Appendix 6. Land, Soils & Geology

6.1 River Quarter Bray Ground Investigation Report – Factual 2024 (IGSL)

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

6.1 River Quarter Bray Ground Investigation Report – Factual 2024 (IGSL)

IGSL Limited

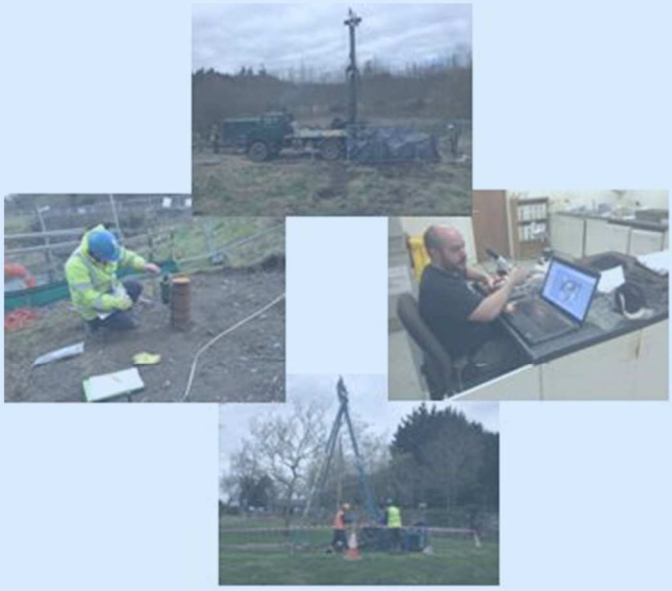
Atkins

Ground Investigation for River Quarter Bray Co. Wicklow

Factual Ground Investigation Report

Report No. 24991

May 2024



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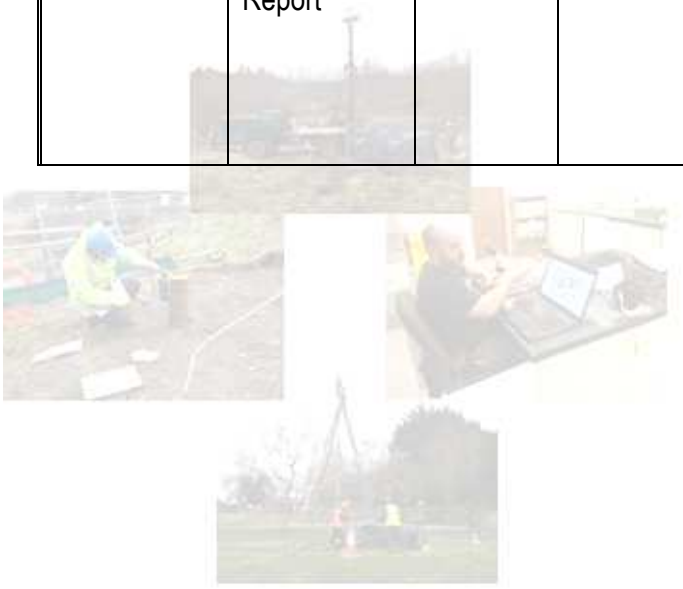

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FOREWORD

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 have been carried out by IGSL 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 14688-1:2018 Geotechnical Investigation and Testing – Identification and Classification of Soil, Part 1: Identification and Description
- EN ISO 14688-2:2018 Geotechnical Investigation and Testing – Identification and Classification of Soil, Part 2: Classification Principles
- EN ISO 14689-1:2018 Geotechnical Investigation and Testing - Identification & Classification of Rock, Part 1: Identification & Description

Reporting

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

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+A1:2011. 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 variations 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.

Rotary Drilling Procedures

Rotary drilling methods are used to recover very heavily over-consolidated glacial till and bedrock samples in line with Section 3.5 of IS EN 1997-2:2007 and IS EN ISO 22475-1. Open hole drilling methods (odex or symmetrix) are utilized to advance the drillholes through granular dominant superficial deposits, with coring in hard ('cemented') fine grained or cohesive glacial deposits and bedrock.

In-Situ Testing

Standard penetration tests are conducted by IGSL 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+A1:2011 and the Energy Ratio (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+A1:2011).

Groundwater

The depth of entry of any influx of groundwater is recorded during the course of boring or drilling 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.

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 1997-2:2007 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.

Where appropriate Class 1 thin wall undisturbed tube samples (UT100) are obtained in fine grained soils and strictly meet the requirements of EN 1997-2:2007 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 1997-2:2007) is shown in Table A.

Table A – Details of Sample Quality Requirements

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

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

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

Engineering Logging

Soil and rock identification is based on the examination of the samples recovered and conforms with IS EN ISO 14688-1:2018 and IS EN ISO 14689-1:2018. Rock weathering classification conforms to IS EN ISO 14689-1:2018 while discontinuities (bedding planes, joints, cleavages, faults etc) are classified in accordance with 4.3.3 of IS EN ISO 14689-1:2018. Rock mechanical indices (TCR, SCR, RQD) are defined in accordance with IS EN ISO 22475-1:2006.

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 company policy to discard soil samples one month after submission of our final report.

1.0 Introduction and Objectives

It is proposed to construct a development at a site at Bray, Co. Wicklow. The multi-storey development will be mixed-use (residential, retail and leisure).

The site location is as shown on Figure 1 with the approximate site outline shown in blue.

Figure 1 – Site Location (Base Mapping – Google Earth Professional)

IGSL Limited were appointed by Ballymore Development to conduct a ground investigation at the site under the technical direction and supervision of consulting engineers, Atkins. The objectives of the investigation were to ascertain the ground and groundwater conditions, and to produce a report which will assist in the geotechnical design of the new development.

This report presents the fieldwork data and the results of laboratory testing.

2.0 Scope of Works

The programme of exploratory works included the following:

- 15 no. cable percussive boreholes
- 7 no. rotary coreholes at selected borehole locations
- 1 no. monitoring well drilled using “open hole” techniques
- 8 no. cone penetration tests (CPT)
- 6 no. mechanically excavated trial pits
- 6 no. window samples
- 6 no. dynamic cone penetrometer (TRL DCP) tests at trial pit locations
- Groundwater and gas monitoring
- A programme of geotechnical, chemical and environmental laboratory testing

The exploratory hole locations are shown on the as-surveyed aerial plan in Appendix 10 of this report.

2.1 Cable Percussive Boreholes

Boreholes were constructed in 15 locations (BH301 to BH315) using a Dando 2000 rig equipped with 200 mm casing. The bored depths ranged from 9.0 to 14.2 metres below existing ground level (m BGL).

A hand dug inspection pit was excavated at each location prior to commencing drilling works and the locations were scanned for services using a CAT detection tool.

During the course of boring, in-situ Standard Penetration Tests (SPT) were undertaken at regular intervals. Samples were also recovered to assist in the visual description of recovered soils and to provide specimens for laboratory testing. In low strength soils, driven tube samples (U100) were obtained.

Instances of groundwater ingress were recorded and monitored for a further 20 minutes to permit the water to rise. Standpipes were installed in BH307 and BH312 to permit long-term monitoring of groundwater levels.

The borehole records are presented in Appendix 1 of this report.

2.2 Rotary Coreholes

Rotary coreholes RC302, 304, 308, 309, 10, 313 and 314 were drilled at corresponding boreholes to investigate for the presence of bedrock. A Beretta T-440 tracked coring rig was used.

Symmetrix “open hole” techniques were used to advance through the upper deposits, reverting to rotary coring techniques on the first indications of bedrock. It is noted that Symmetrix drilling

produces highly pulverised drill returns and therefore, soil descriptions based on these returns are very approximate.

Standard Penetration Tests (SPT) were undertaken within overburden soils to provide an indication of soil strength below the borehole refusal depths.

Standpipes were installed in RC302, 304 and 308 to permit long-term groundwater monitoring.

Rotary coring of rock was carried out using an air/mist flush to maximise recovery. Cores of 78 mm diameter were recovered to the drilled depths of between 16 and 25 m BGL and these were placed securely in wooden storage boxes.

The recovered core was inspected by a qualified engineering geologist and logged in detail at IGSL's laboratory. Records detailing the Total Core Recovery (TCR), Solid Core Recovery (SCR) and Rock Quality Designation (RQD) were produced. Core records also include a fracture log (spacing between successive core joints measured from the cores).

All cores were labelled and photographed for inclusion in the report. Photographs are presented digitally for ease of browsing and to permit close examination at high resolution. Corehole records and photographs are included in Appendix 2 of this report.

2.3 Monitoring Well

Symmetrix "open hole" techniques were used to form a monitoring well (ROH3), which was drilled to a depth of 20 m BGL.

The Open Hole record in Appendix 3 offers an interpretation of the soil stratification. However, it is noted that Symmetrix drilling produces highly pulverised drill returns and therefore, soil descriptions based on these returns are very approximate.

2.4 Trial Pits

Trial pitting was performed at 6 locations (TP301 to TP306) using a JCB excavator. The trial pits were logged and sampled by an IGSL geotechnical engineer in accordance with BS 5930:2015 +A1:2020.

Hand shear vane tests were performed within the upper soils to permit an assessment of the in-situ shear strengths.

Pit sidewalls were assessed in terms of their short-term stability and any instances of groundwater ingress were recorded. Bulk soil samples were also recovered to provide specimens for laboratory testing.

The samples were placed in heavy duty polyethene bags and sealed before being transported to Naas for laboratory testing. For this project, environmental samples were obtained and placed in appropriate containers.

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 in Appendix 4 include descriptions of the soils encountered, groundwater conditions and stability of the pit sidewalls.

2.5 Window Samples

Window samples were undertaken in 6 locations (WS6A, 6B, 7A, 7B, 8A and 8B) in order to obtain undisturbed samples of the upper soils and to facilitate accurate sub-sampling for environmental analysis.

Window samples are advanced by driving a steel sampling tube under constant percussive effort. The soils enter the tube within a protective plastic liner, which is withdrawn after every metre of progress. The liners are then placed in wooden channel boxes and transported to the IGSL offices where they are logged and sub-sampled as required.

Environmental sub-samples were placed in appropriate containers (amber glass jars and vials).

Standpipes were installed in all window samples to permit long-term monitoring of groundwater levels. Gas valves were fitted to the standpipes at WS06A, 07A and 08A.

The window sample records are presented in Appendix 5 of this report.

2.6 TRL Dynamic Cone Penetrometer

DCP tests (DCP301 to DCP306) were undertaken at corresponding trial pit locations in order to estimate the in-situ CBR values for the subgrade soils.

The results of each test are presented in terms of the DCP blow-count (mm/blow) against depth of penetration and the depth range for calculation purposes is generally related to a specific soil layer.

The DCP test records are included in Appendix 6. It is noted that a depth range commencing at c. 0.6 m BGL (i.e. typical road subgrade level) has generally been selected for the purpose of CBR calculation. However, alternative depth ranges can be selected and the equivalent CBR calculated using the equation provided on the record.

2.7 CPT Testing

A wheel-mounted CPT rig was deployed by In Situ SI to undertake eight piezocone penetration tests (CPTU) and four dissipation tests. A re-test at CPT303 resulted in a total of nine CPTs undertaken.

The final depths of the tests were determined when the maximal safe capacity of the equipment was reached. These ranged between 8.8 and 11.8 m BGL.

Direct measurement of Cone Resistance, q_c, Sleeve Friction, f_s and Porewater Pressure, u_2 was undertaken during the CPT test. Dissipation tests were undertaken at CPT301 (2 nr.), CPT304 and CPT307.

The CPTu test records and dissipation test results are presented in the In Situ SI report, which is presented under separate cover.

2.8 Groundwater and Gas Monitoring

Standpipes were installed in boreholes BH307 and BH312, in rotary coreholes RC302, 304 and 308 and in all window samples in order to permit long term monitoring of groundwater levels.

Gas valves were also fitted to the standpipes at window samples WS06A, 07A and 08A to permit monitoring of ground-gas levels.

The results of groundwater and gas monitoring are presented in Appendix 7 of this report.

2.9 As-Built Survey

On completion of fieldworks, the location (x,y) and elevation (z) of each exploratory location was determined by detailed survey using GPS Realtime Kinetic survey instrument.

The Irish Transverse Mercator (ITM) survey co-ordinates and ground levels related to Malin Head Datum are presented on the exploratory hole records and these were used to plot the as-built locations on the site plans in Appendix 10 of this report.

3.0 Laboratory Testing

Laboratory test results are segregated and presented as follows:

- Appendix 8 – Geotechnical Laboratory Testing
- Appendix 9 – Chemical and Environmental Testing

Geotechnical testing of soils comprised:

- Moisture Content
- Atterberg Limits (Plasticity Index)
- Particle Size Distribution (PSD)
- Unconsolidated Undrained (UU) Triaxial
- Consolidation (Oedometer)
- Point Load Strength Index (PLSI) on rock core samples

Chemical and environmental testing was undertaken by Eurofins Chemtest and included:

- Sulphate Suite (Acid Soluble, Water Soluble, Total Sulphate)
- pH
- Organic content
- Test Suite E (as per Atkins Specification)
- RILTA Suite
- Salt Content (Salinity) with results expressed as electrical conductivity (µS/cm)
- Test Suite F (as per Atkins Specification) *

* Water samples were recovered from the standpipes at ROH03, WS06, WS07 and WS08. Two samples were obtained from each location, coinciding with high and low tide levels. Both samples were tested in accordance with Test Suite F (as per Atkins Specification)

4.0 References

1. BS 5930:2015+A1:2020 Code of Practice for Site Investigations; British Standards Institute
2. Manual of Contract Documents for Highway Works, Volume 5, Section 3, Ground Investigation, Part 4: Specification
3. BRE Special Digest 1: 2005 – Concrete in aggressive ground
4. EN 1997-3; Eurocode 7: Geotechnical Design – Part 3: Design assisted by field testing; 1997
5. BS1377; British Standard Methods of Test for Soils for Civil Engineering Purposes; British Standards Institute;1990.
6. BRE Digest 365, September 1991, British Research Establishment
7. Manual of Contract Documents for Road Works, Volume 1: Specification for Road Works (March 2007)
8. Manual of Soil Laboratory Testing, Volume 3; K.H. Head
9. ISRM – Suggested Methods for Determining Point Load Strength
10. ISRM – Suggested Methods for Determining the Uniaxial Compressive Strength and Deformability of Rock Materials
11. TRL Report 447- Sulfate specification for structural backfills
12. CIRIA C580
13. Specification for Roadworks Series 600 – Specification for Roadworks

Appendix 1

Cable Percussive Boreholes

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH301**
		SHEET	Sheet 1 of 2
CO-ORDINATES	726,547.71 E 719,292.19 N	**RIG TYPE**	Dando 2000
		BOREHOLE DIAMETER (mm)	200
GROUND LEVEL (m AOD)	3.13	**BOREHOLE DEPTH (m)**	13.80
		DATE COMMENCED	17/10/2023
		DATE COMPLETED	19/10/2023
CLIENT	Ballymore Group	**SPT HAMMER REF. NO.**	
ENGINEER	Atkins	**ENERGY RATIO (%)**	
		BORED BY	P.Thomas
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	TOPSOIL		3.03	0.10						
	Very soft brown very sandy SILT/CLAY with some gravel									
1					AA203016	B	1.00		N = 6 (2, 2, 2, 2, 1, 1)	
2					AA203017	B	2.00		N = 4 (1, 0, 1, 1, 1, 1)	
			0.53	2.60	Failed	U	2.50			
	Very soft grey very sandy SILT with some fibres									
3					AA203018	B	3.00		N = 3 (1, 0, 1, 0, 1, 1)	
					AA203019	U	3.50	100%rec		
4					AA203020	B	4.00		N = 2 (1, 0, 0, 1, 0, 1)	
			-1.47	4.60	AA203021	U	4.50	50%rec		
	Loose grey very silty SAND		-1.97	5.10	AA203022	B	5.00		N = 1 (1, 0, 0, 0, 1, 0)	
5	Very soft grey sandy SILT with some shells									
6					AA203023	B	6.00		N = 2 (1, 0, 0, 1, 0, 1)	
7					AA203024	B	7.00		N = 5 (1, 0, 1, 1, 1, 2)	
					AA203025	B	7.50			
8					AA203026	B	8.00		N = 3 (1, 0, 1, 0, 1, 1)	
9					AA203027	B	9.00		N = 5 (1, 0, 1, 1, 1, 2)	
			-6.37	9.50						
	Soft grey/brown silty/clayey PEAT									

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
13.6	13.8	2	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS Extremely wet ground conditions ..2.5 Hrs moving rig into position with tracked dumper . CAT scanned location.

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

BOREHOLE NO. BH301
SHEET Sheet 2 of 2

CO-ORDINATES 726,547.71 E 719,292.19 N
GROUND LEVEL (m AOD) 3.13

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 13.80

DATE COMMENCED 17/10/2023
DATE COMPLETED 19/10/2023

CLIENT Ballymore Group
ENGINEER Atkins

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY P.Thomas
PROCESSED BY F.C

RECEIVED: 24/03/2025

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
10	Soft grey/brown silty/clayey PEAT *(continued)*				AA203028	B	10.00		N = 6 (1, 1, 1, 1, 2, 2)	
			-7.57	10.70						
11	Dense grey fine to coarse sandy silty GRAVEL with some cobbles and some decayed wood fragments noted				AA203029	B	11.00		N = 33 (4, 7, 7, 8, 8, 10)	
12					AA203030	B	12.00		N = 42 (6, 7, 9, 10, 9, 14)	
13					AA203031	B	13.00		N = 50/225 mm (8, 12, 12, 15, 23)	
					AA203032	B	13.50			
			-10.67	13.80					N = 50/75 mm (25, 50)	
14	Obstruction End of Borehole at 13.80 m									
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
13.6	13.8	2	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
10.70	10.70	No	2.10	20	Rapid

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS Extremely wet ground conditions ..2.5 Hrs moving rig into position with tracked dumper . CAT scanned location.

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

BOREHOLE NO. BH302
SHEET Sheet 1 of 2

CO-ORDINATES 726,501.96 E
719,299.82 N
GROUND LEVEL (m AOD) 2.49

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 12.50

DATE COMMENCED 19/10/2023
DATE COMPLETED 23/10/2023

CLIENT Ballymore Group
ENGINEER Atkins

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY P.Thomas
PROCESSED BY F.C

RECEIVED: 24/03/2025

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	TOPSOIL		2.19	0.30						
	Soft brown very sandy SILT/CLAY with occasional gravel				AA203033	B	1.00		N = 6 (1, 0, 1, 1, 2, 2)	
1										
					AA203034	B	2.00		N = 7 (1, 1, 1, 2, 2, 2)	
2			-0.21	2.70						
	Loose grey fine silty sandy GRAVEL				AA203035	B	3.00		N = 6 (11, 1, 2, 2, 1, 1)	
3			-1.01	3.50						
	Very soft grey very sandy SILT with organic lenses				AA203036	B	4.00		N = 2 (1, 1, 0, 1, 0, 1)	
4					Failed	U	4.00			
					AA203037	B	5.00		N = 2 (1, 0, 0, 1, 0, 1)	
5					AA203038	U	5.50			
					AA203039	B	6.00		N = 9 (1, 2, 2, 2, 3, 2)	
6			-3.71	6.20						
	Very soft brown/grey slightly sandy SILT with shells				AA203040	B	7.00		N = 3 (1, 0, 1, 1, 0, 1)	
7										
					AA203041	U	8.00		N = 2 (1, 0, 0, 1, 0, 1)	
8					AA203042	B	8.00			
					AA203043	B	9.00		N = 1 (1, 0, 0, 0, 0, 1)	
9			-7.01	9.50						
	Very soft grey/brown peaty SILT									

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
11.8	12	0.5	
12.3	12.5	1.5	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.70	2.70	3.50	1.00	20	Moderate
4.20	4.20	6.20	No	20	Slow

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS Site was waterlogged .2.5 hrs moving rig into position with tracked dumper .CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH302**
		SHEET	Sheet 2 of 2
CO-ORDINATES	726,501.96 E 719,299.82 N	**RIG TYPE**	Dando 2000
		BOREHOLE DIAMETER (mm)	200
GROUND LEVEL (m AOD)	2.49	**BOREHOLE DEPTH (m)**	12.50
		DATE COMMENCED	19/10/2023
		DATE COMPLETED	23/10/2023
CLIENT	Ballymore Group	**SPT HAMMER REF. NO.**	
ENGINEER	Atkins	**ENERGY RATIO (%)**	
		BORED BY	P.Thomas
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)	Samples: Recovery	Field Test Results	Standpipe Details
10	Very soft grey/brown peaty SILT *(continued)*				AA203044	B	10.00		N = 2 (1, 0, 0, 1, 0, 1)	
			-8.21	10.70						
11	Dense grey fine to coarse slightly silty sandy GRAVEL with some cobbles				AA203045	B	11.00		N = 35 (3, 3, 6, 8, 9, 12)	
12					AA203046	B	12.00		N = 37 (10, 7, 10, 8, 10, 9)	
			-10.01	12.50					N = 50/75 mm (25, 50)	
13	Obstruction End of Borehole at 12.50 m									
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
11.8	12	0.5	
12.3	12.5	1.5	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS Site was waterlogged .2.5 hrs moving rig into position with tracked dumper .CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

BOREHOLE NO. BH303
SHEET Sheet 1 of 2

CO-ORDINATES 726,587.12 E
719,244.15 N
GROUND LEVEL (m AOD) 2.03

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 14.00

DATE COMMENCED 24/10/2023
DATE COMPLETED 26/10/2023

CLIENT Ballymore Group
ENGINEER Atkins

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY P.Thomas
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	MADE GROUND (Comprised of hardcore stone fill)		1.53	0.50						
	Firm grey sandy SILT with angular cobbles (Made Ground)		0.93	1.10	AA209320	B	0.50			
1	Very soft grey very sandy SILT				AA209321	B	1.00		N = 13 (2, 2, 3, 3, 4, 3)	
2			-0.17	2.20	AA209322	B	2.00		N = 1 (1, 0, 0, 1, 0, 0)	
	Loose grey/brown silty very sandy fine GRAVEL				AA209323	B	3.00		N = 9 (1, 1, 2, 2, 2, 3)	
3										
4					AA209324	B	4.00		N = 9 (1, 2, 2, 2, 3, 2)	
5			-3.47	5.50	AA209325	B	5.00		N = 1 (1, 0, 0, 0, 1, 0)	
	Very soft grey/brown peaty SILT				AA209326	U	6.00	100%rec		
6										
7					AA209327	B	7.00		N = 1 (1, 0, 0, 0, 1, 0)	
8					AA209328	U	8.00	100%rec		
9					AA209329	B	9.00		N = 1 (1, 0, 0, 1, 0, 0)	
			-7.77	9.80						

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
0.1	0.5	1	
12.4	12.9	0.75	
14	14.2	2	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
3.00	3.00	No	1.00	20	Moderate
10.00	10.00	No	1.50	20	Rapid

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
26-10-23	4.00	4.00	2.00	Start of 2nd day

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH303**
		SHEET	Sheet 2 of 2
CO-ORDINATES	726,587.12 E 719,244.15 N	**RIG TYPE**	Dando 2000
		BOREHOLE DIAMETER (mm)	200
GROUND LEVEL (m AOD)	2.03	**BOREHOLE DEPTH (m)**	14.00
		DATE COMMENCED	24/10/2023
		DATE COMPLETED	26/10/2023
CLIENT	Ballymore Group	**SPT HAMMER REF. NO.**	
		BORED BY	P.Thomas
ENGINEER	Atkins	**ENERGY RATIO (%)**	
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
10	Loose to medum dense grey very sandy GRAVEL (Possibly very gravelly Sand) *(continued)*				AA209330	B	10.00		N = 5 (1, 0, 1, 1, 1, 2)	
11			-9.27	11.30	AA209331	B	11.00		N = 28 (4, 4, 5, 6, 8, 9)	
12	Dense grey fine to coarse GRAVEL with some cobbles and occasional boulders				AA209332	B	12.00		N = 43 (6, 8, 9, 9, 10, 15)	
13					AA209333	B	13.00		N = 50/225 mm (6, 10, 17, 17, 16)	
14	Obstruction End of Borehole at 14.00 m		-11.97	14.00	AA209334	B	14.00		N = 50/150 mm (20, 30, 40, 10)	
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
0.1	0.5	1	
12.4	12.9	0.75	
14	14.2	2	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH304**
		SHEET	Sheet 1 of 2
CO-ORDINATES	726,415.29 E 719,296.09 N	**RIG TYPE**	Dando 2000
		BOREHOLE DIAMETER (mm)	200
GROUND LEVEL (m AOD)	3.38	**BOREHOLE DEPTH (m)**	12.90
		DATE COMMENCED	15/10/2023
		DATE COMPLETED	17/10/2023
CLIENT	Ballymore Group	**SPT HAMMER REF. NO.**	
ENGINEER	Atkins	**ENERGY RATIO (%)**	
		BORED BY	P.Thomas
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	TOPSOIL		3.28	0.10						
	Very soft brown very sandy SILT with occasional gravel and some root fibres/organics				AA203001	B	1.00		N = 7 (1, 2, 1, 2, 2, 2)	
			1.38	2.00						
2	Very soft grey/brown sandy SILT				AA203002 AA203003	U B	2.00 2.00	100%rec	N = 1 (1, 1, 0, 0, 1, 0)	
			0.78	2.60						
3	Loose brown very silty SAND (Possibly very sandy Silt)				AA203004	B	3.00		N = 4 (1, 0, 1, 0, 1, 2)	
			-0.72	4.10	AA203005	B	4.00		N = 5 (1, 1, 1, 1, 1, 2)	
	Very soft brown SILT/CLAY with roots		-1.12	4.50						
5	Very soft grey SILT				AA203006	B	5.00		N = 4 (1, 1, 2, 1, 0, 1)	
			-2.12	5.50	Failed	U	5.50			
6	Loose grey very silty SAND (Possibly very sandy Silt)				AA203007	B	6.00		N = 2 (1, 0, 0, 1, 0, 1)	
			-3.22	6.60						
7	Soft grey and grey/brown sandy SILT with some shells				AA203008	B	7.00		N = 6 (1, 1, 1, 1, 2, 2)	
					AA203009	U	7.50	100%rec		
8					AA203010	B	8.00		N = 5 (1, 0, 1, 1, 1, 2)	
9					AA203011	B	9.00		N = 5 (1, 1, 1, 1, 1, 2)	
					AA203012	U	9.50	100%rec		

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
11.5	11.7	1	
12.7	12.9	2	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.60	2.60	3.30	2.50	20	Slow
5.50	5.50	6.10	1.50	20	Rapid

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS Very wet ground conditions .2hrs moving rig nto position with tracked dumper.CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH304**
		SHEET	Sheet 2 of 2
CO-ORDINATES	726,415.29 E 719,296.09 N	**RIG TYPE**	Dando 2000
GROUND LEVEL (m AOD)	3.38	**BOREHOLE DIAMETER (mm)**	200
		BOREHOLE DEPTH (m)	12.90
		DATE COMMENCED	15/10/2023
		DATE COMPLETED	17/10/2023
CLIENT	Ballymore Group	**SPT HAMMER REF. NO.**	
ENGINEER	Atkins	**ENERGY RATIO (%)**	
		BORED BY	P.Thomas
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
10	Soft grey and grey/brown sandy SILT with some shells *(continued)*				AA203013	B	10.00		N = 3 (1, 1, 1, 1, 0, 1)	
			-7.12	10.50	Failed	U	10.50			
	Dense grey fine to coarse slightly silty sandy GRAVEL with occasional cobbles									
11					AA203014	B	11.00		N = 47 (3, 9, 10, 14, 12, 11)	
12					AA203015	B	12.00		N = 48 (7, 8, 12, 14, 11, 11)	
			-9.52	12.90						
13	Obstruction End of Borehole at 12.90 m								N = 50/75 mm (25, 50)	
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
11.5	11.7	1	
12.7	12.9	2	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
10.50	10.50	No	1.80	20	Rapid

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS Very wet ground conditions .2hrs moving rig nto position with tracked dumper.CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

BOREHOLE NO. BH305
SHEET Sheet 1 of 2

CO-ORDINATES 726,439.63 E 719,268.89 N
GROUND LEVEL (m AOD) 2.17

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

DATE COMMENCED 11/10/2023
DATE COMPLETED 12/10/2023

CLIENT Ballymore Group
ENGINEER Atkins

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY P.Thomas
PROCESSED BY F.C

RECEIVED: 24/03/2025

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	TOPSOIL		1.97	0.20						
	Soft brown very sandy SILT/CLAY		0.87	1.30	AA197072	B	1.00		N = 8 (1, 1, 2, 3, 2, 1)	
2	Very soft to soft grey very sandy SILT/CLAY with some gravel and occasional wood fragments (Possibly Made Ground)				AA197073	B	2.00		N = 8 (1, 1, 2, 2, 2, 2)	
3			-1.23	3.40	AA197074	B	3.00		N = 1 (1, 1, 0, 0, 1, 0)	
	Very soft grey SILT with occasional organic fibres				AA197075	B	4.00		N = 3 (1, 0, 1, 0, 1, 1)	
4			-2.73	4.90	AA197076	U	4.50	100%rec		
5	Very soft grey slightly gravelly silty SAND		-2.93	5.10	AA197077	B	5.00		N = 2 (1, 0, 0, 1, 0, 1)	
	Very soft to soft grey/brown sandy SILT with shells and occasional fibres				AA197078	B	6.00		N = 4 (1, 1, 1, 1, 1, 1)	
6					AA197079	U	6.50	100%rec		
7					AA197080	B	7.00		N = 5 (1, 0, 1, 1, 1, 2)	
8					AA197081	B	8.00		N = 4 (1, 0, 1, 1, 1, 1)	
					AA197082	U	8.50	100%rec		
9					AA197083	B	9.00		N = 7 (1, 1, 1, 2, 2, 2)	
			-7.83	10.00						

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
10.5	10.7	1.5	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
3.20	3.20	3.40	1.20	20	Slow
4.90	4.90	5.20	1.70	20	Moderate

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS 1.5hrs moving rig into position .CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

BOREHOLE NO. BH305
SHEET Sheet 2 of 2

CO-ORDINATES 726,439.63 E 719,268.89 N
GROUND LEVEL (m AOD) 2.17

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

DATE COMMENCED 11/10/2023
DATE COMPLETED 12/10/2023

CLIENT Ballymore Group
ENGINEER Atkins

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY P.Thomas
PROCESSED BY F.C

RECEIVED: 24/03/2025

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)	Samples: Recovery	Field Test Results	Standpipe Details
10	Soft dark brown PEAT		-8.53	10.70	AA197084	B	10.00		N = 9 (1, 1, 2, 2, 2, 3)	
	Obstruction End of Borehole at 10.70 m								N = 16/75 mm (25, 34, 16)	
11										
12										
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
10.5	10.7	1.5	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS 1.5hrs moving rig into position .CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

BOREHOLE NO. BH306
SHEET Sheet 1 of 2

CO-ORDINATES 726,485.61 E
719,232.69 N
GROUND LEVEL (m AOD) 3.33

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 14.20

DATE COMMENCED 10/10/2023
DATE COMPLETED 11/10/2023

CLIENT Ballymore Group
ENGINEER Atkins

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY P.Thomas
PROCESSED BY F.C

RECEIVED: 24/03/2025

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	TOPSOIL		3.13	0.20						
	Soft brown very sandy SILT/CLAY with some lenses/bands of fine sandy gravel				AA197055	B	1.00		N = 6 (1, 1, 1, 2, 1, 2)	
1					Failed	U	1.50			
					AA197056	B	2.00		N = 5 (1, 2, 1, 1, 1, 2)	
2			0.73	2.60						
	Firm grey sandy SILT/CLAY		0.23	3.10	AA197057	B	3.00		N = 11 (1, 2, 2, 2, 3, 4)	
3	Loose to medium dense grey fine silty sandy GRAVEL				Failed	U	3.50			
					AA197058	B	4.00		N = 10 (2, 2, 3, 3, 2, 2)	
4			-0.97	4.30						
	Soft brown grey SILT with some shells				AA197059	B	5.00		N = 4 (1, 0, 1, 1, 1, 1)	
5			-2.17	5.50	AA197060	U	5.50	90%rec		
	Very soft dark brown PEAT				AA197061	B	6.00		N = 2 (1, 0, 0, 1, 0, 1)	
6			-2.97	6.30						
	Soft grey and grey/brown SILT with some seashells				AA197062	U	6.50	100%rec		
					AA197063	B	7.00		N = 6 (1, 1, 1, 1, 2, 2)	
7										
					AA197064	B	8.00		N = 4 (1, 0, 1, 1, 1, 1)	
8					AA197065	U	8.50	100%rec		
					AA197066	B	9.00		N = 2 (1, 1, 1, 0, 1, 0)	
9			-6.17	9.50						
	Loose grey fine very sandy silty GRAVEL		-6.57	9.90						

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
13.6	13.8	1	
14	14.2	2	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
3.80	3.80	4.30	2.50	20	Moderate
9.50	9.50	No	5.30	20	Rapid

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS Very wet ground conditions..2hrs moving rig into position with tracked dumper .CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH306**
		SHEET	Sheet 2 of 2
CO-ORDINATES	726,485.61 E 719,232.69 N	**RIG TYPE**	Dando 2000
		BOREHOLE DIAMETER (mm)	200
GROUND LEVEL (m AOD)	3.33	**BOREHOLE DEPTH (m)**	14.20
		DATE COMMENCED	10/10/2023
		DATE COMPLETED	11/10/2023
CLIENT	Ballymore Group	**SPT HAMMER REF. NO.**	
ENGINEER	Atkins	**ENERGY RATIO (%)**	
		BORED BY	P.Thomas
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
10	Soft dark brown PEAT *(continued)*				AA197067	B	10.00		N = 7 (1, 1, 1, 2, 2, 2)	
			-7.47	10.80						
11	Dense grey fine to coarse slightly silty sandy GRAVEL with occasional cobbles				AA197068	B	11.00		N = 31 (2, 3, 6, 7, 9, 9)	
12					AA197069	B	12.00		N = 43 (3, 6, 7, 10, 11, 15)	
13					AA197070	B	13.00		N = 56 (6, 11, 12, 14, 15, 15)	
14			-10.87	14.20	AA197071	B	14.00		N = 50/150 mm (16, 9, 22, 28)	
	Obstruction End of Borehole at 14.20 m									
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
13.6	13.8	1	
14	14.2	2	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS Very wet ground conditions..2hrs moving rig into position with tracked dumper .CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

BOREHOLE NO. BH307
SHEET Sheet 1 of 2

CO-ORDINATES 726,513.11 E 719,151.54 N
GROUND LEVEL (m AOD) 2.06

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 11.30

DATE COMMENCED 04/10/2023
DATE COMPLETED 05/10/2023

CLIENT Ballymore Group
ENGINEER Atkins

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY P.Thomas
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results
0	MADE GROUND (Comprised of compacted hardcore road fill)								
1			0.86	1.20	AA192091	B	1.00		N = 50/225 mm (9, 16, 16, 17, 17)
	Medium dense grey fine to coarse sandy GRAVEL (Possibly Made Ground)								
2			-0.34	2.40	AA192092	B	2.00		N = 30 (4, 5, 7, 6, 7, 10)
	Loose grey fine very silty sandyy GRAVEL								
3			-1.24	3.30	AA192093	B	3.00		N = 12 (5, 3, 3, 3, 3, 3)
	Soft grey/brown SILT with organics								
4					AA192094	B	4.00		N = 4 (1, 0, 0, 1, 1, 2)
5					AA192095	B	5.00		N = 5 (1, 0, 1, 1, 1, 2)
					AA192096	U	5.50	100%rec	
			-3.84	5.90					
6	Very soft grey sandy SILT				AA192097	B	6.00		N = 2 (1, 0, 0, 1, 0, 1)
					AA192098	U	6.50	100%rec	
7					AA192099	B	7.00		N = 2 (1, 0, 0, 1, 0, 1)
8			-6.14	8.20	AA192100	B	8.00		N = 3 (1, 0, 1, 0, 1, 1)
	Very soft brown slightly sandy SILT with some shells				AA192101	U	8.50	100%rec	
9					AA192102	B	9.00		N = 3 (1, 0, 1, 0, 1, 1)
			-7.44	9.50					
	Dense grey fine to coarse GRAVEL with some cobbles and occasional boulders				Failed	B	9.50		

Standpipe Details

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
1.1	1.5	1	
10.5	10.7	1.5	
11.1	11.3	2	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.10	2.10	2.30	No	20	Seepage
3.10	3.10	6.50	1.20	20	Moderate
9.50	9.50	No	4.00	20	Rapid

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
05-10-23	10.70	1.00	10.70	50mm SP

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH307**
		SHEET	Sheet 2 of 2
CO-ORDINATES	726,513.11 E 719,151.54 N	**RIG TYPE**	Dando 2000
GROUND LEVEL (m AOD)	2.06	**BOREHOLE DIAMETER (mm)**	200
		BOREHOLE DEPTH (m)	11.30
		DATE COMMENCED	04/10/2023
		DATE COMPLETED	05/10/2023
CLIENT	Ballymore Group	**BORED BY**	P.Thomas
ENGINEER	Atkins	**PROCESSED BY**	F.C
		SPT HAMMER REF. NO.	
		ENERGY RATIO (%)	

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)	Samples: Recovery	Field Test Results	Standpipe Details
10	Dense grey fine to coarse GRAVEL with some cobbles and occasional boulders *(continued)*				AA192103	B	10.00		N = 62 (7, 6, 12, 15, 17, 18)	
					AA192104	B	10.50			
11			-9.24	11.30					N = 50/75 mm (25, 29, 50)	
	Obstruction End of Borehole at 11.30 m									
12										
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
1.1	1.5	1	
10.5	10.7	1.5	
11.1	11.3	2	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
05-10-23	10.70	1.00	10.70	50mm SP

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

BOREHOLE NO. BH308
SHEET Sheet 1 of 2

CO-ORDINATES 726,401.68 E
719,235.32 N
GROUND LEVEL (m AOD) 3.82

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 12.60

DATE COMMENCED 13/10/2023
DATE COMPLETED 14/10/2023

CLIENT Ballymore Group
ENGINEER Atkins

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY P.Thomas
PROCESSED BY F.C

RECEIVED: 24/05/2025

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	TOPSOIL		3.62	0.20						
	Firm brown sandy SILT/CLAY with some gravel and occasional roots		2.82	1.00						
1	Soft brown sandy SILT/CLAY with some gravel				AA197085	B	1.00		N = 14 (3, 4, 4, 4, 3, 3)	
2					AA197086	B	2.00		N = 8 (2, 3, 3, 2, 2, 1)	
	Loose grey silty SAND		1.52	2.30						
	Very soft grey very sandy SILT with some organic fibres		1.02	2.80						
3					AA197087	B	3.00		N = 4 (1, 0, 1, 1, 1, 1)	
4					AA197088	B	4.00		N = 6 (1, 1, 2, 2, 1, 1)	
					AA197089	U	4.50	100%rec		
5					AA197090	B	5.00		N = 3 (1, 0, 1, 0, 1, 1)	
					AA197091	U	5.50	90%rec		
			-2.08	5.90						
6	Loose grey fine to coarse GRAVEL		-2.38	6.20	AA197092	B	6.00		N = 1 (1, 0, 0, 1, 0, 0)	
	Loose grey silty SAND									
7					AA197093	B	7.00		N = 5 (1, 0, 1, 1, 1, 2)	
8					AA197094	B	8.00		N = 4 (1, 0, 1, 1, 1, 1)	
					AA197095	U	8.50	100%rec		
9			-5.28	9.10	AA197096	B	9.00		N = 4 (1, 0, 1, 0, 1, 2)	
	Loose grey fine to coarse GRAVEL (Blowing back to 6.50m)		-5.48	9.30						
	Firm grey/brown SILT/CLAY with occasional fibres									

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
12.2	12.6	1.5	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
5.90	5.90	6.20	4.70	20	Slow
9.10	9.10	9.30	4.50	20	Moderate

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS 2.25hrs moving rig into position .CAT scanned location and hand dug inspection pit was carried out . Blowing fines noted .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH308**
		SHEET	Sheet 2 of 2
CO-ORDINATES	726,401.68 E 719,235.32 N	**RIG TYPE**	Dando 2000
		BOREHOLE DIAMETER (mm)	200
GROUND LEVEL (m AOD)	3.82	**BOREHOLE DEPTH (m)**	12.60
		DATE COMMENCED	13/10/2023
		DATE COMPLETED	14/10/2023
CLIENT	Ballymore Group	**SPT HAMMER REF. NO.**	
ENGINEER	Atkins	**ENERGY RATIO (%)**	
		BORED BY	P.Thomas
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)	Samples: Recovery	Field Test Results	Standpipe Details
10	Firm grey/brown SILT/CLAY with occasional fibres *(continued)*				AA197097	B	10.00		N = 11 (1, 0, 2, 2, 3, 4)	
			-6.88	10.70						
	Dense grey fine to coarse silty GRAVEL		-7.28	11.10	AA197098	B	11.00		N = 40 (5, 8, 8, 10, 10, 12)	
11	Very stiff brown sandy gravelly silty CLAY with occasional cobbles				AA197099	B	11.50			
			-7.98	11.80						
	Dense grey fine to coarse GRAVEL with some cobbles and occasional boulders								N = 50 (4, 7, 10, 11, 14, 15)	
12			-8.78	12.60	AA197100	B	12.50			
	Obstruction End of Borehole at 12.60 m									
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
12.2	12.6	1.5	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
11.80	11.80	No	4.50	20	Moderate

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS 2.25hrs moving rig into position .CAT scanned location and hand dug inspection pit was carried out . Blowing fines noted .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH309**
		SHEET	Sheet 1 of 2
CO-ORDINATES	726,395.31 E 719,161.66 N	**RIG TYPE**	Dando 2000
		BOREHOLE DIAMETER (mm)	200
GROUND LEVEL (m AOD)	3.55	**BOREHOLE DEPTH (m)**	13.50
		DATE COMMENCED	26/10/2023
		DATE COMPLETED	27/10/2023
CLIENT	Ballymore Group	**SPT HAMMER REF. NO.**	
ENGINEER	Atkins	**ENERGY RATIO (%)**	
		BORED BY	P.Allan
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	TOPSOIL		3.35	0.20						
	Brown sandy SILT/CLAY		3.15	0.40						
	Very soft brown sandy SILT/CLAY with occasional gravel				AA197101	B	0.50			
1					AA191709	B	1.00		N = 2 (1, 0, 0, 1, 0, 1)	
			1.55	2.00						
2	Very soft brown SILT/CLAY				AA191710	B	2.00		N = 1 (1, 0, 0, 0, 1, 0)	
			0.55	3.00						
3	Very soft grey very sandy SILT				AA191711	B	3.00		N = 1 (1, 0, 0, 0, 1, 0)	
4					AA191712	U	4.00	70%rec		
5					AA191713	B	5.00		N = 1 (1, 0, 0, 0, 0, 1)	
			-2.45	6.00						
6	Very soft grey/brown silty PEAT				AA191714	U	6.00	100%rec		
			-3.45	7.00						
7	Very soft grey SILT				AA191715	B	7.00		N = 2 (1, 0, 0, 1, 0, 1)	
8					AA191716	U	8.00	100%rec		
9					AA191717	B	9.00		N = 2 (1, 0, 1, 0, 0, 1)	
			-5.95	9.50						
	Very soft grey/brown silty PEAT									

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
12.6	12.9	1	
13.3	13.5	1	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
4.50	4.50	No	4.00	20	Slow

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH309**
		SHEET	Sheet 2 of 2
CO-ORDINATES	726,395.31 E 719,161.66 N	**RIG TYPE**	Dando 2000
GROUND LEVEL (m AOD)	3.55	**BOREHOLE DIAMETER (mm)**	200
		BOREHOLE DEPTH (m)	13.50
		DATE COMMENCED	26/10/2023
		DATE COMPLETED	27/10/2023
CLIENT	Ballymore Group	**SPT HAMMER REF. NO.**	
ENGINEER	Atkins	**ENERGY RATIO (%)**	
		BORED BY	P.Allan
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)	Samples: Recovery	Field Test Results	Standpipe Details
10	Very soft grey/brown silty PEAT *(continued)*		-6.85	10.40	AA191718	B	10.00		N = 5 (1, 0, 1, 1, 1, 2)	
11	Medium dense to dense grey very sandy GRAVEL with occasional cobbles (Possibly very gravelly SAND)		-7.95	11.50	AA191719	B	11.00		N = 28 (3, 3, 4, 6, 9, 9)	
12	Dense brown fine to coarse GRAVEL with some cobbles				AA191720	B	12.00		N = 46 (3, 6, 8, 8, 15, 15)	
13					AA191721	B	13.00		N = 50/225 mm (6, 6, 11, 17, 22)	
			-9.95	13.50					N = 50/150 mm (20, 5, 40, 10)	
	Obstruction End of Borehole at 13.50 m									
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
12.6	12.9	1	
13.3	13.5	1	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
10.40	10.40	No	1.50	20	Rapid

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

BOREHOLE NO. BH310
SHEET Sheet 1 of 2

CO-ORDINATES 726,415.09 E
719,078.79 N
GROUND LEVEL (m AOD) 2.15

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 12.00

DATE COMMENCED
DATE COMPLETED

CLIENT Ballymore Group
ENGINEER Atkins

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY P.Allan
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	MADE GROUND (Comprised of compact stone roadfill)		1.65	0.50						
1	Soft grey/brown sandy SILT/CLAY with occasional gravel		0.15	2.00	AA197279	B	0.50			
					AA197280	B	1.00		N = 10 (1, 2, 3, 3, 2, 2)	
2	Loose brown very sandy GRAVEL		-1.75	3.90	AA197281	B	2.00		N = 8 (2, 3, 3, 2, 1, 2)	
3					AA197282	B	3.00		N = 6 (1, 0, 1, 1, 2, 2)	
4	Very soft grey/brown peaty SILT		-2.35	4.50	AA197283	B	4.00		N = 1 (1, 0, 0, 1, 0, 0)	
5	Loose grey silty SAND				AA197284	B	5.00		N = 2 (1, 0, 0, 1, 0, 1)	
6			-4.65	6.80	AA197285	B	6.00		N = 1 (1, 0, 0, 1, 0, 0)	
7	Soft grey/bown peaty SILT				AA197286	B	7.00		N = 1 (1, 0, 0, 0, 1, 0)	
8					AA197287	U	8.00	50%rec		
9					AA197288	B	9.00		N = 6 (1, 2, 2, 2, 1, 1)	
			-7.85	10.00						

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
10.7	10.9	1	
11.7	12	1	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.00	2.00	No	1.00	20	Moderate
10.00	10.00	No	2.30	20	Slow

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH310**
		SHEET	Sheet 2 of 2
CO-ORDINATES	726,415.09 E 719,078.79 N	**RIG TYPE**	Dando 2000
GROUND LEVEL (m AOD)	2.15	**BOREHOLE DIAMETER (mm)**	200
		BOREHOLE DEPTH (m)	12.00
		DATE COMMENCED	
		DATE COMPLETED	
CLIENT	Ballymore Group	**SPT HAMMER REF. NO.**	
ENGINEER	Atkins	**ENERGY RATIO (%)**	
		BORED BY	P.Allan
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)	Samples: Recovery	Field Test Results	Standpipe Details
10	Medium dense to dense grey/brown GRAVEL with occasional cobbles				AA197289	B	10.00		N = 19 (1, 2, 2, 3, 6, 8)	
11					AA197290	B	11.00		N = 50/225 mm (6, 8, 15, 15, 20)	
12	Obstruction End of Borehole at 12.00 m		-9.85	12.00					N = 50/75 mm (25, 50)	
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
10.7	10.9	1	
11.7	12	1	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH311**
		SHEET	Sheet 1 of 2
CO-ORDINATES	726,395.31 E 719,161.66 N	**RIG TYPE**	Dando 2000
GROUND LEVEL (m AOD)	3.72	**BOREHOLE DIAMETER (mm)**	200
		BOREHOLE DEPTH (m)	11.00
		DATE COMMENCED	06/10/2023
		DATE COMPLETED	07/10/2023
CLIENT	Ballymore Group	**SPT HAMMER REF. NO.**	
ENGINEER	Atkins	**ENERGY RATIO (%)**	
		BORED BY	P.Allan
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	TOPSOIL		3.52	0.20						
	Very soft brown sandy SILT/CLAY				AA197251	B	0.50			
1					AA197252	B	1.00		N = 6 (1, 0, 1, 1, 2, 2)	
			1.72	2.00						
2	Very soft grey SILT				AA197253	B	2.00		N = 1 (1, 0, 0, 1, 0, 0)	
3					AA197254	B	3.00		N = 1 (1, 0, 0, 0, 0, 1)	
4					AA197255	B	4.00		N = 1 (1, 0, 0, 1, 0, 0)	
			-1.28	5.00						
5	Very soft grey/brown peaty SILT				AA197256	U	5.00	100%rec		
6					AA197257	B	6.00		N = 1 (1, 0, 0, 1, 0, 0)	
7					AA197258	U	7.00	100%rec		
			-3.78	7.50						
	Very soft grey SILT									
8					AA197259	B	8.00		N = 3 (1, 0, 1, 0, 1, 1)	
9					AA197260	U	9.00	100%rec		
			-5.98	9.70						

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
10.3	10.5	1	
10.9	11	2	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
7.50	7.50	No	4.00	20	Moderate
9.70	9.70	No	4.00	20	Moderate

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH311**
		SHEET	Sheet 2 of 2
CO-ORDINATES	726,395.31 E 719,161.66 N	**RIG TYPE**	Dando 2000
GROUND LEVEL (m AOD)	3.72	**BOREHOLE DIAMETER (mm)**	200
		BOREHOLE DEPTH (m)	11.00
		DATE COMMENCED	06/10/2023
		DATE COMPLETED	07/10/2023
CLIENT	Ballymore Group	**SPT HAMMER REF. NO.**	
ENGINEER	Atkins	**ENERGY RATIO (%)**	
		BORED BY	P.Allan
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)	Samples: Recovery	Field Test Results	Standpipe Details
10	Dense grey very sandy GRAVEL with occasional cobbles (Possibly very gravelly Sand) *(continued)*				AA197261	B	10.00		N = 44 (5, 6, 10, 10, 12, 12)	
			-7.28	11.00						
11	Obstruction End of Borehole at 11.00 m								N = 50/150 mm (18, 7, 40, 10)	
12										
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
10.3	10.5	1	
10.9	11	2	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
07-10-23	11.00	Nil	4.00	End of BH

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

BOREHOLE NO. BH312
SHEET Sheet 1 of 2

CO-ORDINATES 726,273.70 E
719,149.65 N
GROUND LEVEL (m AOD) 4.14

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 10.60

DATE COMMENCED 09/11/2023
DATE COMPLETED 11/11/2023

CLIENT Ballymore Group
ENGINEER Atkins

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY P.Allan
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	TOPSOIL		3.84	0.30						
	Very soft brown sandy SILT/CLAY				AA192495	B	0.50			
1					AA192496	U	1.00	70%rec	N = 5 (1, 0, 1, 1, 1, 2)	
2					AA192497	B	2.00			
			1.14	3.00						
3	Very soft grey sandy SILT				AA192498	B	3.00		N = 1 (1, 0, 0, 1, 0, 0)	
4					AA192499	U	4.00	70%rec		
5					AA192500	B	5.00		N = 1 (1, 0, 0, 1, 0, 0)	
			-1.86	6.00						
6	Very soft brown SILT				AA192501	U	6.00	80%rec		
7					AA192502	B	7.00		N = 5 (1, 0, 1, 1, 1, 2)	
			-3.86	8.00						
8	Very soft grey sandy SILT				AA192503	U	8.00	100%rec		
9					AA192504	B	9.00		N = 2 (1, 0, 0, 1, 0, 1)	
			-5.36	9.50						
	Dense brown GRAVEL with some cobbles									

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
10.2	10.5	2	

WATER STRIKE DETAILS

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

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
11-11-23	10.50	1.50	10.50	50mm SP

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

BOREHOLE NO. BH312
SHEET Sheet 2 of 2

CO-ORDINATES 726,273.70 E 719,149.65 N
GROUND LEVEL (m AOD) 4.14

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 10.60

DATE COMMENCED 09/11/2023
DATE COMPLETED 11/11/2023

CLIENT Ballymore Group
ENGINEER Atkins

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY P.Allan
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)	Samples: Recovery	Field Test Results	Standpipe Details
10	Dense brown GRAVEL with some cobbles *(continued)*		-6.36	10.50	AA192505	B	10.00		N = 50/150 mm (10, 15, 20, 30) N = 50/75 mm (25, 50)	
	Obstruction End of Borehole at 10.60 m									
11										
12										
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
10.2	10.5	2	

WATER STRIKE DETAILS

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

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
11-11-23	10.50	1.50	10.50	50mm SP

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

BOREHOLE NO. BH313
SHEET Sheet 1 of 1

CO-ORDINATES 726,223.34 E 719,195.19 N
GROUND LEVEL (m AOD) 3.41

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 9.70

DATE COMMENCED 14/11/2023
DATE COMPLETED 14/11/2023

CLIENT Ballymore Group
ENGINEER Atkins

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY P.ALLAN
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	TOPSOIL		3.31	0.10						
	Soft brown sandy SILT/CLAY with occasional gravel				AA204379	B	0.50			
1					AA204380	B	1.00		N = 9 (1, 2, 2, 2, 2, 3)	
			1.91	1.50						
	Loose brown very sandy GRAVEL (Possibly very gravelly Sand)									
2					AA204381	B	2.00		N = 5 (1, 0, 1, 1, 1, 2)	
			0.41	3.00						
3	Loose grey peaty GRAVEL				AA204382	B	3.00		N = 2 (1, 0, 0, 1, 0, 1)	
			-0.29	3.70						
	Very soft grey SILT									
4					AA204383	B	4.00		N = 1 (1, 0, 0, 0, 0, 1)	
			-1.59	5.00						
5	Very soft hrey sandy SILT				AA204384	U	5.00	100%rec		
6					AA204385	U	6.00	60%rec		
7					AA204386	B	7.00		N = 1 (1, 0, 0, 1, 0, 0)	
			-4.39	7.80						
8	Dense grey very sandy fine to coarse GRAVEL with occasional cobbles (Possibly very gravelly Sand)				AA204387	B	8.00		N = 32 (3, 4, 6, 8, 9, 9)	
9					AA204388	B	9.00		N = 50/225 mm (9, 10, 15, 20, 15)	
			-6.29	9.70						
	Obstruction								N = 50/75 mm (25, 40, 50)	

HARD STRATA/BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
8.8	9	0.75	
9.4	9.7	1	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
1.50	1.50	No	0.50	20	Slow

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
15-11-23	9.70	Nil	4.00	End of BH

REMARKS 2.5hrs standing on access to BH.CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH314**
		SHEET	Sheet 1 of 2
CO-ORDINATES	726,300.42 E 719,010.17 N	**RIG TYPE**	Dando 2000
GROUND LEVEL (m AOD)	2.01	**BOREHOLE DIAMETER (mm)**	200
		BOREHOLE DEPTH (m)	12.10
		DATE COMMENCED	08/11/2023
		DATE COMPLETED	09/11/2023
CLIENT	Ballymore Group	**SPT HAMMER REF. NO.**	
ENGINEER	Atkins	**ENERGY RATIO (%)**	
		BORED BY	P.Allan
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	TOPSOIL		1.81	0.20						
	MADE GROUND (Comprised of gravel with brick fragments)		1.01	1.00	AA167259	B	0.50			
1	Loose to medium dense brown very sandy GRAVEL (Possibly very gravelly Sand)				AA167260	B	1.00		N = 25 (2, 3, 6, 8, 6, 5)	
2					AA167261	B	2.00		N = 7 (1, 2, 2, 2, 2, 1)	
3			-1.99	4.00	AA167262	B	3.00		N = 16 (3, 4, 6, 3, 4, 3)	
4	Very soft grey/brown peaty SILT				AA167263	B	4.00		N = 3 (1, 0, 1, 1, 0, 1)	
5					AA167264	U	5.00	30%rec		
6					AA167265	B	6.00		N = 1 (1, 0, 0, 1, 0, 0)	
7			-5.49	7.50	AA167266	U	7.00	70%rec		
	Very soft grey sandy SILT									
8			-6.49	8.50	AA167267	B	8.00		N = 4 (1, 0, 0, 1, 1, 2)	
	Very soft grey gravelly SILT		-6.99	9.00						
9	Medium dense to dense grey GRAVEL with some cobbles				AA167268	B	9.00		N = 28 (2, 2, 3, 6, 8, 11)	

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
0.6	0.8	0.5	
10.7	10.9	0.75	
11.8	12.1	1	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.00	2.00	No	1.40	20	Moderate
5.00	5.00	No	1.00	20	Slow

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**BOREHOLE NO.**	**BH314**
		SHEET	Sheet 2 of 2
CO-ORDINATES	726,300.42 E 719,010.17 N	**RIG TYPE**	Dando 2000
GROUND LEVEL (m AOD)	2.01	**BOREHOLE DIAMETER (mm)**	200
		BOREHOLE DEPTH (m)	12.10
		DATE COMMENCED	08/11/2023
		DATE COMPLETED	09/11/2023
CLIENT	Ballymore Group	**SPT HAMMER REF. NO.**	
ENGINEER	Atkins	**ENERGY RATIO (%)**	
		BORED BY	P.Allan
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)	Samples: Recovery	Field Test Results	Standpipe Details
10	Medium dense to dense grey GRAVEL with some cobbles *(continued)*				AA167269	B	10.00		N = 26 (3, 4, 6, 6, 6, 8)	
11					AA167270	B	11.00		N = 50 (6, 8, 10, 15, 15, 10)	
12			-10.09	12.10					N = 50/150 mm (10, 15, 30, 20)	
	Obstruction End of Borehole at 12.10 m									
13										
14										
15										
16										
17										
18										
19										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
0.6	0.8	0.5	
10.7	10.9	0.75	
11.8	12.1	1	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

BOREHOLE NO. BH315
SHEET Sheet 1 of 1

CO-ORDINATES 726,059.55 E 719,147.54 N
GROUND LEVEL (m AOD) 4.08

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 9.00

DATE COMMENCED 16/11/2023
DATE COMPLETED 17/11/2023

CLIENT Ballymore Group
ENGINEER Atkins

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY P.Allan
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	TOPSOIL		3.98	0.10						
	Very soft to soft brorown sandy SILT/CLAY				AA197272	B	0.50			
1					AA197273	B	1.00		N = 4 (1, 0, 1, 2, 1, 0)	
2					AA197274	U	2.00	50%rec		
			1.38	2.70						
	Very soft grey sandy SILT		1.08	3.00						
3	Very soft brown very sandy GRAVEL (Possibly very gravelly Sand)				AA197275	B	3.00		N = 6 (1, 1, 2, 1, 2, 1)	
4					AA197276	B	4.00		N = 2 (1, 0, 0, 1, 0, 1)	
			-0.92	5.00						
5	Very soft grey SILT				AA197277	B	5.00		N = 1 (1, 0, 0, 1, 0, 0)	
6					AA197278	U	6.00	90%rec		
			-2.92	7.00						
7	Loose grey silty GRAVEL		-3.42	7.50	AA197279	B	7.00		N = 8 (1, 0, 1, 2, 2, 3)	
	Dense grey/brown GRAVEL with some cobbles									
8					AA197280	B	8.00		N = 50/150 mm (8, 15, 30, 20)	
			-4.92	9.00						
9	Obstruction End of Borehole at 9.00 m								N = 50/75 mm (25, 50)	

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
7.6	8	1	
8.7	9	1	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
3.00	3.00	No	1.00	20	Moderate
7.00	7.00	No	2.50	20	Moderate

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS CAT scanned location and hand dug inspection pit was carried out .

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

IGSL BH LOG 24991.GPJ IGSL.GDT 26/3/24

Appendix 2

Rotary Corehole Records

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC302
SHEET Sheet 1 of 3

CO-ORDINATES 726,501.96 E
719,299.82 N
GROUND LEVEL (mOD) 2.49

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 28/01/2024
DATE LOGGED 28/01/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
1									1.50	0.99		
2								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy CLAY	3.00	-0.51		
3								SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey SAND	4.70	-2.21		
4												
5								SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey SILT	7.50	-5.01		
6												
7												
8								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
9												

REMARKS

Hole cased from 0.00-21.00m.

WATER STRIKE DETAILS

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

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
01-02-24	22.00	1.00	22.00	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
01-02-24	23.50	21.00	2.95	Water levels recorded 5 mins after end of drilling.

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**DRILLHOLE NO**	**RC302**
		SHEET	Sheet 2 of 3
CO-ORDINATES	726,501.96 E 719,299.82 N	**DATE DRILLED**	28/01/2024
GROUND LEVEL (mOD)	2.49	**DATE LOGGED**	28/01/2024
CLIENT	Ballymore Group	**DRILLED BY**	IGSL - JK
ENGINEER	Atkins	**LOGGED BY**	D. O' Shea
RIG TYPE	T-440		
FLUSH	Air/Mist		
INCLINATION (deg)	-90		
CORE DIAMETER (mm)	78		

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY *(continued)*				
11									11.70	-9.21		
12								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL				
13												
14												
15									15.30	-12.81		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of GRAVEL	16.00	-13.51		
16								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				N = 39 (4, 7, 8, 9, 11, 11)
17												
18												N = 32 (5, 10, 7, 8, 11, 6)
19									19.50	-17.01		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravelly CLAY				N = 43 (9, 7, 9, 13, 11, 10)

REMARKS

Hole cased from 0.00-21.00m.

WATER STRIKE DETAILS

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

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
01-02-24	22.00	1.00	22.00	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
01-02-24	23.50	21.00	2.95	Water levels recorded 5 mins after end of drilling.

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC302
SHEET Sheet 3 of 3

CO-ORDINATES 726,501.96 E
719,299.82 N
GROUND LEVEL (mOD) 2.49

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 28/01/2024
DATE LOGGED 28/01/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravelly CLAY *(continued)*				
21									21.50	-19.01		N = 28/75 mm (27, 23, 28)
	21.70							SYMMETRIX DRILLING: No recovery, observed by driller as returns of weathered ROCK	21.70	-19.21		
22		100	10	0				Weak, structureless, green fine-grained SANDSTONE (Greywacke) moderately weathered Core Predominantely non-intact				
	22.50											
23		100	17	17				Discontinuities are closely spaced, smooth to rough, fractures are irregularApertures are open, locally clay smeared, locally moderately iron-oxide stained. Dips are irregular.				
	23.50								23.50	-21.01		
24								End of Borehole at 23.50 m				
25												
26												
27												
28												
29												

REMARKS

Hole cased from 0.00-21.00m.

WATER STRIKE DETAILS

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

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
01-02-24	22.00	1.00	22.00	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
01-02-24	23.50	21.00	2.95	Water levels recorded 5 mins after end of drilling.

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC304
SHEET Sheet 1 of 3

CO-ORDINATES 726,415.29 E
719,296.09 N
GROUND LEVEL (mOD) 3.38

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 02/02/2024
DATE LOGGED 06/02/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
1												
2												
3												
4												
5												
6									6.00	-2.62		
7								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
8												
9									9.00	-5.62		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				

REMARKS

Hole cased from 0.00-22.30m.

WATER STRIKE DETAILS

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

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
06-02-24	25.00	1.00	16.00	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
06-02-24	25.00	22.30	20.30	Water levels recorded 5 mins after end of drilling.

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC304
SHEET Sheet 2 of 3

CO-ORDINATES 726,415.29 E
719,296.09 N
GROUND LEVEL (mOD) 3.38

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 02/02/2024
DATE LOGGED 06/02/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY *(continued)*				
11									11.25	-7.87		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	12.00	-8.62		
12								SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SAND				
13												N = 43 (5, 7, 9, 11, 11, 12)
14												
15												N = 45 (3, 7, 9, 11, 12, 13)
16									16.30	-12.92		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				N = 46 (5, 6, 9, 10, 12, 15)
17												
18												N = 51 (5, 7, 11, 13, 13, 14)
19												N = 54 (7, 9, 11, 13, 17, 13)

REMARKS

Hole cased from 0.00-22.30m.

WATER STRIKE DETAILS

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

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
06-02-24	25.00	1.00	16.00	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
06-02-24	25.00	22.30	20.30	Water levels recorded 5 mins after end of drilling.

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC304
SHEET Sheet 3 of 3

CO-ORDINATES 726,415.29 E
719,296.09 N
GROUND LEVEL (mOD) 3.38

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 02/02/2024
DATE LOGGED 06/02/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY *(continued)*	21.00	-17.62		
21								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL	22.20	-18.82		N = 54 (9, 9, 19, 11, 12, 12)
22	22.20	64	0	0				Weak, structureless, green fine-grained SANDSTONE (Greywacke) moderately weathered Core Predominantely non-intact Discontinuities are closely spaced, smooth to rough, fractures are irregularApertures are open, locally clay smeared, locally moderately iron-oxide stained. Dips are irregular.				N = 55/150 mm (9, 17, 23, 32)
23	23.30	100	6	0								
24	24.10	100	8	0								
	25.00								25.00	-21.62		
25								End of Borehole at 25.00 m				
26												
27												
28												
29												

REMARKS

Hole cased from 0.00-22.30m.

WATER STRIKE DETAILS

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

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
06-02-24	25.00	1.00	16.00	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
06-02-24	25.00	22.30	20.30	Water levels recorded 5 mins after end of drilling.

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**DRILLHOLE NO**	**RC308**
		SHEET	Sheet 1 of 3
CO-ORDINATES	726,401.68 E 719,235.32 N	**DATE DRILLED**	08/02/2024
GROUND LEVEL (mOD)	3.82	**DATE LOGGED**	09/02/2024
CLIENT	Ballymore Group	**DRILLED BY**	IGSL - JK
ENGINEER	Atkins	**LOGGED BY**	D. O' Shea
RIG TYPE	T-440		
FLUSH	Air/Mist		
INCLINATION (deg)	-90		
CORE DIAMETER (mm)	78		

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy CLAY				
1												
2									2.80	1.02		
3								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
4												
5												
6												
7												
8												
9												

REMARKS

Hole cased from 0.00-21.00m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
11.80	11.80				Slow

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
09-02-24	23.50	10.00	23.50	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
09-02-24	23.50	21.00	3.20	Water levels recorded 5 mins after end of drilling.

IGSL RC FI 10M 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC308
SHEET Sheet 2 of 3

CO-ORDINATES 726,401.68 E
719,235.32 N
GROUND LEVEL (mOD) 3.82

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 08/02/2024
DATE LOGGED 09/02/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY *(continued)*				
11									11.80	-7.98		
12								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL				N = 45 (4, 7, 10, 11, 12, 12)
13												
14									14.80	-10.98		
15								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				N = 40 (3, 6, 5, 9, 15, 11)
16												
17												N = 46 (4, 5, 9, 7, 15, 15)
18												N = 49 (5, 9, 10, 12, 13, 14)
19									19.30	-15.48		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL				N = 56 (6, 9, 17, 16, 11, 12)

REMARKS

Hole cased from 0.00-21.00m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
11.80	11.80				Slow

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
09-02-24	23.50	10.00	23.50	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
09-02-24	23.50	21.00	3.20	Water levels recorded 5 mins after end of drilling.

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC308
SHEET Sheet 3 of 3

CO-ORDINATES 726,401.68 E
719,235.32 N
GROUND LEVEL (mOD) 3.82

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 08/02/2024
DATE LOGGED 09/02/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL *(continued)*				
	21.00								21.00	-17.18		
21		64	0	0				Weak, structureless, green fine-grained SANDSTONE (Greywacke) moderately weathered Core Predominantely non-intact				N = 51/150 mm (11, 17, 23, 28)
22	22.10											
	22.50	88	0	0				Discontinuities are closely spaced, smooth to rough, fractures are irregularApertures are open, locally clay smeared, locally moderately iron-oxide stained. Dips are irregular.				
	22.90	100	0	0								
23		100	42	23								
	23.50								23.50	-19.68		
24								End of Borehole at 23.50 m				
25												
26												
27												
28												
29												

REMARKS

Hole cased from 0.00-21.00m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
11.80	11.80				Slow

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
09-02-24	23.50	10.00	23.50	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
09-02-24	23.50	21.00	3.20	Water levels recorded 5 mins after end of drilling.

IGSL RC FI 10M 24991.GPJ IGSL.GDT 26/3/24

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**DRILLHOLE NO**	**RC309**
		SHEET	Sheet 1 of 3
CO-ORDINATES	726,395.31 E 719,161.66 N	**DATE DRILLED**	13/02/2024
GROUND LEVEL (mOD)	3.55	**DATE LOGGED**	15/02/2024
CLIENT	Ballymore Group	**DRILLED BY**	IGSL - JK
ENGINEER	Atkins	**LOGGED BY**	D. O' Shea
RIG TYPE	T-440		
FLUSH	Air/Mist		
INCLINATION (deg)	-90		
CORE DIAMETER (mm)	78		

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0								HAND-DUG INSPECTION PIT - No recovery, observed by driller as returns of: 0.00-0.30m - Gravel, 0.30-1.20m - Sand				
1									1.20	2.35		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of SAND	1.50	2.05		
2								SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SAND				
3												
4									4.30	-0.75		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
5												
6												
7												
8												
9												

REMARKS

Hole cased from 0.00-20.00m. Hand-dug Inspection pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
10.30	10.30				Slow

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
15-02-24	22.00	20.00	3.85	Water levels recorded 5 mins after end of drilling.

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC309
SHEET Sheet 2 of 3

CO-ORDINATES 726,395.31 E
719,161.66 N
GROUND LEVEL (mOD) 3.55

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 13/02/2024
DATE LOGGED 15/02/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10									10.30	-6.75		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL				
11												
12												
13												N = 41 (5, 9, 7, 12, 11, 11)
14												
15									15.55	-12.00		N = 50 (3, 9, 11, 15, 11, 13)
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
16												
17												N = 47 (5, 7, 13, 11, 10, 13)
18												N = 56 (5, 8, 12, 13, 15, 16)
									18.75	-15.20		
19								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL	19.50	-15.95		
	20.00							SYMMETRIX DRILLING: No recovery, observed by driller as returns of weathered ROCK	20.00	-16.45		N = 58/225 mm (7, 13, 17, 17,

REMARKS

Hole cased from 0.00-20.00m. Hand-dug Inspection pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
10.30	10.30				Slow

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
15-02-24	22.00	20.00	3.85	Water levels recorded 5 mins after end of drilling.

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC309
SHEET Sheet 3 of 3

CO-ORDINATES 726,395.31 E
719,161.66 N
GROUND LEVEL (mOD) 3.55

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 13/02/2024
DATE LOGGED 15/02/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20												24)
	20.80	100	0	0				Weak, structureless, green fine-grained SANDSTONE (Greywacke) moderately weathered Core Predominantely non-intact				
21		100	9	0								
	22.00								22.00	-18.45		
22								End of Borehole at 22.00 m				
23												
24												
25												
26												
27												
28												
29												

REMARKS

Hole cased from 0.00-20.00m. Hand-dug Inspection pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
10.30	10.30				Slow

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
15-02-24	22.00	20.00	3.85	Water levels recorded 5 mins after end of drilling.

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC310
SHEET Sheet 1 of 3

CO-ORDINATES 726,415.09 E
719,078.79 N
GROUND LEVEL (mOD) 2.15

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 01/03/2024
DATE LOGGED 04/03/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0								HAND-DUG INSPECTION PIT - No recovery, observed by driller as returns of: 0.00-0.60m - Gravel, 0.60-1.20m - Concrete	1.20	0.95		
1								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
2												
3												
4												
5												
6												
7												
8												
9									9.70	-7.55		

REMARKS

Hole cased from 0.00-17.70m. Hand-dug Inspection pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.70	9.70				Slow

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**DRILLHOLE NO**	**RC310**
		SHEET	Sheet 2 of 3
CO-ORDINATES	726,415.09 E 719,078.79 N	**DATE DRILLED**	01/03/2024
GROUND LEVEL (mOD)	2.15	**DATE LOGGED**	04/03/2024
CLIENT	Ballymore Group	**DRILLED BY**	IGSL - JK
ENGINEER	Atkins	**LOGGED BY**	D. O' Shea
RIG TYPE	T-440		
FLUSH	Air/Mist		
INCLINATION (deg)	-90		
CORE DIAMETER (mm)	78		

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10								SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SAND *(continued)*				
11												
12												
13												
14									14.15	-12.00		N = 45 (4, 5, 7, 17, 11, 10)
15								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				N = 53 (6, 9, 11, 12, 15, 15)
16												
17									17.15	-15.00		N = 51 (5, 7, 12, 10, 15, 14)
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of GRAVEL	17.55	-15.40		
	17.70							SYMMETRIX DRILLING: No recovery, observed by driller as returns of weathered ROCK	17.70	-15.55		
18		100	85	52				Medium strong to strong, medium to thinly beddded, blueish green, fine-grained, SANDSTONE (Greywacke), fresh to locally slightly weathered.				
19	19.25							Discontinuities are medium to closely spaced, smooth to locally rough, fractures are planar. Apertures are tight to moderately open, locally clay smeared, locally moderately iron-oxide stained. Dips are 40° & locally 60° & irregular.				

REMARKS

Hole cased from 0.00-17.70m. Hand-dug Inspection pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.70	9.70				Slow

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC310
SHEET Sheet 3 of 3

CO-ORDINATES 726,415.09 E
719,078.79 N
GROUND LEVEL (mOD) 2.15

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 01/03/2024
DATE LOGGED 04/03/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20		100	49	19								
	20.70							End of Borehole at 20.70 m	20.70	-18.55		
21												
22												
23												
24												
25												
26												
27												
28												
29												

REMARKS

Hole cased from 0.00-17.70m. Hand-dug Inspection pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.70	9.70				Slow

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC313
SHEET Sheet 1 of 3

CO-ORDINATES 726,223.34 E
719,195.19 N
GROUND LEVEL (mOD) 3.41

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 27/02/2024
DATE LOGGED 28/02/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0								SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SAND				
1												
2												
3									3.55	-0.14		
4								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY				
5												
6												
7												
8									8.80	-5.39		
9								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL				

REMARKS

Hole cased from 0.00-21.00m.

WATER STRIKE DETAILS

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

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
28-02-24	23.55	21.00	2.40	Water levels recorded 5 mins after end of drilling.

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC313
SHEET Sheet 2 of 3

CO-ORDINATES 726,223.34 E
719,195.19 N
GROUND LEVEL (mOD) 3.41

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 27/02/2024
DATE LOGGED 28/02/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL *(continued)*	10.50	-7.09		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	10.90	-7.49		
11								SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SAND	12.00	-8.59		
12								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL				
13									13.50	-10.09		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of clayey sandy GRAVEL				
14									15.00	-11.59		
15								SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY				N = 51 (5, 9, 11, 12, 13, 15)
16												N = 61 (4, 11, 12, 15, 16, 18)
17												
18												N = 41 (3, 5, 9, 10, 11, 11)
19									19.50	-16.09		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL				N = 53 (5, 9, 11, 12, 15, 15)

REMARKS

Hole cased from 0.00-21.00m.

WATER STRIKE DETAILS

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

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
28-02-24	23.55	21.00	2.40	Water levels recorded 5 mins after end of drilling.

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC313
SHEET Sheet 3 of 3

CO-ORDINATES 726,223.34 E
719,195.19 N
GROUND LEVEL (mOD) 3.41

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 27/02/2024
DATE LOGGED 28/02/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20									20.20	-16.79		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of weathered ROCK				
	21.00								21.00	-17.59		
21								Weak, structureless, green fine-grained SANDSTONE (Greywacke) moderately weathered Core Predominantely non-intact				
		100	0	0								
22	22.20							Discontinuities are closely spaced, smooth to rough, fractures are irregularApertures are open, locally clay smeared, locally moderately iron-oxide stained. Dips are irregular.				
		100	5	0								
23	23.55								23.55	-20.14		
								End of Borehole at 23.55 m				
24												
25												
26												
27												
28												
29												

REMARKS

Hole cased from 0.00-21.00m.

WATER STRIKE DETAILS

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

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
28-02-24	23.55	21.00	2.40	Water levels recorded 5 mins after end of drilling.

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**DRILLHOLE NO**	**RC314**
		SHEET	Sheet 1 of 2
CO-ORDINATES	726,300.42 E 719,010.17 N	**DATE DRILLED**	29/02/2024
GROUND LEVEL (mOD)	2.01	**DATE LOGGED**	01/03/2024
CLIENT	Ballymore Group	**DRILLED BY**	IGSL - JK
ENGINEER	Atkins	**LOGGED BY**	D. O' Shea
RIG TYPE	T-440		
FLUSH	Air/Mist		
INCLINATION (deg)	-90		
CORE DIAMETER (mm)	78		

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0								HAND-DUG INSPECTION PIT - No recovery, observed by driller as returns of: 0.00-1.20m - Gravelly sand				
1									1.20	0.81		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL				
2									2.90	-0.89		
3								SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY				
4												
5												
6												
7												
8												
9									9.00	-6.99		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SAND				

REMARKS

Hole cased from 0.00-13.30m. Hand-dug Inspection pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.00	9.00				Slow

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
01-03-24	16.00	13.30	11.10	Water levels recorded 5 mins after end of drilling.

GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER 24991

CONTRACT Sea Gardens, Bray

DRILLHOLE NO RC314
SHEET Sheet 2 of 2

CO-ORDINATES 726,300.42 E
719,010.17 N
GROUND LEVEL (mOD) 2.01

RIG TYPE T-440
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm) 78

DATE DRILLED 29/02/2024
DATE LOGGED 01/03/2024

CLIENT Ballymore Group
ENGINEER Atkins

DRILLED BY IGSL - JK
LOGGED BY D. O' Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm) 0 250 500	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10								SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SAND *(continued)*				
11												
12									12.75	-10.74		
13	13.30							SYMMETRIX DRILLING: No recovery, observed by driller as returns of weathered ROCK	13.30	-11.29		
14	14.30	100	31	0				Medium strong to strong, medium to thinly beddded, blueish green to dark purple, fine-grained, SANDSTONE (Greywacke), fresh to locally slightly weathered. Discontinuities are medium to closely spaced, smooth to locally rough, fractures are planar. Apertures are tight to moderately open, locally clay smeared, locally moderately iron-oxide stained. Dips are 40° & locally 60° & irregular.				
15	15.30	100	43	28								
16	16.00	100	67	16					16.00	-13.99		
16								End of Borehole at 16.00 m				
17												
18												
19												

REMARKS

Hole cased from 0.00-13.30m. Hand-dug Inspection pit 0.00-1.20m

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.00	9.00				Slow

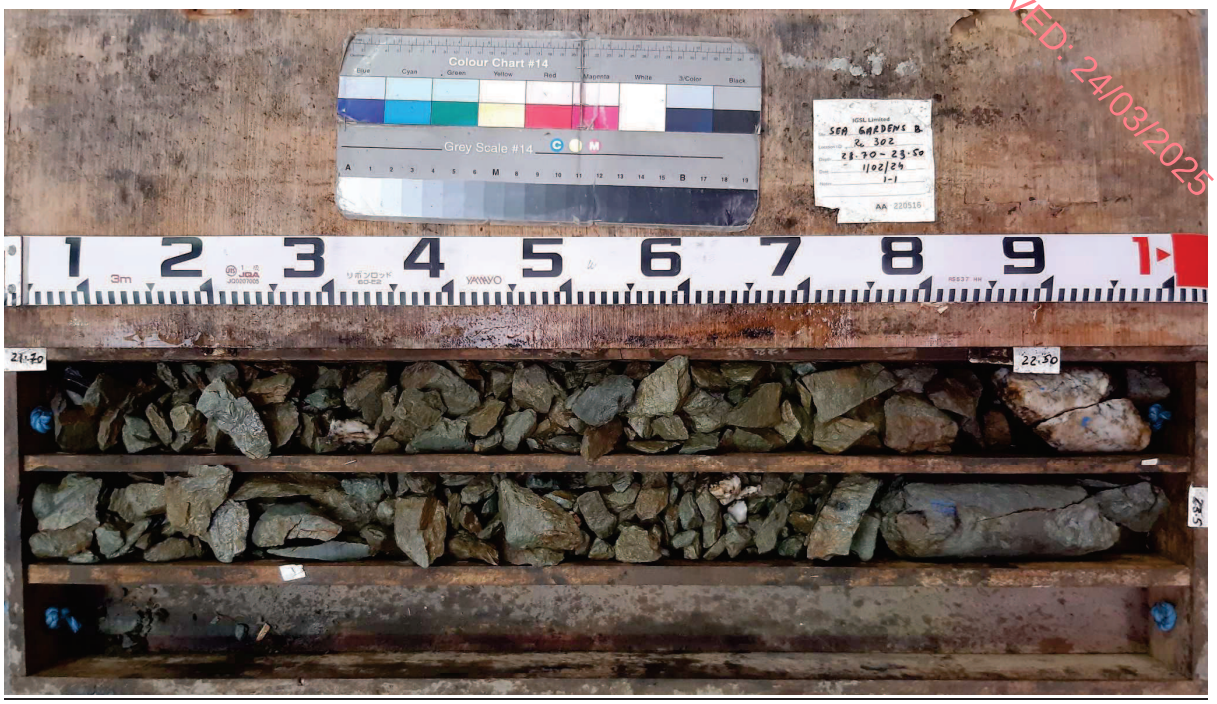
GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
01-03-24	16.00	13.30	11.10	Water levels recorded 5 mins after end of drilling.

INSTALLATION DETAILS

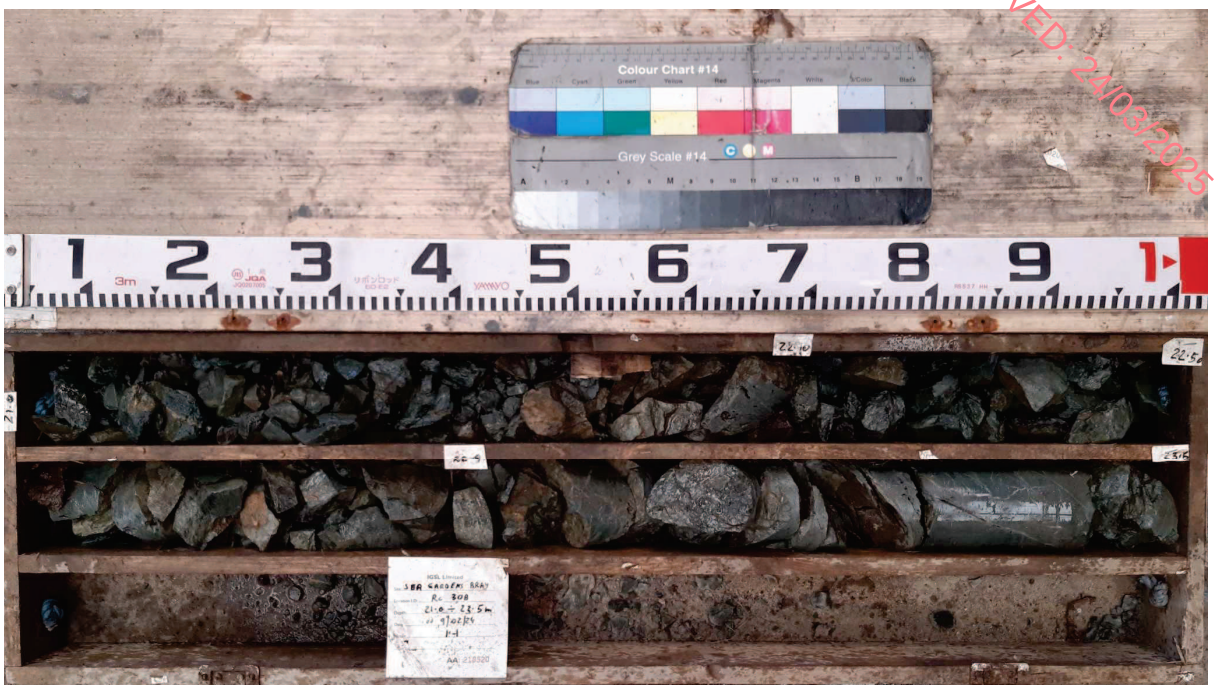
Date	Tip Depth	RZ Top	RZ Base	Type

RC302 – Box 1 of 1 – 21.70-23.50m

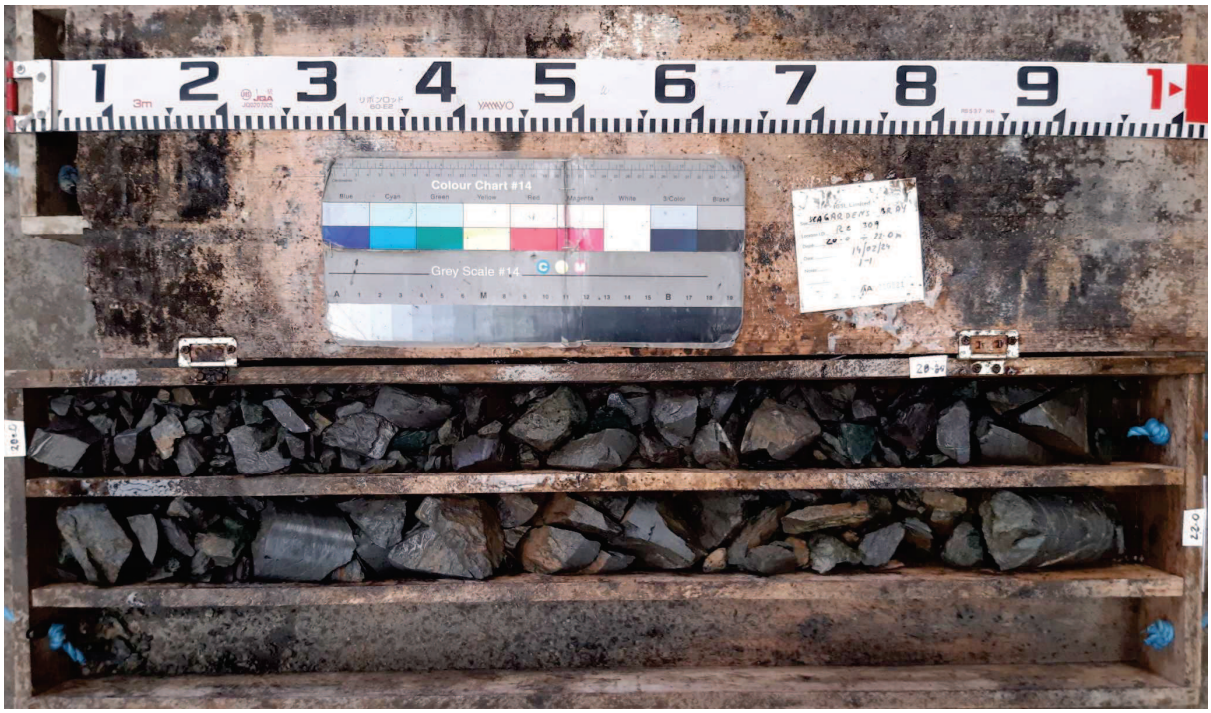


RC304 – Box 1 of 1 – 22.20-25.00m

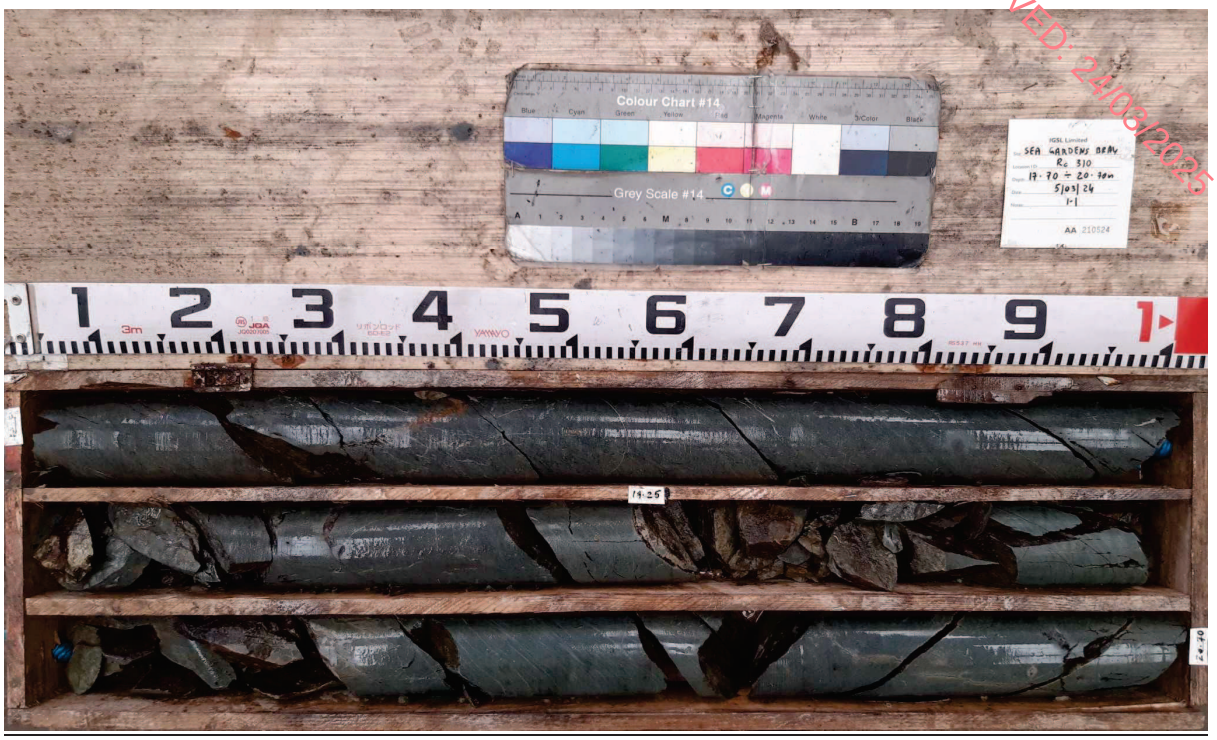
RC308 – Box 1 of 1 – 21.00-23.50m



RC309 – Box 1 of 1 – 20.00-22.00m

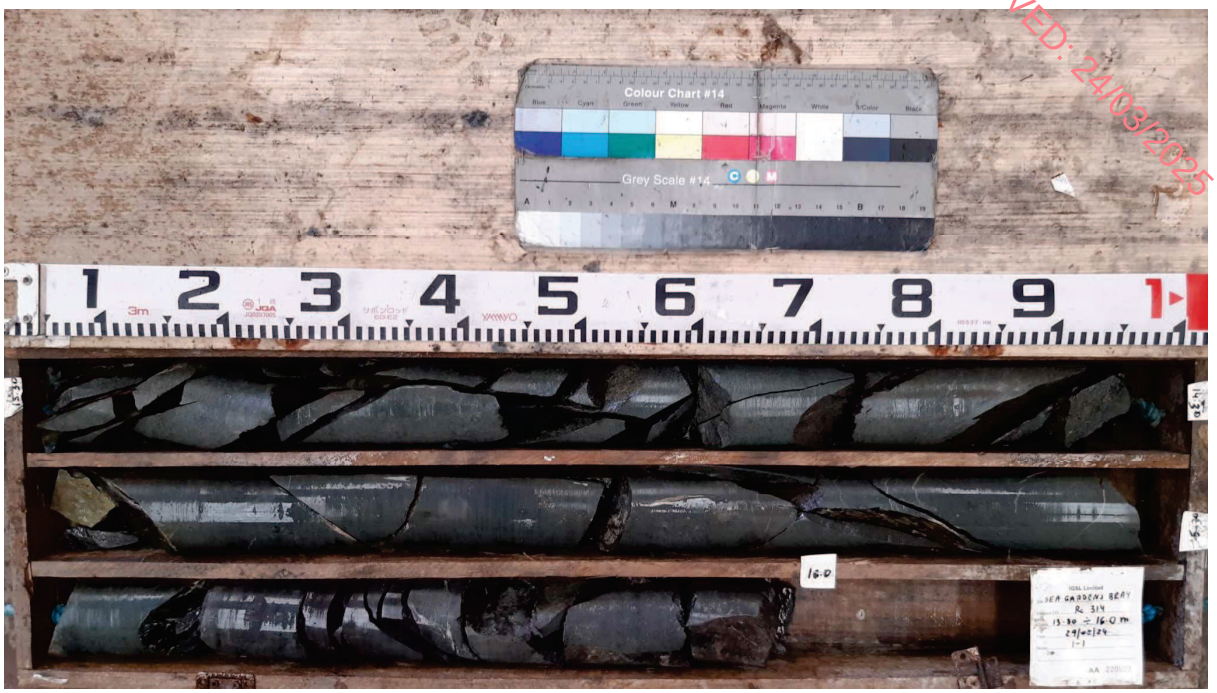


RC310 – Box 1 of 1 – 17.70-20.70m



RC313 – Box 1 of 1 – 21.00-23.35m

RC314 – Box 1 of 1 – 13.30-16.00m



Appendix 3

Monitoring Well Record

OPEN HOLE DRILLING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**DRILLHOLE NO**	**ROH03**
		SHEET	Sheet 1 of 2
CO-ORDINATES	726,346.07 E 719,246.23 N	**DATE DRILLED**	12/02/2024
GROUND LEVEL (mOD)	3.18	**DATE LOGGED**	13/02/2024
RIG TYPE	T-440		
CLIENT	Ballymore Group	**DRILLED BY**	IGSL - JK
ENGINEER	Atkins	**INCLINATION (deg)**	-90
		HOLE DIAMETER (mm)	78

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Zones (m)	Fracture Spacing Min Avg Max (mm)	Fracture Spacing Log (mm) 0 250 500	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0													
1	1.50	0	0	0					SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy CLAY	1.50	1.68		
2	3.00	0	0	0					SYMMETRIX DRILLING: No recovery, observed by driller as returns of SAND	3.00			
3	4.50	0	0	0					SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy GRAVEL	5.80	0.18		
4		0	0	0									
5	6.00												
6		0	0	0					SYMMETRIX DRILLING: No recovery, observed by driller as returns of CLAY	9.80	-2.62		
7	7.50	0	0	0									
8		0	0	0									
9	9.00												
10	10.50	0	0	0					SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SAND		-6.62		

REMARKS

Rock and soil descriptions are based on examination of drilling returns. These samples can be heavily disturbed and fragmented, with a loss of fines. Typical fragments of 2 to 3 mm are recovered. Accurate descriptions are not, therefore, possible. Similarly, it is not possible to accurately assess soil stratification or rock condition/structure.

Hole cased from 0.00-20.00m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.80	9.80				Slow

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
13-02-24	18.80	9.80	18.80	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
13-02-24	20.00	20.00	8.40	Water levels recorded 5 mins after end of drilling.

IGSL RC OPEN HOLE 24991.GPJ IGSL.GDT 26/3/24

OPEN HOLE DRILLING RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**DRILLHOLE NO**	**ROH03**
		SHEET	Sheet 2 of 2
CO-ORDINATES	726,346.07 E 719,246.23 N	**DATE DRILLED**	12/02/2024
GROUND LEVEL (mOD)	3.18	**DATE LOGGED**	13/02/2024
RIG TYPE	T-440		
CLIENT	Ballymore Group	**DRILLED BY**	IGSL - JK
ENGINEER	Atkins		
INCLINATION (deg)	-90		
HOLE DIAMETER (mm)	78		

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Zones (m)	Fracture Spacing Min Avg Max (mm)	Fracture Spacing Log (mm) 0 250 500	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
11		0	0	0					SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly SAND *(continued)*				
	12.00												
12		0	0	0									
13	13.50												
		0	0	0									
14	15.00												
		0	0	0									
15													
16	16.50	0	0	0									
17		0	0	0									
	18.00												
18		0	0	0						18.80			
19									SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly CLAY		-15.62		
	19.50												
	20.00	0	0	0						20.00			
20									End of Borehole at 20.00 m		-16.82		
21													

REMARKS

Rock and soil descriptions are based on examination of drilling returns. These samples can be heavily disturbed and fragmented, with a loss of fines. Typical fragments of 2 to 3 mm are recovered. Accurate descriptions are not, therefore, possible. Similarly, it is not possible to accurately assess soil stratification or rock condition/structure.

Hole cased from 0.00-20.00m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.80	9.80				Slow

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
13-02-24	18.80	9.80	18.80	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
13-02-24	20.00	20.00	8.40	Water levels recorded 5 mins after end of drilling.

IGSL RC OPEN HOLE 24991.GPJ IGSL.GDT 26/3/24

Appendix 4

Trial Pit Records

TRIAL PIT RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**TRIAL PIT NO.**	**TP301**
		SHEET	Sheet 1 of 1
LOGGED BY	I.C&O.K	**CO-ORDINATES**	726,516.05 E 719,281.14 N
		DATE STARTED	16/01/2024
		DATE COMPLETED	16/01/2024
CLIENT	Ballymore Group	**GROUND LEVEL (m)**	2.06
ENGINEER	Atkins	**EXCAVATION METHOD**	JCB Excavator

Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples: Sample Ref	Samples: Type	Samples: Depth	Vane Test (KPa)	Hand Penetrometer (KPa)
TOPSOIL. Soft to firm brown slightly sandy clay with rootlets. Sand is fine.		0.20	1.86						
Soft to firm light brown sandy slightly silty CLAY. Sand is fine.		0.40	1.66		AA220663	B	0.40-0.40	50	
Soft to firm light brown mottled black very sandy SILT/CLAY. Sand is fine to medium. (Possible very silty very clayey sand).		0.70	1.36	1 (Moderate)	AA220664	B	0.60-0.60	25	
Yellow/ light brown SAND. Sand is fine to coarse.		0.90	1.16						
Grey gravelly SAND. Sand is fine to coarse. Gravel is fine to medium, subrounded to angular.					AA220665	B	1.10-1.10		
End of Trial Pit at 1.30m		1.30	0.76						

0.0 1.0 2.0 3.0 4.0

Groundwater Conditions
Moderate water ingress at 0.85m

Stability
Poor from 0.80m

General Remarks
Pit footprint scanned using cable avoidance tool [CAT]. Pit backfilled with arisings. TP terminated due to water strike.

TRIAL PIT RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**TRIAL PIT NO.**	**TP302**
		SHEET	Sheet 1 of 1
LOGGED BY	I.C&O.K	**CO-ORDINATES**	726,472.65 E 719,301.40 N
		DATE STARTED	17/01/2024
		DATE COMPLETED	17/01/2024
CLIENT	Ballymore Group	**GROUND LEVEL (m)**	3.00
ENGINEER	Atkins	**EXCAVATION METHOD**	JCB Excavator

Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples: Sample Ref	Samples: Type	Samples: Depth	Vane Test (KPa)	Hand Penetrometer (KPa)
TOPSOIL. Soft to firm brown slightly sandy clay with rootlets. Sand is fine.		0.15	2.85						
Firm brown slightly sandy very silty CLAY. Sand is fine.								50	
						Env	0.60-0.60	60	
Soft to firm orangish brown slightly sandy very silty CLAY. Sand is fine.		0.70	2.30		AA220676	B	0.60-0.60	40	
Light brown slightly silty slightly clayey SAND. Sand is fine to coarse.		1.65	1.35	1 (Slow)					
					AA220677	Env B	1.70-1.70		
							1.70-1.70		
Firm grey sandy SILT/CLAY. Sant is fine to medium. Frequent organic fragments. Strong organic odor.		2.60	0.40						
					AA220678	Env B	2.60-2.60		
							2.60-2.60		
End of Trial Pit at 3.00m		3.00	0.00	2 (Slow)					

Groundwater Conditions
Slow water ingress at 1.90m and 3.00m

Stability
Poor from 0.60m

General Remarks
Pit footprint scanned using cable avoidance tool [CAT]. Pit backfilled with arisings. TP terminated due to sidewall collapse. TP has been moved 30.00m to South from its orginal location due to stockpile.

TRIAL PIT RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**TRIAL PIT NO.**	**TP303**
		SHEET	Sheet 1 of 1
LOGGED BY	I.C&O.K	**CO-ORDINATES**	726,447.24 E 719,243.63 N
		DATE STARTED	16/01/2024
		DATE COMPLETED	16/01/2024
CLIENT	Ballymore Group	**GROUND LEVEL (m)**	3.30
ENGINEER	Atkins	**EXCAVATION METHOD**	JCB Excavator

Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples: Sample Ref	Samples: Type	Samples: Depth	Vane Test (KPa)	Hand Penetrometer (KPa)
0.0 TOPSOIL. Soft to firm brown slightly sandy clay with rootlets. Sand is fine.		0.20	3.10						
Soft to firm orangish brown slightly sandy CLAY with roots. Sand is fine.		0.50	2.80					50	
Soft orangish brown very sandy SILT/CLAY. Sand is fine to medium. (Possible very silty very clayey sand).		0.70	2.60		AA220666	B	0.60-0.60	26	
Orangish brown slightly silty slightly clayey SAND. Sand is fine to coarse.		0.90	2.40					25	
1.0 Firm to stiff light brown mottled black very sandy SILT/CLAY. Sand is fine.					AA220667	B	1.10-1.10		
Stiff light brown mottled orange sandy SILT/CLAY. Sand is fine.		1.50	1.80						
2.0					AA220668	B	1.90-1.90		
Soft grey slighlty sandy slightly clayey SILT. Sant is fine to medium. Frequent organic fragments. Strong organic odor.		2.20	1.10						
3.0				1 (Seepage)	AA220669	B	2.80-2.80		
4.0 Soft grey sandy slightly clayey SILT. Sant is fine to medium. Frequent organic fragments. Strong organic odor.		4.00	-0.70		AA220672	B	3.90-3.90		
End of Trial Pit at 4.60m		4.60	-1.30		AA220673	B	4.60-4.60		

Groundwater Conditions
Seapage at 3.20m

Stability
Poor from 1.00m

General Remarks
Pit footprint scanned using cable avoidance tool [CAT]. Pit backfilled with arisings.

TRIAL PIT RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**TRIAL PIT NO.**	**TP304**
		SHEET	Sheet 1 of 1
LOGGED BY	I.C&O.K	**CO-ORDINATES**	726,308.33 E 719,044.52 N
		DATE STARTED	16/01/2024
		DATE COMPLETED	16/01/2024
CLIENT	Ballymore Group	**GROUND LEVEL (m)**	1.71
		EXCAVATION METHOD	JCB Excavator
ENGINEER	Atkins		

Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples: Sample Ref	Samples: Type	Samples: Depth	Vane Test (KPa)	Hand Penetrometer (KPa)
MADE GROUND. Soft to firm brown slightly sandy clayey topsoil with rootlets. Sand is fine.		0.15	1.56						
MADE GROUND. Brownish grey very sandy very gravelly clay with red brick and concrete pieces, plastic and glass fragments. Made ground contains more than 2% non natural material.		0.60	1.11						
MADE GROUND. Grey very sandy very gravelly clay with red brick and concrete pieces, plastic and glass fragments. Concrete pieces up to 200mm. Made ground contains more than 2% non natural material.		1.05	0.66		AA220672	Env B	0.60-0.60 0.60-0.60		
MADE GROUND. Orange very sandy very gravelly clay with concrete fragments. Strong organic odor. Made ground contains less than 2% non natural material.		1.15	0.56	1 (Seepage)	AA220673	Env B	1.05-1.15 1.15-1.20		
Soft to firm grey slighlty sandy clayey SILT. Sant is fine to medium. Frequent organic fragments. Strong organic odor.					AA220674	B	2.50-2.50		
Soft to firm grey sandy gravelly clayey SILT. Sant is fine to coarse. Gravel is fine to medium, subrounded. Frequent organic fragments. Strong organic odor.		3.00	-1.29	2 (Moderate)	AA220675	B	3.30-3.30		
End of Trial Pit at 3.50m		3.50	-1.79						

Groundwater Conditions
Seepage at 1.20m. Moderate water ingress at 3.00m

Stability
Good

General Remarks
Pit footprint scanned using cable avoidance tool [CAT]. Pit backfilled with arisings. TP terminated due to water strike. TP has been moved 8.00m to East from its orginal location due to underground services and tarmac surface.

TRIAL PIT RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**TRIAL PIT NO.**	**TP305**
		SHEET	Sheet 1 of 1
LOGGED BY	I.C&O.K	**CO-ORDINATES**	726,096.14 E 719,148.98 N
		DATE STARTED	17/01/2024
		DATE COMPLETED	17/01/2024
CLIENT	Ballymore Group	**GROUND LEVEL (m)**	4.26
ENGINEER	Atkins	**EXCAVATION METHOD**	JCB Excavator

Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples: Sample Ref	Samples: Type	Samples: Depth	Vane Test (KPa)	Hand Penetrometer (KPa)
MADE GROUND. Soft to firm dark brown sandy clayey topsoil with plastic fragments. Sand is fine to medium. Made ground contains less than 2% non natural material.		0.30	3.96					55	
Soft to firm orangish brown slightly sandy slightly gravelly slity CLAY. Sand if fine coarse. Gravel is fine to medium.				1 (Rapid)	AA220679	Env B	0.60-0.60 0.60-0.60	35 12	
End of Trial Pit at 1.00m		1.00	3.26						

0.0 1.0 2.0 3.0 4.0

Groundwater Conditions
Rapid water ingress at 0.95m (water level rose up to 0.80m).

Stability
Good

General Remarks
Pit footprint scanned using cable avoidance tool [CAT]. Pit backfilled with arisings. TP terminated due to water strike. TP305 has been moved 1.00m from its original location and reopen as a TP305A.

TRIAL PIT RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**TRIAL PIT NO.**	**TP305A**
		SHEET	Sheet 1 of 1
LOGGED BY	I.C&O.K	**CO-ORDINATES**	726,096.14 E 719,148.98 N
		DATE STARTED	17/01/2024
		DATE COMPLETED	17/01/2024
CLIENT	Ballymore Group	**GROUND LEVEL (m)**	4.26
ENGINEER	Atkins	**EXCAVATION METHOD**	JCB Excavator

Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples: Sample Ref	Samples: Type	Samples: Depth	Vane Test (KPa)	Hand Penetrometer (KPa)
MADE GROUND. Soft to firm dark brown sandy clayey topsoil with plastic fragments. Sand is fine to medium. Made ground contains less than 2% non natural material.		0.30	3.96						
Soft to firm orangish brown slightly sandy slightly gravelly slity CLAY. Sand if fine coarse. Gravel is fine to medium.		1.20	3.06			Env	1.20-1.30		
Light brown/grey silty clayey SAND. Sand is fime to coarse.		1.50	2.76		AA220680	B	1.20-1.30		
Firm to stiff light brown mottled orange and black slightly sandy SILT/CLAY. Sand is fine to medium.		2.30	1.96			Env	1.60-1.60		
Light grey slightly silty slightly clayey SAND. Sand is fine to coarse.		2.70	1.56		AA220681	B	1.60-1.60		
Firm to stiff grey sandy SILT/CLAY with frequent sand pockets and frequent organic fragments. Strong organic odor.		3.00	1.26	1 (Seepage)		Env	2.50-2.50		
End of Trial Pit at 3.00m					AA220682	B	2.50-2.50		
						Env	2.70-2.70		
					AA220683	B	2.70-2.70		

Groundwater Conditions
Seepage at 3.00m

Stability
Poor from 1.00m

General Remarks
Pit footprint scanned using cable avoidance tool [CAT]. Pit backfilled with arisings. TP terminated due to sidewall collapse.

TRIAL PIT RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray	**TRIAL PIT NO.**	**TP306**
		SHEET	Sheet 1 of 1
LOGGED BY	I.C&O.K	**CO-ORDINATES**	726,059.44 E 719,143.75 N
		DATE STARTED	17/01/2024
		DATE COMPLETED	17/01/2024
CLIENT	Ballymore Group	**GROUND LEVEL (m)**	4.11
ENGINEER	Atkins	**EXCAVATION METHOD**	JCB Excavator

Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples: Sample Ref	Samples: Type	Samples: Depth	Vane Test (KPa)	Hand Penetrometer (KPa)
MADE GROUND. Soft to firm dark brown sandy clayey topsoil with plastic fragments. Sand is fine to medium. Made ground contains more than 2% non natural material.		0.30	3.81					50	
MADE GROUND. Soft to firm orangish brown slightly sandy slightly gravelly slity clay with red brick fragments. Sand if fine coarse. Gravel is fine to medium. Made ground contains less than 2% non natural material.		0.60	3.51		AA220684	Env B	0.50-0.60 0.50-0.60	50	
Soft to firm light brown mottled orange and black slightly sandy SILT/CLAY. Sand is fine.								30	
					AA220685	Env B	1.20-1.30 1.20-1.30		
Grey very silty very clayey SAND. Sand is fine to coarse.		2.10	2.01		AA220686	Env B	2.10-2.30 2.10-2.30		
Firm to stiff grey sandy SILT/CLAY with frequent sand pockets. Frequent organic fragments. Strong organic odor.		2.40	1.71						
				1 (Moderate)	AA220687	Env B	2.90-2.90 2.90-2.90		
Grey slightly silty slightly clayey SAND. Sand is fine to coarse. Frequent organic fragments. Strong organic odor.		3.10	1.01						
End of Trial Pit at 3.30m		3.30	0.81		AA220688	Env B	3.30-3.30 3.30-3.30		

Groundwater Conditions
Moderate water ingress at 3.10m

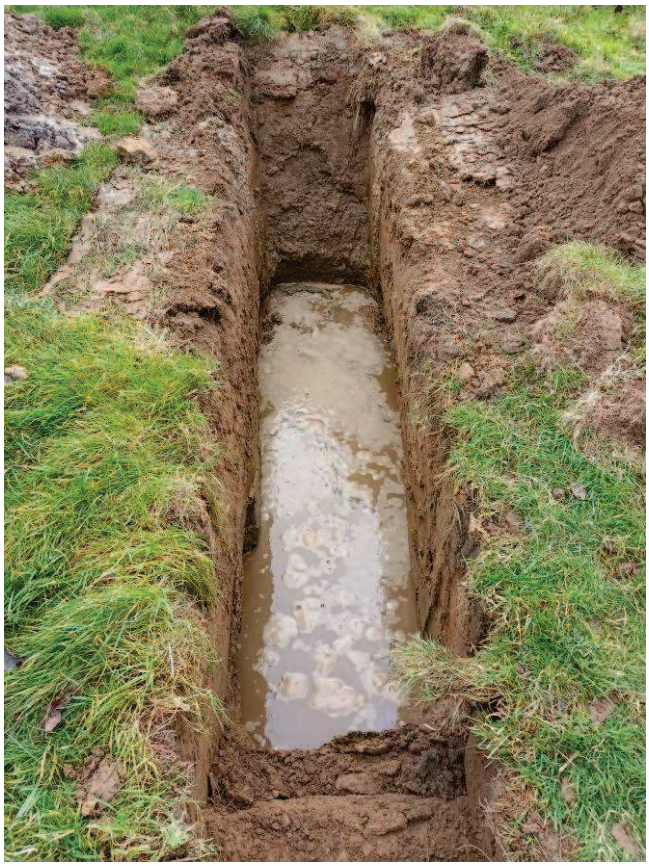
Stability
Poor from 1.00m

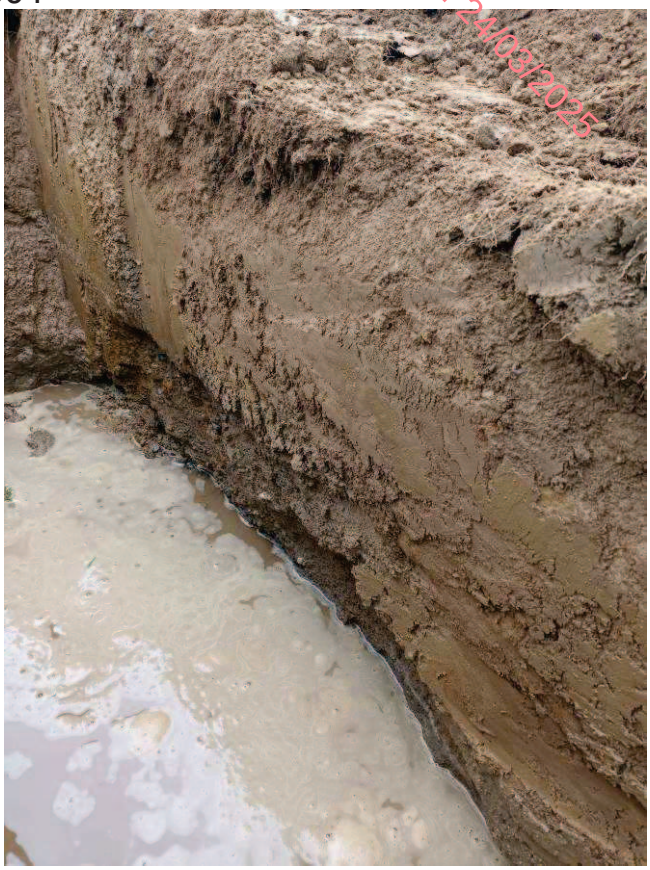
General Remarks
Pit footprint scanned using cable avoidance tool [CAT]. Pit backfilled with arisings. TP terminated due to sidewall collapse. TP has been moved 30.00m to East from its orginal location due to lack of access at the construction site.

Project Number: 24991
Site: Sea Gardens, Bray
Project Engineer: Atkins

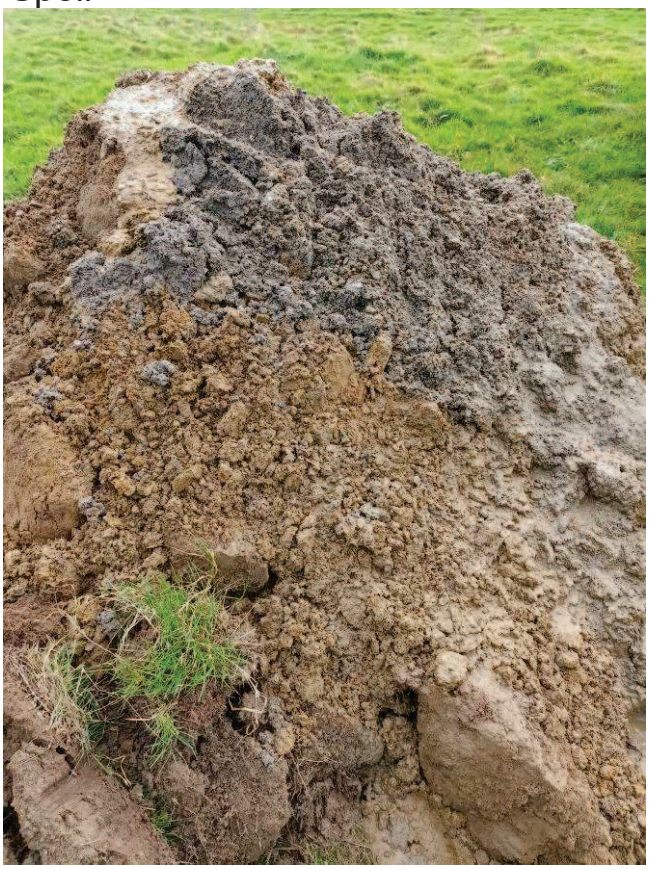
PHOTOGRAPHY RECORD

TP301





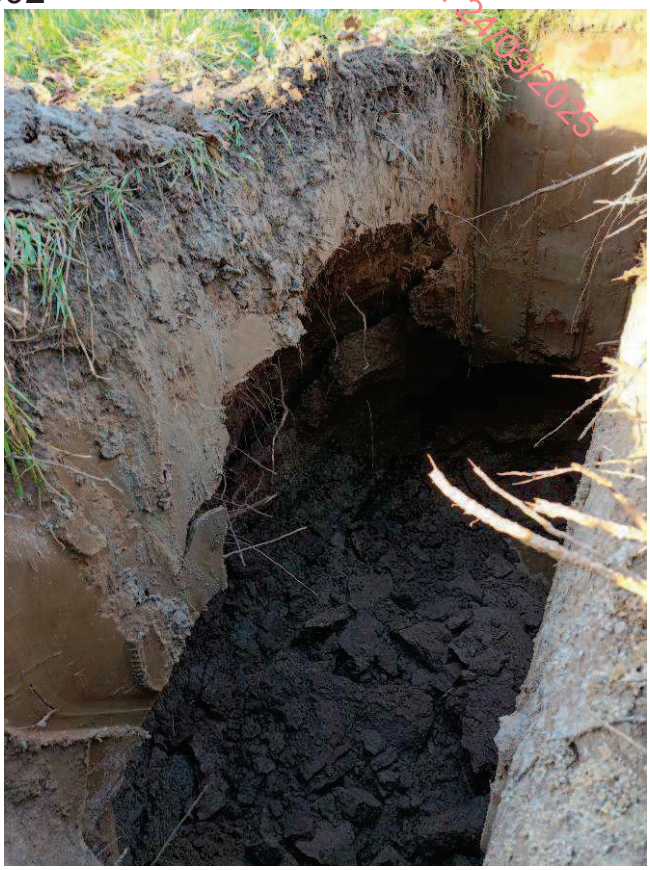
TP301 Spoil



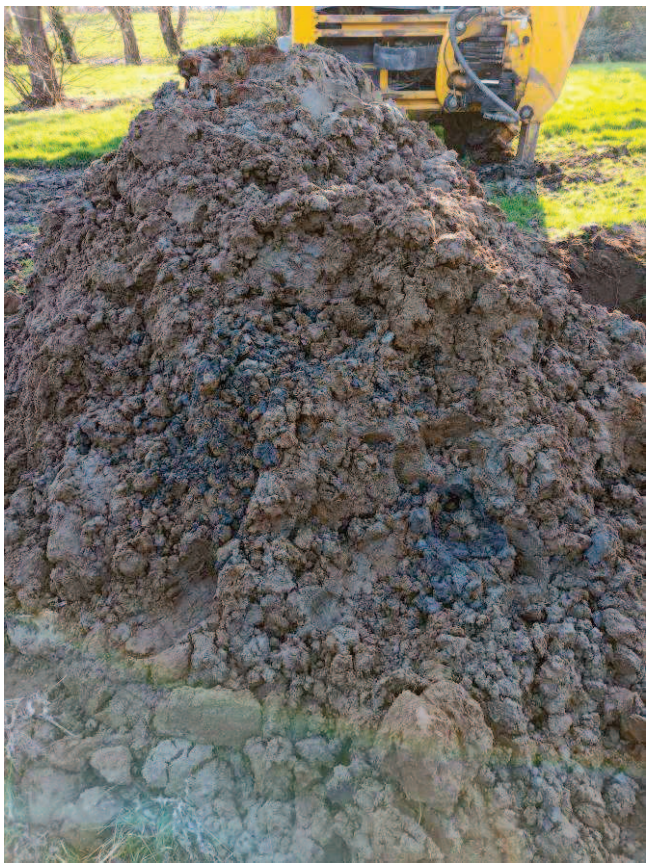
Project Number: 24991
Site: Sea Gardens, Bray
Project Engineer: Atkins

PHOTOGRAPHY RECORD

TP302



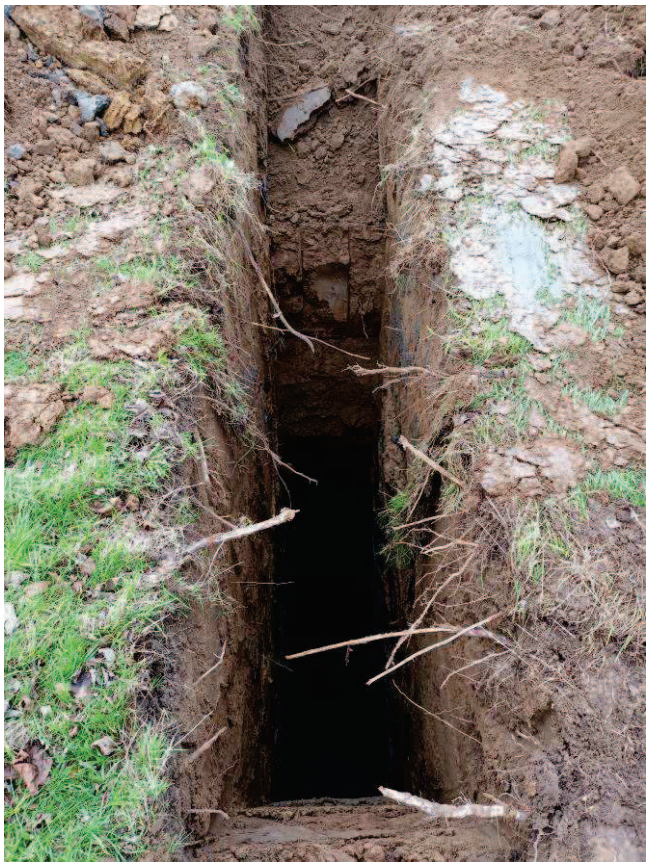
TP302 Spoil



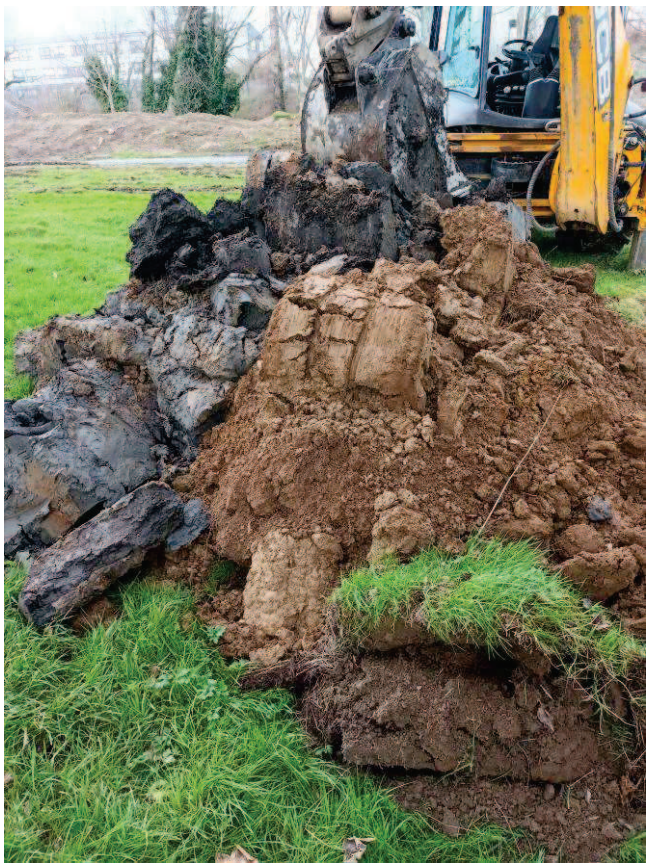
Project Number: 24991
Site: Sea Gardens, Bray
Project Engineer: Atkins

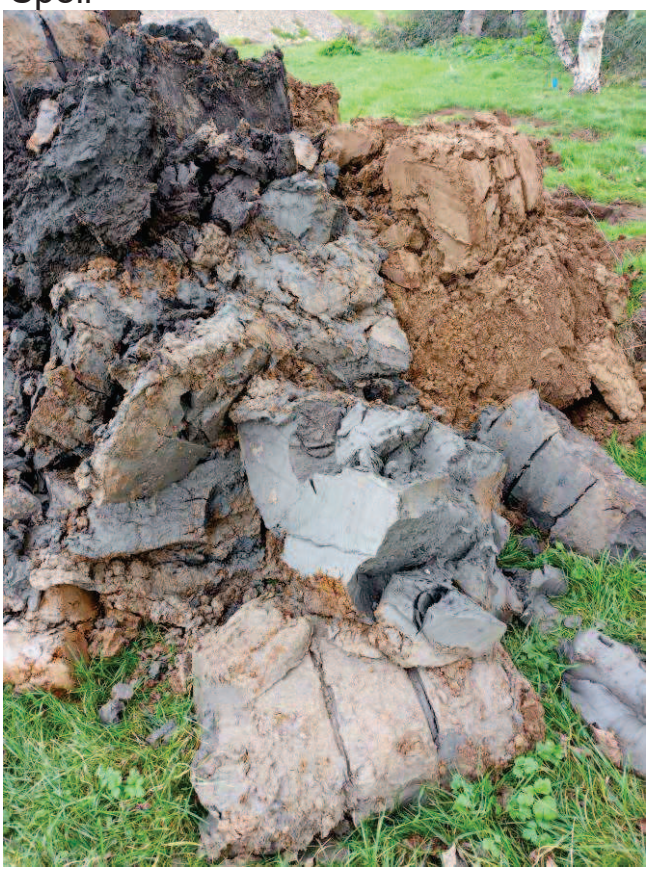
PHOTOGRAPHY RECORD

TP303



TP303 Spoil



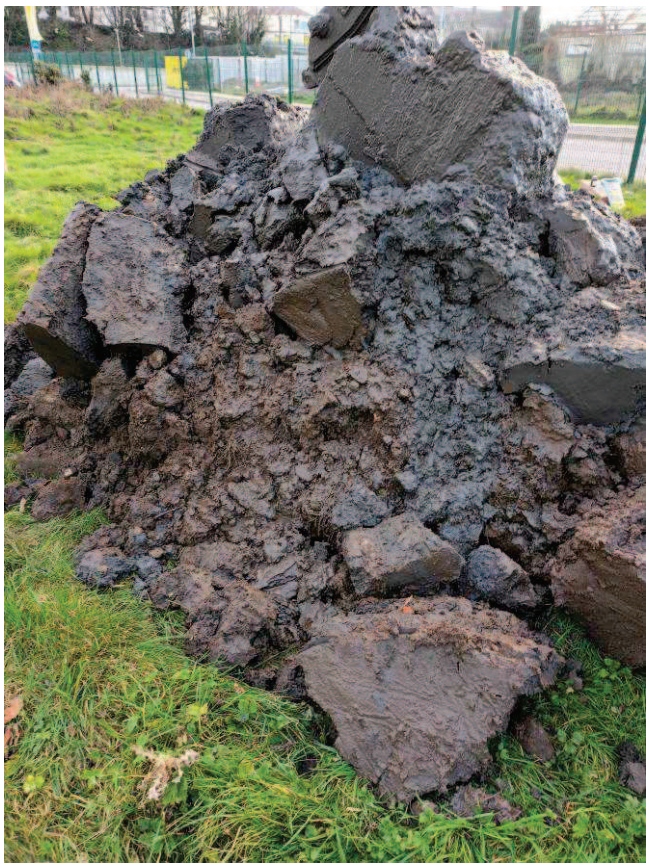


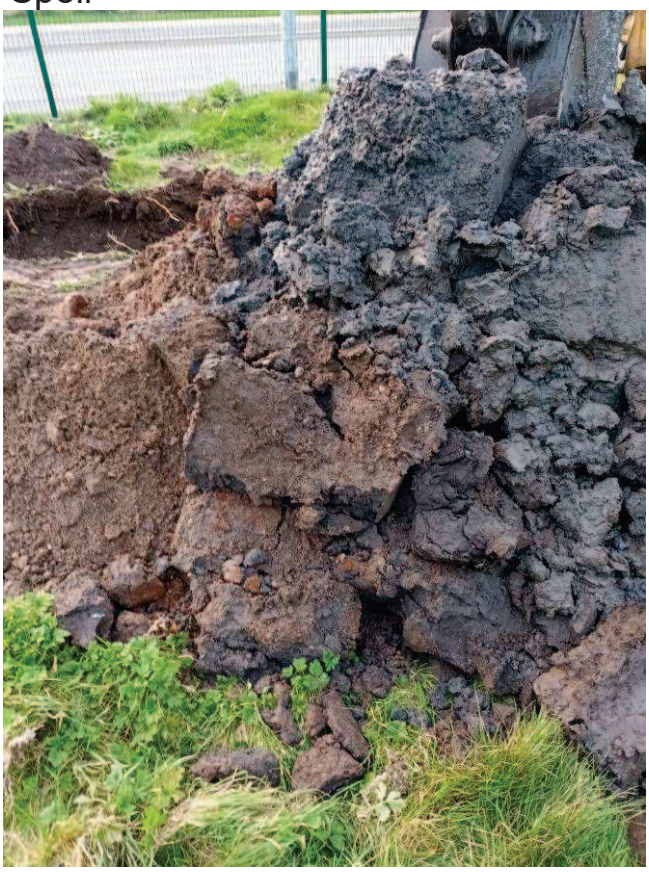
Project Number: 24991
Site: Sea Gardens, Bray
Project Engineer: Atkins

PHOTOGRAPHY RECORD

TP304

TP304 Spoil

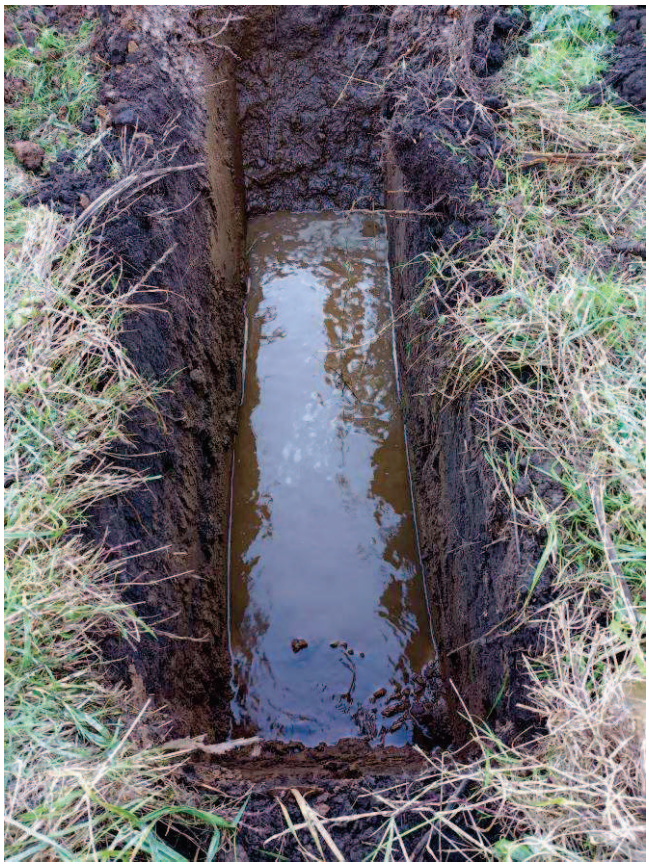


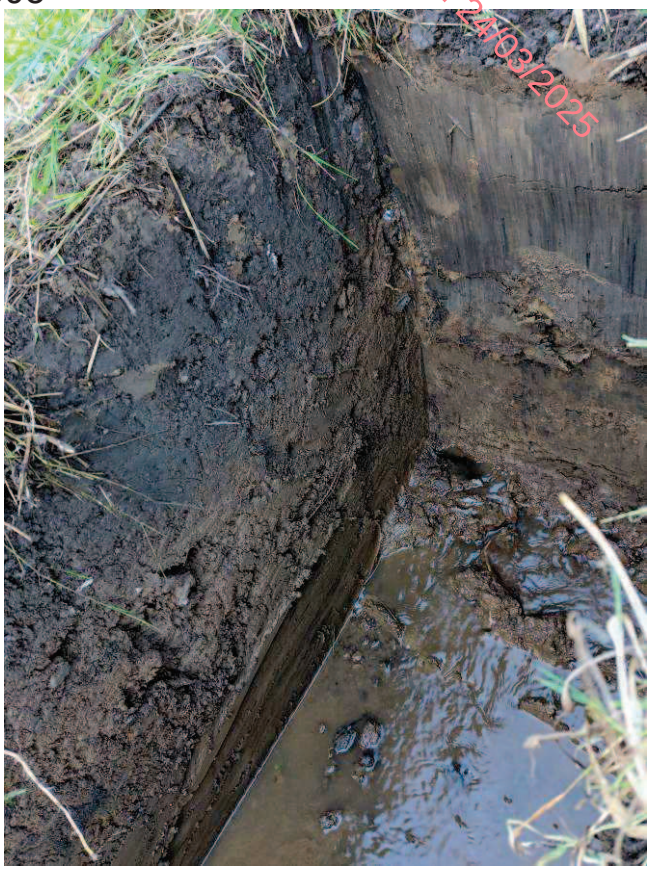


Project Number: 24991
Site: Sea Gardens, Bray
Project Engineer: Atkins

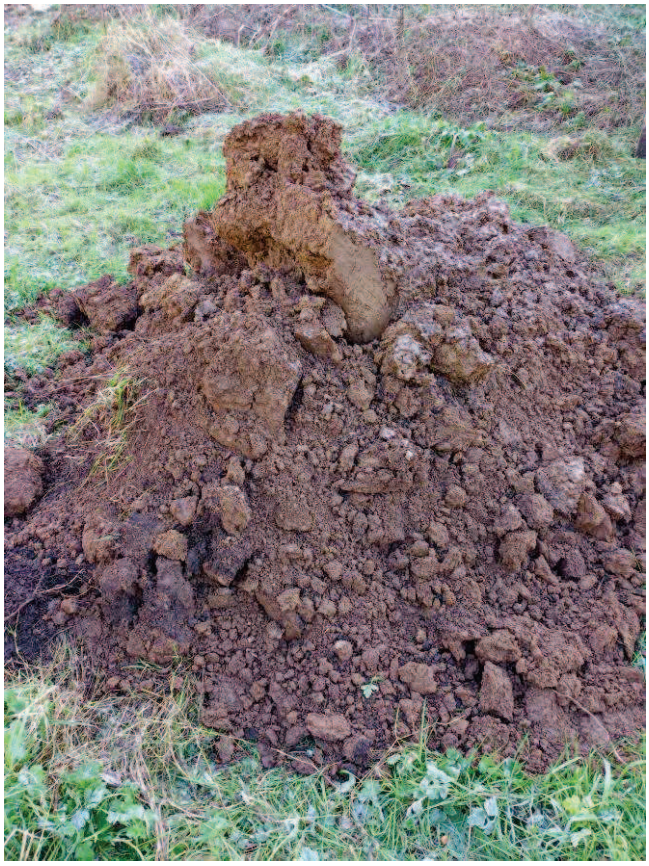
PHOTOGRAPHY RECORD

TP305





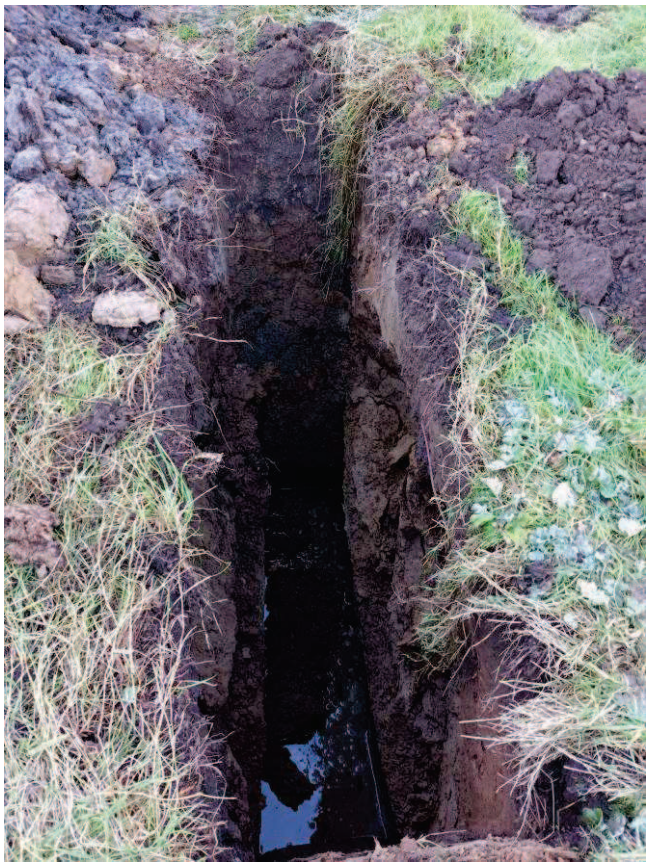
TP305 Spoil



Project Number: 24991
Site: Sea Gardens, Bray
Project Engineer: Atkins

PHOTOGRAPHY RECORD

TP305A



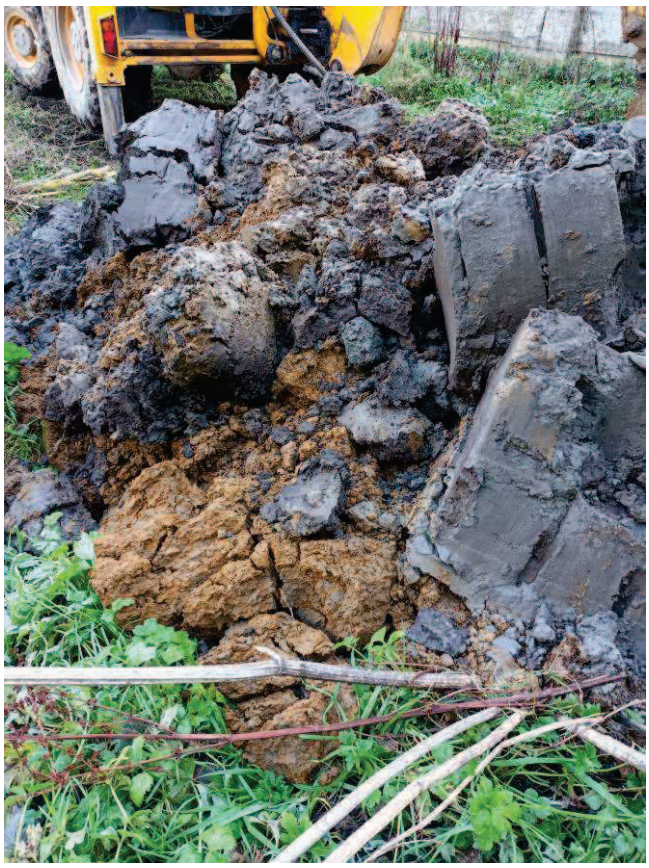
TP305A Spoil

Project Number: 24991
Site: Sea Gardens, Bray
Project Engineer: Atkins

PHOTOGRAPHY RECORD

TP306

TP306 Spoil



Appendix 5

Window Sample Records

WINDOW SAMPLE RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray
BH NO.	**WS06A**
SHEET	Sheet 1 of 1
CO-ORDINATES	726,248.92 E 719,114.96 N
GROUND LEVEL (mOD)	3.88
DATE DRILLED	09/01/2024
DATE LOGGED	09/01/2024
CLIENT	Ballymore Group
ENGINEER	Atkins
DRILLED BY	IGSL
LOGGED BY	OK

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Depth of Sample Run (m)	Recovery (%)	Blowcount	Samples Ref. Number	Samples Sample Type	Samples Depth (m)
0.0	TOPSOIL: Soft to firm dark brown CLAY.					0.00-1.00	75				
	Firm to stiff brown sandy CLAY. Sand is fine to medium.		0.30	3.58							
	Very dense brown slightly clayey SAND. Sand is fine to medium.		0.90	2.98							
1.0	Very dense orangish brown slightly clayey SAND. Sand is fine to medium.		1.00	2.88		1.00-2.00	65				
	Very dense orangish brown slightly silty clayey SAND. Sand is fine to medium.		1.30	2.58							
	Firm grey mottled orange very slightly sandy silty CLAY. Sand is fine to medium.		1.55	2.33							
2.0						2.00-3.00	100				
	Soft grey silty CLAY.		2.20	1.68							
	Firm grey silty CLAY		2.90	0.98							
3.0	Final Depth 3.00m		3.00	0.88							

General Remarks
Gas well installation at 3m bgl. Gas valves inserted to top of pipe at all locations of gas wells.

Installations
Gas well instalation

WINDOW SAMPLE RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray
CO-ORDINATES	726,480.45 E 719,178.82 N
GROUND LEVEL (mOD)	1.77
CLIENT	Ballymore Group
ENGINEER	Atkins
BH NO.	**WS06B**
SHEET	Sheet 1 of 2
DATE DRILLED	09/01/2024
DATE LOGGED	09/01/2024
DRILLED BY	IGSL
LOGGED BY	OK

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Depth of Sample Run (m)	Recovery (%)	Blowcount	Samples Ref. Number	Samples Sample Type	Samples Depth (m)
0.0	TOPSOIL: Soft dark brown slightly sandy CLAY with rare roothair.					0.00-1.00	60			ENV	0.20-0.40
	Firm to stiff greyish brown slightly gravelly sandy CLAY with orangish brown sandy pockets. Sand is fine to medium. Gravel is fine, subangular.		0.40	1.37						ENV	0.40-0.60
1.0	Firm brownish grey mottled orange slightly silty sandy CLAY. Sand is fine.		1.00	0.77		1.00-2.00	70				
	Soft to firm brownish grey mottled orange slightly silty sandy CLAY. Sand is fine.		1.25	0.52						ENV	1.40-1.70
	Firm grey slightly silty sandy CLAY. Sand is fine.		1.50	0.27							
2.0	Soft to firm brown mottled grey slightly sandy slighlty silty CLAY. Sand is fine.		2.00	-0.23		2.00-3.00	100			ENV	2.40-2.70
	Firm grey slightly sandy slightly silty CLAY. Sand is fine.		2.50	-0.73							
3.0	Dense grey slightly clayey slightly silty SAND. Sand is fine to coarse. Moist recovered		3.00	-1.23		3.00-4.00	85			ENV	3.40-3.70

General Remarks
Water installation at 4m bgl. All installs with gravels, bentonite and stand up covers concreted in.

Installations
Water monitoring installation

WINDOW SAMPLE RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray
BH NO.	**WS06B**
SHEET	Sheet 2 of 2
CO-ORDINATES	726,480.45 E 719,178.82 N
GROUND LEVEL (mOD)	1.77
DATE DRILLED	09/01/2024
DATE LOGGED	09/01/2024
CLIENT	Ballymore Group
ENGINEER	Atkins
DRILLED BY	IGSL
LOGGED BY	OK

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Depth of Sample Run (m)	Recovery (%)	Blowcount	Samples Ref. Number	Samples Sample Type	Samples Depth (m)
4.0						4.00-5.00	95			ENV	4.40-4.70
	Dense grey slightly silty clayey SAND. Sand is fine to coarse.		4.60	-2.83							
	Dense grey slightly clayey slightly silty SAND. Sand is is fine to coarse.		4.85	-3.08							
5.0	Final Depth 5.00m		5.00	-3.23							
6.0											
7.0											

General Remarks
Water installation at 4m bgl. All installs with gravels, bentonite and stand up covers concreted in.

Installations
Water monitoring installation

WINDOW SAMPLE RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray
CO-ORDINATES	726,361.66 E 719,094.26 N
GROUND LEVEL (mOD)	1.69
CLIENT	Ballymore Group
ENGINEER	Atkins
BH NO.	WS07A
SHEET	Sheet 1 of 1
DATE DRILLED	10/01/2024
DATE LOGGED	10/01/2024
DRILLED BY	IGSL
LOGGED BY	OK

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Depth of Sample Run (m)	Recovery (%)	Blowcount	Samples Ref. Number	Samples Sample Type	Samples Depth (m)
0.0	TOPSOIL: Soft to firm dark brown slightly sandy CLAY with rare roothair.					0.00-1.00	100				
	MADE GROUND comprised of firm dark brown slightly sandy slightly gravelly CLAY with rare small brick fragments.		0.30	1.39							
	Stiff brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium, subangular to subrounded.		0.50	1.19							
	Dense greyish brown slightly gravelly clayey SAND. Sand is fine to medium. Gravel is fine to medium, subangular to subrounded.		0.80	0.89							
1.0	Dense dark grey clayey SAND. Sand is fine to coarse.		1.00	0.69		1.00-2.00	30				
2.0	Loose grey clayey SAND. Sand is fine to medium.		2.00	-0.31		2.00-3.00	100				
	Soft grey slightly gravelly silty CLAY with inclusions of organic material eg. decomposed wood. Gravel is fine to medium, subangular to subrounded. (Olfactory scent of organics in the sample).		2.40	-0.71							
3.0	Final Depth 3.00m		3.00	-1.31							

General Remarks
Gas well installation at 3m bgl. Gas valves inserted to top of pipe at all locations of gas wells.

Installations
Gas well instalation

WINDOW SAMPLE RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray
BH NO.	**WS07B**
SHEET	Sheet 1 of 2
CO-ORDINATES	726,387.31 E 719,107.44 N
GROUND LEVEL (mOD)	2.17
DATE DRILLED	10/01/2024
DATE LOGGED	10/01/2024
CLIENT	Ballymore Group
ENGINEER	Atkins
DRILLED BY	IGSL
LOGGED BY	OK

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Depth of Sample Run (m)	Recovery (%)	Blowcount	Samples Ref. Number	Samples Sample Type	Samples Depth (m)
0.0	TOPSOIL: Soft to firm dark brown slightly sandy CLAY with rare roothair.					0.00-1.00	80				
	Firm to stiff brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to medium, subangular to subrounded.		0.20	1.97						ENV	0.40-0.70
1.0						1.00-2.00	60			ENV	1.10-1.20
	Very soft dark grey slightly sandy slightly gravelly silty CLAY. Sand is fine. Gravel is fine to medium, subangular to subrounded.		1.40	0.77						ENV	1.70-1.90
2.0	Dense grey gravelly silty clayey SAND. Sand is fine to medium. Gravel is fine to medium, subangular to subrounded.		2.00	0.17		2.00-3.00	75				
	Dense slightly gravelly silty clayey SAND. Sand is fine to medium. Gravel is fine, subangular to subrounded. (Olfactory scent of organics in the sample).		2.40	-0.23						ENV	2.40-2.70
3.0	Loose grey clayey gravelly SAND. Sand is fine to medium. Gravel is fine to medium, subangular to subrounded. Moist recovered		3.00	-0.83		3.00-4.00	50			ENV	3.50-3.90

General Remarks
Water installation at 5m bgl. All installs with gravels, bentonite and stand up covers concreted in.

Installations
Water monitoring installation

WINDOW SAMPLE RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray
BH NO.	**WS07B**
SHEET	Sheet 2 of 2
CO-ORDINATES	726,387.31 E 719,107.44 N
GROUND LEVEL (mOD)	2.17
DATE DRILLED	10/01/2024
DATE LOGGED	10/01/2024
CLIENT	Ballymore Group
ENGINEER	Atkins
DRILLED BY	IGSL
LOGGED BY	OK

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Depth of Sample Run (m)	Recovery (%)	Blowcount	Samples Ref. Number	Samples Sample Type	Samples Depth (m)
4.0	Loose grey slightly gravelly clayey SAND. Sand is fine to medium. Gravel is fine to medium, subangular to subrounded. Moist recovered		4.00	-1.83		4.00-5.00	90				
	Soft grey slightly sandy very silty CLAY. Sand is fine. Moist recovered		4.30	-2.13						ENV	4.50-4.70
	Soft to firm grey slightly sandy very silty CLAY. Sand is fine. Moist recovered		4.90	-2.73							
5.0	Final Depth 5.00m		5.00	-2.83							
6.0											
7.0											

General Remarks
Water installation at 5m bgl. All installs with gravels, bentonite and stand up covers concreted in.

Installations
Water monitoring installation

WINDOW SAMPLE RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray
CO-ORDINATES	726,248.92 E 719,114.96 N
GROUND LEVEL (mOD)	3.88
CLIENT	Ballymore Group
ENGINEER	Atkins
BH NO.	**WS08A**
SHEET	Sheet 1 of 1
DATE DRILLED	11/01/2024
DATE LOGGED	11/01/2024
DRILLED BY	IGSL
LOGGED BY	OK

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples: Depth of Sample Run (m)	Samples: Recovery (%)	Blowcount	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)
0.0	TOPSOIL: Soft to firm brown slightly sandy CLAY with rare roothair.					0.00-1.00	100				
	Firm to stiff brown CLAY.		0.80	3.08							
1.0						1.00-2.00	100				
	Soft to firm brown sandy CLAY		1.20	2.68							
	Firm to stiff brown mottled grey slightly gravelly slightly sandy CLAY.		1.55	2.33							
2.0	Firm light brown slightly sandy slightly gravelly CLAY.		2.00	1.88		2.00-3.00	40				
3.0	Final Depth 3.00m		3.00	0.88							

General Remarks
Gas well installation at 3m bgl. Gas valves inserted to top of pipe at all locations of gas wells.

Installations
Gas well instalation

WINDOW SAMPLE RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray
BH NO.	**WS08B**
SHEET	Sheet 1 of 2
CO-ORDINATES	726,276.96 E 719,115.02 N
GROUND LEVEL (mOD)	3.91
DATE DRILLED	10/01/2024
DATE LOGGED	10/01/2024
CLIENT	Ballymore Group
ENGINEER	Atkins
DRILLED BY	IGSL
LOGGED BY	OK

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Depth of Sample Run (m)	Recovery (%)	Blowcount	Samples Ref. Number	Samples Sample Type	Samples Depth (m)
0.0	TOPSOIL: Soft to firm brown slightly sandy CLAY with rare roothair.					0.00-1.00	100			ENV	0.50-0.80
	Firm to stiff brown CLAY with rare roothair.		0.85	3.06							
1.0	Firm brown to redish brown slightly sandy silty CLAY. Sand is fine to medium. Sandband encountered between 1.3 to 1.4m		1.00	2.91		1.00-2.00	85			ENV	1.40-1.70
	Loose brown/grey slightly gravelly SAND. Sand is fine to medium. Gravel is fine to medium, subangular to subrounded.		1.90	2.01							
2.0	Medium loose greyish brown slightly gravelly slightly clayey slightly silty SAND. Sand is fine to coarse. Gravel is fine, subangular to subrounded.		2.00	1.91		2.00-3.00	70			ENV	2.50-2.80
3.0	Medium loose redish brown to greyish brown slightly gravelly slightly clayey slightly silty SAND. Sand is fine to coarse. Gravel is fine, subangular to subrounded.		3.00	0.91		3.00-4.00	85			ENV	3.50-3.80

General Remarks
Water installation at 4m bgl. All installs with gravels, bentonite and stand up covers concreted in.

Installations
Water monitoring instalation

WINDOW SAMPLE RECORD

REPORT NUMBER 24991

CONTRACT	Sea Gardens, Bray
BH NO.	**WS08B**
SHEET	Sheet 2 of 2
CO-ORDINATES	726,276.96 E 719,115.02 N
GROUND LEVEL (mOD)	3.91
DATE DRILLED	10/01/2024
DATE LOGGED	10/01/2024
CLIENT	Ballymore Group
ENGINEER	Atkins
DRILLED BY	IGSL
LOGGED BY	OK

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Depth of Sample Run (m)	Recovery (%)	Blowcount	Samples Ref. Number	Samples Sample Type	Samples Depth (m)
4.0	Loose greyish brown slightly gravelly slightly clayey slightly silty SAND. Sand is fine to coarse. Gravel is fine subangular		4.00	-0.09		4.00-5.00	80			ENV	4.50-4.80
5.0	Final Depth 5.00m		5.00	-1.09							
6.0											
7.0											

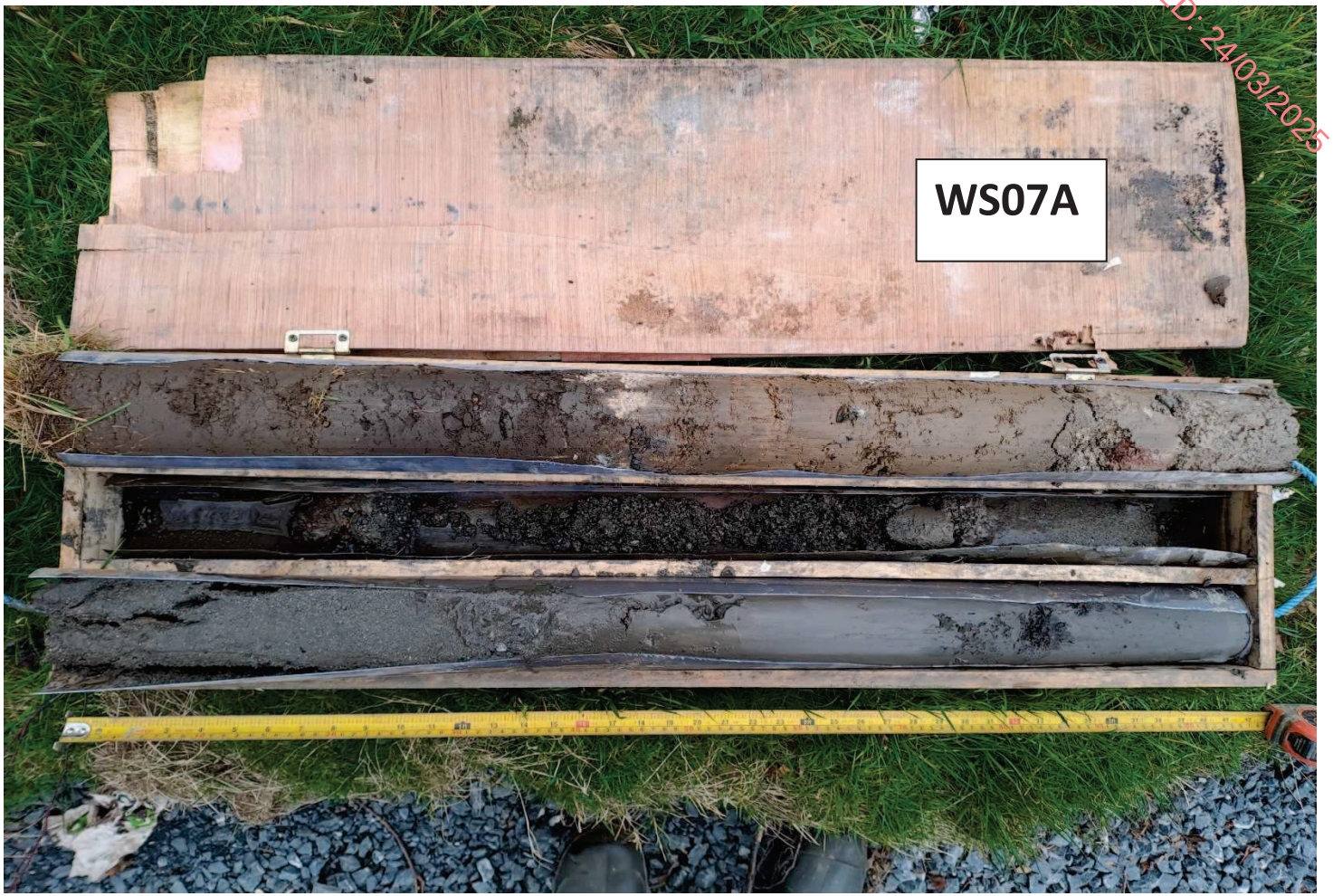
General Remarks
Water installation at 4m bgl. All installs with gravels, bentonite and stand up covers concreted in.

Installations
Water monitoring instalation

WS06A GL – 3m

WS06B GL – 5m

WS07A GL – 3m



WS07B GL – 5m

WS08A GL – 3m