) Results - 0 Stone FILL (Placed Hardcore) 0.20 2.19 Dark brown sandy gravelly SILT/CLAY XO-AA183901 ENV 0.50 _X 0. 1.29 1.10 Soft to firm dark brown very sandy gravelly -XO SILT/CLAY X AA183902 AA183903 1.50 1.50 N = 10 (1, 2, 2, 2, 3, 3) 0. 2 N = 20 (3, 4, 4, 5, 5, 6) AA183904 AA183905 ENV B 2.50 2.50 3 ō N = 3(0, 1, 1, 1, 0, 1) AA183906 AA183907 ENV 3.50 3.50 X ō -1.71 4.10 4 Very soft dark grey sandy SILT with occasional shell ·× fragments × × AA183908 AA183909 4.50 4.50 .× ENV × 90%rec × × 60 blows × × × 5 × -3.01 5.40 Soft dark brown peaty SILT N = 5 (1, 2, 1, 1, 1, 2) AA183910 AA183911 × ENV 5.50 5.50 × × <u>///</u> × × F 6 -3.81 6.20 Very soft light brown SILT × AA183912 AA183913 ENV 6.50 6.50 × 90%rec 7 blows × N = 4(0, 1, 1, 1, 1, 1) AA183914 AA183915 7.50 7.50 ENV 8 N = 2(0, 1, 1, 0, 1, 0) AA183916 AA183917 AA183917 8.50 8.50 8.50 ENV -6.51 8.90 Very soft dark brown SILT with shell fragments 9 AA183918 AA183919 9.50 9.50 N = 3ENV (1, 1, 0, 1, 1, 1)HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Time Time Rise To (m) Comments From (m) Comments Strike Depth То (h) Αt (min) 12.1 12.3 2 6.00 1.70 3.70 3.70 20 Rapid **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments Depth Depth 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 Sample Legend D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample al Sample (Jar + Vial + Tub) W - Water Sample



IGSL.GDT 24/3/21

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BH LOG

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GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

BOREHOLE NO. **BH223** CONTRACT Harbour Point Bray SHEET Sheet 2 of 2 Dando 2000 **RIG TYPE CO-ORDINATES** 726,635.90 E DATE COMMENCED 05/10/2029 **BOREHOLE DIAMETER (mm)** 719,297.75 N 200 DATE COMPLETED 06/10/2020 **GROUND LEVEL (m AOD)** 2.39 **BOREHOLE DEPTH (m)** 12.30 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%)** 76.91 **ENGINEER PROCESSED BY Atkins** 25C Samples Standpipe Details Ξ Ξ Elevation Sample Type Recovery Field Test Legend Depth (Depth (Description Depth (m) Results - 10 10.20 -7.81 0000 Loose grey fine to coarse GRAVEL with shell 0 / 0 / × × -8.21 N = 12(2, 3, 3, 3, 3, 3) fragments 10.60 AA183920 AA183921 ENV 10.50 10.50 Firm dark brown peaty SILT with shell fragments , <u>"Ж</u> х F 11 <u>-8.91</u> 11.30 × Firm to stiff dark grey sandy SILT with occasional ·× -9.21 11.60 N = 24 (4, 5, 5, 6, 6, 7) AA183922 AA183923 ENV 11.50 11.50 shell fragments Medium dense grey fine to coarse GRAVEL with some cobbles and occasional boulders 20000 -9.91 12.30 Obstruction End of Borehole at 12.30 m 13 14 15 17 18 19 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Rise Time Time Comments From (m) To (m) Comments (h) Strike Depth То Αt (min) 12.1 12.3 2 **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments Depth Depth Tip Depth RZ Top RZ Base Date Туре REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample tal Sample (Jar + Vial + Tub) W - Water Sample



24/3/21

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GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

BOREHOLE NO. **BH224** CONTRACT Harbour Point Bray SHEET Sheet 1 of 2 Dando 2000 **RIG TYPE CO-ORDINATES** 726,606.14 E DATE COMMENCED 01/10/2020 **BOREHOLE DIAMETER (mm)** 719,297.94 N 200 DATE COMPLETED 02/10/2020 **GROUND LEVEL (m AOD)** 1.56 **BOREHOLE DEPTH (m)** 12.20 SPT HAMMER REF. NO. SA7 WC CLIENT Ballymore **BORFD BY ENERGY RATIO (%)** 76.91 **ENGINEER PROCESSED BY** OF.C **Atkins** Samples Standpipe Details (E Ξ Elevation Sample Type Recovery Ref. Number Field Test Legend Depth (Depth Description Depth (m) Results - 0 TOPSOIL .\.\./ 1.41 0.15 Dark brown sandy SILT/CLAY AA139459 ENV 0.50 0.76 0.80 Very soft light grey sandy SILT/CLAY 0.06 1.50 AA139460 AA139461 1.50 1.50 Very soft dark grey SILT with shell fragments 75%rec 12 blows × × 2 × × × N = 3(0, 1, 1, 0, 1, 1) × AA139462 AA139463 ENV B 2.50 × × × 3 × × × × × AA139464 AA139465 ENV 3.50 3.50 × FAII %rec × × × × × 4 × × × × N = 3 (0, 1, 0, 1, 1, 1) × AA139466 AA139467 4.50 4.50 × ENV × × × × × × -5 × × × × 5.50 5.50 × X AA139468 ENV 100%red 6 blows -4.24 5.80 Very soft dark brown SILT with shell fragments × × 6 × × × × × × AA139470 AA139471 N = 2(0, 1, 1, 0, 1, 0) ENV 6.50 6.50 × × × × × × × × AA139472 AA139473 ENV U 7.50 7.50 × 100%rec 8 blows × 8 × × × N = 2(1, 0, 1, 0, 1, 0) AA139474 AA139475 8.50 8.50 × × ENV -7.24 8.80 Very soft dark brown gravelly SILT 9 ο× × × × ox × AA139476 AA139477 9.50 9.50 ENV × o × HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Time Time Rise To (m) Comments From (m) Comments Strike Depth То (h) Αt (min) 12.1 12.2 8.50 1.5 0.50 0.50 20 Moderate **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments Depth Depth Date Tip Depth RZ Top RZ Base Туре REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample al Sample (Jar + Vial + Tub) W - Water Sample



IGSL.GDT 24/3/21

22734.GPJ

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GEOTECHNICAL BORING RECORD

REPORT NUMBER

22734

BOREHOLE NO. **BH224** CONTRACT Harbour Point Bray SHEET Sheet 2 of 2 **RIG TYPE** Dando 2000 **CO-ORDINATES** 726,606.14 E DATE COMMENCED 01/10/2020 **BOREHOLE DIAMETER (mm)** 719,297.94 N 200 DATE COMPLETED 02/10/2020 **GROUND LEVEL (m AOD)** 1.56 **BOREHOLE DEPTH (m)** 12.20 SPT HAMMER REF. NO. CLIENT SA7 **BORED BY** WC Ballymore **ENERGY RATIO (%) ENGINEER** 76.91 **PROCESSED BY** 75C **Atkins** Samples Standpipe Details (E Ξ Elevation Ref. Number Sample Type Recovery Field Test Legend Depth (Depth (Description Depth (m) Results ×o× Very soft dark brown gravelly SILT (continued) × -8.74 10.30 Loose grey fine to coarse GRAVEL N = 3(1, 0, 1, 1, 0, 1) AA139478 AA139479 ENV 10.50 10.50 -11 -9.64 11.20 Dense grey fine to coarse sandy GRAVEL N = 36 (6, 4, 8, 9, 9, 10) AA139480 AA139481 ENV 11.50 11.50 12 -10.64 12.20 Obstruction End of Borehole at 12.20 m 13 14 15 17 18 19 HARD STRATA BORING/CHISELLING WATER STRIKE DETAILS Water Casing Sealed Rise Time Time To (m) Comments Comments From (m) Strike Depth То (h) Αt (min) 12.1 12.2 1.5 **GROUNDWATER PROGRESS** Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments Depth Depth Tip Depth RZ Top RZ Base Date Type REMARKS 1hr Erecting Covid 19 Safe Working Area . CAT scanned Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Samp location and hand dug inspection pit carried out . Sample P - Undisturbed Piston Sample tal Sample (Jar + Vial + Tub) W - Water Sample

Appendix 3

Rotary Core Drillhole Records & Photographs

PRICEINED. 24 03/2025



REPORT NUMBER

		<u> </u>																
СО	NTR	ACT	Н	larbo	ur Point E	Bray							1 14	LHOLE	NO	RC: She	202 et 1 of	2
СО	-ORE	DINA	TES		726,399 719,560				DIC TYPE		00	0.5	DAT	TE COM	ENCE			
GR	OUN	D LE	VEL	(mOl	-	10.58			RIG TYPE FLUSH		Geo3 Air/Mi		DAT	E COMP	LEJEI	_		1
	IENT GINE			allym	nore				INCLINATION OF THE PLAN		-90			LLED BY		~_	SL	_
		En	T	tkins					CORE DIA	METER (mr	n) 78		LOC	JGED B			O'She	a
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend			Descrip	tion			Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0									SYMMETI as returns	RIX DRILLI of CLAY	NG: No red	covery, ob	served by	driller				
Ē		0	0	0														
1								-	SYMMETI	RIX DRILLI	NG: No red	covery, ob	served by	driller	1.00	9.58		
Ė	1.50		-		-				as returns	of gravelly	CLAY							
Ē,																		
2		0	0	0														
Ē															0.00			
3	3.00				_				SYMMETI	RIX DRILLI	NG: No red	covery, ob	served by	driller	3.00	7.58		
Ē										of sandy C				1.111	3.60	6.98		
		0	0	0				0		RIX DRILLI of gravelly		covery, ob	served by	driller				
4	4.50							0										
-								0									0 0	N = 56 (8, 12, 15, 17, 12, 12)
5		0	0	0				α										12, 12)
Ē								0 .										
- 6	6.00				-			°	CVMMTTI	וו ווטט אוכ	NC: No ro	201001 06	aamiad bii	drillor	6.00	4.58		N = 18
E									as returns	RIX DRILLI of CLAY	NG: No red	covery, ob	served by	ariller				(2, 3, 5, 4, 3, 6)
Ē		0	0	0														
7																		
E	7.50				-													N = 57
E 8																		(1, 3, 8, 15, 16, 18)
<u> </u>		0	0	0														
-	9.00														9.00	1.58		
9	5.00				1			0 0		RIX DRILLI of clayey G		covery, ob	served by	driller	0.00	1.50		N = 68 (5, 8, 12, 15,
Ė		0	0	0				000		RIX DRILLI		covery ob	served by	driller	9.60	0.98		16, 25)
RF	MAR	KS						0 1.	as returns	of sandy G	RAVEL	,			WA7	 ER S		DETAILS
Hol			0.00-	10.20	m. Erect	Covid 1	9 Saf	e Zone	e - 1hr.	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)		mmen		
										9.60	9.60	N/S	10	(111111)		Slow		
															GRO	OUND\	NATER	DETAILS
INS	STAL	LATI	ON D	ETA	ILS					Date	Hole Depth	Casing Depth		to Con	nment			
_	Date -09-2		Tip D 10.2		RZ Top 1.20	RZ Bas 10.20	е	Typ 50m	n SP		20001	2 35011	1					
04	JJ-2	-	10.2	-0	1.20	10.20		50111	01									



REPORT NUMBER

\IGSL/											•
CONTRACT Harb	our Point Bray							HOLE NO		C202	•
CO-ORDINATES GROUND LEVEL (mC	726,395.82 E 719,560.58 N DD) 10.58		RIG TYPE FLUSH		Geo305 Air/Mist			COMMEN COMPLE	ICED 04)
CLIENT Ballyn ENGINEER Atkins			INCLINATI	ON (deg) METER (mm	-90		I	ED BY		GSL 3O'She	a
Core Run Depth (m) T.C.R.% S.C.R.% R.O.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone Legend			Descriptio	on		(ac)	Deptn (m) Elevation	Standpipe Details	SPT (N Value)
110 10.20		0/1 =	End	of Borehole	at 10.20 m				.20 0.3		
REMARKS Hole cased 0.00-10.2	0m. Erect Covid 19) Safe Zor	ne - 1hr.	Water Strike 9.60	Casing Depth 9.60	Sealed At N/S	Rise To	Time (min)	Comme	ents v	DETAILS
INSTALLATION DETA				Date	Hole Depth	Casing Depth	Depth to Water	Comme		OWATER	DETAILS
Date Tip Depth	RZ Top RZ Base	e Tv	ре	04-09-20	10.20	10.20		Water leve			



REPORT NUMBER

CO-ORDINATES 726,503.72 E 719,580.04 N PIG TYPE C00305	et 1 of 3 09/2020
CO-ORDINATES 726,503.72 E 719,580.04 N PIG TYPE C00305	9/2020
CROUND LEVEL (mOD) 40.04	9/2020
CLIENT Ballymore INCLINATION (deg) -90 DRILLED BY	GSL O'Shea
Core Run Depth (m) T.C.R.% S.C.R.% S.C.R.% R.Q.D.% Depth (m) Depth (m) Depth (m) Legend Legend Depth (m) Depth (m)	Standpipe Details (
SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	
4.50 0 0 0 0 4.50 5.81	
as returns of clayey GRAVEL	
$\begin{bmatrix} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 \\ 0 & 0 &$	
SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL	
REMARKS WATER ST	TRIKE DETAILS
Hole cased 0.00-19.50m. Erect Covid 19 Safe Zone - 1hr. Water Strike Depth At To Commen 10.20 10.20 N/S Slow	
	WATER DETAILS
INSTALLATION DETAILS Date Hole Depth Depth Depth Water Comments	
Date Tip Depth RZ Top RZ Base Type 09-09-20 19.50 9.80 19.50 50mm SP	



REPORT NUMBER

/11વટ	27																-
CONTR	RACT	Н	larbo	ur Point E	Bray							DAII —— SHE	A,HOLE	NO	RC:	203 et 2 of	2
CO-OR	DINA	TES		726,500 719,580									E COMM	ENCE			
GROU	ND L	EVEL	(mOl		10.31			RIG TYPE FLUSH		Geo30 Air/Mis	-	I .	E COMP				
CLIENT ENGINE			allym tkins	nore				INCLINATION CORE DIA		-90 n) 78		I	LLED BY		X/_	SL O'She	2
		T	Ittilio					OOTIL DIA	WETER (IIII	11) 70			AGED D			5	
Downhole Depth (m) Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lc (m)	cing og m)	Non-intact Zone	Legend			Descripti				Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10.5	0						000	SYMMETI as returns	RIX DRILLI of sandy G	NG: No reco RAVEL <i>(co</i>	overy, obs ntinued)	served by	driller				
11 12.0	0	0	0						ŕ								N = 38 (2, 6, 8, 8, 10, 12)
13 13.5	0	0	0											13.50	-3 19		N = 36 (6, 11, 13, 6, 7, 10)
14	0	0	0				0	as returns	RIX DRILLI of gravelly	NG: No reco SAND	overy, obs	served by	driller	15.00			N = 58/200 mm (5, 8, 15, 18, 25)
15 16 16.5	0	0	0				000000000000000000000000000000000000000	SYMMETI as returns	RIX DRILLI of sandy G	NG: No reco RAVEL	overy, obs	served by	driller	13.00	4.00		N = 54/250 mm (1, 1, 3, 9, 26, 16)
17	0	0	0													0 0	N = 60 (4, 7, 12, 13, 18, 17)
18	0	0	0													0 0	N = 56/225 mm (7, 12, 17, 18, 21)
19.5	0			-			0 7.	End o	of Borehole	at 19.50 m				19.50	-9.19	∘	N = 51/245
								Lila									mm (1, 5, 8, 12,
REMAF Hole ca		0.00-	19.50	m. Erect	Covid 19) Safe	e Z one	e - 1hr.	Water	Casing	Sealed	Rise	Time				DETAILS
.5.5 00			3.00			Jun			Strike 10.20	Depth 10.20	At N/S	То	(min)		Slow		DETA
INSTAL	ΙΛΤ	וטא ד	FTA	II S					Date	Hole	Casing	Depth t	0 000	GRO		VATER	DETAILS
Date				RZ Top	RZ Base	9	Тур	oe	Dale	Depth	Depth	Water	. Con	iiiieiil			
09-09-	-20	19.5	-	9.80	19.50			m SP									



REPORT NUMBER

/ IGSF													_	_, _	•
CONTRAC	T Harb	our Point I	Bray							1 (LHOLE	NO	RC		0
CO-ORDIN		726,50 719,58 DD)	3.72 E 0.04 N 10.31			RIG TYPE FLUSH		Geo30			COMP		D 08/0)
CLIENT ENGINEER		more s				INCLINATI CORE DIA	ON (deg) METER (mm	-90) 78			LED BY			SL O'She	a
Core Run Depth (m)	8.C.R.%	(m	sture cing og m) 500	Non-intact Zone	Pegend			Description	on			Depth (m)	Elevation	Standpipe Detaila	SPT (N Value)
- 22 - 22 - 23 - 24 - 25 - 26 - 27															23, 8)
29 - 29 												WAT	TER ST	RIKE	DETAILS
Hole case		50m. Erect	Covid 19	Safe	e Zone	e - 1hr.	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	\neg	mmen		
REMARKS Hole case INSTALLA Date 09-09-20							10.20	10.20	N/S	10	(111111)		Slow		
							-	Hole	Casing	Denth to				VATER	DETAILS
INSTALLA			D7 D	.1	T		Date	Depth	Depth	Depth to Water	Com	ment	S		
Date 09-09-20	19.50	9.80	19.50		Typ 50m	m SP	-								



REPORT NUMBER

			<u> </u>										PÓ	1 401 5	NO		20.4	
	NTR			arbo	ur Point E								SHE	LHOLE ET	NO	RC2 Shee	204 et 1 of	2
GR	OUN	D LE	VEL	(mO	-	1.05 E 2.59 N 9.66			RIG TYPE FLUSH INCLINATI	ON (dog)	Geo30 Air/Mis -90		DAT	E COMP	LEDEI	D 16/0		
	GINE			tkins	1016				CORE DIA					GED B			O'She	a
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend			Descripti				Depth (m)	Elevation	Standpipe Detail	SPT (N Value)
- 1	1.50	0	0	0					SYMMETI as returns	RIX DRILL	NG: No reco	overy, obs	served by c	driller	1.70	7.96		
2	3.00	0	0	0					SYMMETI as returns	RIX DRILL of sandy (NG: No reco BRAVEL	overy, obs	erved by c	driller	1.70	7.90		N = 22/70 mm (6, 22)
4	4.20	0	0	0				0.0	as returns	of CLAY	NG: No reco	-		driller	3.70			
5	5.60	86	0	0					CLAY. Sa	nd is fine. (Gravel is and ithologies.	gular to su	íbrounded	fine				N = 45
6	6.50	78	0	0	-			0 - 0	SYMMETI	RIX DRILL	NG: No reco	overy, obs	served by c	driller	6.50	3.16		(5, 6, 8, 11, 13, 13)
7	7.50	0	0	0	_			0000	as returns SYMMETI as returns		NG: No reco	overy, obs	erved by c	driller	7.00	2.66		N = 51/210 mm (9, 15, 17, 21, 13)
8	9.00	0	0	0														N = 51/250 mm
9		0	0	0				000										(6, 9, 11, 13, 17, 10)
}	MAR le ca		0.00-	15.00)m. Erect	Covid 19	9 Saf	e Zone	e - 1hr.	Water Strike 10.20	Casing Depth 10.20	Sealed At N/S	Rise To	Time (min)		mmen Slow		DETAILS
25.42																		
	TA:		0115	CT 4						Date	Hole	Casing	Depth to	0 0.			VATER	RDETAILS
2	Date		ON D		RZ Top	RZ Base	Э	Тур	oe .	Date	Depth	Depth	Depth to Water	Con	nment	S		
<u> 2</u>																		



REPORT NUMBER

ୀୟ	515/																-
ONTR	RACT	. Н	larbo	ur Point E	Bray							DAN SHE	LHOLE	NO	RC2	204 et 2 of	0
O-OR	DINA	TES		726,54 719,58	1.05 E								E COMM	ENCE			
ROUN	ND L	EVEL	(mO		9.66			RIG TYPE FLUSH		Geo30 Air/Mis		DATI	E COMP	LÉJEI			
LIENT			allyn tkins					INCLINATION CORE DIA	ON (deg) METER (mr	-90 n) 78			LED BY		X	SL O'She	a
Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (m) 0 250	cing og m)	Non-intact Zone	Legend			Descripti	on			Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10.50	0						× ×	SYMMETI	RIX DRILLI	NG: No reco	overy, obs	erved by d	Iriller	10.20	-0.54		N = 17 (2, 4, 5, 5, 3
12.00	0	0	0				× × × × × × × × × × × × × × × × × × ×	as returns SYMMETI as returns		NG: No reco	overy, obs	erved by o	Iriller	11.00	-1.34		(2, 4, 5, 5, 3 4) N = 52
13 13.50	0	0	0														(5, 8, 12, 12 15, 13) N = 55 (5, 7, 11, 12
15.00	0	0	0				000000000000000000000000000000000000000							15.00	-5.34		18, 14)
16 17 18								End (of Borehole	at 15.00 m							N = 19 (3, 3, 4, 5, 4 6)
REMAF lole ca		0.00-	15.00	Om. Erect	Covid 19) Safe	e Zone	e - 1hr.	Water		Sealed	Rise	Time		rER ST mment		DETAILS
		- •	- `						Strike 10.20	Depth 10.20	At N/S	То	(min)		Slow		
		101:-							D :	Hole	Casing	Denth to	2 6			VATEF	DETAILS
Date				RZ Top	RZ Base)	Тур	oe .	Date	Depth	Depth	Depth to Water	Com	ments	S		



REPORT NUMBER

,	<u></u>																			
	NTR			larbo	ur Point E	Bray								1 1	EET	HOLE	NO	RC2 Shee	206 et 1 of	2
CO	-ORI	OINA	TES		726,55 719,56	7.76 E 2.15 N			DIO TYPE		_	- 00	_		_	$\langle \cdot \rangle_{r}$	ENCE	D 14/0		
GR	OUN	D LE	EVEL	(mO		9.10			RIG TYPE FLUSH			o305 /Mist						15/0		
1 -	ENT			allyn					INCLINATION		-90			I		D BY		X/_	SL	
	GINE	ER	Т	tkins				\Box	CORE DIA	METER (m	m) 78			LO	GGE	DBY		<u> </u>	O'She	a
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (m	cing og m)	Non-intact Zone	Legend			Desc	riptio	on				Depth (m)	Elevation	Standpipe Details	SPT (N Value)
- 0									SYMMETI as returns	RIX DRILL	ING: No	reco	very, ob	served by	drill	er				
1	1.50	0	0	0					as returns	OIGLAT							1.50	7.60		
2		0	0	0					SYMMETI as returns	RIX DRILL of gravelly	ING: No CLAY	reco	very, ob	served by	drill	er				
- 3	3.00								SYMMETI	RIX DRILL	ING: No	reco	verv. ob	served by	drill		3.00	6.10		
4	4.50	0	0	0					as returns	of CLAY			, , , , , ,							
5	6.00	0	0	0																
6	7.00	0	0	0													7.00	2.10		
7		50	0	0				0000	Returns of subrounde	f cobbly GF ed fine to m	RAVEL. nedium (Grav of va	el is ang rious lith	ular to ologies.			0.00			N = 25/37 mm (20, 25)
8	8.00	0	0	0	-				as returns SYMMETI	RIX DRILLI of clayey (RIX DRILLI of GRAVE	GRAVEI	-	-			er	8.70			N = 22/35 mm (9, 22)
	9.50				_			000									9.80	-0.70		
RE	MAR	KS						<u> </u>							_		WAT	TER ST	RIKE	DETAILS
GSL RC FI 10M 22734.GPJ GSL.GDT 4/11/20	e ca	sed	0.00-	15.00	Om. Erect	Covid 19	9 Saf	e Zone	e - 1hr.	Water Strike	Casin Depth	3	Sealed At	Rise To		Time min)	N		r strike	e recorded
NS	TAL	LAT	ION D	ETA	ILS					Date	Ho		Casing		to	Com	ments		., .	· DETAILU
asl RC FI 1	Date				RZ Top	RZ Base	Э	Тур	ре		Dep	otn	Depth	vvate	er	33,11		-		
∠ I						1				1	1		1			l				



REPORT NUMBER

CONTRACT	Γ -	larbo	ur Point E	Bray							` ` (LHOLE	NO	RC		
CO-ORDINA GROUND L CLIENT ENGINEER	.EVEL	(mO	nore	7.76 E 2.15 N 9.10			RIG TYPE FLUSH INCLINATION		Geo30: Air/Mis: -90 n) 78		DAT DAT	TE COMM TE COMP LLED BY GGED BY	LEPEI	D 14/0)
Downhole Depth (m) Core Run Depth (m) T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend		`	Description	on			Depth (m)	Elevation	Standpipe Detail	SPT (N Value)
11 11.00	0	0					\as returns SYMMETF	of CLAY (NG: No reco			/	10.20	-1.10		N = 29 (3, 5, 5, 7, 8, 9)
12 12.50	0	0	_			000000000000000000000000000000000000000	SYMMETF as returns	RIX DRILLI of sandy G	NG: No reco	overy, obs	erved by	driller	11.70	-2.60		N = 50/175 mm (5, 9, 17, 23, 10)
13 0	0	0	-													N = 51/265 mm (5, 8, 12, 16, 17, 6)
15.00	0	0				0000	End o	of Borehole	at 15.00 m				15.00	-5.90		N = 52/212 mm (10, 14, 17, 13, 22)
REMARKS Hole cased	0.00-	15.00	Om. Erect	Covid 19	Safe	e Zone	e - 1hr.	Water Strike		Sealed	Rise	Time		rER ST		DETAILS
								Strike	Depth	At	То	(min)	N	o wate	er strike	e recorded
INSTALLAT Date			ILS RZ Top	RZ Base	!	Тур	oe	Date 15-09-20	Hole Depth	Casing Depth	Depth Water		ment			



REPORT NUMBER

1000																	
CONTRAC	СТ	На	arbo	ur Point E	Bray							DAI SHE	LLHOLE ET	NO	RC: She	208 et 1 of :	2
GROUND		/EL (-	5.04 E 4.09 N 10.11			RIG TYPE FLUSH		Geo3 Air/Mi		DAT	E COMP	LÉPEI	D 06/0	9/2020 9/2020	
CLIENT ENGINEEI	3		allym kins	ore				CORE DIAI		-90 n) 78			LLED BY		X/_	SL O'She	a
(m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mr 0 250	cing g m)	Non-intact Zone	Legend		·	Descrip	tion			Depth (m)	Elevation	Standpipe Details	SPT (N Value)
- 1 - 1.50	0	0	0					as returns						1.50	8.61		
3.00	0	0	0					SYMMETE as returns	RIX DRILLI of clayey (NG: No red GRAVEL	covery, obs	served by	driller			0 0 0	
4.50	0	0	0											4.50	5.61		
6.00	0	0	0					SYMMETI as returns	RIX DRILLI of CLAY	NG: No red	covery, obs	served by	driller			0 0 0	N = 38 (4, 10, 15, 6, 8, 9)
	0	0	0														N = 42 (2, 5, 7, 11, 11, 13) N = 34
9.00	0	0	0														(3, 5, 5, 8, 10, 11)
F	0 S	0	0					End (of Borehole	at 10.00 n	า			10.00 WA 1		FRIKE I	N = 32 (3, 4, 6, 7, 8, 11)
INSTALLA Date 07-09-20		.00-1	0.00	m. Erect	Covid 1	9 Saf	e Zone		Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Со	mmen	ts	recorded
										Шага	Casin	David	to	GRO)UND	VATER	DETAILS
Date 07-09-20	Т		pth	RZ Top 0.80	RZ Bas 9.00	е	Typ 50m	oe m SP	Date 07-09-20	Hole Depth 10.00	Casing Depth	Depth t Water 6.90	r Oon	nments level re		t end of d	rilling.



REPORT NUMBER

/1	ලව	<u>:</u> L/														_	210	4			
СО	NTR	ACT	F	larbo	ur Point E	Bray							DAM.	LHOLE	NO	RC	208 et 2 of	n			
СО	-ORI	DINA	TES		726,48 719,50	5.04 E 4.09 N			RIG TYPE		Geo30	15	DATI	COMM		D 06/0	9/2020				
				(mO		10.11			FLUSH	01 // \	Air/Mis			COMP		<u> </u>)			
	IENT GINE			Ballyn Atkins					CORE DIA		-90 m) 78			LED BY GED BY			SL O'She	a			
h (m)	(m) r	. 0																			
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo	cing	Non-intact Zone				Descripti	ion				_	Standpipe Detaile	(alue)			
wnhol	re Rui	-	0)	"	(m	m)	n-inta	Legend							Depth (m)	Elevation	ındpip	SPT (N Value)			
 10					0 250) 500 <u>[</u>	N _o	Fe							De	Ele	Ste	N = 51/125			
																		mm (4, 6, 16, 35)			
- - - - 11																					
''																					
- - - - 12																					
- - - - 13																					
-																					
- - - - 14																					
- - - - 15																					
-																					
- - - 16																					
- - - - 17																					
- - - 18																					
-																					
- - - - 19																					
-																					
RF	MAR	KS.													WΔ	TER ST	BIKE	DETAILS			
			0.00-	10.00	Om. Erect	Covid 1	9 Saf	e Zon	e - 1hr.	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)		mmen					
															N	lo wate	r strike	recorded			
																	· · · ·				
INS	TAL	LATI	ON E	DETA	ILS					Date	Hole	Casing	Depth to Water	Com	GRO		VATER	DETAILS			
REMARKS Hole cased 0.00-10.00m. Erect Covid 19 Safe Zone - Notation Property Prop											Depth	Depth	vvaler								
01	000		0.0		0.00	0.00		5011	01												



REPORT NUMBER

		<u> </u>																
СО	NTR	ACT	Н	larbo	ur Point E	Bray							1 1	LLHOLE EET	NO	RC2	212 et 1 of	1
GR	OUN		TES			0.85 E 5.92 N 7.95			RIG TYPE FLUSH		Geo3 Air/Mi		DA ⁻	TE COMP	LEDEI	D 30/09	9/2020 0/2020)
	IENT GINE	ER		allyn tkins	nore				CORE DIA		-90 m) 78			GGED BY		X /_	SL O'She	a
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lc (m)	cing og m)	Non-intact Zone	Legend		·	Descrip	tion	,		Depth (m)	Elevation	Standpipe Detail	
1	1.50	0	0	0					SYMMETI as returns	RIX DRILLI of clayey (NG: No red GRAVEL	covery, ob	served by	driller				
2	3.00	0	0	0														
4	4.50	0	0	0				000	as returns				•		3.80	4.15 3.45		
5	6.00	0	0	0					with a cob subrounde SYMMETI	f stiff reddis ble. Sand i ed fine to m RIX DRILLI of gravelly	s fine. Granedium of v	vel is angu arious lith	ılar to ologies.		5.50	2.45		N = 40 (7, 7, 8, 10,
7	7.50	0	0	0														N = 39 (4, 5, 7, 9, 12, 11)
8	9.00	0	0	0														N = 43 (5, 7, 10, 11,
	10.00 MAR		0	0				- - - - - - - - -	End (of Borehole	e at 10.00 n	n				-2.05 FER ST	RIKE I	DETAILS
Hol			0.00-	10.00)m. Erect	Covid 19	9 Safe	e Zone		Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Co	mmeni o wate	ts r strike	e recorded
INIC	TAL	LAT	וטאי ב	CT A	11 6					Date	Hole	Casing	Depth	to Car			VATEF	DETAILS
											Depth		r Con	nment				



REPORT NUMBER

\		<u> </u>																	
СО	NTR	ACT	Н	larbo	ur Point E	Bray								DAN	LHOLE	NO	RC2	214 et 1 of	2
	-ORE			, .	726,59 719,46	4.75 N			RIG TYPE		Geo3	05		DATI	E COM		D 16/0	9/2020)
		D LI	EVEL	•		7.41			FLUSH	ON (-1)	Air/M	ist			COMP		_)
1	IENT GINE	ER		allyn tkins					CORE DIAI		-90 m) 78				LED BY		X/_	SL O'She	а
Downhole Depth (m)		T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spa Lc (m	cing og m)	Non-intact Zone	Legend			Descrip	tion			-	Depth (m)	Elevation	Standpipe Details	
- 1	1.50	0	0	0					SYMMETF as returns	RIX DRILL of CLAY	ING: No re	covery, ob	serve	d by d	riller				
2	3.00	0	0	0															
3	4.50	0	0	0															
5	5.70	0	0	0					Returns of	f stiff brown	n slightly sa	andy grave	ellv Cl	AY wi	th a	5.70	1.71		N = 43
6	7.00	33	0	0					cobble. Sa	and is fine.	Gravel is a	ingular to	subro	undec	I fine	7.20	0.01		(5, 6, 10, 9, 12, 12)
8	7.20	0	0	0	-			0	SYMMETE as returns	RIX DRILL of gravelly	ING: No re	covery, ob	serve	d by d	riller	7.20	0.21		N = 49 (6, 11, 10, 11, 13, 15)
9	8.70	0	0	0	_				SYMMETF as returns	RIX DRILL of clayey o	ING: No recobbly GRA	covery, ob	serve	d by d	riller	8.70	-1.29		N = 18/65 mm (8, 18)
	10.00									ı							-2.59		
RE	MAR		0.00	10.00	Om. Erect	Covid 4	0 604	0.700	1hr	Water	Casing	Sealed	Ris	se T	Time				DETAILS
H0	e cas	sea	U.UU-	10.00	лп. ⊨rect	Govia 1	a sat	⊎ ∠one	e - INT.	Strike	Depth	At	T		(min)	N		r strike	e recorded
INIC	TAI 1	1 AT	ION D	ETA	II Q					Data	Hole	Casing		epth to	0 000	nment		VAIE	DETAILS
RE Ho	Date				RZ Top	RZ Bas	Э	Тур	De .	Date	Depth	Depth		epth to Vater	Con	mnent	>		
1																			



REPORT NUMBER

ावश्रम	/															
CONTRAC	Т	Harb	our Point I	Bray							DAI SHE	I,HOLE	NO	RC2	214 et 2 of	0
CO-ORDIN	ATES	6	726,59 719,46	4.19 E 4.75 N								E COMM	ENCE			
GROUND L	EVE	L (mC		7.41			RIG TYPE FLUSH		Geo30			E COMP				
CLIENT ENGINEER		Bally: Atkins					INCLINATION CORE DIA	ON (deg) METER (mr	-90 n) 78			LLED BY			SL O'She	а
Downhole Depth (m) Core Run Depth (m)	%:I::::	R.Q.D.%	(m	cing og m)	Non-intact Zone	Legend			Description				Depth (m)	Elevation	Standpipe Details	SPT (N Value)
90	3 0	0					Returns of occasional subrounde	f stiff brown Il cobbles. S ed fine to m	slightly san Sand is fine. edium of va	dy gravell Gravel is rious litho	y CLAY w angular to logies.	vith O				N = 25/35 mr (10, 25)
12 94 13 13.10	4 0	0														N = 25/28 mn (5, 25) N = 25/70 mn
14 14.70	00 0	0											14.70	-7.29		N = 25/70 mr (10, 25)
15 16 17 18							End	of Borenole	at 14.70 m							N = 51/107 m (13, 12, 25, 26)
REMARKS													WAT	ER ST	RIKE	DETAILS
Hole cased		-10.0	0m. Erect	Covid 19	Safe	e Zone	e - 1hr.	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)		mmen		
								Suine	Берш	Al	10	(111111)				e recorded
								_	Hole	Casing	Danth t	0 -			VATEF	DETAILS
NSTALLA ⁻ Date			RZ Top	RZ Base		Тур	oe	Date	Depth	Depth	Depth t Water	Com	nments	S		



REPORT NUMBER

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	NTR			larbo	ur Point E								DAI SHE	A,HOLI	E NO		215 et 1 of	2
CC	-ORI	OINA	TES		726,62 719,42	2.65 E 9.37 N			RIG TYPE		Geo30	5	DAT	E COM		D 21/0	9/2020)
			VEL			4.67			FLUSH		Air/Mis			E COM		_)
	IENT GINE			allym tkins	nore				INCLINATION CORE DIA		-90 m) 78			LLED B GED B		X/_	SSL O'She	a
Downhole Depth (m)		T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend			Descripti	on			Depth (m)	Elevation	Standpipe Details	SPT (N Value)
1	1.50	0	0	0					SYMMETI as returns	RIX DRILLI of CLAY	NG: No rec	overy, ob	served by o	driller				
2	3.00	0	0	0														
3	4.50	0	0	0														
5 6	6.00	0	0	0					SYMMETI as returns	RIX DRILLI	NG: No rec	overy, ob	served by o	driller	5.70	-1.03		
7	7.50	0	0	0	_													
8	9.00	0	0	0														
1/20	MAR	0	0	0				- - - - - -							\\\\	LED 6.		DETAILS
Ho			0.00-	17.50	m. Erect	Covid 19	9 Saf	e Zone	e - 1hr.	Water	Casing	Sealed	Rise	Time) Co	mmen		DE I AILO
IGSL RC FI 10M 22734.GPJ IGSL.GDT 4/11/20										Strike 13.20	13.20	At N/S	То	(min)	Slow		DETAILO
MI ON	STAI	ΙΔΤΙ	ON D	FΤΔΙ	II S					Date	Hole	Casing	Depth t Water	0 00	GR0 mment		WATE	RDETAILS
IGSL RC FI 1	Date Tip Depth RZ Top RZ Base 22-09-20 18.50 13.50 18.50 5								m SP	Date	Depth	Depth	Water	. 00				



REPORT NUMBER

/110	වන	5/																
CON	NTR/	ACT	Н	arbo	ur Point E	Bray							DAII SHE	LHOLE	NO	RC2	215 et 2 of	2
CO-	ORD)INA	TES		726,622 719,429	2.65 E								E COMM	ENCE			
GRO	DUN	D LE	VEL	(mOl		4.67			RIG TYPE FLUSH		Geo30 Air/Mis			E COMP				
CLIE		ED		allym tkins	nore				INCLINATION	ON (deg) METER (mr	-90 n) 78		I	LLED BY		X	iSL O'She	2
									CONE DIA	WEIER (IIII	11) 70		Loc	AGED B		75	کے	
	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend			Descripti				Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10	0.50								SYMMETI as returns	RIX DRILLI of gravelly	NG: No reco	overy, obs tinued)	served by	driller			0 0	
11	2.00	0	0	0													0 0	
13	3.50	0	0	0					SYMMETI as returns	RIX DRILLI of sandy G	NG: No reci RAVEL	overy, obs	served by	driller	13.20	-8.53		
14	5.00	0	0	0														N = 53 (7, 8, 18, 12 13, 10)
16	6.50	0	0	0													0 0	N = 52/168 mm (9, 11, 13, 21
17	8.00	0	0	0														18) N = 25/50 mr
18 1	8.56	0	0	0				0.0	End (of Borehole	at 18.50 m				18.50	-13.83	0 0	(5, 25) N = 52/117 mm (6, 8, 20, 32)
	/ARI) ((()-	17.50	m. Erect	Covid 19) Saf	e 700	e - 1hr	Water	Casing	Sealed	Rise	Time				DETAILS
1016	o cas	eu (,.00-	17.00	oni. Liect	Joviu 18	Jail	<i>-</i> ∠U∏6	√ - IIII.	Strike 13.20	Depth 13.20	At N/S	To	(min)		Slow		
IN:07			011 -								Hole	Casing	Depth 1	to c			VATEF	RDETAILS
	TALI Date 09-2	1	ON D Γίρ Do 18.5	epth	RZ Top 13.50	RZ Base 18.50	Э	Typ 50m	n SP	22-09-20	Depth 18.50	Depth 17.50	Water 5.60	, 0011	nments r level re	corded a	t end of o	drilling.
		-	٥.٠	-	2.20			, 3	- *									



REPORT NUMBER

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	NTR.			larbo	ur Point E	Bray							DAI —— SHE	LHOL ET	E NO	RC2 Shee	216 et 1 of	2
GR	OUN	D LE	EVEL	(mO		5.98 E 4.25 N 6.63			RIG TYPE FLUSH INCLINATION	ON (deg)	Geo30 Air/Mis -90		DAT		MENCE PLETEI	21/0	9/2020 iSL)
EN	GINE	ER	A	tkins					CORE DIA	METER (m	n) 78		LOC	GED E	3Y	~Q3	O'She	а
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend			Descripti	ion			Depth (m)	Elevation	Standpipe Detail	SPT (N Value)
1	1.50	0	0	0					SYMMETI as returns	RIX DRILLI of CLAY	NG: No rec	overy, obs	served by (driller				
2	3.00	0	0	0					SYMMETI as returns	RIX DRILLI	NG: No rec	overy, obs	served by	driller	2.70	3.93		
4	4.50	0	0	0														
5	6.00	0	0	0														
7	7.50	0	0	0					SYMMETI as returns	RIX DRILLI of gravelly	NG: No rec SAND	overy, obs	served by (driller	7.20	-0.57		
8	9.00	0	0	0														
NZ.		0	0	0						I					100			
RE	MAR le ca		0 00-	19 50)m Frect	Covid 1) Saf	2 70n4	a - 1hr	Water	Casing	Sealed	Rise	Time				DETAILS
REMARKS Hole cased 0.00-19.50m. Erect Covid 19 Safe Zone - 1hr. Water Casing Strike Depth 8.20 8.20											At N/S	To	(min) Co	Slow		DETAILO	
Z	·		ON -							5	Hole	Casing	Denth t	0 0			VATEF	RDETAILS
	Date		Tip D		RZ Top	RZ Base	9	Тур	De .	Date	Depth	Depth	Depth t Water	.5 Co	mments	5		
GSL																		



REPORT NUMBER

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со	NTR	ACT	Н	larbo	ur Point I	Bray							DAI SHE	A,HOLI	E NO	RC2	216 et 2 of	2
СО	-ORI	DINA	TES		726,56 719,40	5.98 E 4.25 N			DIO TYPE		0 0/	\F		~ <u>`</u>	MENCE			
GR	OUN	D LI	EVEL	(mO		6.63			RIG TYPE FLUSH		Geo30 Air/Mis		DAT	E COM	PLETE	21/09	9/2020)
	ENT GINE			allyn tkins	nore				INCLINATI CORE DIA	ON (deg) METER (mr	-90 n) 78			LLED B		X/_	SL O'She	a
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spa Lo (m 0 ²⁵⁰	cing og m)	Non-intact Zone	Legend			Descript	ion			Depth (m)	Elevation	Standpipe Details	SPT (N Value)
- 10 -	10.50					·		0 .	SYMMET	RIX DRILLI	NG: No rec	overy, obs	served by	driller	10.20	-3.57		
- 11	12.00	0	0	0					as returns	s of CLAY								
12	13.50	0	0	0					Returns o is fine. Gr various lit	f stiff browr avel is angi hologies.	ı slightly sa ular to subr	ndy grave ounded fir	lly CLAY. S	Sand um of	12.20	-5.57		
- - - - - - - - - - - - - - - - - - -	15.00	0	0	0														N = 26/48 mm (25, 26)
- - - - - - - - - 16	16.50	0	0	0	_				as returns	RIX DRILLI s of gravelly	NG: No rec SAND	overy, obs	served by	driller	15.50	-8.87		N = 52/267 mm (3, 4, 6, 8, 13, 25)
- - - - - - - - - - - - - -	10.00	0	0	0														N = 51/182 mm (4, 7, 12, 17, 22)
18	18.00	0	0	0														N = 45/139 mm (7, 12, 13, 32)
	19.50									of Borehole	at 19.50 m	1			19.50	-12.87		N = 50/114 mm
: BF	MAR	KS													WAT	FR ST	BIKE	(8, 18, 23, 27) DETAILS
			0.00-	19.50	m. Erect	Covid 1	9 Saf	e Zone	e - 1hr.	Water	Casing	Sealed	Rise	Time	e Co	mment		DE IAILO
										Strike 8.20	Depth 8.20	At N/S	То	(min)	Slow		
															GRO	DUNDV	VATER	R DETAILS
REMARKS Hole cased 0.00-19.50m. Erect Covid 19 Safe INSTALLATION DETAILS Date Tip Depth RZ Top RZ Base									De	Date 21-09-20	Hole Depth 19.50	Casing Depth 19.50	Depth Water		mments er level re		end of	drilling.
										1								



REPORT NUMBER

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	NTR			larbo	ur Point E								DAII SHE	A,HOLI	E NO	RC2 Shee	217 et 1 of	2
	-ORE				726,600 719,39	8.97 N			RIG TYPE		Geo30)5		E COM				
	OUN IENT	D LE	VEL R	(mO allyn	-	4.37			FLUSH INCLINATION	ON (dea)	Air/Mis			E COM		<u> </u>	9/2020 iSL)
	GINE	ER		tkins						METER (mr				GED B			O'She	a
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend			Descript				Depth (m)	Elevation	Standpipe Detail	SPT (N Value)
1	1.50	0	0	0					SYMMETI as returns	RIX DRILLI s of CLAY	NG: No rec	overy, obs	served by o	driller				
2	3.00	0	0	0														
4	4.50	0	0	0														
5	6.00	0	0	0														
7	7.50	0	0	0					SYMMETI as returns	RIX DRILLI	NG: No rec CLAY	overy, obs	erved by o	driller	7.20	-2.83		
8	9.00	0	0	0														
-		0	0	0														
07/1/5 RE	MAR															L TER S1	RIKE	DETAILS
Ho	le cas	sed	0.00-	19.50	m. Erect	Covid 19	9 Saf	e Zone	e - 1hr.	Water Strike	Casing Depth	Sealed At	Rise To	Time (min		mmen	ts	
IGSL RC FI 10M 22734.GPJ IGSL GDT 4/11/20															N	lo wate	er strike	e recorded
A 227;											Linia	Cosine	Denat.		GR	OUNDV	VATEF	RDETAILS
INSTALLATION DETAILS Date Tip Depth RZ Top RZ Base Type								т	20	Date	Hole Depth	Casing Depth	Depth t Water	Co Co	mment	s		
IGSL RC	Date		прυ	epin	nz 10p	nz base	5	1	J e	-								



REPORT NUMBER

333																
CONTRAC			our Point E	Bray							DAN SHE	A,HOLE	NO	RC2 Shee	217 et 2 of	2
GROUND			726,60 719,39 (D)				RIG TYPE FLUSH		Geo309 Air/Mis			E COMP				
CLIENT		Ballyr Atkins					INCLINATION CORE DIAI		-90 n) 78			LLED BY			SL O'She	ıa
(E) (E)	% % %		Frac Spac Lc (m	cing og m)	Non-intact Zone	Legend	OONE SIA		Descriptio	on	1200		Depth (m)	Elevation	Standpipe Detail	SPT (N Value)
- 10							SYMMETF as returns	RIX DRILLI of gravelly	NG: No reco	overy, obs	served by o	driller				
- 11 (0	0	-					,								
E 12 8	0 0	0				- - - - - - - -										
- 14 - 14 - 14.70	00 0	0														N = 51/182 mm (6, 11, 14, 21, 16)
- 15	3 0	0											16 20	-11.83		N = 27/45 mm (25, 27)
	0 0	0					cobble. Sa	and is fine.	slightly san Gravel is an lithologies.	dy grave gular to s	lly CLAY w subrounded	rith a d fine	10.20	11.00		N = 52/130 mm (12, 18, 26, 26)
18.50	0	0					as returns	of clayey (NG: No reco GRAVEL NG: No reco			/		-13.33 -13.63		N = 26/58 mm (25, 26)
19.00	0	0														
19	0	0					End o	of Borehole	at 19.50 m				19.50	-15.13		N = 49
REMARKS													\/\^=	LED 61	BIKE	(10, 11, 11, 13, 15, 10) DETAILS
REMARKS Hole case)-19.5	0m. Erect	Covid 19) Saf	e Zone	∋ - 1hr.	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Co	mmen	r strike	e recorded
	TION	DETA	ILS					Date	Hole Depth	Casing Depth	Depth t Water	O Con	nment			
INSTALLA Date	Tip	Depth	RZ Top	RZ Base	9	Тур)e	29-09-20	19.50	19.50	6.40		r level re	ecorded a	t end of o	drilling.



REPORT NUMBER

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CONTR	ACT	Н	larbo	ur Point E	Bray								LHOLE	NO	RC2	218 et 1 of :	2
CO-ORE			(mO	726,63 719,398 D)	1.70 E 8.74 N 3.98			RIG TYPE FLUSH		Geo30 Air/Mis		DAT	E COMP		D 23/0	9/2020)
CLIENT			allyn tkins					INCLINATION	ON (deg) METER (mn	-90	o (DRI	LLED BY	1 7	J IG	SL O'She	
Downhole Depth (m) Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend			Descript	ion			Depth (m)	Elevation	Standpipe Details	SPT (N Value)
1 1.50	0	0	0					SYMMETI as returns	RIX DRILLII of CLAY	NG: No rec	overy, obs	erved by	driller				
3.00	0	0	0														
4 4.50	0	0	0														
6.00	0	0	0														
7 7.50	0	0	0	_													
9.00	0	0	0					SYMMETI as returns	RIX DRILLII	NG: No rec CLAY	overy, obs	erved by	driller	8.70	-4.72		
	0	0	0						·								
REMAR	KS	1	1	I			10	<u> </u>						WAT	TER ST	RIKE I	DETAILS
		0.00-	19.50	om. Erect	Covid 19	9 Safe	e Zone	e - 1hr.	Water Strike 15.20	Casing Depth 15.20	Sealed At N/S	Rise To	Time (min)		mmen Slow		
														GRO	DUNDV	VATER	DETAIL
NSTAL Date				ILS RZ Top	RZ Base	9	Тур	De .	Date	Hole Depth	Casing Depth	Depth Water	to Con	nments			



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

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

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СО	NTR	ACT	Н	arbo	ur Point E	Bray							DAN SHE	LHOLE	NO	RC2	218 et 2 of :	2
		DINAT	TES VEL ((mOl	726,63 [.] 719,398 D)	1.70 E 3.74 N 3.98			RIG TYPE FLUSH		Geo30		DAT	E COMP		D 23/09	9/2020	
	ENT	ER		allym tkins	nore				INCLINATION	ON (deg) METER (mm	-90	51		LED BY		y IG	SL O'She	a
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing g m)	Non-intact Zone	Legend			Descript	tion			Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10	10.50	0	0	0					SYMMETF as returns	RIX DRILLIN of gravelly (IG: No rec CLAY <i>(cor</i>	covery, obs ntinued)	erved by c	Iriller				
12	12.00		0															
13	13.50	0	0	0														
14	4.5.00	0	0	0														N = 15
15	15.00	0	0	0				000000000000000000000000000000000000000	SYMMETF as returns	RIX DRILLIN of sandy GR	IG: No rec RAVEL	covery, obs	erved by c	Iriller	15.20	-11.22		(1, 2, 3, 3, 4, 5) N = 53/178
17	16.50	0	0	0				000000000000000000000000000000000000000										mm (12, 13, 15, 16, 22)
18	18.00	0	0	0				000	SYMMETF	RIX DRILLIN	IG: No red	covery, obs	erved by c	driller	18.80	-14.82		N = 53 (8, 7, 12, 15, 9, 17)
	19.50								as returns End o	of CLAY	at 19.50 m	1			19.50	-15.52		N = 35 (4, 5, 8, 8, 10, 9)
	MAR			10.55		0- 111		_	- 41	Mata:	Cacina	Sociad	Diag	Time	WAT	TER ST	RIKE	DETAILS
Hol	e cas	sed C	.00-1	19.50	m. Erect	Covid 19) Safe	e∠on	e - 1hr.	Water Strike 15.20	Depth 15.20	Sealed At N/S	Rise To	Time (min)	Co	mment Slow	S	
															GRO	DUNDV	/ATER	DETAILS
INS	TALI	LATIO	ON D	ETAI	LS					Date	Hole	Casing	Depth to Water	Con	ments			
Date Tip Depth RZ Top RZ Base Type									oe .	24-09-20	Depth 19.50	19.50	13.10			corded at	end of d	rilling.



REPORT NUMBER

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CONTRACT		arbo	ur Point E									DAMALHOLE NO SHEET			RC219 Sheet 1 of 2			
GROUND LI		(mOI	726,529 719,359 D)	9.46 E 9.87 N 7.29			RIG TYPE FLUSH		DATE COMPLETED 29/09/2020 DATE COMPLETED 29/09/2020									
CLIENT ENGINEER		allym tkins	nore				INCLINATION CORE DIAI		DRILLED BY IGSL LOGGED BY O'Shea									
Downhole Depth (m) Core Run Depth (m) T.C.R.%	S.C.R.%	8.0.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend	Description							Elevation	Standpipe Details	SPT (N Value)		
0 0	0	0					SYMMETF as returns	RIX DRILLI of gravelly	NG: No rec	overy, obse	erved by dri	iller				N = 24 (4, 3, 5, 7, 6, 6)		
3.00	0	0					SYMMETF as returns	RIX DRILLI of clayey G	NG: No rec	overy, obse	erved by dri	iller	<u>2.70</u>	4.59		N = 19 (3, 2, 3, 6, 5, 5)		
0 4 4.50	0	0				SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY										N = 10 (3, 5, 4, 2, 2, 2)		
6.00	0	0					SYMMETF as returns	RIX DRILLI of silty CL/	NG: No rec	overy, obse	erved by dr	iller	<u>5.70</u>	1.59		N = 18 (2, 5, 7, 4, 4, 3)		
7.50	0	0														N = 12 (1, 2, 3, 3, 2, 4)		
9 9.00	0	0														N = 13 (1, 2, 2, 4, 3, 4)		
0	0	0				*							14/4					
Hole cased	0.00-1	19.50	m. Erect	Covid 1	9 Safe	e Zone	e - 1hr.	Water Strike 13.20 17.00	Casing Depth 13.20 17.00	Sealed At N/S N/S	Rise To	Time (min)	Со	mmen Slow Slow	ts	DETAILS		
INSTALLAT	ION D	ETAI	LS					Date	Hole	Casing	Depth to Water	GROUNDWATER DETAILS Comments						
		epth	RZ Top 16.80	RZ Base 18.50	е	Typ 50m	m SP		Depth	Depth	vvater							



REPORT NUMBER

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	NTR			arbo	ur Point E	Bray							DAI SHE	A,HOLE	NO	RC: She	219 et 2 of	2			
СО	-ORI	DINA	TES		726,529 719,359	9.46 E 9.87 N			RIG TYPE Geo.305					E COM	MMENCED 29/09/2020						
			VEL			7.29			FLUSH Air/Mist DATE C						COMPLEDED 29/09/2020						
	IENT GINE			allym tkins	nore				INCLINATION (deg) -90 DRILLED B CORE DIAMETER (mm) 78 LOGGED B						×/_						
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend	Description							Elevation	Standpipe Details	SPT (N Value)			
11	10.50	0	0	0					SYMMETI as returns	RIX DRILLI of gravelly	NG: No rec	overy, obs	served by o	driller	10.20	-2.91		N = 63 (4, 6, 5, 5, 5, 22, 31)			
- 12	11.70	40	0	0					Returns o is fine. Gra various litt	f stiff browr avel is ang hologies.	11.70			N = 71 (6, 10, 10, 14, 21, 26)							
- 14	13.20 14.70	0	0	0					SYMMETI as returns	RIX DRILLI of sandy (NG: No rec GRAVEL	overy, obs	served by o	driller	13.20	-5.91		N = 38/100 mm (7, 11, 15, 23)			
15	16.20	0	0	0														N = 25/50 mm (12, 25)			
17	17.70	0	0	0																	
18	18.50	0	0	0				000	End (of Borehole	e at 18.50 m				18.50	-11.21	0 0				
02/11/ RE	MAR	KS													WAT	TER ST	 	DETAILS			
RE HO HO RE HO RE HO RE HO RE HO RE HO HO RE	e ca	sed (0.00-	19.50	m. Erect	Covid 19	Saf	e Zone	e - 1hr.	- 1hr. Water Strike Depth At To (min) 13.20 13.20 N/S 17.00 N/S						Slow Slow					
NS	ΤΔΙ	LΔTI	ON D	EΤΔΙ	ILS					Date Hole Casing Depth to Comm						GROUNDWATER DETAILS					
26	Date -09-2			epth		RZ Base 18.50	9	Tyr 50m	m SP	Depth Depth Water Comments						I recorded at end of drilling.					



REPORT NUMBER

/ 1 ପ୍ର	515/																	
CONTR	RACT	· -	larbo	our Point E	Bray							'<	I,HOLE	NO	RC2		9	
CO-OR	DINA	TES		726,573 719,320	3.03 E 6.03 N			PIG TVPE		DATE COMMEN			Sheet 1 of 3 ICED 15/09/2020					
GROU	ND LI	EVEL	(mO		3.00			RIG TYPE Geo405 FLUSH Air/Mist					DATE COMPLE			9/2020		
CLIENT	Т	Е	Ballyn	nore				INCLINATION	ON (deg)	DRI	DRILLED BY			iSL				
ENGINE	EER	Α	tkins					CORE DIA	METER (mr	LOC	GED BY		O O'Shea					
Downhole Depth (m) Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend			Descript	ion			Depth (m)	Elevation	Standpipe Detail	SPT (N Value)	
0							717			NG: No rec	overy, obs	erved by	driller	0.20	2.80			
- - - 1								SYMMETI as returns gravel	as returns of TOPSOIL SYMMETRIX DRILLING: No recovery, observed by driller as returns of brown sandy SILT/CLAY with occasional									
								SYMMETI as returns	ETRIX DRILLING: No recovery, observed by driller ns of dark brown sandy SILT/CLAY									
2														2.30	0.70			
3							× → × → × - × - × -	SYMMETI as returns	RIX DRILLI of dark bro	NG: No rec own SILT/C	overy, obs LAY	served by	driller					
4							× × × × × × × × × × × × × × × × × × ×	SYMMETI as returns	driller	3.30	-0.30							
- 5 - 6							× × × × × × × × × × × × × × × × × × ×			NG: No rec wn SILT w		served by	driller		-3.10			
-9							× × × × × × × × × × × × × × × × × × ×		RIX DRILLI of light bro	NG: No rec wn SILT	overy, obs	erved by	driller	7.20	-4.20			
	REMARKS									Coolin	Cocled	Dia:	T:	WAT	TER ST	RIKE	DETAILS	
Hole cased 0.00-23.80m. Erect Covid 19 Safe Zone - 1hr.									Water Strike 15.40	Casing Depth 15.40	Sealed At N/S	Rise To	Time (min)		Slow		DETAILS	
INCTAI	AT	ION F	LT^	II C					Data	Hole	Casing	Depth	GROUNDWATER DETAILS Depth to Comments					
INSTALLATION DETAILS Date Tip Depth RZ Top RZ Base Ty)e	Date	Depth	Depth	Depth water	Comments					



REPORT NUMBER

1993														
CONTRACT	- Harl	oour Point	Bray						DAI SHE	LHOLE ET	NO	RC2	221 et 2 of	3
GROUND L CLIENT ENGINEER	EVEL (m	ymore	3.03 E 6.03 N 3.00		RIG TYPE FLUSH INCLINATION	ON (deg) METER (mr	Geo40 Air/Mis -90 n) 78		DAT DAT	E COMP E COMP LLED BY	LÉ)EI	D 15/09	9/2020)
Downhole Depth (m) Core Run Depth (m) T.C.R.%		Frac Spa Lo (m	cture cing og m)	Non-intact Zone	Legend		Descripti	on			Depth (m)	Elevation	Standpipe Details	
- 10				2	as returns SYMMETI as returns as returns	of dark bro	NG: No reco wn sandy p NG: No reco dense grey	overy, obs	served by o	driller	11.30	-7.20		
13				\$: X . M . X	SYMMETI as returns occasiona as returns as returns as returns	of dark bro Il cobbles RIX DRILLII of dark bro	NG: No reco wn sandy g NG: No reco wn cobbly 0 NG: No reco GRAVEL	overy, obs	_AY with	driller driller	14.50	-10.60 -11.50 -12.00		
- 16 - 17 - 17 - 18					as returns SYMMETI as returns	of sandy G	NG: No reco		·	driller		-13.50 -15.00		N = 56 (4, 7, 9, 12, 17, 18) N = 35 (5, 6, 6, 9, 10
REMARKS Hole cased	0.00-23.	80m. Erect	Covid 19	<u> </u>	as returns		NG: No reco wn cobbly (Casing Depth 15.40		Rise To		WAT	-16.50 FER ST mment		N = 66 (4, 7, 11, 19, 18, 18) DETAILS
			ID7.5		_	Date	Hole Depth	Casing Depth	Depth t Water	CO Com	GRO		VATER	DETAILS
Date	Tip Dept	h RZ Top	RZ Base		Туре									



REPORT NUMBER

333											1_6					
CONTRAC			our Point E	Bray							DAM SHE	KHOLE	NO	RC2 Shee	221 et 3 of	3
GROUND CLIENT	LEVEL		•				RIG TYPE FLUSH INCLINATION	ON (deg)	Geo40 Air/Mis -90	_	DAT	E COMP	LETE	15/09		
ENGINEER	1 /	Atkins					CORE DIA	METER (mr	n) 78		LOG	GED B	Y	~@	O'She	а
Downhole Depth (m) Core Run Depth (m)	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend			Descripti	on			Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20 - 21.00							SYMMETI as returns	RIX DRILLI of dark bro	NG: No reco	overy, obs CLAY <i>(con</i>	erved by o ntinued)	Iriller	21.00	-18.00		
- 21 6	7 0	0					Returns o Gravel is a lithologies	angular to s	dark brown ubrounded	slightly gra fine to me	avelly CLA dium of va	Y. arious				N = 25/10 mm (25, 25)
22.50			_			<u> </u>	0)// // // //		NO N				22.50	-19.50		N 00
23 (0 0	0				0 2000		RIX DRILLI of cobbly (NG: No reco	overy, obs	erved by d	iriller	22.80	-20.80		N = 62 (19, 11, 14, 17, 15, 16)
24 8	0 12	0	- -	<u> </u>			(foliated), interlamin (metamor	dark blueis ated MUDS	ally weak, m h grey, fine- STONE/SILT ghtly weath	grained, in STONE	nterbedde	ded d and	20.00	20.00		
25 - - - 25.80	00 21	13		<u> </u>	(o) / (locally rou Apertures filled (at 2	igh, planar are tight to 7.13-27.20i	edium to clo to locally ste locally oper m), locally q 1°, 80° & irre	epped/curv n, locally c uartz-vein	viplanar. :lav-smear	ed &				
26 - 27 - 27 - 27.30	00 51	21	È	 												
- 28 10 - 28 28.80	00 25	11		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\									28.80	-25.80		
- 29 - 1							End	of Borehole	at 28.80 m							
REMARKS		00.5	O	0		_	- 41	Motor	Cacina	Coalad	Diac	Time		TER ST	RIKE	DETAILS
REMARKS Hole cased	-00.0 b	-23.8	0m. Erect	Covid 19	Safe	e Zone	e - 1hr.	Water Strike 15.40	Casing Depth 15.40	Sealed At N/S	Rise To	Time (min)	C6	Slow		DETAILO
	י ואסוד	DET^	II S					Data	Hole	Casing	Depth to	0 000	GRC		VAIE	RDETAILS
INSTALLA Date			RZ Top	RZ Base	!	Тур	oe .	Date 15-09-20	Depth 28.80	Depth 23.80	19.30	COI		corded at	end of	drilling.



REPORT NUMBER

100	151 -	5/																-
CON	TRA	CT	Н	arbo	ur Point E	Bray								LHOLE	NO	RC2		o
CO-C	RD	INA	ΓES		726,618									E COM	ENCE		et 1 of	
GRO	UNI) LE	VEL	(mOl	719,34 [,] D)	4.48 N 3.40			RIG TYPE FLUSH		Geo40 Air/Mis	-		E COMP				
CLIE	NT			allym					INCLINATI	ON (deg)	-90	51	I	LLED BY		X/_	iSL	
ENGI	NEE	ER	A	tkins					CORE DIA	METER (m	m) 78		LOC	GGED BY	<u> </u>	· Q3	O'She	a
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend			Descript	ion			Depth (m)	Elevation	Standpipe Detaile	SPT (N Value)
0								77. 7	SYMMETI	RIX DRILLI of TOPSC	NG: No rec	overy, obs	served by	driller	0.20	3.20		
								0-A	SYMMET	RIX DRILLI	NG: No rec	overy, obs	served by	driller	0.60	2.80		
- ,								0-0	as returns occasiona	s of light bro al cobbles	own sandy o	layey GR	AVEL with	/	1.10	2.30		
1								×	SYMMETI	RIX DRILLI	NG: No rec	overy, obs	served by	driller	1.10	2.00		
								× × × × × × × × × × × × × × × × × × ×	very grave	elly clay)	_			- /				
2								× × ×	as returns	of light bro	NG: No rec	clayey sar	served by ndy SILT	ariller				
								× · · ›										
								· ×·										
3								×	SYMMET	RIX DRILLI	NG: No rec	overy obs	served by	driller	3.10	0.30		
								× ×	as returns	of dark gre	ey SILT	overy, obc	cived by	armer				
								× × ×										
4								××										
								×××										
								× × ×										
5								× ×										
								×××										
6								× ×										
								× ^ >										
								× × ×										
7								× ×										
								× × ×										
								××										
8								× ×							8.30	-4.90		
								× ·>			NG: No rec			driller				
_								.×. × .×	20.000110	J. Gain Di	candy							
9								× × ×										
								× · · ›										
								· ×·		1							<u></u>	
REM/ Hole			0.00-2	24.00	00m. Erec	et Covid 1	9 Sa	fe 7or	ne - 1hr	Water	Casing	Sealed	Rise	Time				DETAILS
	Juo	·	.55 2		=100	55114	5 50	01		Strike 14.90	Depth 14.90	At N/S	То	(min)	100	Slow	เร	
										14.30	14.50	IV/3				JIUW		
															GRO	DUNDV	VATER	DETAILS
INST	ALL	ATIO	ON D	ETA	ILS					Date	Hole Depth	Casing Depth	Depth Water	to Com	nment	S		
Da	ate	Т	Tip De	epth	RZ Top	RZ Base)	Тур	е		,							



REPORT NUMBER

CONTRACT	- Ha	arbo	ur Point E	Bray						DAN SHE	A,HOLE	NO	RC2	222 et 2 of	3
CO-ORDINA GROUND L CLIENT ENGINEER	EVEL (Ba	(mO l allym kins	nore			RIG TYPE FLUSH INCLINATI	ON (deg) METER (mr	Geo40 Air/Mis -90 n) 78		DAT DAT	E COMP E COMP LLED BY	LE)EC	D 17/09	9/2020)
Downhole Depth (m) Core Run Depth (m) T.C.R.%		R.Q.D.%	Frac Spac Lc (mi	cing og m)	Non-intact Zone	Legend		Descripti	ion			Depth (m)	Elevation	Standpipe Detail	SPT (N Value)
10 -11 -12 -13 -14 -15						SYMMET as returns Oxo SYMMET as returns	RIX DRILLII GOT GREY FINE RIX DRILLII GOT CLAY RIX DRILLII GOT SANDY G	NG: No reco	overy, obs	served by o	driller driller				N = 40 $(4, 7, 6, 9, 1$ $14)$ $N = 25$ $(3, 5, 5, 6, 7)$ $N = 39$ $(4, 6, 7, 9, 1$
18.00 18 18.00 27	0	0	-		-	Per Returns o	f firm, very angular to s	dark brown	slightly gr	avelly CLA	۱Y.		-14.60	RIKE	N = 61 (6, 9, 11, 1, 1, 17, 19) N = 64 (6, 11, 12, 1, 17, 19)
REMARKS Hole cased	0.00-2	24.00	00m. Erec	ot Covid 1	9 Saf	e Zone - 1hr.	Water Strike 14.90	Casing Depth 14.90	Sealed At N/S	Rise To	Time (min)	Co	mment Slow	ts	DETAILS
INSTALLAT	ION DI	ETA	ILS				Date	Hole Depth	Casing Depth	Depth t Water	O Con	GRO		VATEF	RDETAILS
Date	Tip De	epth	RZ Top	RZ Base)	Туре		Борш	Борит	· · · · · · ·					



REPORT NUMBER

22734

DAILAHOLE NO **RC222** CONTRACT Harbour Point Bray SHEET Sheet 3 of 3 **CO-ORDINATES** 726,618.23 E **DATE COMMENCED 17/09/2020** 719,344.48 N **RIG TYPE** Geo405 **GROUND LEVEL (mOD) DATE COMPLETED** 17/09/2020 3.40 **FLUSH** Air/Mist Ballymore **DRILLED BY** CLIENT INCLINATION (deg) **IGSL** -90 **ENGINEER** Atkins **CORE DIAMETER (mm) LOGGED BY** 3O'Shea 78 (E (H Standpipe Details Downhole Depth Run Depth T.C.R.% S.C.R.% Non-intact Zone Fracture Ö. SPT (N Value) Spacing E.Ö. Description Log Elevation Depth (m) (mm) Legend Core 250 ₀ 250 ₅₀₀ 20 0_ Returns of firm, very dark brown slightly gravelly CLAY. 87 0 0 Gravel is angular to subrounded fine to medium of various lithologies. (continued) 21.00 N = 23 (3, 4, 5, 5, 6, 7) 21 20 0 0 22 22.50 (5, 7, 9, 11, 14, 17) 23 0 0 47 23.50 -20.10 Returns of firm, very dark brown gravelly CLAY. Gravel is angular to subrounded fine to medium of various 24.00 -20.60 lithologies. 24 N = 25/10 mmProbabe weathered ROCK - recovered as angular tabular (25, 25) gravel of MUDSTONE/SILTSTONE 100 17 11 25 25.20 -21.80 Medium strong to locally weak, medium to thinly bedded 25.50 (foliated), dark blueish grey, fine-grained, interbedded and interlaminated MUDSTONE/SILTSTONE (metamorphosed), slightly weathered. Rock quality 26 increases with depth. 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° & 27 100 74 21 28 28 50 100 62 34 29.00 -25.60 29 00 29 End of Borehole at 29.00 m WATER STRIKE DETAILS REMARKS Water Casing Sealed Rise Time Hole cased 0.00-24.000m. Erect Covid 19 Safe Zone - 1hr. Comments GDT Strike Depth At То (min) 14.90 14.90 N/S Slow 22734.GPJ IGSL **GROUNDWATER DETAILS** 10M Hole Casing Depth to Water INSTALLATION DETAILS Date Comments Depth Depth RC FI Date Tip Depth RZ Top RZ Base 17-09-20 Туре 7.90 Water level recorded at end of drilling 29.00 24.00 IGSL



REPORT NUMBER

	હ્ય	L /														.275	, +
OI	NTR	ACT	<u> </u>	larbo	ur Point Bray								LHOLE	NO	RC		0
		DINA.		(mOl	726,635.90 E 719,297.75 N D) 2.39			RIG TYPE FLUSH		Geo40 Air/Mi			COMP		D 24/0)
	ENT			allym tkins	nore			INCLINATIO		-90			LED BY GED BY			SSL O'She	a
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend			Descript	ion			Depth (m)	Elevation	Standpipe Details	SPT (N Value)
00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0								SYMMETR as returns of	IX DRILL of dark br. IX DRILL of SAND IX DRILL of sandy (ING: No recount of the control of th	covery, observed to observe the covery	erved by d erved by d erved by d	riller	3.00 4.50	-0.61		N = 3 (1, 0, 0, 1, 1) N = 16 (1, 1, 1, 4, 6) N = 3 (1, 0, 0, 1, 1) N = 15 (1, 2, 3, 3, 5)
Hole	MAR e ca: nd-di	sed (0.00- spec	24.00 tion F	00m. Erect Covid Pit 0.00-1.20m	19 Sa	x afe Zo	ne - 1hr.	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)		mmen		DETAILS
									2.40 18.30	2.40 18.30	N/S N/S			CD	Slow	A/A T.	DETAIL
I	TAL Date -09-2	.		-	RZ Top RZ Bas 24.00 29.00		Ту _ј 50 m	ne SP	Date	Hole Depth	Casing Depth	Depth to Water	Com	ment		WAIEF	R DETAILS



REPORT NUMBER

CONTRAC	T H	arbo	ur Point E	Bray							DAI SHE	L,HOLE	NO	RC		<u> </u>
CO-ORDIN GROUND L CLIENT ENGINEER	EVEL B	(mO l allym tkins				FLU INC	G TYPE USH CLINATION (c DRE DIAMETE		Geo405 Air/Mist -90 a) 78		DAT DAT	E COMP E COMP LLED BY	LEDE	D 24/0 25/0		
Downhole Depth (m) Core Run Depth (m)		R.Q.D.%	Frac Spac Lc (mi	cing og m)	Non-intact Zone	Puegend	TE DIAMETE		Description	on		<u> </u>	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
11						×	YMMETRIX C	ORILLIN ILT (co	NG: No recontinued)	very, obs	served by	driller				N = 15 (1, 2, 2, 3, 4, 6)
12						SY SY as	YMMETRIX C returns of sa	ORILLIN andy Gl	NG: No reco	very, obs	served by		12.00	-9.61		N = 41 (3, 4, 6, 9, 14, 12)
14													15.00	-12.61		N = 49 (4, 7, 9, 10, 14, 16)
16						SY as	YMMETRIX C returns of gr	ORILLIN ravelly (IG: No reco CLAY	overy, obs	served by	driller				N = 39 (3, 5, 8, 10, 10, 11) N = 80
18.00							eturns of firm	, very d	lark brown s	slightly gr	avelly CL	AY.	18.00	-15.61		(4, 19, 21, 20 19, 20) N = 72 (3, 14, 16, 17
19 19.50	0	0					ravel is angul nologies.	ar to su	Jorounded 1	ine to me	edium of v	arious	19.50	-17.11		19, 20) N = 19 (2, 4, 3, 5, 5,
REMARKS						I. ~ J							WAT	TER S	KALKA Trike i	OETAILS
Hole cased					19 Sa	fe Zone -		ater		Sealed	Rise	Time		mmen		
Hand-dug	nspect	ion F	Pít 0.00-1	.20m			2.	rike 40 3.30	2.40 18.30	At N/S N/S	То	(min)		Slow Slow		DETAILC
INCTALLA		CT A)ot-	Hole	Casing	Denth	to			VATER	DETAILS
INSTALLA			ILS RZ Top	B7 B00		Type		ate	Depth	Depth	Depth Water	Com	ments	5		
Date 25-09-20	29.0	-	24.00	29.00		50mm SI	iP									



REPORT NUMBER

22734

DAMA,HOLE NO **RC223** CONTRACT Harbour Point Bray SHEET Sheet 3 of 3 **CO-ORDINATES** 726,635.90 E **DATE COMMENCED** 24/09/2020 719,297.75 N **RIG TYPE** Geo405 **GROUND LEVEL (mOD)** DATE COMPLETED 25/09/2020 2.39 **FLUSH** Air/Mist CLIENT Ballymore INCLINATION (deg) DRILLED BY IGSI -90 LOGGED BY 3O'Shea **ENGINEER** Atkins **CORE DIAMETER (mm)** 78 Ξ (H Standpipe Details Downhole Depth Depth S.C.R.% Non-intact Zone Fracture T.C.R. \Box SPT (N Value) Spacing R.Q.I Description Run Log Ξ Elevation (mm) Legend Depth (Core 250 500 20 Returns of clayey angular GRAVEL. Gravel is tabular, 0 20 0 0 0 angular to subrounded fine to medium of metamorphosed ۔ مے Possible Weathered ROCK (continued) 00 21.00 <u>~~</u> 21 N = 25/30 mm (19, 25, 25) 0 Ð <u>()</u> 0 0 20 22 00 22.50 -20.1 = 25/10 mm Returns of angular purple GRAVEL. Gravel is tabular, 00 (25, 25)00 angular to subrounded fine to medium of metamorphosed mudstone. 000 23 Possible Weathered ROCK 0 ō O 27 0 0 0 00 24.00 -21.61 2 Probabe weathered ROCK - recovered as angular tabular N = 25/20 mm (25, 25) gravel of MUDSTONE/SILTSTONE 00 80 6 0 -8 25 100 40 22 25.70 -23.3° Medium strong to locally weak, medium to thinly bedded (foliated), dark blueish grey, fine-grained, interbedded and interlaminated MUDSTONE/SILTSTONE 26 (metamorphosed), slightly weathered. Rock quality increases with depth. 100 59 25 Discontinuities are medium to closely spaced, smooth to 27 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. 28 100 54 9 29.00 -26.61 ° 🗟 ° 29 00 29 End of Borehole at 29.00 m 4/11/20 REMARKS WATER STRIKE DETAILS Water Casing Sealed Rise Time Hole cased 0.00-24.000m. Erect Covid 19 Safe Zone - 1hr. Comments GDT Strike Depth At To (min) Hand-dug Inspection Pit 0.00-1.20m N/S Slow IGSL 2.40 2.40 18.30 18.30 N/S Slow 22734.GPJ **GROUNDWATER DETAILS** 10M Hole Casing Depth to Water **INSTALLATION DETAILS** Date Comments Depth Depth Date Tip Depth RZ Top RZ Base 9qvT 25-09-20 6.30 Water level recorded at end of drilling 29.00 24.00 RC 25-09-20 29.00 24.00 29.00 50mm SP IGSL



REPORT NUMBER

CONTRACT Harbour Point Bra	у				(X)	HOLE NO		2224	_
CO-ORDINATES 726,606.1 719,297.9 GROUND LEVEL (mOD) CLIENT Ballymore		RIG TYPE - FLUSH INCLINATION (deg)	Geo405 Air/Mist -90			COMMEN	ICED 22/)
ENGINEER Atkins		CORE DIAMETER (mi			LOGG			O'She	a
Core Run Depth (m) Core Run Depth (m) T.C.R.% S.C.R.% R.Q.D.% R.Q.D.% R.Q.D.%	nn-intact Zo		Description	on			Deptil (III) Elevation	Standpipe Details	SPT (N Value)
- 0	_ 	HAND-DUG INSPEC driller as returns of g	TION PIT: N ravelly CLAY	o recovery	, observed		20 0 00		
-2		SYMMETRIX DRILLI as returns of SAND SYMMETRIX DRILLI as returns of clayey \$	NG: No reco	• '	•	ller 1.	20 0.36 50 0.06		N = 1 (1, 0, 0, 1, 0, 0)
3		SYMMETRIX DRILLI as returns of SAND	NG: No reco	very, obse	rved by dril		-1.4	4	N = 4 (1, 0, 1, 1, 1, 1, 1)
- 5									N = 8/225 mr (1, 1, 2, 3, 3)
6		SYMMETRIX DRILLI as returns of clayey S	NG: No reco SAND	very, obse	rved by dril		-4.4	4	N = 6 (1, 0, 1, 1, 2, 2)
8		SYMMETRIX DRILLI as returns of gravelly	NG: No reco CLAY	very, obse	rved by dril		50 -5.9	4	N = 5 (1, 0, 1, 1, 1, 2)
9		5							N = 20 (2, 3, 3, 5, 6, 6)
REMARKS Hole cased 0.00-21.000m. Erect (Covid 19 Safe Zo	ne - 1hr. Water	Casing S	Sealed	Rise	Time			DETAILS
Hand-dug Inspection Pit 0.00-1.20		Strike 1.70	Depth 1.70	At N/S		(min)	Slov	V	R DETAILS
REMARKS Hole cased 0.00-21.000m. Erect 0 Hand-dug Inspection Pit 0.00-1.20 INSTALLATION DETAILS Date Tip Depth RZ Top R.		Date	Hole	Casing	Depth to Water	Comme		/VVA I E	DETAILS
Date Tip Depth RZ Top R.	Z Base Ty	pe	Depth	Depth	water				



REPORT NUMBER

	_												1_4					
	NTR			arbo	ur Point E								`<	LL HOL	E NO	RC2 Shee	224 et 2 of	3
	-ORI		TES	(mO	726,600 719,29 D)				RIG TYPE FLUSH		Geo40 Air/Mis		I		MENCE IPLETE			
	ENT GINE			allyn tkins					INCLINATION CORE DIA		-90			LLED E			SL O'She	0
		Ln		INIIIS					CORE DIA	WETER (IIII	11) 70		LOC	AGED E			Solie	a
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend			Descripti	on			Depth (m)	Elevation	Standpipe Detaila	SPT (N Value)
- 10									SYMMETI as returns	RIX DRILLI of gravelly	NG: No rec	overy, obs tinued)	served by	driller	10.50	0.04		
- 11									SYMMETI		NG: No rec		served by	driller	10.50	-8.94		N = 24 (3, 4, 5, 5, 7, 7)
12									SYMMETI as returns	RIX DRILLI of sandy G	NG: No rec	overy, obs	served by	driller	12.00	-10.44		N = 32 (2, 4, 6, 6, 9, 11)
14									SYMMETI	RIX DRILLI	NG: No rec	overy, obs	served by	driller	15.00	-13.44		N = 29 (4, 6, 7, 7, 7, 8) N = 64
16								0-	SYMMETI	RIX DRILLI	andy GRA\ NG: No rec		served by	driller	16.50	-14.94		N = 52 (7, 9, 11, 12, 16
17	18.00				_					RIX DRILLI	NG: No rec	overy, obs	served by	driller	18.00	-16.44		14, 15) N = 56
- 19	19.50	27	0	0						of cobbly (-	·		19.50	-17.94		(5, 10, 12, 14, 14, 16)
	. 5.50				1						ROCK - reco		angular ta	abular	. 0.00	. 7 .0-1		N = 50/70 mm (19, 21, 25,
REI	MAR					ŀ	(.) 9 .)\									TER ST	RIKE	DETAILS
					00m. Erec Pit 0.00-1		19 Sa	afe Zor	ne - 1hr.	Water Strike 1.70	Casing Depth 1.70	Sealed At N/S	Rise To	Time (min		mmen Slow	ts	
10.193															GRO	DUNDV	VATEF	RDETAILS
	TAL		ON D							Date	Hole Depth	Casing Depth	Depth Wate	to Co	mment	S		
INS INS	Date		Tip D	epth	RZ Top	RZ Base	9	Тур	oe									



REPORT NUMBER

CONTRACT	· Har	bour Point	Bray						DAN	LHOLE	NO	RC2	224	
									SHE	V			et 3 of	3
GROUND LI	EVEL (m Ball	719,29 (OD) ymore	06.14 E 07.94 N 1.56		RIG TYPE FLUSH INCLINATI	ION (deg)	Geo409 Air/Mist		DATI	E COMP	LÉ)EI	22/0:	9/2020 SL)
ENGINEER	Atki	ns			CORE DIA	METER (mr	n) 78		LOG	GED BY	<u>′</u>	· 43	O'She	a
Downhole Depth (m) Core Run Depth (m) T.C.R.%	%:C.R.%	Spa L (m	cture acing og am)	Non-intact Zone			Description	on			Depth (m)	Elevation	Standpipe Detail	SPT (N Value)
47	0	0	\{\cdot\} \{\cdot\} \{\cdot\}	******* ******************************	I Flubabe	weathered f MUDSTON	ROCK - reco E/SILTSTON	vered as a NE <i>(contini</i>	angular ta ued)		21.00	-19.44		
21 100	0 0	0	<u> </u>		(foliated), interlamin (metamor increases	dark blueis nated MUDS phosed), slis with depth. uities are m	edium to clo	grained, ir STONE ered. Rock	nterbedded c quality ed, smootl	ded d and		10.11		N = 25/10 mm (25, 25)
23 100) 56 2	3			Apertures	are tight to artz-veined	to locally ste locally oper (1-10mm thi	i, locally c	lay-smear	ed, ?, 80°				
- 24 - 100 - 25 - 25.50	81 6	66			\$									
26 100 - 26 26.50	82 6	34		*****		of Borehole	e at 26.50 m				26.50	-24.94		
- 27 - 28 - 29 - 29						2.3.00								
REMARKS	0.00.01	000m F==	ot Covid 4	n Coto	Zono the	Water	Casing	Sealed	Rise	Time				DETAILS
REMARKS Hole cased Hand-dug II				y Sate 2	cone - 1hr.	Strike 1.70	Depth 1.70	At N/S	To	(min)		Slow		
	1011 555	FAIL O				Dete	Hole	Casing	Depth to) 0 = 1			VATEF	RDETAILS
Date Date		th RZ Top	RZ Base	-	Гуре	Date 23-09-20	Depth 26.50	Depth 21.00	Depth to Water		nments	corded at	t end of o	drilling.



REPORT NUMBER

/3	<u></u>																	
СО	NTR	ACT	Н	larbo	ur Point E	Bray							DAI —— She	LHOLI	E NO	RO She	H01 et 1 of	1
co	-ORE	OINA	TES		726,379 719,52	9.55 E 2.56 N			RIG TYPE		Cool	NE.		E COM	MENCE			
GR	OUN	D LE	EVEL	(mOl		10.81			FLUSH		Geo30 Air/Mis		DAT	E COM	PLETE	_)
	IENT GINE			allym tkins	nore				INCLINATION CORE DIA		-90 m) 78			LLED B		X/_	SL O'She	
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og	Non-intact Zone	pue			Descript	ion			Depth (m)	Elevation	Standpipe Detail	SPT (N Value)
	Core				0 250) 500	Non	Legend							Dep	Elev	Star	SPT
1	1.50	0	0	0					SYMMETI as returns	RIX DRILL of gravelly	NG: No rec	overy, ob	served by	driller				
2		0	0	0				0 0	SYMMETI as returns	RIX DRILL	NG: No rec	overy, ob /EL	served by	driller	2.00	8.81		
3	3.00	0	0	0											4.00	6.81		
4	4.50				-				as returns	of cobbly	NG: No rec CLAY NG: No rec	-			4.60			
5	6.00	0	0	0					ao rotamo									
7		0	0	0					SYMMETI	RIX DRILL	NG: No rec	overy, ob	served by	driller	7.00	3.81		
8	7.50	0	0	0	_				as returns SYMMETI as returns	RIX DRILL	NG: No rec	overy, ob	served by	driller	7.50	3.31		
9	9.00								End o	of Borehole	e at 8.00 m				9.00	1.81	0 0	
8 -										T								
Ho	MAR le cas		0.00-9	9.00r	n. Erect C	Covid 19	Safe	Zone	- 1hr.	Water	Casing	Sealed	Rise	Time		mmen		DETAILS
IGSL RC FI 10M 22734.GPJ IGSL.GDT 4/11/20	- 541						29			Strike	Depth	At	То	(min) Co	lo wate	er strike	e recorded
MI ON	TAL	LAT	ION D	ΕΤΔ	ILS					Date	Hole	Casing		o Co	mment		VAIE	I DE I AILO
GSL RC FI 1	Date -09-2			epth	RZ Top 6.00	9.00	9	Tyr 50m	n SP	02-09-20	9.00	9.00	6.50		er level re		t end of o	drilling.



REPORT NUMBER

		<u> </u>																
СО	NTR	ACT	Н	arbo	ur Point E	Bray							DAN SHE	A,HOLE	NO		H02 et 1 of 2	
СО	-ORE	DINA	TES		726,620 719,41							_		E COMM	ENCE			
GR	OUN	D LE	VEL	(mOl		4.47			RIG TYPE FLUSH		Geo30 Air/Mis			E COMP				
	ENT			allym	nore				INCLINATION		-90		I	LED BY		X	SL	
	GINE	EK	T A	tkins					CORE DIA	METER (mi	m) 78		LOG	GED BY	<u>r</u>		O'Shea	
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og m)	Non-intact Zone	Legend			Descript	ion			Depth (m)	Elevation	Standpipe Details	SPT (N Value)
- 0									HAND-DU driller as r	IG INSPEC eturns of C	TION PIT: LAY	No recove	ry, observ	ed by				
Ē,		0	0	0											1.00	3.47 3.27		
2	1.50	0	0	0					driller as r	eturns of g	TION PIT: ravelly CLA NG: No rec CLAY	Υ	-	/	1.20	3.27		
3	3.00								SYMMETI as returns	RIX DRILLI of sandy C	NG: No red	overy, obs	served by	driller	3.00	1.47		
- 4		0	0	0						RIX DRILLI	NG: No rec	overy, obs	erved by	driller	3.80	0.67		
Ē	4.50														4.50	-0.03		
5	6.00	0	0	0					SYMMETI as returns	RIX DRILLI of CLAY	NG: No rec	overy, obs	erved by (driller				
7	7.50	0	0	0														
8	9.00	0	0	0													0 0	
		0	0	0						I								
Hol	MAR e cas		0.00-	11.60	m. Erect	Covid 1	9 Saf	e Zone	e - 1hr.	Water	Casing	Sealed	Rise	Time			TRIKE DE	TAILS
					Pit 0.00-1.		Juli			Strike 10.90	Depth 10.90	At N/S	To	(min)		Slow		NETAU O
INIC	ΤΔΙΙ	ΙΔΤΙ	ON D	FΤΔΙ	II S					Date	Hole	Casing	Depth t Water	0 Com	GRC		NATER [I AILS
03	Date -09-2			epth		RZ Bas 11.60	е	Typ 50m	m SP	Date	Depth	Depth	Water	0011				



REPORT NUMBER

/J	এহ	5/																-							
СО	NTR	ACT	Н	arbo	ur Point E	Bray							DAN SHE	A,HOLE	NO		H02 et 2 of	2							
СО	-ORE	OINA	TES		726,62 719,41									E COMM	ENCE										
GR	OUN	D LE	VEL	(mOl	-	4.47			RIG TYPE FLUSH		Geo30			E COMP											
	ENT GINE	ER		allym tkins	nore				INCLINATI	ON (deg) METER (mn	-90 n) 78		I	LLED BY		X	SL O'She	а							
Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spa Lc (m 0 ²⁵⁰	cing og m)	Non-intact Zone	Legend			Description	on			Depth (m)	Elevation	Standpipe Details								
111 12 13 14 15 16	10.50 11.60	0	0	0				0000	SYMMETI as returns SYMMETI as returns	of Borehole	ontinued) NG: No reco RAVEL NG: No reco	overy, obs	erved by o	driller driller	11.40	-6.43 -6.93 -7.13		DETAILS							
					om. Erect Pit 0.00-1		9 Safe	e Zone	e - 1hr.	Water Strike 10.90	Casing Depth 10.90	Sealed At N/S	Rise To	Time (min)		Slow		DETAL							
INC	ΤΔΙΙ	ΔΤΙ	ON D	FTA	II S					Date	Hole	Casing	Depth t Water	0 Com			VATER	DETAILS							
	Date -09-2			epth	RZ Top 7.60	RZ Base 11.60	9	Tyr 50m	oe ım SP	03-09-20	Depth 11.60	Depth 11.60	Water 4.10		(min) Comments										



REPORT NUMBER

													- I *							
	CONTRACT Harbour Point Bray CO-ORDINATES 726,574.13 E									DÉNA, HO SHÈET						Sheet 1 of 2				
CO	-ORI	DINA	TES		726,574 719,22	4.13 E 9.08 N			RIG TYPE		Geo30	F		E COMM	ENCE					
			EVEL		D)	1.43			FLUSH		Air/Mis			COMP	• •	_		1		
	IENT GINE			allym tkins	nore				INCLINATION CORE DIA		-90 n) 78		I	.LED B\ GED B\		X/_	SL O'Shea	а		
Downhole Depth (m)		T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spac Lo (mi	cing og	Non-intact Zone	pu		Description (E) Hdd O						9	Standpipe Details	SPT (N Value)		
	Core				0 250) 500	Non-	Legend							Dept	Elevation	Stan	SPT		
1		0	0	0					driller as r	eturns of C	TION PIT: N LAY				1.20	1				
2	1.50	0	0	0					as returns SYMMETI	of CLAY	NG: No reco	•	•	/	1.50	-0.07				
3	3.00 4.50	0	0	0				× × × × × × × × × × × × × × × × × × ×	SYMMETI as returns	RIX DRILLI of SILT	NG: No reco	overy, obs	erved by c	riller	3.00	-1.57				
5	6.00	0	0	0				× × × × × × × × × × × × × × × × × × ×												
7	7.50	0	0	0				× × × × × × × × × × × × × × × × × × ×												
8	9.00	0	0	0				× × × × × × × × × × × × × × × × × × ×												
1/50		0	0	0				× × × × ×		RIX DRILLI of gravelly	NG: No reco	overy, obs	erved by c	riller	9.50	-8.07	0 0	DETAIL 0		
Ho He		sed			m. Erect		9 Saf	e Zone	e - 1hr.	Water		Sealed	Rise	Time		mmen		DETAILS		
					Pit 0.00-1			_3		Strike 9.50	Depth 9.50	At N/S	То	(min)		Slow		DETAILS		
MI G	STAL	LAT	ION D	EΤΔΙ	ILS					Date	Hole	Casing	Depth to Water	Com	nments		VAIEK	DETAILS		
IGSL RC FI 1	Date -09-2	,		epth	RZ Top 8.00	RZ Base 12.70	9	Tyr 50m	m SP	Jaio	Depth	Depth	Water	3011						



REPORT NUMBER

/IC	151 -	5/																-
CONT	TRA	CT	Н	arbo	our Point E	Bray							DAN SHE	A,HOLE	NO		H04	n
0-0	RD	INA	ΓES		726,57- 719,22	4.13 E								E COMM	ENCE		et 2 of :	
GRO	UNE) LE	VEL	(mO	-	1.43			RIG TYPE FLUSH		Geo30 Air/Mis			E COMP				
CLIEI ENGII		: В		allyn tkins					INCLINATI	ON (deg) METER (mn	-90			LLED BY			SL O'She	-
		-n		IKITIS					CORE DIA	WEIER (MIN	11) /6		LOG	IGED B I			(C)	<u>a</u>
	Core Kun Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Frac Spa Lc (m	cing og m)	Non-intact Zone	Legend			Descripti				Depth (m)	Elevation	Standpipe Detail	SPT (N Value)
10	. 50							× _o :	SYMMETI as returns	RIX DRILLII of gravelly	NG: No reco	overy, obs	erved by o	driller			0 0	
11	2.00	0	0	0				× × × × × × × × × × × × × × × × × × ×				,					0 0 0	
12								× ^a										
		0	0	0				× ₀ , :	SVMMETI	RIX DRILLII	NG: No rec	overy obe	erved by	1.20		-11.27		
13 13	3.00				-				as returns	of CLAY		overy, obs	erved by t	uriller	13.00	-11.57		
									End	of Borehole	at 13.00 m							
14																		
15																		
16																		
17																		
'																		
8																		
9																		
	A 5.	′ C													\4/4-)FTA:: 1
EM/		_) NN	13.00	Om. Erect	Covid 1	9 Saf	e 700	2 - 1hr	Water	Casing	Sealed	Rise	Time				DETAILS
					Pit 0.00-1		Jan	∪ <u>∠</u> ∪⊓	. 1111.	Strike	Depth	At	To	(min)	Co	mmen	ts	
										9.50	9.50	N/S				Slow		
											Hala	Casina	D	_	GRO	DUND	VATER	DETAIL
1ST/	ALL		ON D							Date	Hole Depth	Casing Depth	Depth t Water	O Com	nment	S		
	ate				RZ Top		Э	Typ		10-09-20	13.00	13.00	1.20		level re	corded a	t end of c	rilling.
10-0	9-2	U	12.7	'U	8.00	12.70		50m	m SP									
		L								1	1	1	1					

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 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

PRORING PAROSTORS



REPORT NUMBER

22734

BOREHOLE NO. **WS01A** CONTRACT Harbour Point, Bray SHEET Sheet 1 of 1 726,542.02 E 719,593.03 N **CO-ORDINATES** DATE DRILLED 24/08/2020 DATE LOGGED 24/08/2020 **GROUND LEVEL (mOD)** 9.45 CLIENT **DRILLED BY** CK Ballymore **ENGINEER LOGGED BY** OBN Atkins Discrete Samples Depth of Sample Run (m) % Geotechnical Description Blowcount Standpipe Details Elevation Depth (m) Recovery Ref. Number Legend Sample Type Depth (m) Depth (m) 0.0 **TOPSOIL** 1/ 1// 0.30 9.15 134855 ENV 0.30-0.90 Firm brown very sandy gravelly CLAY (recovered 0.90 8.55 0.00-1.00 80 120 134856 ENV 0.90-2.50 (Loose) Grey brown slightly very gravelly SAND 1.0 (recovered moist) · a o. 0 Ō. 0 1.00-2.00 100 280 2.0 O. 0 ō 2.00-2.50 100 2.50 6.95 Final Depth 2.50m 3.0 4.0 28/1/21 5.0 22734.GPJ IGSL.GDT **General Remarks**Refusal in sample drive at 2.50m. Standpipe installed.

INSTALLATION DETAILS

202	Date	Tip Depth	RZ Top	RZ Base	Type	
PE	24-08-20	0.90	0.30	0.90	50mm SP	
ES						
MP						
SSA						
≶[



REPORT NUMBER

22734

BOREHOLE NO. **WS01B** CONTRACT Harbour Point, Bray SHEET Sheet 1 of 1 726,558.02 E 719,568.02 N **CO-ORDINATES** DATE DRILLED 24/08/2020 DATE LOGGED 24/08/2020 **GROUND LEVEL (mOD)** 9.09 CLIENT **DRILLED BY** CK Ballymore **ENGINEER LOGGED BY** OBN Atkins Discrete Samples Depth of Sample Run (m) % Geotechnical Description Blowcount Standpipe Details Depth (m) Recovery Elevation Ref. Number Legend Sample Type Depth (m) Depth (m) 0.0 **TOPSOIL** 1/ 1/1/ 0.30 8.79 134857 ENV 0.30-0.70 Firm brown very sandy gravelly CLAY (recovered _0_ (moist) 0.50 8.59 Soft to firm dark brown very sandy gravelly CLAY 0.70 8.39 134858 0.70-2.00 (recovered moist) ENV (Loose to medium dense) Grey/brown very gravelly o. 0.00-1.00 100 200 SAND (recovered damp) 1.0 0 o. 0 o. 1.70 7.39 (Medium dense) Brown moist very gravelly SAND 0 · 0. 1.00-2.00 100 400 2.0 0 2.00-2.20 0 2.20 6.89 Final Depth 2.20m 3.0 4.0 28/1/21 5.0 IGSL.GDT **General Remarks** Refusal in sample drive at 2.20m. Standpipe installed.

INSTALLATION DETAILS

22734.GPJ

WS RUN	NSTALLAT	TION DETA	ILS			
8	Date	Tip Depth	RZ Top	RZ Base	Туре	
ES PIE	24-08-20	2.20	0.90	2.20	50mm SP	
WS SAMPL						



REPORT NUMBER

22734

BOREHOLE NO. WS02A CONTRACT Harbour Point, Bray SHEET Sheet 1 of 1 726,421.96 E 719,420.03 N **CO-ORDINATES** DATE DRILLED 25/08/2020 DATE LOGGED 25/08/2020 **GROUND LEVEL (mOD)** 10.81 CLIENT **DRILLED BY** CK Ballymore **ENGINEER LOGGED BY O**BN Atkins Discrete Samples Depth of Sample Run (m) % Geotechnical Description Standpipe Details Blowcount Depth (m) Recovery Elevation Legend Ref. Number Sample Type Depth (m) Depth (m) 0.0 **TOPSOIL** 0.25 10.56 0.25-0.55 134870 ENV Firm brown sandy slightly gravelly CLAY with rare styrofoam (MADE GROUND) (recovered moist) 0.55 10.26 134871 ENV 0.55-1.80 (Loose to medium dense) Grey/brown very gravelly SAND (recovered damp) ò 0.00-1.00 100 250 1.0 · a 0 ·a 0 O. 1.00-1.80 100 1.80 9.01 Final Depth 1.80m 2.0 3.0 4.0 28/1/21 5.0 **General Remarks**

INSTALLATION DETAILS

GSL.GDT														
- ☐ Gener	General Remarks Refusal in sample drive at 1.80m. Standpipe installed.													
m	LLA	TION DETA	ILS											
S Da	te	Tip Depth	RZ Top	RZ Base	Type									
25-08	-20	1.80	0.70	1.80	50mm SP									
WS SAMPL														



REPORT NUMBER

22734

BOREHOLE NO. WS02B CONTRACT Harbour Point, Bray SHEET Sheet 1 of 1 **CO-ORDINATES** 726,440.99 E DATE DRILLED 26/08/2020 719,429.04 N DATE LOGGED 26/08/2020 **GROUND LEVEL (mOD)** 10.49 CLIENT **DRILLED BY** CK Ballymore **ENGINEER LOGGED BY** OBN Atkins Discrete Samples Depth of Sample Run (m) % Geotechnical Description Blowcount Standpipe Details Depth (m) Recovery Elevation Ref. Number Legend Sample Type Depth (m) Depth (m) 0.0 (Loose to medium dense) Grey clayey very sandy GRAVEL (recovered moist) 134872 ENV 0.20-0.75 0.50 9.99 Firm to stiff brown very sandy gravelly CLAY (recovered moist) 0.75 9.74 134873 ENV 0.75-1.90 (Medium dense) Brown very gravelly SAND 0 0.00-1.00 80 180 (recovered moist) · 0. 1.0 0 Ō. 0 · a 0 1.00-1.90 100 1.90 8.59 Final Depth 1.90m 2.0 3.0 4.0 28/1/21 5.0 **General Remarks**Refusal in sample drive at 1.90m. Standpipe installed.

INSTALLATION DETAILS

GSL.GDT														
☐ Genera	General Remarks Refusal in sample drive at 1.90m. Standpipe installed.													
m	LATIC	ON DETA	ILS											
S Date	T	ip Depth	RZ Top	RZ Base	Type									
일 26-08-1	20	1.90	0.60	1.90	50mm SP									
WS SAMPL	·													



REPORT NUMBER

22734

BOREHOLE NO. WS03A CONTRACT Harbour Point, Bray SHEET Sheet 1 of 1 **CO-ORDINATES** 726,611.94 E DATE DRILLED 24/08/2020 719,480.01 N DATE LOGGED 24/08/2020 **GROUND LEVEL (mOD)** 8.00 CLIENT **DRILLED BY** CK Ballymore LOGGED BY **ENGINEER** OBN Atkins Discrete Samples Depth of Sample Run (m) Recovery (%) Geotechnical Description Blowcount Depth (m) Elevation Legend Ref. Number Sample Type Depth (m) Depth (m) 0.0 **TOPSOIL** 0.25 7.75 0.25-0.65 134859 ENV Firm to stiff brown sandy gravelly CLAY with occasional red brick fragment (MADE GROUND) 0.65 7.35 134860 ENV 0.65-1.55 (Loose to medium dense) Grey brown very gravelly SAND (recovered damp) Ō. 0.00-1.00 100 200 0 1.0 · O. 0 1.00-1.55 100 Ō. 1.55 6.45 Final Depth 1.55m 2.0 3.0 4.0 28/1/21 5.0 General Remarks
Refusal in sample drive at

INSTALLATION DETAILS

Date Tip Depth RZ

24-08-20 1.60 0. **General Remarks**Refusal in sample drive at 1.55m. Standpipe installed.

\$ ····				
Date	Tip Depth	RZ Top	RZ Base	Type
24-08-20	1.60	0.30	0.65	50mm SP
2				
ΔΑΣ Δ				



REPORT NUMBER

22734

BOREHOLE NO. CONTRACT Harbour Point, Bray WS03B SHEET Sheet 1 of 1 726,610.00 E 719,473.02 N **CO-ORDINATES** DATE DRILLED 25/08/2020 DATE LOGGED 25/08/2020 **GROUND LEVEL (mOD)** 7.51 CLIENT **DRILLED BY** CK Ballymore LOGGED BY **ENGINEER** OBN Atkins Discrete Samples Depth of Sample Run (m) % Geotechnical Description Blowcount Standpipe Details Elevation Recovery Depth (m) Ref. Number Legend Sample Type Depth (m) Depth (m) 0.0 **TOPSOIL** 1/ 1/1/ 0.30 7.21 134861 ENV 0.30-0.45 Soft to firm brown sandy gravelly CLAY (recovered 0.45 7.06 0.45-1.60 134862 ENV (Loose to medium dense) Grey brown very gravelly SAND O. 0 0.00-1.00 100 220 o. 1.0 0 o. 0 1.00-1.60 100 1.60 5.91 Final Depth 1.60m 2.0 3.0 4.0 28/1/21 5.0 **General Remarks** Refusal in sample drive at 1.60m.

INSTALLATION DETAILS

SL.GDT										
Refu		e marks sample driv	/e at 1.60	m.						
NO BUST	ΓALLA	TION DETA	ILS							
	ate	Tip Depth	RZ Top	RZ Base	Type					
	08-20	1.60	0.60	1.60	50mm SP					
WS SAMPLES				'						



REPORT NUMBER

22734

BOREHOLE NO. WS04A CONTRACT Harbour Point, Bray SHEET Sheet 1 of 1 **CO-ORDINATES** 726,551.99 E DATE DRILLED 25/08/2020 719,374.04 N DATE LOGGED 25/08/2020 **GROUND LEVEL (mOD)** 6.86 **DRILLED BY** CK **CLIENT** Ballymore **LOGGED BY ENGINEER** ODN **Atkins** Discrete Samples Depth of Sample Run (m) % Geotechnical Description Standpipe Details Blowcount (m Recovery Elevation Ref. Number Sample Type Depth (Depth (m) Depth (m) 0.0 Soft brown very sandy gravelly CLAY (MADE GROUND) (recovered moist) 134863 ENV 0.25-0.85 0.40 6.46 Firm brown sandy gravelly CLAY (MADE GROUND) 0.50 6.36 (recovered moist) 0.60 6.26 (Loose) Light brown gravelly SAND (MADE GROUND) (recovered moist) 0.85 6.01 134864 ENV 0.85-1.70 0.00-1.00 159 60 Firm to stiff brown sandy gravelly CLAY (MADE 1.00 5.86 GROUND) (recovered moist) COBBLE with occasional glass fragments (MADE GROUND) Firm to stiff grey/brown very sandy very gravelly 1.45 5.41 CLAY (recovered moist) Firm to stiff grey/brown sandy gravelly CLAY 1.70 5.16 134865 ENV 1.70-3.00 (recovered moist) 200 Stiff brown mottled grey silty slightly sandy gravelly 1.00-2.00 100 2.00 4.86 CLAY (recovered moist) 2.20 4.66 Firm to stiff brown very sandy very gravelly CLAY \(recovered very moist) Firm to stiff brown slightly sandy gravelly CLAY 2.45 4.41 (recovered moist) ·a (Loose to medium dense) Grey very gravelly SAND -2.80 4.06 hydrocarbons odour (recovered damp) 2.00-3.00 100 162 Firm to stiff brown very slightly sandy slightly gravelly 3.00 3.86 CLAY (recovered moist) Final Depth 3.00m 4.0 5.0 28/1 GDT 22734.GPJ **General Remarks** Hydrocarbon odour from 2.45m - 2.80m. Standpipe installed.

INSTALLATION DETAILS

SAMPLES PIEZO WS

2	Date	Tip Depth	RZ Top	RZ Base	Type	
H	25-08-20	3.00	0.45	1.45	50mm SP	
В						
MPL						
SA						
WS						



REPORT NUMBER

22734

BOREHOLE NO. WS04B CONTRACT Harbour Point, Bray SHEET Sheet 1 of 1 **CO-ORDINATES** 726,530.02 E DATE DRILLED 25/08/2020 719,367.99 N DATE LOGGED 25/08/2020 **GROUND LEVEL (mOD)** 7.46 **DRILLED BY** CK **CLIENT** Ballymore **LOGGED BY ENGINEER** ODN **Atkins** Discrete Samples Depth of Sample Run (m) % Geotechnical Description Standpipe Details Blowcount (m) Recovery Elevation Ref. Number Sample Type Legend Depth (Depth (m) Depth (m) 0.0 **TOPSOIL** 0.20 7.26 134866 0.20-1.50 ENV Soft to firm brown moist very sandy very gravelly CLAY (MADE GROUND) (recovered moist) 0.50 6.96 Soft to firm grey/brown very sandy very gravelly CLAY with rare red brick fragments (MADE GROUND) (recovered moist) 0.00-1.00 80 131 1.0 1.30 6.16 (Loose to medium dense) Grey/brown clayey very gavelly SAND with rare granite cobble (MADE 134867 1.50-2.35 ENV GROUND) (recovered very moist) 1.60 5.86 Stiff dark grey very sandy gravelly CLAY with rare plastic (MADE GROUND) (recovered moist) 1.00-2.00 60 167 2.0 2.35 5.11 134868 ENV 2.35-3.00 Soft to firm dark grey/black sandy gravelly CLAY (MADE GROUNĎ) (recovered moist) 2.65 4.81 Stiff dark grey slightly sandy slightly gravelly CLAY (MADE GROUND) (recovered moist) 2.85 4.61 2.00-3.00 80 115 Stiff dark grey/black sandy gravelly CLAY with rare plastic (MADE GROUND) (recovered moist) 134869 ENV 3.00-5.00 3.40 4.06 Firm to stiff dark brown sandy gravelly CLAY 3.55 3.91 (recovered moist) Firm to stiff light brown slightly silty very sandy slightly gravelly CLAY (recovered moist) 3.00-4.00 80 4.0 4.60 2.86 Stiff light brown slightly slightly sandy slightly gravelly CLAY (recovered moist) 4.00-5.00 60 5.00 2.46 Final Depth 5.00m 28/1 GDT **General Remarks** Standpipe installed.

INSTALLATION DETAILS

22734.GPJ

SAMPLES PIEZO WS

>						
SL	Date	Tip Depth	RZ Top	RZ Base	Type	
F	25-08-20	5.00	0.50	2.80	50mm SP	
	20 00 20	0.00	0.00	2.00	001111111111111111111111111111111111111	
SI						
린						
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S						
šĹ						



REPORT NUMBER

22734

BOREHOLE NO. WS05A CONTRACT Harbour Point, Bray SHEET Sheet 1 of 1 **CO-ORDINATES** 726,665.96 E DATE DRILLED 26/08/2020 719,323.97 N DATE LOGGED 26/08/2020 **GROUND LEVEL (mOD)** 3.73 Ballymore **DRILLED BY** CK **CLIENT ENGINEER LOGGED BY O**BN Atkins Discrete Samples Depth of Sample Run (m) % Geotechnical Description Standpipe Details Blowcount Depth (m) Recovery Elevation Ref. Number Sample Type Depth (m) Depth (m) 0.0 (Loose) Grey angular coarse GRAVEL (MADE GROUND) 134874 ENV 0.20-1.00 0.30 3.43 Firm to stiff brown very sandy gravelly CLAY (MADE 0.40 3.33 GROUND) (recovered damp) Firm to stiff dark grey very sandy gravelly CLAY with rare granite cobble (MADE GROUND) (recovered 0.65 3.08 (moist 0.00-1.00 80 Stiff dark brown sandy gravelly CLAY with rare glass fragment (MADE GROUND) (recovered moist) 1.00 2.73 (Loose) Grey very sandy GRAVEL (Poor Recovery -134875 ENV 1.80-3.00 1.00-2.00 15 2.00 1.73 (Loose) grey moist sandy GRAVEL 000 0.00 2.50 1.23 Soft brown mottled grey sandy gravelly CLAY (recovered very moist) ō 2.00-3.00 60 3.00 0.73 3.0 Final Depth 3.00m 4.0 5.0 28/1 IGSL.GDT **General Remarks** Standpipe installed.

NSTALLATION DETAILS	S
---------------------	---

UN 22734.G	General Re Standpipe	emarks installed.				
WS R	INSTALLA	TION DETA	ILS			
8[Date	Tip Depth	RZ Top	RZ Base	Type	
ES PIE	26-08-20	3.00	0.40	1.00	50mm SP	
SAMPL						
WS						



Window Sample Record

REPORT NUMBER

22734

/]@	35L/									20	2/34	
CON	TRACT Harbour Point, Bray	I					BOR			WS0 Sheet	5B 1 of 1	
	726,673.95 E 719,300.98 N UND LEVEL (mOD) 3.85						DATE	,	\\\	26/08 26/08		
CLIE	,						DRIL		>	CK		
Depth (m)	Geotechnical Description		Legend	Depth (m)	Elevation	Depth of Sample Run (m)	Recovery (%)	Blowcount	Ref. Number	Sample Sample Type	Ps	Standpipe Details
0.0	(Medium dense) Grey very clayey gravelly S.	AND		0.10	3.75	ŎŒ.	ď	ā	83	S _Z	De (m	Str
-	(MADE GROUND) (recovered moist) Firm to stiff brown very sandy very gravelly 0	/		0.10	3.75							
-	(MADE GROUND) (recovered moist) (Dense) Black clayey very gravelly SAND (M	IADF		0.55	3.30							
-	GROUND) (recovered moist)			0.75	3.10							
1.0	(Medium dense) Grey/brown clayey gravelly (MADE GROUND) (recovered moist) Firm grey/brown sandy gravelly CLAY with ra			0.95	2.90	0.00-1.00	100		134877	ENV	0.95-1.75	
-	brick. (MADE GROUND) (recovered moist)	210100										
-	Soft to firm brown sandy gravelly CLAY (MAI GROUND) (recovered moist)	DE		1.75	2.10	1.00-2.00	100					
2.0	Soft grey very sandy gravelly CLAY (MADE GROUND) (recovered moist)			2.00	1.85	1.00 2.00	100		134878	ENV	2.00-3.00	
- - - -	Soft brown very sandy gravelly CLAY (MADE GROUND) (recovered moist)	≣		2.30	1.55							
3.0	(Loose) Grey gravelly SAND (MADE GROUP) (recovered moist)	ND)		3.00	0.85	2.00-3.00	100		134879	ENV	3.00-3.90	
-	(Loose to medium dense) Grey rounded GR.	AVEL		3.40	0.45							
-	(MADE GROUND - pipe surround)					3.00-3.90	100					
4.0	Final Depth 3.90m		- XXXXX	3.90	-0.05							
-												
-												
-												
5.0												
<u>-</u>												
	eral Remarks nm steel foul sewer damaged at 3.90m									•		
>	ALLATION DETAILS					-						
	ate Tip Depth RZ Top RZ Base Ty	pe										
<u> </u>												
9												

























Appendix 5

Soakaway Test Records (to BRE365)

PRICEINED. 24/03/2025

	way D	<u> </u>	e from fiel		(F2C) IGSL
	Harbour Po	-		Contract No.	22734
Test No.	PT201 - C			Easting	726518.34
Client Date:	Ballymore/ 28/09/20			Northing Elevation	719519.55 9.59
	of ground c			Elevation	9.39
from	to	Description			Ground water
0.00	0.10	TOPSOIL			*/O-
0.10	1.00	Firm brown gravelly very s			
1.00	1.84	Medium dense greyish bro		very gravelly medium to	Drop-
ield Data	<u>l</u>	coarse SAND with a mediu	<u>Field Test</u>		
icia Data			ricia rese		
Depth to	Elapsed	1	Depth of Pit (D)	1.84	m
Water	Time		Width of Pit (B)	0.70	m
(m)	(min)		Length of Pit (L)	2.10	m
1.45	0.00	-	Initial depth to W	ater = 1.45	¬ _m
1.47	1.00	1	Final depth to wa		$ \frac{m}{m}$
1.49	2.00	1	Elapsed time (mir		┦```
1.51	3.00	1	` ` `	,	
1.53	4.00]	Top of permeable	e soil	m
1.55	5.00		Base of permeable	e soil	m
1.57	6.00				
1.59	7.00				
1.60 1.61	8.00 9.00	-			
1.62	10.00	-	Base area=	1.47	m2
1.64	12.00	*Av. side area of permeab			m2
1.66	14.00	1	Total Exposed are		m2
1.68	16.00				_
1.70	18.00			17 %	
1.73	20.00	Infiltration rate (f) =	Volume of water	used/unit exposed are	a / unit time
1.79	25.00	f= 0.00772	m/min or	0.000128	6 m/000
1.84	29.00		m/min or	0.000126	o m/sec
		Depth of water	vs Elapsed Time (n	nins)	
	35.00				
	30.00				
Elapsed Time(mins)	25.00			•	
ime(20.00			•	
jed T	15.00			*	
Elaps	10.00			*	
	5.00			***	
	0.00	ı	ı	, the same of the	
	0.00	0.50	1.00	1.50	2.00

	way D	<u> </u>	from field tes	0 1 11	(F2C) IGSL
Contract: Fest No.	Harbour P PT201 - 0	-		Contract No.	22734 726518.34
lient	Ballymore	=		Easting Northing	719519.55
Date:	28/09/20			Elevation	9.59
	of ground of		<u> </u>	Lievacion).
from	to	Description			Ground water
0.00	0.10	TOPSOIL			[*] O ₂
0.10	1.00	Firm brown gavrelly very sand			Dry
1.00	1.84	Medium dense greyish brown		elly medium to	Dry
ield Data		coarse SAND with a medium c	eld Test		
ieiu Data		<u>1 16</u>	<u>na rest</u>		
Depth to	Elapsed	De	epth of Pit (D)	1.84	m
Water	Time		idth of Pit (B)	0.70	m
(m)	(min)	Le	ength of Pit (L)	2.10	m
			-		
1.50	0.00		tial depth to Water =	1.50	m
1.52	1.00	-1	nal depth to water =	1.84	m
1.54	2.00	Ela	apsed time (mins)=	30.00	
1.55 1.57	3.00 4.00	-	op of permeable soil	1	m
1.59	5.00	-	ase of permeable soil		m m
1.61	6.00	-	se of perficusic son		***
1.62	7.00	1			
1.63	8.00	1			
1.64	9.00]	_		
1.65	10.00	<u>-</u>	ise area=		m2
1.67	12.00	*Av. side area of permeable st	·		m2
1.69	14.00	То	otal Exposed area =	2.422	m2
1.71 1.73	16.00	-			
1.75	18.00 20.00	Infiltration rate (f) = Vo	olume of water used/uni	t evnosed area	/ unit time
1.79	25.00		name of water asca, and	t exposed area /	diffe cirrie
1.84	30.00	f= 0.00688 m	/min or	0.0001146	m/sec
1.01	30.00	1 3133333	7.11	0.0001110	111, 000
		-			
		4			
		Depth of water vs E	Elapsed Time (mins)		
	35.00				
ins)	30.00			*	
e(mi	25.00			•	
Tim	20.00			*	
Elapsed Time(mins)	15.00			**************************************	_
Elag	10.00			*	
	5.00			**	
	0.00	ı		**	
	0.00	0.50	1.00 1.5	50	2.00
		Danala	to Water (m)		

<u> 50a</u> ka	way D	<u>resign</u> r-valu	e from field te	Sis	(F2C) IGSL
	Harbour Po			Contract No.	22734
Test No.	PT201 - C	-		Easting	726518.34
Client Date:	Ballymore/ 28/09/20			Northing Elevation	719519.55 9.59
	of ground c			Elevation	9.39
from	to	Description			Ground water
0.00	0.10	TOPSOIL			0
0.10	1.00	Firm brown gravelly very sa	andy CLAY with low cobbl	e content.	O Company
1.00	1.84	Medium dense greyish brow		avelly medium to	Dry 5
'.l.l.D		coarse SAND with a mediun			
<u>ield Data</u>			<u>Field Test</u>		
Depth to	Elapsed	1	Depth of Pit (D)	1.84	m
Water	Time		Width of Pit (B)	0.70	m
(m)	(min)		Length of Pit (L)	2.10	m
	0.00	-		4.47	
1.47	0.00	-	Initial depth to Water =	1.47	m m
1.49 1.51	1.00 2.00	1	Final depth to water = Elapsed time (mins)=	1.84 33.00	m
1.53	3.00	+	Liapseu time (mins)=	33.00	
1.55	4.00	1	Top of permeable soil		m
1.56	5.00	1	Base of permeable soil		m
1.58	6.00				
1.59	7.00				
1.60	8.00				
1.61	9.00	-	D	1 47	2
1.62 1.64	10.00 12.00	*Av side area of normoobl	Base area=	1.47	m2 m2
1.66	14.00	*Av. side area of permeable	e stratum over test penoc Total Exposed area =	2.506	m2
1.68	16.00	-	Total Exposed area –	2.300	1112
1.70	18.00	1			
1.71	20.00	Infiltration rate (f) =	Volume of water used/ur	nit exposed area	/ unit time
1.75	25.00				
1.79	30.00	f= 0.00658	m/min or	0.0001096	m/sec
1.84	33.00	1			
		1			
		1			
	35.00	Depth of	water vs Elapsed Time (r	mins)	_
œ.	30.00			*	
Elapsed Time(mins)	25.00			•	
Lime	20.00			*	
. pes	15.00			•	
Elap	10.00			•	_
	5.00			**	
	0.00	ı	ı	•••	
	0.00	0.50	1.00 1	.50	2.00

<u> </u>	way D	esign f-valu	e from field te		(F2C) IGSI
ontract:		_		Contract No.	22734
est No.	PT202 - C	-		Easting	726533.45
lient	Ballymore			Northing	719396.76
ate:	28/09/20			Elevation	7.5
	of ground c				ر. G ro und water
from 0.00	0.20	Description Grey GRAVEL (MADE GROU	IND)		Giourid Water
0.20	1.00	Brown gravelly very sandy		hle content (MG)	3
1.00	1.70	Medium dense greyish brow			Dry
1100	'''	coarse SAND with a medium		-	Drw 3
ield Data			Field Test		
Daniela da	Floresed	1	Double of Dit (D)	1.70	
Depth to Water	Elapsed Time		Depth of Pit (D) Width of Pit (B)	2 - 2	m m
water (m)	(min)		Length of Pit (L)		m m
(111)	(1111/1)		Length of Fit (L)	2.30	111
1.35	0.00	†	Initial depth to Water =	1.35	m
1.38	1.00	1	Final depth to water =		m
1.41	2.00	1	Elapsed time (mins)=	16.00	
1.43	3.00	1			
1.45	4.00		Top of permeable soil		m
1.47	5.00]	Base of permeable soil		m
1.49	6.00	_			
1.51	7.00				
1.53	8.00				
1.54	9.00	_			0
1.56	10.00	**	Base area=		m2
1.60	12.00	*Av. side area of permeabl	-		m2
1.65 1.70	14.00 16.00	-	Total Exposed area =	2.00	m2
1.70	10.00	1			
		Infiltration rate (f) =	Volume of water used/u	ınit exposed area /	unit time
					_
		f= 0.01324	m/min or	0.0002207	m/sec
		Depth of	water vs Elapsed Time (r	mins)	
	18.00				_
	16.00				
(ST	14.00			¥	
بَقَ				•	
ne(12.00			•	
Ë	10.00			•	_
ed	8.00			*	
S	6.00			*	
a B	4.00			•	
Elapsed Time(mins)	4.00		•		
Elap	!		•		
Elap	2.00				
Elap	0.00	0 ==	1.00	1.50	
Elap		0.50	1.00	1.50	<u>니</u> 2.00

	iway L	esign f -valu	e from field te	ests	(F2C) IGS I
	Harbour P	oint Bray		Contract No.	22734
est No.	PT202 - C	-		Easting	726533.45
lient	Ballymore			Northing (719396.76
ate:	28/09/20			Elevation	7.5
	of ground o				O. Ičudinal iliatar
from 0.00	0.20	Description Grey GRAVEL (MADE GROU	IND)		Ground water
0.20	1.00	Brown gravelly very sandy		hle content (MG)	3
1.00	1.70	Medium dense greyish brow			Dry
		coarse SAND with a mediu		-	'0'
ield Data		•	Field Test		
Depth to	Elapsed	1	Depth of Pit (D)	1.70	lm
Water	Time		Width of Pit (B)	0.70	m
(m)	(min)		Length of Pit (L)	2.30	m
					•
1.40	0.00	_	Initial depth to Water =	1.40	m
1.43	1.00	-	Final depth to water =	1.70	m
1.46	2.00 3.00	-	Elapsed time (mins)=	18.00	J
1.48 1.50	4.00	-	Top of permeable soil		l _m
1.52	5.00	-	Base of permeable soil		lm lm
1.54	6.00	-	base of perfileable soil]'''
1.55	7.00	1			
1.56	8.00	1			
1.58	9.00	1			
1.59	10.00]	Base area=	1.61	m2
1.62	12.00	*Av. side area of permeabl	-		m2
1.65	14.00		Total Exposed area =	2.51	m2
1.68	16.00	-			
1.70	18.00	Infiltration rate (f) =	Volume of water used/u	nit exposed area	/ unit time
					,
		1			
		f= 0.01069	m/min or	0.0001782	m/sec
		f= 0.01069	m/min or	0.0001782	m/sec
		f= 0.01069	m/min or	0.0001782	m/sec
		f= 0.01069	m/min or	0.0001782	m/sec
		f= 0.01069	m/min or	0.0001782	m/sec
					m/sec
	20.00		m/min or of water vs Elapsed Time		m/sec
	20.00				m/sec
	18.00				m/sec
(Su	18.00 - 16.00 -				m/sec
(mins)	18.00 — 16.00 — 14.00 —				m/sec
me(mins)	18.00 — 16.00 — 14.00 — 12.00 —				m/sec
1 Time(mins)	18.00 — 16.00 — 14.00 — 12.00 —				m/sec
sed Time(mins)	18.00 — 16.00 — 14.00 — 12.00 — 10.00 — 8.00 —				m/sec
lapsed Time(mins)	18.00 — 16.00 — 14.00 — 12.00 — 10.00 — 8.00 — 6.00 —				m/sec
Elapsed Time(mins)	18.00 — 16.00 — 14.00 — 12.00 — 10.00 — 8.00 — 6.00 — 4.00 —				m/sec
Elapsed Time(mins)	18.00 — 16.00 — 14.00 — 12.00 — 10.00 — 8.00 — 6.00 — 4.00 — 2.00 —				m/sec
Elapsed Time(mins)	18.00 — 16.00 — 12.00 — 10.00 — 8.00 — 4.00 — 2.00 — 0.00 — 10	Depth	of water vs Elapsed Time	(mins)	
Elapsed Time(mins)	18.00 — 16.00 — 14.00 — 12.00 — 10.00 — 8.00 — 6.00 — 4.00 — 2.00 —	Depth	of water vs Elapsed Time	(mins)	m/sec

	ıway D	esign f -valu	e from field te	ests	(F2C) IGSL
Contract:	Harbour Po	oint Bray		Contract No.	22734
Γest No.	PT202 - C	ycle3		Easting	726533.45
Client	Ballymore/			Northing 🔷	719396.76
Date:	28/09/20	20		Elevation	7.5
Summary o	of ground c	onditions			Ó.
from	to	Description			Ground water
0.00	0.20	Grey GRAVEL (MADE GROU	IND)		~O ₂
0.20	1.00	Brown gravelly very sandy	CLAY with a medium cob	ble content (MG)	
1.00	1.70	Medium dense greyish brow	wn slightly clayey very gr	avelly medium to	
		coarse SAND with a mediu	m cobble content and occ	casional boulders	Div
ield Data			Field Test		
Depth to	Elapsed	1	Depth of Pit (D)	1.70	lm
Water	Time		Width of Pit (B)	0.70	m
(m)	(min)		Length of Pit (L)	2.30	m
(111)	(111111)		Length of Fit (L)	2.30]'''
1.35	0.00		Initial danth to Water	1.35	lm
1.35	1.00		Initial depth to Water =	1.70	lm m
			Final depth to water =		m
1.40 1.42	2.00		Elapsed time (mins)=	20.00	J
	3.00		Top of name add!		1,,,
1.44	4.00		Top of permeable soil		lm
1.46	5.00		Base of permeable soil		Jm
1.47	6.00				
1.48	7.00				
1.50	8.00				
1.52	9.00		Daga ava-	1.01	12
1.53	10.00	**	Base area=	1.61	m2
1.57	12.00	*Av. side area of permeabl	-		m2
1.61	14.00		Total Exposed area =	2.66	m2
1.65	16.00				
1.68	18.00	Infiltration rate (f)	\/al afatarad /	mit averaged area	/it time a
1.70	20.00	Infiltration rate (f) =	Volume of water used/u	riit exposed area	/ unit time
			m/min or	0.0001765	m/sec
		f= 0.01059			
		f= 0.01059			
		f= 0.01059			
		f= 0.01059			
			water vs Elapsed Time (m	nins)	
	25.00			nins)	
				nins)	
nins)				nins)	
ne(mins)				nins)	
d Time(mins)				nins)	
apsed Time(mins)				nins)	
Elapsed Time(mins)				nins)	
Elapsed Time(mins)	15.00			nins)	
Elapsed Time(mins)	15.00		water vs Elapsed Time (m		2.00

Soaka	way D	esign f -value from field te	sts	(F2C) IGSL
	Harbour Po		Contract No.	22734
Test No.	PT203 - C	ycle1	Easting	726645.51
Client	Ballymore/	'ATKINS	Northing (719323.36
Date:	28/09/20		Elevation	3.11
	of ground c		````).
from	to	Description		Ground water
0.00	0.10	TOPSOIL		03
0.10	0.50	Greyish brown sandy very gravelly CLAY with cobble		Dry
0.50	1.70	Stiff grey sandy very gravelly CLAY with medium col	oble content	Drw St
ield Data	ı	<u>Field Test</u>		
Depth to	Elapsed	Depth of Pit (D)	1.70	m
Water	Time	Width of Pit (B)	0.70	m
(m)	(min)	Length of Pit (L)	2.20	m
1.36	0.00	Initial donth to Water -	1.36	m
1.36	1.00	Initial depth to Water =		m m
1.37		Final depth to water =		m
1.385	2.00 3.00	Elapsed time (mins)=	50.00	
1.385	4.00	Top of permeable soil		m
1.40	5.00	Base of permeable soil		m
1.41	6.00	base of permeable soil		111
1.42	7.00			
1.43	8.00			
1.435	9.00			
1.44	10.00	Base area=	1.54	m2
1.45	12.00	*Av. side area of permeable stratum over test period		m2
1.46	14.00	Total Exposed area =		m2
1.47	16.00			
1.48	18.00			
1.49	20.00	Infiltration rate (f) = Volume of water used/ur	nit exposed area /	unit time
1.53	25.00	· /	•	
1.57	30.00	f= 0.00415 m/min or	6.909E-05	m/sec
1.65	40.00		0.0002 00	, 555
1.70	50.00			
		Depth of water vs Elapsed Time (mir	ns)	
	60.00			
ns)	50.00		*	
ne(mi	40.00		•	
Elapsed Time(mins)	30.00		•	
Elaps	20.00			
	0.00			
	0.00	0.50 1.00 1	.50	2.00
	(1.17.7			

Juane	ıway D	esign f -value from field	u tests	(F2C) IGSL
Contract:			Contract No.	22734
Test No.	PT203 - C		Easting	726645.51
Client	Ballymore/		Northing (719323.36
Date:	28/09/20		Elevation	3.11
	of ground c			<u>`O.</u>
from	to	Description		Ground water
0.00	0.10	TOPSOIL		03
0.10	0.50	Greyish brown sandy very gravelly CLAY with		
0.50	1.70	Stiff grey sandy very gravelly CLAY with med	ium cobble content	D Drwy
ield Data		<u>Field Test</u>		
Depth to	Elapsed	Depth of Pit (D)	1.70]m
Water	Time	Width of Pit (B)	0.70	m
(m)	(min)	Length of Pit (Ĺ)	2.20	m
1.38	0.00	Initial depth to Wa	iter = 1.38	Пm
1.39	1.00	Final depth to wat		m m
1.40	2.00	Elapsed time (min		
1.405	3.00		,	
1.41	4.00	Top of permeable	soil	m
1.42	5.00	Base of permeable		m
1.43	6.00	'		_
1.44	7.00			
1.45	8.00			
1.46	9.00			
1.465	10.00	Base area=	1.54	m2
1.48	12.00	*Av. side area of permeable stratum over tes		m2
1.49	14.00	Total Exposed are		m2
1.505	16.00	1		_
1.51	18.00			
1.52	20.00	Infiltration rate (f) = Volume of water u	ised/unit exposed area	a / unit time
1.55	25.00			
1.59	30.00	f= 0.00399 m/min or	6.656E-0	5 m/sec
1.65	40.00			
1.70	50.00			
1.70	30.00			
		Depth of water vs Elapsed Ti	me (mins)	
	60.00			
_	50.00		•	
mins	40.00		•	
Time(30.00		•	
Elapsed Time(mins)	20.00		•	
Ela	10.00			
	0.00	0.50 1.00	1.50	2.00
		0.50 1.00	1.50	/ UU
	0.00	0.30	1.50	2.00



PT201 – 2 of 2





PT202 – 2 of 3







PT203 – 2 of 2



Appendix 6

DCP Test Records

PRCENED. 24/03/2025

Contract Harbour Point Bray Ref No.

22734

Date: 25/09/2020 Test No. DCR201

Client Ballymore

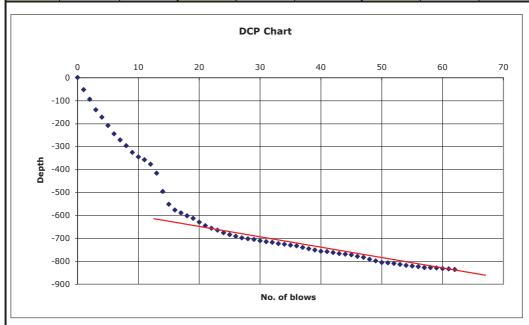
Location TP201 Direction

DCP Zero Reading Start of Test at: Approximate Chainage

63 0.5m below GL

Soil Description

			with low cobl					
No of	Total	Reading	No of	Total		No of	Total	Reading
Blows	Blows	mm	Blows	Blows	Reading mm	Blows	Blows	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) Blows

From 693 899 20

Penetration 206 42

mm / blow 4.9048

TRRL RN8 Log10 (CBR) = 2.48-1.057*Log10 (mm/blow)

Log10(CBR) = 1.750

> CBR = 56.236

Contract Harbour Point Bray Ref No.

TP202

22734

Date: 24/09/2020 Test No. DCR202

Client Ballymore

DCP Zero Reading

70

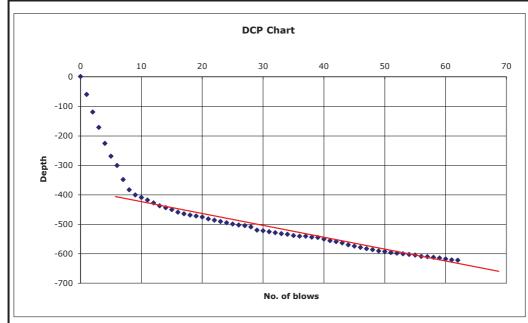
Location Direction

Soil Description

Start of Test at: Approximate Chainage 0.6m below GL

Firm, brown, sandy gravelly 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	70	1	21	553	1	42	630
0	0		<u> </u>			1		
1	1	130	1	22	557	!	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) Blows

From 471 693 Penetration 222 53

mm / blow 4.1887

TRRL RN8 Log10 (CBR) = 2.48-1.057*Log10 (mm/blow)

Log10(CBR) = 1.822

> CBR = 66.445

Contract Harbour Point Bray Ref No.

22734

Date: 25/09/2020 Test No. DCR203

Client Ballymore

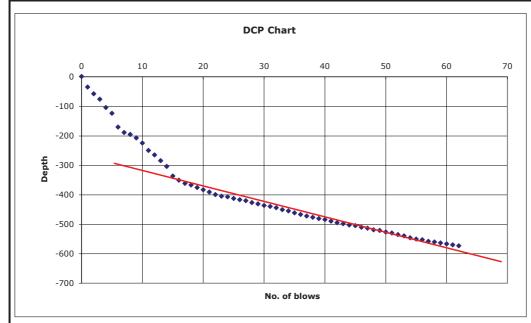
Location TP203 DCP Zero Reading Start of Test at:

65 0.5m below GL

Direction Soil Description

Approximate Chainage

	, gravelly very							
No of	Total	Reading	No of	Total		No of	Total	Reading
Blows	Blows	mm	Blows	Blows	Reading mm	Blows	Blows	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



Depth range (mm) Blows

From 402 639

Penetration 237 47

 $mm \ / \ blow$ 5.0426

TRRL RN8 Log10 (CBR) = 2.48-1.057*Log10 (mm/blow)

1.737 Log10(CBR) =

> CBR = 54.613

Contract Harbour Point Bray

Ref No. 22734

Test No. DCR204 Date: 25/09/2020

Client Ballymore

DCP Zero Reading

Location TP204

Direction

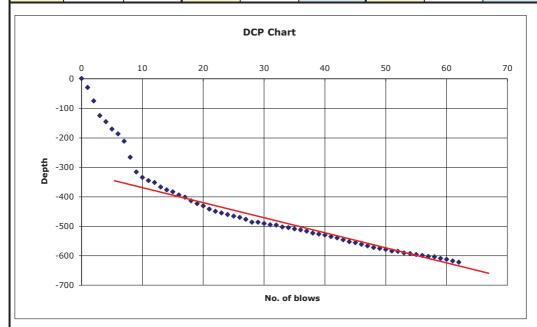
Start of Test at:

0.5m below GL

60

Soil Description Approximate Chainage
Firm, brown, gravelly very sandy CLAY with low cobble content.

	i, gravelly very							
No of	Total	Reading	No of	Total		No of	Total	Reading
Blows	Blows	mm	Blows	Blows	Reading mm	Blows	Blows	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



Depth range (mm) Blows

From 437 682 Penetration 245 48

 $mm \ / \ blow$ 5.1042

TRRL RN8 Log10 (CBR) = 2.48-1.057*Log10 (mm/blow)

Log10(CBR) = 1.732

> CBR = 53.917

Contract Harbour Point Bray Ref No. 22734 Date:

24/09/2020

Test No. DCR205

Client Ballymore

DCP Zero Reading

Location Direction TP205

Start of Test at: Approximate Chainage 0.6m below GL

Soil Description

Firm, brown, gravelly very sandy CLAY with low cobble content.

No of Total Reading No of Total

No of Blows	Total Blows	Reading mm	No of Blows	Total Blows		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



Depth range (mm) Blows From to 506 845 11 62

Penetration mm / blow 6.6471

TRRL RN8 Log10 (CBR) = 2.48-1.057*Log10 (mm/blow)

Log10(CBR) = 1.610

CBR = 40.783

*(03)202¢

Contract Harbour Point Bray
Ref No. 22734

22734 Ballymore **Date:** 24/09/2020

Test No. DCR207

Location TP207

Direction

Client

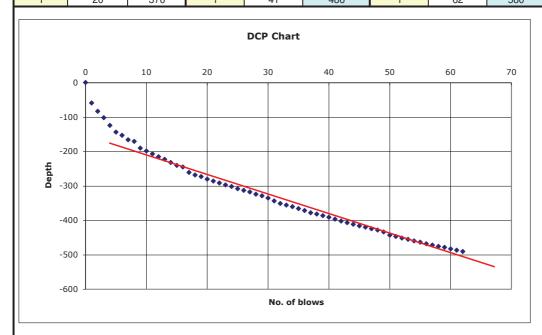
Start of Test at:

DCP Zero Reading

89 m

Soil Description Approximate Chainage
Firm, brown, gravelly very sandy CLAY with low cobble content.

	i, gravelly very		With low cob	bie content.				
No of	Total	Reading	No of	Total		No of	Total	Reading
Blows	Blows	mm	Blows	Blows	Reading mm	Blows	Blows	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) Blows From to

288 580

10 62

Penetration 292 52 mm / blow 5.6154

TRRL RN8 Log10 (CBR) = 2.48-1.057*Log10 (mm/blow)

Log10(CBR) = 1.688

CBR = 48.742

*103/2024

Contract Harbour Point Bray

TP208

Ref No. 22734 Ballymore Date: 24/09/2020

DCP Zero Reading

Test No. DCR208

Client

Location Direction

Start of Test at: Approximate Chainage

45 0.5m below GL

Soil Description

	sh brown, gra							
No of	Total	Reading	No of	Total		No of	Total	Reading
Blows	Blows	mm	Blows	Blows	Reading mm	Blows	Blows	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	900	- 1	//		- 1	60	



Depth range (mm) Blows

From	to
89	800
1	20

Penetration 711 19

mm / blow 37.4211

TRRL RN8 Log10 (CBR) = 2.48-1.057*Log10 (mm/blow)

Log10(CBR) = 0.817

CBR = 6.565

Contract Harbour Point Bray

Ref No. 22734 Client Ballymore Date: 25/09/2020 Test No. DCR209

TP209

Start of Test at: Approximate Chainage

DCP Zero Reading

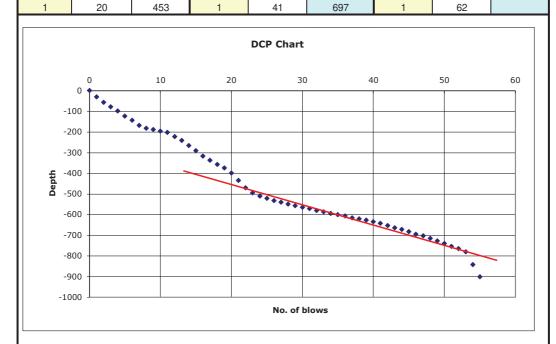
54 0.5m below GL

Direction Soil Description

Location

Firm, brown, gravelly very sandy CLAY with low cobble content.

No of	Total	Reading	No of	Total		No of	Total	Reading
Blows	Blows	mm	Blows	Blows	Reading mm	Blows	Blows	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	
4	20	450	4	44	007	4	00	



Depth range (mm) Blows

From 550 835 Penetration 285 30

mm / blow 9.5000

TRRL RN8 Log10 (CBR) = 2.48-1.057*Log10 (mm/blow)

Log10(CBR) = 1.447

> CBR = 27.961

Contract Harbour Point Bray

22734

Date: 25/09/2020 Test No. DCR210

Ref No. Client Ballymore

DCP Zero Reading

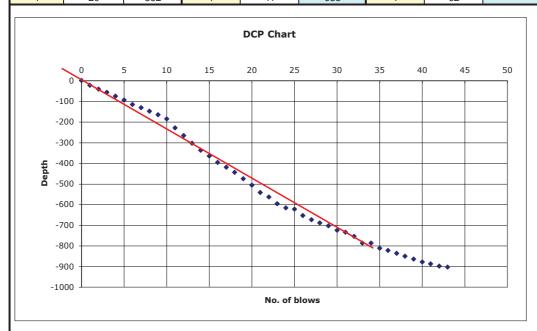
46

Location Direction TP210

Start of Test at: Approximate Chainage 0.5m below GL

Soil Description

	ı, sandy grave							
No of	Total	Reading	No of	Total		No of	Total	Reading
Blows	Blows	mm	Blows	Blows	Reading mm	Blows	Blows	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	



Depth range (mm) Blows

From 69 833

Penetration 764 33

mm / blow 23.1515

TRRL RN8 Log10 (CBR) = 2.48-1.057*Log10 (mm/blow)

Log10(CBR) = 1.038

> CBR = 10.905

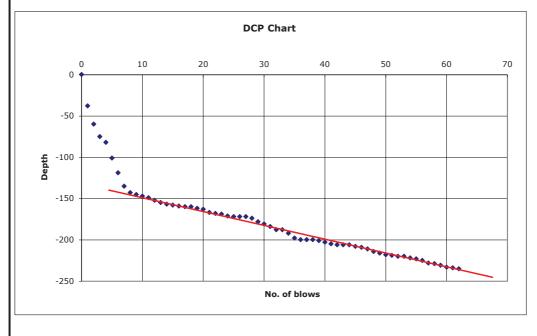
Test No. DCR211 Contract Harbour Point Bray Date: 24/09/2020 Ref No. 22734

Client Ballymore DCP Zero Reading 60

Location TP211

Direction 0.3m below GL Start of Test at: Soil Description Approximate Chainage Firm, greyish brown, sandy very gravelly CLAY with medium cobble content.

No of	Total	Reading	No of	Total	ne content.	No of	Total	Reading
					l_ <i></i>			_
Blows	Blows	mm	Blows	Blows	Reading mm	Blows	Blows	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



Depth range (mm) Blows

From 203 295

Penetration mm / blow 92 1.7037 54

TRRL RN8 Log10 (CBR) = 2.48-1.057*Log10 (mm/blow)

Log10(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

PRORING DE PAROS ROSS

Site Location Harbour View, Bray

Project No. 22734

Client Ballymore Group



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							

Site Location Harbour View, Bray

Project No. 22734

Client Ballymore Group



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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							

Site Location Harbour View, Bray

Project No. 22734

Client Ballymore Group



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							

Site Location Harbour View, Bray

Project No. 22734

Client Ballymore Group



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							

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							

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							

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							

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							

Site Location Harbour View, Bray

Project No. 22734

Client Ballymore Group

Borehole Number ROH04

)	IGSL

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							

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	
02(%)	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							

Site Location Harbour View, Bray

Project No. 22734

Client Ballymore Group

Window Sample Number WS01A

><	IGSL Ltd.

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							

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							

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							

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							

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							

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							

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	
02(%)	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							

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							

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		Gas & (Groundwater	Monitoring			1	
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Site Location	Harbour View, Bra	ay					XX	
Project No.	22734						*002	\IGSL/
Client	Ballymore Group						,05	Ltd.
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		

Access gate

locked

Access gate

locked

COMMENTS

Access gate locked

Appendix 8

Data Logger Reports

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Ар	opendix 8 ogger Reports 06-10-20 to 04-11-20 04-11-20 to 03-12-20
Data Lo	ogger Reports
	06-10-20 to 04-11-20
RC203	04-11-20 to 03-12-20
	03-12-20 to 16-12-20
	06-10-20 to 04-11-20
RC208	04-11-20 to 03-12-20
	03-12-20 to 16-12-20
	06-10-20 to 04-11-20
RC219	04-11-20 to 03-12-20
	03-12-20 to 16-12-20
	06-10-20 to 04-11-20
RC223	04-11-20 to 03-12-20
	03-12-20 to 16-12-20
	06-10-20 to 04-11-20
ROH01	04-11-20 to 03-12-20
	03-12-20 to 16-12-20
	06-10-20 to 04-11-20
ROH02	04-11-20 to 03-12-20
	03-12-20 to 16-12-20
	06-10-20 to 04-11-20
ROH04	04-11-20 to 03-12-20
	03-12-20 to 16-12-20

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	
				-O ₃	
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 04:00	11.740	9.481		
17	07/10/2020 05:00	11.740	9.481		
	•				
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 05:00	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	·O ₂		
56	08/10/2020 21:00	11.637	9.819	2		
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	•	_	9.757			
	09/10/2020 09:00	11.637				
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 10:00	11.637	9.959			
95	10/10/2020 11:00	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			

Harbour Point Bray

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



T			1444	
115	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 19:00	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			9.996	
	12/10/2020 01:00	11.585		
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 22:00	11.740	9.634	
155	13/10/2020 00:00	11.637	9.707	
156	13/10/2020 00:00	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	