

Document Title

Engineering Services Report

Project

Amendment Application to Blocks A and D of GA01
Lands at Baldoyle, Co. Dublin

Client

Land Development Agency



BD-CSC-ZZ-XX-RP-C-0501

Job No. L108

17 July 2026

DOCUMENT STATUS					
File Location: Job-L108\B_DOCUMENTS\1.0 Planning\1.0_ESR					
BS 1192	BD-CSC-ZZ-XX-RP-C-0501				
Version	Purpose of Document	Author	Reviewed by	Approved by	Issue Date
P1	STAGE 2 LRD ISSUE	LJ	GL	OS	12.02.2026
P2	DAFT STAGE 3 LRD ISSUE	LJ	FD	OS	25.06.2026
P3	STAGE 3 LRD ISSUE	LJ	FD	OS	17.07.2026

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ENGINEERING SERVICES REPORT

AMENDMENT APPLICATION TO BLOCKS A AND D OF GA01 LANDS AT BALDOYLE, CO. DUBLIN

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1.0 INTRODUCTION

Cronin & Sutton Consulting Engineers (CS Consulting) have been commissioned by The Land Development Agency (LDA) to prepare an Engineering Services Report (ESR) to accompany an LRD Opinion Request in respect of proposed amendments to permitted development of GA01 Lands, as permitted under ABP Reg. Ref. 310418-21 / FCC Reg. Ref. SHD/011/20. The proposed amendments comprise of alterations to the permitted Blocks A and D and Stapolin Square only.

This report details the following aspects of the proposed development:

- Stormwater Drainage Infrastructure
- Foul Drainage Infrastructure
- Potable Water Infrastructure
- Flood Risk

In preparing this report, CS Consulting has made reference to the following:

- Permitted development of GA01 Lands, as permitted under ABP Reg. Ref. 310418-21 / FCC Reg. Ref. SHD/011/20
- Fingal County Council Development Plan 2023-2029
(including Strategic Flood Risk Assessment)
- Baldoyle-Stapolin Local Area Plan 2013, extended to 2023
- Building Regulation 2010 (Part H)
- Greater Dublin Regional Code of Practice for Drainage Works (Version 6)
- Uisce Éireann's Code of Practice for Water Infrastructure (2020)
- Uisce Éireann's Code of Practice for Wastewater Infrastructure (2020)
- Local Authority Drainage Records

The Engineering Services Report is to be read in conjunction with the engineering drawings and documents submitted by CS Consulting, and with the various additional information submitted by the other members of the design team, as part of the planning submission.

2.0 SITE LOCATION

2.1 Site Location

The proposed amendments relate to a site area of approx. 3.03 ha, which forms part of the wider c.9.1ha permitted development of GA01 Lands, as permitted under ABP Reg. Ref. 310418-21 / FCC Reg. Ref. SHD/011/20.

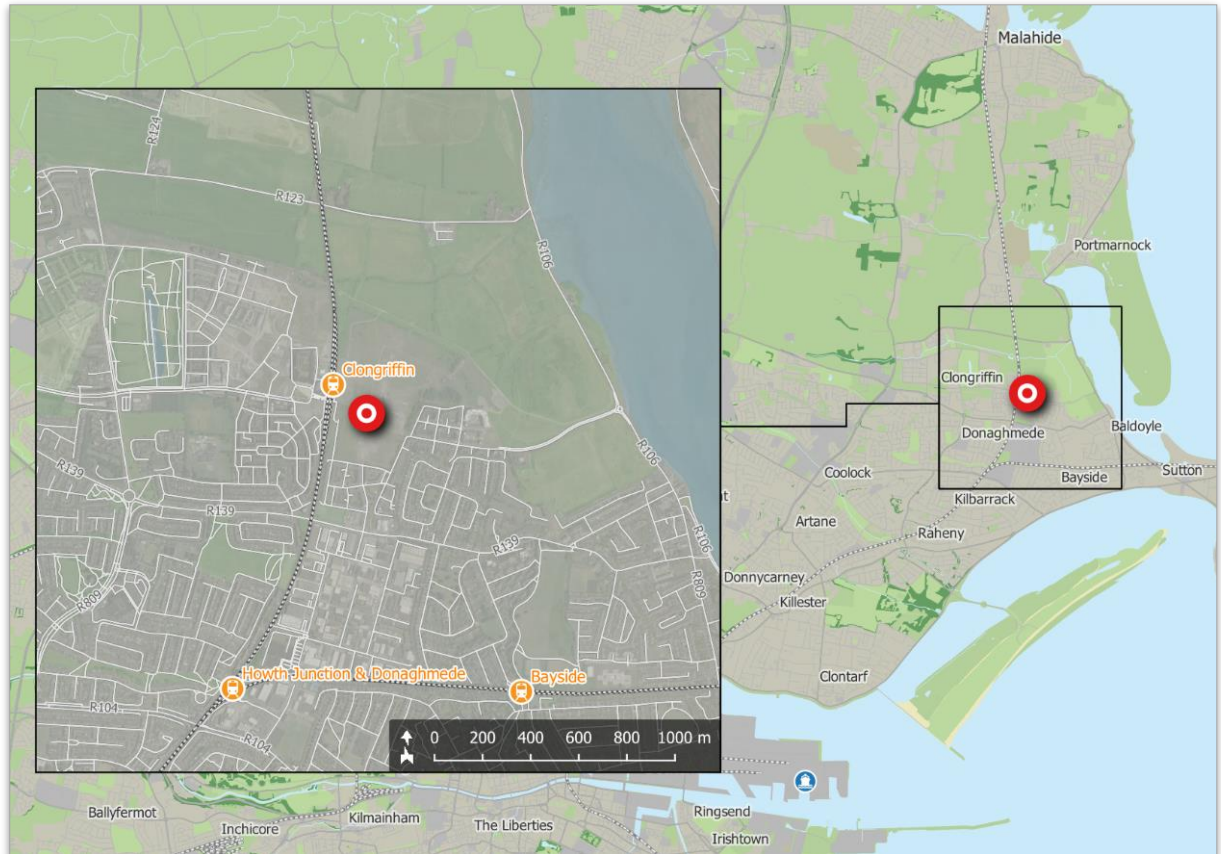


Figure 1 – Location of subject lands
(sources: EPA, OSi, OSM Contributors, Google)

The location of the subject lands is shown in **Figure 1**; their extents and environs are shown in more detail in **Figure 2**.

The site is bounded to the west by the Dublin-Belfast railway line, with Clongriffin DART Station located just to the northwest of the applicant lands, to the east and south by Blocks B and C which are currently under construction as permitted under ABP Reg. Ref. 310418-21 / FCC Reg. Ref. SHD/011/20 and to the north by development lands known as Growth Area 3 (GA3).



Figure 2 – Subject lands extents and environs
(sources: NTA, OSi, OSM Contributors, Microsoft)

2.2 Existing Land Use

The subject lands are currently undeveloped.

2.3 Description of Permitted Development

The development comprised of alterations to the permitted development, as permitted under FCC Reg. Ref. 16A/0412, ABP Reg. Ref. ABP-248970 (as amended by F20A/0258 and F21A/0046) of 544 no. residential units (385 no. apartments and 159 no. houses), retail and a crèche, to the development of 882 no. new residential dwellings (747 no. apartments, 135 no. houses), residential tenant amenity, retail, crèche, parking, and public realm, over a total site area of c. 9.1 ha, and site development area of c. 8.89 ha. Landscaping will include extensive communal amenity areas, and significant public open space provision.

2.4 Description of Amended Development

The proposed development will consist of the alteration of permitted development of Block A, Block D and Stapolin Square, as permitted under ABP Reg. Ref. ABP-310418-21 (and as

amended under LRD/0015/S3 & LRD/0073/S3E). No amendments are proposed to any other permitted blocks. The permitted Block A and Block D are located to the south and north of Stapolin Square and include for 528 units (277 in Block A1, A2 & A3 and 251 in Block D1, D2 & D3) and include residential tenant amenity, retail/café/restaurant, pharmacy, medical centre, crèche, gym, car and bicycle parking and public realm. The proposed alterations only relate to Block A, Block D and Stapolin Square, of the permitted development and for the most part are contained within the footprint and massing of the permitted development and relate to internal reconfiguration.

The proposed alterations result in an overall increase of 68 no. units in Block A and Block D, bringing the total units in Block A and Block D to 596, the total units permitted under ABP Reg. Ref. ABP-310418-21 (as amended) to 893 (760 apartments and 133 houses).

The proposed altered residential development of Block A and Block D will consist of a total of 596 no residential apartments, as follows:

1. Alteration of Blocks A1, A2 & A3 from permitted 4 to 7-storey buildings providing for 288 no. apartment units to a 4 to 7 storey building providing for 312 no. apartments.
2. Alteration of Blocks D1, D2 & D3 from permitted 5 to 10-storey buildings providing for 251 no. apartment units to a 5 to 10 storey building providing for 284 no apartments.
3. The reconfiguration of internal layouts of each of the blocks has resulted in the reduction of the blocks overall width and therefore increased width and area to the courtyards and increased distance between individual blocks.
4. Alteration of the permitted uses and facade at ground floor level and removal of permitted Residential Tenant Amenity Facilities located in Blocks A3 and D3 to provide for a ground floor level that includes in Blocks A1-A3, retail/restaurant/café/gym units and a creche including outdoor play space and in Blocks D1-D3, retail/restaurant/cafe units and residential units.
5. A revised central civic plaza at Stapolin Square centrally located between blocks A1-A3 and D1-D3, redesigned to address Condition 2 (a) of ABP-310418-21 which requires the removal of the two previously proposed public lifts. Stapolin Square is now designed to accommodate a gently sloped landscaped route from Longfield Road to Clongriffin Train Station.
6. Alterations to the permitted below podium areas under Block A, Stapolin Square & Block D to include for alterations to permitted layouts of car parking, cycle parking, plant, waste stores and substation locations. This includes the reduction in car parking as required under Condition 2 (b) of ABP-310418-21 which requires omission of car

parking under the permitted ramped access road to the Train Station to the north of Block D. An increase in bicycle parking is proposed.

No amendments are proposed to the constructed Blocks within B3, B4, C4, C5, C6 or the permitted The Haggard Park which remains as permitted, or all other elements including surface water attenuation wetlands and associated upstream surface water network, demolition of existing temporary lift and stair enclosure and associated infrastructure to Clongriffin Train Station, road infrastructure (except where within the application boundary and requiring to be locally altered for proposed alterations), and utilities infrastructure (except where within the application boundary and requiring to be locally altered for proposed alterations), all of which remain as per permitted.

3.0 POTABLE WATER SUPPLY

3.1 Existing Potable Water Infrastructure

There is an existing 300mm watermain running along the eastern (Stapolin Avenue) and part of the southern (Myrtle Avenue) side of the development. This infrastructure was installed to serve the future developments within the LAP.

It is also worth noting that Blocks B and C are currently under construction as permitted under FCC Reg. Ref. SHD/011/20, this development once built shall have potable watermain infrastructure laid along Red Archies Road and Longfield Road along the southern and south-eastern boundaries of the proposed Blocks A and D.

3.2 Potable Water Demand

The amendment application for Blocks A and D shall comprise a total of 596no. residential units, retail units, a creche including outdoor play space, and a fitness studio.

The water demand calculations are as follows:

3.2.1 Residential Units Water Demand – Block A and D

The Uisce Éireann Code of Practice for Water Infrastructure specifies an average potable water demand of 150 litres per person per day for domestic dwellings, and an average occupancy of 2.7 persons per residential unit. The development's applicable design population is therefore 1,609 people, and the average potable water demand of the proposed development may be calculated as:

➤ 150 l/person/day.

➤ Average water demand

$$150 \text{ l/day} \times 1,609 \text{ people} = 241,350 \text{ l/person/day} = 2.793 \text{ l/sec}$$

➤ Average day/peak week demand

$$2.793 \times 1.25 = 3.491 \text{ l/s}$$

➤ Peak water demand (5 times average day/ peak week water demand)

$$3.491 \text{ l/sec} \times 5 = 17.458 \text{ l/sec.}$$

3.2.2 Retails Water Demand – Block A and Block D

The Uisce Éireann Code of Practice for Water Infrastructure does not specify potable water consumption rates for non-domestic uses; therefore, the water demand is assumed to be 90l/day for staff and 10l/day per visitor. Taking into consideration the size of the retails that equals to 1097.6sq.m., it is assumed that there shall be c. 20no. staff daily and 70no. visitors. Therefore, the potable water demand for the retails may be calculated as:

- 90l/staff/day and 10l/day/visitor.

- Average water demand

$$90 \text{ l/day} \times 20 \text{ staff} + 10 \text{ l/day} \times 70 \text{ visitors} = 2,500 \text{ l/person/day} = 0.028 \text{ l/sec}$$

- Peak water demand (5 times average water demand)

$$5 \times 0.028 \text{ l/sec} = 0.144 \text{ l/sec}$$

3.2.3 Creche Water Demand – Block A

The Uisce Éireann Code of Practice for Water Infrastructure does not specify potable water consumption rates for non-domestic uses; therefore, the water demand is assumed to be 50l/day for children and 90l/day for staff. Taking into consideration the size of the creche which is 702.2sq.m., it is assumed that 110no. children and 30no. staff shall be present daily. Therefore, the potable water demand for the creche may be calculated as:

- 50 l/child/day and 90l/staff/day.

- Average water demand

$$(50 \text{ l/day} \times 110 \text{ children}) + (90 \text{ l/day} \times 30 \text{ people staff}) = 8,200 \text{ l/person/day} = 0.094 \text{ l/sec}$$

- Peak water demand (5 times average water demand)

$$5 \times 0.094 \text{ l/sec} = 0.474 \text{ l/sec.}$$

3.2.4 Sport Facility Water Demand – Block A

The Uisce Éireann Code of Practice for Water Infrastructure does not specify potable water consumption rates for non-domestic uses; therefore, the water demand is assumed to be 90l/day for staff and 50l/day for visitors. Taking into consideration the size of the sport facility which is 399sq.m., it is assumed that there shall be c. 40no. visitors and 2no. staff daily. Therefore, the potable water demand for the sport facility may be calculated as:

- 90l/staff/day and 50l/day/visitor.

- Average water demand

$$90 \text{ l/day} \times 2 \text{ staff} + 40 \text{ l/day} \times 50 \text{ visitors} = 2,180 \text{ l/person/day} = 0.025 \text{ l/sec}$$

- Peak water demand (5 times average water demand)

$$5 \times 0.025 \text{ l/sec} = 0.126 \text{ l/sec}$$

3.2.1 Total Potable Water Demand by the Overall Proposed Development

- Average Demand = 2.793 l/s + 0.028 l/s + 0.094 l/s + 0.025 l/s = 2.940 l/s

- Peak Demand = 17.458 l/s + 0.144 l/s + 0.474 l/s + 0.126 l/s = 18.202 l/s

3.3 **Potable Water Arrangement**

The proposed development will require a new watermain network. The watermain network shall be designed in accordance with the requirement and specifications set out in Uisce Éireann Code of Practice for Water Infrastructure and Building Regulations.

It is proposed to have 2no. watermain connections to serve the proposed development.

The watermain connection for Block A shall tie into the 200mm watermain on the Red Archies Road which is currently being constructed as permitted under FCC Reg. Ref. SHD/011/20.

The watermain connection for Block D shall tie into the 200mm watermain on the Longford Road which is currently being constructed as permitted under FCC Reg. Ref. SHD/011/20.

Please refer to CS Consulting drawing Nos. **L108-CSC-XX-XX-DR-C-0103** for the proposed potable water infrastructure.

3.4 Uisce Éireann Liaison

A Pre-Connection Enquiry (PCE) for the proposed amendments has been submitted to Uisce Éireann (Ref. CDS25008830). In response, Uisce Éireann issued a Confirmation of Feasibility (CoF), confirming that a connection to the public water network is feasible without the need for upgrades to the Uisce Éireann network.

The CoF notes that:

"Proposed connection to Uisce Éireann network is via infrastructure that has not been taken in charge by Uisce Éireann yet. The status and capacity of the infrastructure must be verified, prior to any physical connection works."

Further details are provided in **Appendix A**.

4.0 FOUL WATER INFRASTRUCTURE

4.1 Existing Foul Infrastructure

There is an existing 375mm diameter foul sewer that runs in a northern direction along the Stapolin Avenue in close proximity to the development site. This infrastructure was installed by previous developers to serve the entire LAP lands and extends upstream in a southerly direction serving the Myrtle development.

Downstream, this existing 375mm foul sewer discharges to an existing foul pump station located on the north side of Stapolin Haggard. The foul pumping station discharges via a 300mm rising main to the North Fringe Foul Sewer. The pump station currently serves the existing Myrtle and Red Arches Developments.

It is also worth noting that Blocks B (located to the east of the proposed development) and Block C (located to the south of proposed development) are currently under construction as permitted under FCC Reg. Ref. SHD/011/20, this development once built shall have foul drainage infrastructure laid along Stapolin Road and Racecourse Crescent to the east of the amendment development site.

4.2 Foul Effluent Generation

The amendment application for Blocks A and D shall comprise a total of 596no. residential units, retail units, a creche including outdoor play space, and a fitness studio.

The wastewater discharge calculations are as follows:

4.2.1 Residential Units Water Discharge – Block A and Block D

The Uisce Éireann Code of Practice for Wastewater Infrastructure specifies an average foul effluent flow rate of 165 litres per person per day for domestic dwellings (150 litres per person per day, plus a 10% allowance for external infiltration) and an average occupancy of 2.7 persons per residential unit. The development's applicable design population is therefore 1,609 people, and the foul effluent to be generated by the proposed residential units may be calculated as:

- 165 l/person/day.

- Dry Weather Flow (DWF)

$$165 \text{ l/person/day} \times 1,609 \text{ people} = 265,485 \text{ l/day} = 3.072 \text{ l/sec.}$$

- Peak Flow (3 times DWF for population between 1001-5000)

$$3.072 \text{ l/sec} \times 3 = 9.218 \text{ l/sec}$$

4.2.2 Wastewater Effluent Generated by Retail Units – Block A and Block D

The Uisce Éireann Code of Practice for Wastewater Infrastructure does not specify an average wastewater effluent flow rate for retail units, so it is considered as a site without canteen. Therefore, the wastewater effluent is 90l/day for staff and 10l/day per visitor. Taking into consideration the size of the retail units that equals to 1097.6sq.m., it is assumed that there shall be c. 20no. staff daily and 70no. visitors. Therefore, the wastewater effluent generated by the retail units may be calculated as:

- 90 l/staff/day and 10l/day/visitor + 10% allowance for infiltration.

- Dry Weather Flow (DWF)

$$90 \text{ l/day} \times 20 \text{ staff} + 10 \text{ l/day} \times 70 \text{ visitors} + (90 \text{ l/day} \times 20 \text{ staff} + 10 \text{ l/day} \times 70 \text{ visitors}) \times 10\% = 2,750 \text{ l/person/day} = 0.031 \text{ l/sec}$$

- Peak Flow (4.5 times DWF)

$$4.5 \times 0.031 \text{ l/sec} = 0.143 \text{ l/sec.}$$

4.2.3 Wastewater Effluent Generated by Crèche – Block A

The Uisce Éireann Code of Practice for Wastewater Infrastructure specifies an average wastewater effluent flow rate of 50 litres per child per day for schools without canteen, and 90 litres per staff per day. It is also assumed that a maximum of 110no. children and

30no. staff shall be utilising the facility daily. Therefore, the wastewater effluent generated by crèche of the proposed development may be calculated as;

- 50 l/child/day and 90l/staff/day + 10% allowance for infiltration.
- Dry Weather Flow (DWF)

$50 \text{ l/day} \times 110 \text{ children} + 90 \text{ l/day} \times 30 \text{p. staff} + (50 \text{ l/day} \times 110 \text{ children} + 90 \text{ l/day} \times 30 \text{p. staff}) \times 10\% = 9,020 \text{ l/person/day} = 0.104 \text{ l/sec}$

- Peak Flow (4.5 times DWF)

$4.5 \times 0.104 \text{ l/sec} = 0.469 \text{ l/sec.}$

4.2.4 Wastewater Effluent Generated by Sport Facility – Block A

The Uisce Éireann Code of Practice for Wastewater Infrastructure specifies an average wastewater effluent flow rate of 50 litres per visitor per day for sport facilities and assumed rate of 90 litres per staff per day. Taking into consideration the size of the sport facility which is 399sq.m., it is assumed that there shall be c. 40no. visitors and 2no. staff daily. Therefore, the wastewater effluent generated by the sport facilities may be calculated as:

- 90 l/staff/day and 50l/day/visitor + 10% allowance for infiltration.
- Dry Weather Flow (DWF)

$90 \text{ l/day} \times 2 \text{ staff} + 50 \text{ l/day} \times 40 \text{ visitors} + (90 \text{ l/day} \times 2 \text{ staff} + 50 \text{ l/day} \times 40 \text{ visitors}) \times 10\% = 2,398 \text{ l/person/day} = 0.027 \text{ l/sec}$

- Peak Flow (4.5 times DWF)

$4.5 \times 0.027 \text{ l/sec} = 0.124 \text{ l/sec.}$

4.2.5 Total Wastewater Effluent generated by the proposed development

- Dry Weather Flow = $3.072 \text{ l/s} + 0.031 \text{ l/s} + 0.104 \text{ l/s} + 0.027 \text{ l/s} = 3.234 \text{ l/s.}$
- Peak Flow = $9.218 \text{ l/s} + 0.143 \text{ l/s} + 0.469 \text{ l/s} + 0.124 \text{ l/s} = 9.954 \text{ l/s.}$

4.3 **Proposed Foul Drainage Arrangement**

The proposed development will require a new separate drainage network to collect and convey the effluent generated by the development. The drainage network for the proposed development has been designed in accordance with;

- The Regional Code of Practice for Drainage Works,
- The Greater Dublin Strategic Drainage Study,
- Uisce Éireann Code of Practice for Wastewater Infrastructure.

The drainage network for the development will be in accordance with Part H of the Building Regulations (2016) and to the requirements and specifications set out in the Uisce Éireann Code of Practice for Wastewater.

All foul effluent generated from the proposed development shall be collected in separate foul pipes and discharge into the 225mm diameter foul drainage network currently being constructed along the Racecourse Crescent via gravity. The foul drainage network which is currently being built shall ultimately discharge into the existing 375mm diameter foul sewer running along Stapolin Avenue.

Please refer to CS Consulting drawing Nos. **L108-CSC-XX-XX-DR-C-0102** for the foul drainage network layout.

4.4 Uisce Éireann Liaison

A Pre-Connection Enquiry (PCE) for the proposed amendments has been submitted to Uisce Éireann (Ref. CDS25008830). In response, Uisce Éireann issued a Confirmation of Feasibility (CoF), confirming that a connection to the public foul sewer network is feasible without the need for upgrades to the Uisce Éireann network.

The CoF notes that:

"Proposed connection to Uisce Éireann network is via infrastructure that has not been taken in charge by Uisce Éireann yet. The status and capacity of the infrastructure must be verified, prior to any physical connection works."

Further details are provided in **Appendix A**.

5.0 STORM WATER INFRASTRUCTURE

5.1 Existing Storm Water Infrastructure

At present there is an existing 1350mm stormwater culvert traversing the subject site along the line of Longfield Road, flowing south to north. This line is a diversion of a culvert which previously ran along the western boundary of the development lands.

In addition, there is an existing 1050mm stormwater culvert running from south to north along the line of Stapolin Avenue, which discharges into the Mayne River Flood Plain. Based on the previous planning permission granted under Fingal County Council Reg. Ref. F16A/0412 (hereafter referred to as the 'Previous Permission'), this culvert has been constructed by previous developers at a low level so that it can pass below the North Fringe Sewer located approximately 200m north of the proposed development. The depth of this outfall is approximately 2m below the existing ground level as it passes through to the flood plain further north. The culvert serves the existing developments constructed to date and discharges directly to the Mayne River Flood Plain.

It is noted that there is an existing stormwater drainage network located within the subject site, however due to its poor condition it is not intended to make use of the existing network and therefore it is proposed to be removed and a new network constructed in its place.

It is also worth noting that wetland is built (as permitted under FCC Reg. Ref. F16A/0412) within the flood plain, just beyond the line of the existing North Fringe foul sewer to provide the required water quality treatment for the lands within the LAP.

5.2 Storm water strategy as Permitted Development

All the storm water from the development would outfall into the wetlands (as granted under Previous Permission) before discharging to the Mayne River flood plain over a spillway/weir as permitted under FCC Reg. Ref. SHD/011/20.

Below is the list of SuDS elements which were permitted under FCC Reg. Ref. SHD/011/20.

- Constructed Wetlands
- Rainwater butts
- Swales
- Bio-retention areas
- Green Roofs
- Permeable paving

5.3 Proposed Storm Water Arrangement

The storm water arrangement for the amendment application shall follow the strategy as permitted under FCC Reg. Ref. SHD/011/20.

In accordance with *Section 4.3 of Appendix 1 of the Baldoyle-Stapolin Local Area Plan*, the site is located adjacent to the tidal estuary at Baldoyle and as there is no downstream development before out falling to the Irish Sea, the development site is not required to provide full attenuation for the 100 year return storm as per the requirements in Section 6.6, Volume 2, of the *Greater Dublin Strategic Drainage Study (GDSDS)*. In addition, the lands discharge into salt wetlands which are the flood estuary of the Mayne River and extend over approximately 40 hectares (100-year flood plain). Therefore, the principal issue, is the quality of water discharging from the LAP lands and not the quantity of water being discharged to the estuary.

A requirement of the LAP is that a wetland is installed within the flood plain, just beyond the line of the existing North Fringe foul sewer to provide the required water quality treatment for this and future developments within the LAP. This wetland and its corresponding upstream surface water network were granted under Previous Permission and was constructed and completed in 2020.

All storm water for the amendment development shall discharge to this wetland before discharging to the Moyne River flood plain over a spillway/ weir similar to previously permitted planning under FCC Reg. ref. SHD/011/20. The wetland will serve as the final water quality treatment for the amendment Block A and Block D of Growth Area 1 (rest of GA1, plus GA2 and GA3).

The wetland has been sized to cater for a treatment volume based on 15mm rainfall over 100% of the impermeable site areas and this will be retained in a permanent pool area of the wetland at all times. The wetland will incorporate a sediment forebay to serve as a 'first flush' collector of the majority of silt not removed by SuDS feature upstream. This ensures the remainder of the wetland is not disturbed during maintenance when silt build-up is removed from the fore-bay.

The shape and orientation of the permitted wetland under F16A/0412 has been designed to maximise the quantity of treatment provided, with a length to width ratio in excess of 3:1, allowing sediments to settle along its length. A varying width has been chosen to encourage diversity of plants and wildlife, while ensuring there are no stagnant areas and that the total volume is available to provide water quality treatment. Details of the planting/landscaping of the wetland as built is outlined in the landscape documents from the grant of permission F16A/0412.

The permanent pool levels of the wetland has been set to approx. match the existing ground level. The wetland is surrounded by a small 300mm high embankment to cater for fluctuations in water level and also to ensure the flows are directly over the control weir/ spillway. The treatment volume of the wetland is approx. **1860m³** with approx. catchment area to be served is 22.3ha (comprising of Growth Areas 1, 2, and 3).

All surface water runoff will undergo the required number of treatment stages at source before discharging to the downstream outfall. The treatment methods are detailed in the SuDS section, with the final stage of treatment provided by the proposed wetland system, as described later in sub-section 5.4 of this report.

As previously mentioned, it is not proposed to connect any surface water generated by the amendment development to the existing culverts referred to earlier as they pass under the existing North Fringe Sewer. It is proposed to connect the development to the new surface water network granted under F16A/0412 which is now built that shall cross above the North Fringe Sewer to ensure all surface water generated by the amendment development shall pass through the wetlands and overspill a weir/ spillway in the Mayne River Floodplain as previously permitted under FCC Reg. Ref. SHD/011/20.

Please refer to CS Consulting drawing Nos. **L108-CSC-XX-XX-DR-C-0102** for the drainage network layout. The storm drainage network for the development will be in accordance with the requirements and specifications of Fingal County Council.

The storm water drainage arrangement for this amendment development has been designed and carried out in accordance with the following;

- The Greater Dublin Strategic Drainage Study Volume 2
- The Greater Dublin Regional Code of Practice for drainage Works
- BS EN – 752:2008, Drains & Sewer Systems Outside Buildings
- Part H, Building Drainage of the Building Regulations, 2016

5.4 Proposed SuDS Measures

The second aspect of the storm drainage network is to improve the quality of the storm water leaving the site. There are a number of SuDS measures proposed to achieve this aim.

The SuDS features proposed in this amendment application shall be similar to the ones permitted under FCC Reg. Ref. SHD/011/20 and they are;

- a) Constructed Wetland - Shallow ponds and marshy areas with a high concentration of aquatic vegetation. The wetland will detain flows for an extended period allowing sediments to settle and to remove contaminants by facilitating adhesion to vegetation

and aerobic decomposition. Located within existing Mayne River floodplain, prior to discharge to the floodplain.

- b) Green Roofs - Green roofs provide ecological, aesthetic and amenity benefits and intercept and retain rainfall, at source, reducing the volume of runoff and attenuation peak flows. Green roofs absorb most of the rainfall that they receive during ordinary events and they will only contribute to attenuation of flows for larger events. Additionally, green roofs treat surface water through removal of atmospherically deposited urban pollutants. 100mm deep Sedum green roof systems are proposed within this amendment application to Blocks A and D. Refer to CS Consulting drawing no. **L108-CSC-XX-XX-DR-C-0110** for further details regarding the locations and areas of the green roofs.
- c) Permeable Paving - These systems are used 'source control' method in managing surface water runoff. Water is managed and dealt with on-site without piping off to storage tanks or surface water treatment systems. Surface water discharge is managed to ensure that risk of contamination or pollution are mitigated. Permeable Paving systems filter contaminants by microbial action. There is no requirement for additional filtering/polishing with Permeable Paving in normal use. It is proposed to construct all on-street parking spaces to the development with permeable paving systems.

The combination of the above noted elements shall allow the proposed development to adhere to the principles of sustainable drainage practices while enhancing overall storm water quality.

Please refer to **Appendix C** which provides details on the SuDS/ Green Infrastructure Checklist.

5.5 Summary of Compliance with Criteria 1-4 GDSDS

The Greater Dublin Strategic Drainage Study (GDSDS) and the Regional Code of Practice for Drainage Works require that a development's stormwater drainage arrangements satisfy four main criteria;

- Criterion 1 - River Water Quality Protection – satisfied by treatment of run-off within SuDS features as a part of the proposed development design.
- Criterion 2 - River Regime Protection - satisfied by limiting the volume of surface water run-off.

We confirm the site is located adjacent to the tidal estuary at Baldoyle and as there is no downstream development before outfalling to the Irish Sea, the *development site*

is not required to provide full attenuation for the 100-year return storm as stipulated in Section 4.3 of Appendix 1 of the Baldoyle-Stapolin LAP.

- Criterion 3 - Level of Service (flooding) for the site – satisfied by the site being outside the 1000-year coastal and fluvial flood extent areas.
- Criterion 4 - River Flood Protection – attenuation and/or long-term storage provided within the SuDS features.

We confirm the site is located adjacent to the tidal estuary at Baldoyle and as there is no downstream development before outfalling to the Irish Sea, the development site is not required to provide full attenuation for the 100-year return storm as stipulated in Section 4.3 of Appendix 1 of the Baldoyle-Stapolin LAP.

5.6 Interception Calculations

The interception storage volume is calculated based on;

1. Entirety of the paved/ roof area (1.597 ha)
2. 5mm rainfall depth
3. 80% runoff factor (1.597×0.8) = 1.277 ha

The treatment storage volume is calculated based on;

1. Entirety of the paved/ roof area (1.597 ha)
2. 15mm rainfall depth
3. 80% runoff factor (1.597×0.8) = 1.277 ha

Interception storage is to be provided within the green roofs of the Blocks A and , permeable paving, and landscape zones at ground floor level. the volumes to be provided are given in **Table 2** below, and the required volume for each area is provided in **Table 3**.

Required Volume of Interception		
Total Impermeable Area (m ²)	Rainfall Depth (m)	Required Volume of Interception (m ³)
12770	0.005	63.85

Table 1 : Interception Storage Area Requirement

Required Volume of Interception		
Total Impermeable Area (m ²)	Rainfall Depth (m)	Required Volume of Interception (m ³)
12770	0.015	191.55

Table 2 : Treatment Storage Area Requirement

Volume of Interception and Treatment Provided			
Storage Structure	Area (m ²)	Storage	Volume of Interception Provided (m ³)
Green Roof	5,410	10 litres / m ²	54.10
Permeable Pavement	540	100 mm / m ²	54
Wetlands			797
Total Provided			905.1

Table 3: Interception Storage Provision Calculation

The total interception storage provided for the development site is 905.1m³, thereby exceeding the required 191.55m³, by 713.55m³.

The GDSDS recommends that if the initial runoff from at least 5mm of rainfall can be intercepted, additional treatment for runoff (treatment volume) is not required. In this development, the stormwater management measures, including permeable paving, green roofs, wetlands and soft landscaping successfully intercept runoff from at least 5mm of rainfall.

6.0 RESPONSES TO ITEMS RAISED IN FCC LRD OPINION WATER SERVICES DEPARTMENT

6.1 Items

6.1.1 Item 1

'The proposed SW arrangement is acceptable in principle. Details of the respective SUDS features (layout/volume of storage/treatment etc) and their interaction/purpose within the SUDS treatment train should be submitted, including the constructed wetlands area'.

Response to Item 1

Details of the proposed SUDS features the proposed constructed wetlands, are provided in sub-section 5.4 of this report and CS drawing no. **L108-CSC-XX-XX-DR-C-0110_PH2**.

6.1.2 Item 2

'Details of ground investigation and infiltration rates should be provided. Details of the proposed permeable paving (cross-sections, layouts, materials, type including proposed surface treatment to the proposed Stapolin Square.'

Response to Item 2

Ground investigation information and infiltration test results are provided in the accompanying Ground Investigation Report (**Appendix C**). Details of the proposed permeable paving, including layouts, cross-sections, construction build-up, materials

and proposed surface treatment within Stapolin Square, are provided on CS drawings **L108-CSC-XX-XX-DR-C-0115 to 0117** and **L108-CSC-XX-XX-DR-C-0121 to 0122**.

6.1.3 Item 3

'Details of green roof areas (layout, cross-sections etc) and storage volumes should be provided.'

Response to Item 3

Details of the proposed green roofs and attenuation storage volumes are included within the CS drawing no. **L108-CSC-XX-XX-DR-C-0110_PH2**.

6.1.4 Item 4

'Details of flood risk assessment/residual risks (including mitigation measures) should be provided.'

Response to Item 4

A Site Specific Flood Risk Assessment has been prepared and is submitted as part of this application. The assessment considers all relevant flood mechanisms, residual flood risks and the proposed mitigation measures.

6.1.5 Item 5

'Drawings/details/calculations should be provided to demonstrate suitability of proposed SuDS features following any potential alterations.'

Response to Item 5

Details of SuDS features interception calculation is provided in sub-section 5.6 of this report.

APPENDIX A
UISCE ÉIREANN COF



CS CONSULTING
Civil, Structural & Traffic Engineering

CONFIRMATION OF FEASIBILITY

Gary Lindsay
CS Consulting Group
1st Floor
19-22 Dame Street
Dublin 2
D02E267

18 March 2026

Uisce Éireann
Bosca OP 448
Oifig Sheachadta na
Cathrach Theas
Cathair Chorcaí

Uisce Éireann
PO Box 448
South City
Delivery Office
Cork City

www.water.ie

**Our Ref: CDS25008830 Pre-Connection Enquiry
Lands at Baldoyle (The Coast), Baldoyle, Dublin 13**

Dear Applicant/Agent,

We have completed the review of the Pre-Connection Enquiry.

Uisce Éireann has reviewed the pre-connection enquiry in relation to a Water & Wastewater connection for a Multi/Mixed Use Development of 620 unit(s) at Lands at Baldoyle (The Coast), Baldoyle, Dublin 13, (the **Development**).

Based upon the details provided we can advise the following regarding connecting to the networks;

- **Water Connection** - Feasible without infrastructure upgrade by Uisce Éireann
- Proposed connection to Uisce Éireann network is via infrastructure that has not been taken in charge by Uisce Éireann yet. The status and capacity of the infrastructure must be verified, prior to any physical connection works.
- **Wastewater Connection** - Feasible without infrastructure upgrade by Uisce Éireann subject to following:
- Proposed connection to Uisce Éireann network is via infrastructure that has not been taken in charge by Uisce Éireann yet. The status and capacity of the infrastructure must be verified, prior to any physical connection works.

Stiúrthóirí / Directors: Jerry Grant (Cathaoirleach / Chairperson), Niall Gleeson (POF / CEO), Gerard Britchfield, Douglas Millican, Michael Nolan, Patricia King, Eileen Maher, Cathy Mannion, Michael Walsh..

Oifig Chláraithe / Registered Office: Teach Colvill, 24-26 Sráid Thalbóid, Baile Átha Cliath 1, D01 NP86 / Colvill House, 24-26 Talbot Street, Dublin, Ireland D01NP86

Is cuideachta ghníomhaíochta ainmnithe atá faoi theorainn scaireanna é Uisce Éireann / Uisce Éireann is a designated activity company, limited by shares.

Cláraithe in Éirinn Uimh.: 530363 / Registered in Ireland No.: 530363

- Private old Baldoyle Rececourse Pumping Station must be decommissioned, and a new one must be delivered and connected to Uisce Éireann network, prior the connection.

This letter does not constitute an offer, in whole or in part, to provide a connection to any Uisce Éireann infrastructure. Before the Development can be connected to our network(s) you must submit a connection application and be granted and sign a connection agreement with Uisce Éireann.

As the network capacity changes constantly, this review is only valid at the time of its completion. As soon as planning permission has been granted for the Development, a completed connection application should be submitted. The connection application is available at www.water.ie/connections/get-connected/

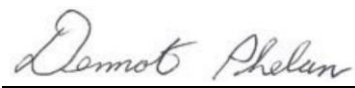
Where can you find more information?

- **Section A** - What is important to know?
- **Section B** - Details of Uisce Éireann's Network(s)

This letter is issued to provide information about the current feasibility of the proposed connection(s) to Uisce Éireann's network(s). This is not a connection offer and capacity in Uisce Éireann's network(s) may only be secured by entering into a connection agreement with Uisce Éireann.

For any further information, visit www.water.ie/connections, email newconnections@water.ie or contact 1800 278 278.

Yours sincerely,



Dermot Phelan
Connections and Developer Services

Section A - What is important to know?

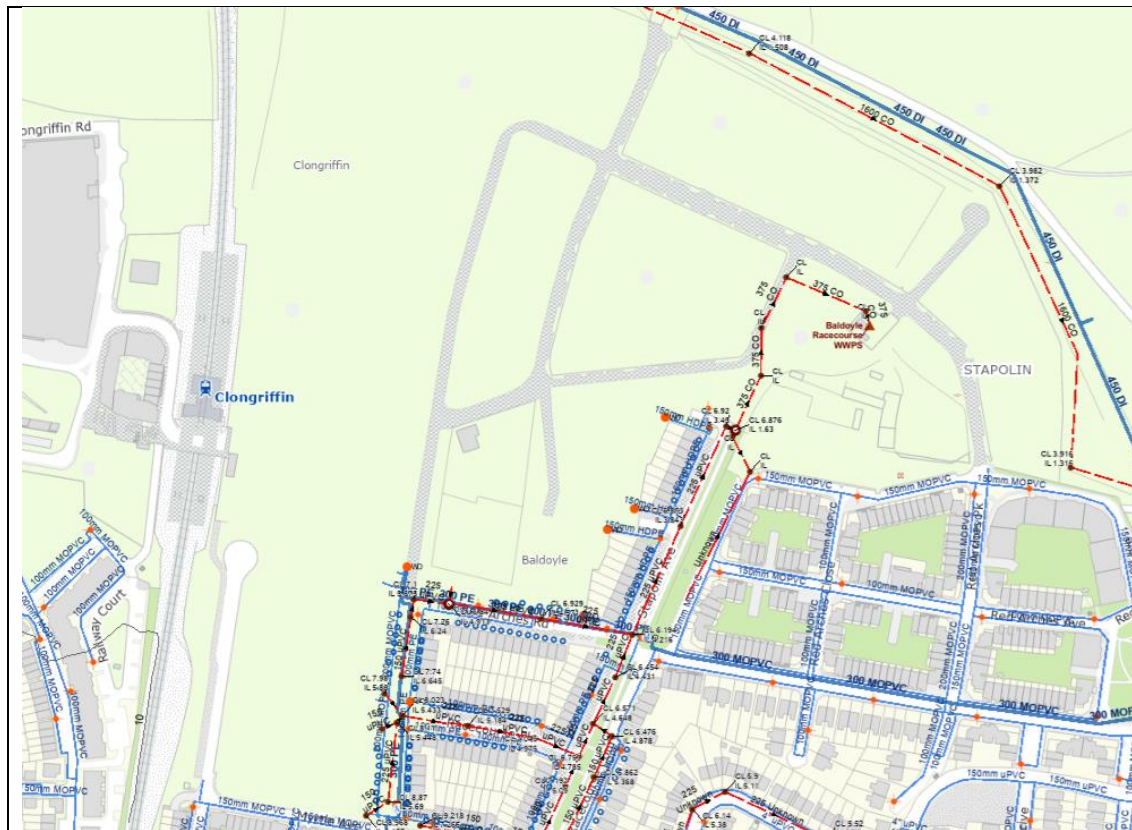
What is important to know?	Why is this important?
Do you need a contract to connect?	<ul style="list-style-type: none"> • Yes, a contract is required to connect. This letter does not constitute a contract or an offer in whole or in part to provide a connection to Uisce Éireann's network(s). • Before the Development can connect to Uisce Éireann's network(s), you must submit a connection application <u>and be granted and sign</u> a connection agreement with Uisce Éireann.
When should I submit a Connection Application?	<ul style="list-style-type: none"> • A connection application should only be submitted after planning permission has been granted.
Where can I find information on connection charges?	<ul style="list-style-type: none"> • Uisce Éireann connection charges can be found at: https://www.water.ie/connections/information/charges/
Who will carry out the connection work?	<ul style="list-style-type: none"> • All works to Uisce Éireann's network(s), including works in the public space, must be carried out by Uisce Éireann*. <p>*Where a Developer has been granted specific permission and has been issued a connection offer for Self-Lay in the Public Road/Area, they may complete the relevant connection works</p>
Fire flow Requirements	<ul style="list-style-type: none"> • The Confirmation of Feasibility does not extend to fire flow requirements for the Development. Fire flow requirements are a matter for the Developer to determine. • What to do? - Contact the relevant Local Fire Authority
Plan for disposal of storm water	<ul style="list-style-type: none"> • The Confirmation of Feasibility does not extend to the management or disposal of storm water or ground waters. • What to do? - Contact the relevant Local Authority to discuss the management or disposal of proposed storm water or ground water discharges.
Where do I find details of Uisce Éireann's network(s)?	<ul style="list-style-type: none"> • Requests for maps showing Uisce Éireann's network(s) can be submitted to: datarequests@water.ie

<p>What are the design requirements for the connection(s)?</p>	<ul style="list-style-type: none"> The design and construction of the Water & Wastewater pipes and related infrastructure to be installed in this Development shall comply with <i>the Uisce Éireann Connections and Developer Services Standard Details and Codes of Practice</i>, available at www.water.ie/connections
<p>Trade Effluent Licensing</p>	<ul style="list-style-type: none"> Any person discharging trade effluent** to a sewer, must have a Trade Effluent Licence issued pursuant to section 16 of the Local Government (Water Pollution) Act, 1977 (as amended). More information and an application form for a Trade Effluent License can be found at the following link: https://www.water.ie/business/trade-effluent/about/ <p>**trade effluent is defined in the Local Government (Water Pollution) Act, 1977 (as amended)</p>

Section B – Details of Uisce Éireann’s Network(s)

The map included below outlines the current Uisce Éireann infrastructure adjacent the Development: To access Uisce Éireann Maps email

datarequests@water.ie



Reproduced from the Ordnance Survey of Ireland by Permission of the Government. License No. 3-3-34

Note: The information provided on the included maps as to the position of Uisce Éireann’s underground network(s) is provided as a general guide only. The information is based on the best available information provided by each Local Authority in Ireland to Uisce Éireann.

Whilst every care has been taken in respect of the information on Uisce Éireann’s network(s), Uisce Éireann assumes no responsibility for and gives no guarantees, undertakings or warranties concerning the accuracy, completeness or up to date nature of the information provided, nor does it accept any liability whatsoever arising from or out of any errors or omissions. This information should not be solely relied upon in the event of excavations or any other works being carried out in the vicinity of Uisce Éireann’s underground network(s). The onus is on the parties carrying out excavations or any other works to ensure the exact location of Uisce Éireann’s underground network(s) is identified prior to excavations or any other works being carried out. Service connection pipes are not generally shown but their presence should be anticipated.

APPENDIX B

SUDS/ GREEN INFRASTRUCTURE CHECKLIST

SUDS/Green Infrastructure selection checklist –To be submitted in planning submission - Rev 1

Suds Measures	Measures to be used on this site	Rationale for selecting/not selecting measure	Checklist submitted? See no. 8 below
Source Control			
Swales	No	None proposed due to the infill nature of the site. However, the parent planning permitted under SHD/011/20 has Swales	
Tree Pits	No	None proposed.	
Rainwater Butts	No	None proposed. No housing units within this application	
Rainwater harvesting	No	None proposed	
Soakaways	No	Poor permeability. BRE digest 365 test failed.	
Infiltration trenches	No	Poor permeability.	
Permeable pavement (Grasscrete, Block paving, Porous Asphalt etc.)	Yes	All on-street car parking spaces shall have permeable paving	Yes
Green Roofs	Yes	Low level roofs in apartment development will have green roofs. High level roofs will not have green roofs. Percentage of green roof area to be confirmed upon final design. Podium slabs to apartment blocks to incorporate limited green roof systems.	
Filter strips	No		
Bio-retention systems/Raingardens	No	None proposed due to the infill nature of the site. However, the parent planning permitted under SHD/011/20 has bio retention areas.	
Blue Roofs	No	None proposed.	
Filter Drain	No	None proposed	
Site Control			
Detention Basins	No	Refer to regional control below	
Retentions basins	No	Refer to regional control below	
Regional Control			
Ponds	No	None proposed. However, Forebay is constructed as part of previously granted planning under F16A/0412 prior to attenuation discharge to the wetlands.	
Wetlands	No	None proposed. However, Wetlands is constructed to serve the GA1, 2 and 3 of the development as approved under F16A/0412.	
Other			
Petrol/Oil interceptor	Yes	Petrol inceptors to be placed on the parking under the proposed development and in addition Forebay control prior to entering the wetlands.	
Attenuation tank – only as a last resort where other measures are not feasible	No	None proposed	

Oversized pipes– only as a last resort where other measures are not feasible	No	None proposed.	
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Note:

1. Fingal has a preference for above ground Green Infrastructure rather than tanks or over sized pipes . Above ground flows through swales, basins etc are encouraged.
2. Demonstrate SUDS system will have sufficient Pollutant removal efficiency in accordance with Ciria Suds Manual C753
3. Basins sides should be no steeper than 1:4 and no deeper than 1.2m in the 1%AEP
4. Culverting shall be avoided where possible
5. De-culverting is encouraged.
6. Please submit evidence of infiltration rates
7. To account for climate change in the design of the drainage system rainfall intensities should be factored up by 20%
8. The Applicant must provide Suds checklists in accordance with the Appendix B of the Ciria Suds manual C753

Appendix	Name
B3	Full planning
B4	Scheme design
B5	Health and safety
B6	Infiltration assessment
B7	Proprietary treatment
B9	filter strip
B11	filter drain
B13	swale
B15	bioretention
B16	pervious pavement
B17	attenuation tank
B19	basin
B21	pond wetland

Flood risk to be assessed

Flood risk	Applicable to subject site	Measures to reduce risk	Residual risk
Fluvial	No		
Pluvial	No		
Coastal	No		
Groundwater	No		
Dam/Embankment/Canal bank breach	No		
Network drainage	Yes	Network modelled for 100 year event plus climate change, and no flooding occurs. In the event of blockage failure, the road network is designed to direct floodwater to green areas	No
Snow melt	No		
Watermain burst	Yes	the road network is designed to direct floodwater to green areas	No

Note:

Models should consider the risk when outlets are surcharged

Climate Change scenarios to be considered both MRFS and HEFS

APPENDIX C

GROUND INVESTIGATION REPORT



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
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Newcastle,
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Tel: 01 601 5175 / 5176
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Web: www.gii.ie

Ground Investigations Ireland

Project Shoreline Phase 2

Land Development Agency

Ground Investigation Report

November 2025

Directors:

Fergal McNamara (MD), Conor Finnerty, Aisling McDonnell, Barry Sexton, Stephen Kealy & Michael Sutton
Ground Investigations Ireland Limited | Registered in Ireland Company Registration No.: 405726



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DOCUMENT CONTROL SHEET

Project Title	Project Shoreline Phase 2
Engineer	CS Consulting
Client	Land Development Agency
Project No	14814-06-25
Document Title	Ground Investigation Report

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
A	Final	A Browne	C Finnerty	B Sexton	Dublin	11 November 2025

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



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APPENDICES

Appendix 1	Figures
Appendix 2	Trial Pit Records
Appendix 3	Dynamic Probe Records
Appendix 4	Rotary Coring Borehole Records
Appendix 5	Laboratory Testing

1.0 Preamble

On the instructions of CS Consulting Engineers, a site investigation was carried out by Ground Investigations Ireland Ltd. (GII) in July and August of 2025, at the site of the proposed residential development in Baldoyle, County Dublin.

2.0 Overview

2.1. Background

It is proposed to construct a new residential development with associated services, access roads and car parking at the proposed site. At the time of the site investigation the site was occupied by stockpiles of soil and gravel roads. The site is situated at Stapolin, Baldoyle, County Dublin. The proposed construction is envisaged to consist of conventional foundations and pavement make up with some local excavations for services and plant.

2.2. Purpose and Scope

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

- Visit project site to observe existing conditions
- Carry out 45 No. Trial Pits to a maximum depth of 3.50m BGL
- Carry out 49 No. Dynamic Probes to determine soil strength/density characteristics
- Carry out 1 No. Rotary Coring Borehole to a maximum depth of 10.00m BGL.
- Environmental Laboratory testing.
- Report with recommendations

3.0 Subsurface Exploration

3.1. General

During the ground investigation a programme of intrusive investigation specified by the Consulting Engineer was undertaken to determine the sub surface conditions at the proposed site. Regular sampling and in-situ testing were undertaken in the exploratory holes to facilitate the geotechnical descriptions and to enable laboratory testing to be carried out on the soil samples recovered during excavation and drilling.

The procedures used in this site investigation are in accordance with Eurocode 7 Part 2: Ground Investigation and testing (ISEN 1997 – 2:2007) and B.S. 5930:2015+A1:2020.

3.2. Trial Pits

The trial pits were excavated using a JCB 3CX excavator at the locations shown in the exploratory hole location plan in Appendix 1. The locations were checked using a CAT scan to minimise the potential for encountering services during the excavation. The trial pits were sampled, logged and photographed by a Geotechnical Engineer/Engineering Geologist prior to backfilling with arisings. Notes were made of any services, inclusions, pit stability, groundwater encountered, and the characteristics of the strata encountered and are presented on the trial pit logs which are provided in Appendix 2 of this Report.

3.3. Dynamic Probing (DPH)

The dynamic probe tests (DPH) were carried out at the locations shown in the location plan in Appendix 1 in accordance with B.S. 1377: Part 9 1990. The test consists of mechanically driving a cone with a 50kg weight in 100mm intervals and monitoring the number of blows required. An equivalent Standard Penetration Test (SPT) 'N' value may be calculated by dividing the total number of blows over a 300mm drive length by 1.5. The dynamic probe logs are provided in Appendix 3 of this Report.

3.4. Rotary Boreholes

The rotary coring was carried out by a track mounted T44 Beretta rig at the location shown on the location plan in Appendix 1. The rotary borehole was completed from the ground surface.

The T44 Beretta is equipped with rubber tracks which allow for short travel on pavement surfaces avoiding any damage to the surface. The T44 Beretta utilises a triple tube core barrel system operated using a wireline drilling process. The outer barrel is rotated by the drill rods and at its lower end, carries the coring bit. The inner barrel is mounted on a swivel so that it does not rotate during the process. The third barrel or liner is placed within the second one to retain the core intact and to preserve as much as possible the fabric of the drilling stratum. The core is cut by the coring bit and passes to the inner liner. The core is brought up to the surface within the inner barrel on a small diameter wire rope or line attached to the "overshoot" recovery tool which is then placed into a core box in order of recovery. A drilling fluid, typically air mist or water flush is passed from the surface through hollow drill rods to the drill bit and is used to cool the drill bit. Temporary casing is used in some situations to support unstable ground or to seal off fissures or voids. It should be noted that the rotary coring can only achieve limited recovery in overburden, particularly granular or weakly cemented strata due to the flushing medium washing away the cohesive fraction during coring. The recovery achieved, where required is noted on the borehole logs and core photographs are provided to allow assessment of the core recovered. The rotary borehole logs are provided in Appendix 4 of this Report.

3.5. Surveying

The exploratory hole locations have been recorded using a KQGeo M8 GNSS System which records the coordinates and elevation of the locations to ITM as required by the project specification. The coordinates and elevations are provided on the exploratory hole logs in the appendices of this Report.

3.6. Laboratory Testing

Samples were selected from the exploratory holes for a range of geotechnical and environmental testing to assist in the classification of soils and to provide information for the proposed design.

Environmental & Chemical testing as required by the specification, including the Rilta Suite testing was carried out by Element Materials Technology Laboratory in the United Kingdom (UK). The Rilta suite testing includes both Solid Waste and Leachate Waste Acceptance Criteria.

The results of the laboratory testing are provided in Appendix 5 of this report.

4.0 Ground Conditions

4.1. General

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

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

- Topsoil
- Made Ground
- Cohesive Deposits
- Granular Deposits

TOPSOIL: Topsoil was encountered in several of the exploratory holes and was present to a maximum depth of 0.20m BGL.

MADE GROUND: Made Ground deposits were encountered beneath the Topsoil or from surface and were present to depths of 0.30m to 2.60m BGL. These deposits were described generally as *brown slightly sandy gravelly Clay* and *brown slightly sandy clayey subangular to subrounded fine to coarse Gravel* and contained *rare fragments of plastic, geotextile, wood, wire, metal, red brick and mortar*.

COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Made Ground or Topsoil and were described typically as *brown sandy gravelly CLAY with low cobble and boulder content* overlying a *dark grey sandy gravelly CLAY with low cobble and boulder content*. The secondary sand and gravel constituents varied across the site and with depth, with granular lenses occasionally present in the glacial till matrix. The strength of the cohesive deposits typically increased with depth and was firm to stiff or stiff below 1.0m BGL in the majority of the exploratory holes. These deposits had low (<5%), medium (5%-20%) or high (20%-50%) cobble and boulder content, where noted on the exploratory hole logs.

GRANULAR DEPOSITS: Granular deposits were encountered between the cohesive deposits and were typically described as *brown gravelly clayey fine to coarse SAND* or *grey/brown slightly sandy clayey fine to coarse subangular to subrounded GRAVEL*. The secondary sand/gravel and silt/clay constituents varied across the site and with depth while low, medium or high cobble and boulder content were also present where noted on the exploratory hole logs.

Based on the SPT N values the deposits are typically dense. It should be noted that many of the trial pits where granular deposits or groundwater were encountered, experienced instability. This was described either as side wall spalling or as side wall collapse in the remarks section at the base of the trial pit logs.

4.2. In-situ Strength Testing

The correlated DPH blow counts indicate that the overburden deposits are soft or soft to firm to depth of 1.00m to 1.20m BGL and become firm or firm to stiff with depth. DP206 had low blow counts in the soft to firm cohesive deposits to a depth of 2.00m BGL which corresponds to the description on trial pit logs.

4.3. Groundwater

Groundwater strikes are noted on the exploratory hole logs where they occurred. It should be noted that these exploratory holes did not remain open for sufficiently long periods of time to establish the hydrogeological regime and groundwater levels would be expected to vary with the tide, time of year, rainfall, nearby construction and other factors.

4.4. Laboratory Testing

4.4.1. Environmental Laboratory Testing

A number of samples were analysed for a suite of parameters which allows for the assessment of the sampled material in terms of total pollutant content for classification of materials as *hazardous* or *non-hazardous*. The suite also allows for the assessment of the sampled material in terms of suitability for placement at licenced landfills (inert, stable non-reactive, hazardous etc.). The parameter list for the suite includes analysis of the solid samples for arsenic, barium, cadmium, chromium, copper, cyanide, lead, nickel, mercury, zinc, speciated aliphatic and aromatic petroleum hydrocarbons, pH, sulphate, sulphide, moisture content, soil organic matter and an asbestos screen.

The suite also includes those parameters specified in the EU Council Decision establishing criteria for the acceptance of waste at Landfills (Council Decision 2003/33/EC), which for the solid samples are total organic carbon (TOC), speciated aliphatic and aromatic petroleum hydrocarbons, BTEX, phenol, polychlorinated biphenyls (PCB) and PAH.

As part of the suite a leachate is generated from the solid sample, which is analysed for antimony, arsenic, barium, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, chloride, fluoride, soluble sulphate, sulphide, phenols, dissolved organic carbon (DOC) and total dissolved solids (TDS).

While the laboratory report provides a comparison with the waste acceptance criteria limits it does not provide a waste classification of the material sampled nor does it comment on any potentially hazardous

properties of the materials tested. The possibility for contamination, not revealed by the testing undertaken should be borne in mind particularly where Made Ground deposits are present, or the previous site use or location indicate a risk of environmental variation. The waste classification report is included under the cover of a separate report by Ground Investigations Ireland.

The results from the completed laboratory testing are included in Appendix 5 of this report.

5.0 Recommendations & Conclusions

5.1. General

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

5.2. Foundations

At the location of the proposed structures, an allowable bearing capacity of 125 kN/m² is recommended for conventional strip or pad foundations on the stiff cohesive deposits or medium dense granular deposits at the depths outlined in Table 1 below. The possibility for variation in the depth of the made ground in the vicinity of these foundations should be considered and foundation inspections should be carried out. Any soft spots encountered at the proposed foundation depths should be excavated and replaced with lean mix concrete.

Table 1 - Allowable Bearing Capacities

Allowable Bearing Capacities (ABC) - Dynamic Probe Locations							
Shallowest Practical Depth				Depth to 125 kN/m ²			
Probe	ABC	Depth		Probe	ABC	Depth	
No.	kN/m ²	m BGL	Comment	No.	kN/m ²	m BGL	Comment
DP201	80	1.20		DP201	125	1.00	
DP202	125	1.00		DP202	125	1.00	
DP203	125	1.40		DP203	125	1.40	
DP204	125	1.00		DP204	125	1.00	
DP205	80	1.00		DP205	125	2.30	
DP206	80	2.00		DP206	125	3.50	
DP207	125	1.00		DP207	125	1.00	
DP208	125	1.00		DP208	125	1.00	
DP209	125	1.00		DP209	125	1.00	
DP210	125	1.00		DP210	125	1.00	
DP211	125	1.50		DP211	125	1.50	
DP212	100	1.70		DP212	125	3.10	
DP213	125	1.00		DP213	125	1.00	
DP214			Shallow Refusal	DP214			Shallow Refusal
DP214A	125	1.00		DP214A	125	1.00	
DP215	125	1.00		DP215	125	1.00	
DP216	125	1.00		DP216	125	1.00	

Allowable Bearing Capacities (ABC) - Dynamic Probe Locations							
Shallowest Practical Depth				Depth to 125 kN/m ²			
Probe	ABC	Depth		Probe	ABC	Depth	
DP216A	125	1.00		DP216A	125	1.00	
DP217	125	1.00		DP217	125	1.00	
DP218	80	1.45		DP218	125	3.90	
DP219	125	1.00		DP219	125	1.00	
DP220	125	1.00		DP220	125	1.00	
DP221	125	1.00		DP221	125	1.00	
DP222	125	1.00		DP222	125	1.00	
DP224	125	1.40		DP224	125	1.40	
DP225	125	1.00		DP225	125	1.00	
DP226	125	2.00		DP226	125	2.00	
DP227	125	1.10		DP227	125	1.10	
DP228	125	1.80		DP228	125	1.80	
DP228A	125	1.50		DP228A	125	1.50	
DP228B	125	1.00		DP228B	125	1.00	
DP228C	125	1.90		DP228C	125	1.90	
DP229	125	1.00		DP229	125	1.00	
DP230	125	1.60		DP230	125	1.60	
DP231	125	1.00		DP231	125	1.00	
DP232	80	1.00		DP232	125	1.60	
DP233	125	1.90		DP233	125	1.90	
DP234	125	1.00		DP234	125	1.00	
DP235	125	1.20		DP235	125	1.20	
TP236	100	1.30		TP236	125	1.80	
DP237	125	1.30		DP237	125	1.30	
DP238	125	1.00		DP238	125	1.00	
DP239	125	1.00		DP239	125	1.00	
DP240	80	1.00		DP240	125	1.70	
DP241	125	1.60		DP241	125	1.60	
DP242	125	1.30		DP242	125	1.30	
DP242A	125	1.30		DP242A	125	1.30	
DP243	125	1.00		DP243	125	1.00	
TP244	80	2.50		TP244	N/A		
DP245	125	1.00		DP245	125	1.00	

In any part of the site, should part of the foundation be on both granular and cohesive deposits we would recommend that all the foundations of the unit in question be lowered to the competent deeper stratum or suitably reinforced to avoid problems with differential settlement.

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

A ground bearing floor slab is recommended to be based on the stiff cohesive deposits or medium dense granular deposits, with an appropriate depth of compacted hardcore specified by the consulting engineer and in accordance with the limits and guidelines in SR21:2014 +A1:2016 and/or NRA SRW CL808 Type E granular stone fill. Where the depth of Made Ground deposits exceeds 0.90m then suspended floor slabs should be considered.

5.3. Excavations

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

Excavations in the Made Ground or soft Cohesive Deposits will require to be appropriately battered or the sides supported due to the low strength of these deposits.

Any excavations which penetrate the granular deposits will require to be appropriately battered or the sides supported.

Any waste material to be removed off site should be disposed of to a suitably licenced landfill.

The environmental testing completed during the ground investigation is reported under the cover of a separate GII Waste Classification Report.

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

APPENDIX 1 - Figures





<p>● Site Location</p> <p>▭ Indicative Site Boundary</p>	
<p>Client:</p> 	
<p>Project Code:</p> <p>14814-06-25</p>	
<p>Project Title:</p> <p>Project Shoreline Phase 2</p>	
<p>Drawing Title:</p> <p>Figure 1 Site Location</p>	
 <p>GROUND INVESTIGATIONS IRELAND Geotechnical & Environmental</p> <p>Ground Investigations Ireland Ltd. Catherinstown House, Hazelhatch Road, Newcastle, Co. Dublin www.gii.ie 01-6015175/5176</p>	
<p>0 28 56 84 112 140 m</p> 	
<p>Drawn By: LM</p>	<p>Date: 17-10-2025</p>

723000E

723060E

723120E

723180E

723240E

723300E

740880N

740820N

740760N

740700N

740640N

723000E

723060E

723120E

723180E

723240E

723300E

 Indicative Site Boundary Trial Pit Borehole**Client:****Project Code:**

14814-06-25

Project Title:

Project Shoreline Phase 2

Drawing Title:

Figure 2 SI Locations

**GROUND INVESTIGATIONS IRELAND**
Geotechnical & EnvironmentalGround Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

0 13 26 39 52 65 m

Drawn By:
LMDate:
17-10-2025

APPENDIX 2 – Trial Pit Records





Ground Investigations Ireland Ltd
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Site Project Shoreline Phase 2		Trial Pit Number TP201
Client LDA		Job Number 14814-06-25A
Engineer		Sheet 1/1

Machine : JCB 3CX Method : Trial Pit		Dimensions 4.00m x 1.10m x 3.20m (L x W x D)	Ground Level (mOD) 7.50
Location 723117.2 E 740844.3 N		Dates 29/07/2025- 29/08/2025	

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			7.30	(0.20) 0.20 (0.20) 7.10 0.40 7.00 (0.10) 6.99 0.51	MADE GROUND: Grey slightly sandy clayey angular to subangular fine to coarse Gravel with low cobbl content (Crushed rock fill) MADE GROUND: Dark grey slightly clayey slightly sandy angular to subrounded fine to coarse Gravel MADE GROUND: Brown slightly sandy gravelly Clay GEOTEXTILE MADE GROUND: Dark grey slightly clayey sandy angular to subrounded fine to coarse Gravel with low cobble content		
1.50	ES			6.50	1.00 (1.10) 5.40 2.10 (1.10) 4.30 3.20	Firm brown slightly sandy gravelly CLAY with low cobble content Stiff dark grey slightly sandy gravelly CLAY with low cobble content Complete at 3.20m		

Plan					Remarks		
.	.	.	.	.	No groundwater encountered Trial pit stable Trial pit complete at 3.20m Trial pit backfilled upon completion		
.	.	.	.	.			
.	.	.	.	.			
.	.	.	.	.			
.	.	.	.	.			
.	.	.	.	.			
					Scale (approx)	Logged By	Figure No.
					1:25	JK	14814-06-25A.TP201



Ground Investigations Ireland Ltd
www.gii.ie

Site Project Shoreline Phase 2	Trial Pit Number TP202
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Machine : JCB 3CX Method : Trial Pit	Dimensions 3.60m x 0.90m x 3.00m (L x W x D)	Ground Level (mOD) 7.38
	Location 723132 E 740838.6 N	Dates 29/07/2025- 29/08/2025

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			7.08	0.30	MADE GROUND: Brown and grey slightly sandy clayey angular to subangular fine to coarse Gravel with low cobble content and rare fragments of geotextile and red brick		
						Firm brown slightly sandy gravelly CLAY		
1.50	ES				(1.60)			
				5.48	1.90	Stiff dark grey slightly sandy gravelly CLAY with low cobble content		
					(1.10)			
				4.38	3.00	Complete at 3.00m		

Plan	Remarks
	No groundwater encountered Trial pit stable Trial pit location moved due to stockpile and underground drainage system Trial pit complete at 3.20m Trial pit backfilled upon completion
	Scale (approx) 1:25
	Logged By JK
	Figure No. 14814-06-25A.TP202

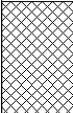


Ground Investigations Ireland Ltd

www.gii.ie

Site Project Shoreline Phase 2	Trial Pit Number TP203
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Machine : JCB 3CX Method : Trial Pit	Dimensions 3.60m x 0.90m x 3.50m (L x W x D)	Ground Level (mOD) 7.84
	Location 723155.6 E 740855.4 N	Dates 29/07/2025- 29/08/2025

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50 0.50	B ES			7.44 7.43	(0.40) 0.40 0.41	MADE GROUND: Grey slightly clayey slightly sandy angular to subangular fine to coarse Gravel with low cobble content (Crushed rock fill) with rare fragments of rope GEOTEXTILE Firm brown slightly sandy gravelly CLAY with low cobble content		
1.50 1.50	B ES			5.74	2.10 (1.69)	Stiff dark grey slightly sandy gravelly CLAY with low cobble content		
				4.34	3.50	Complete at 3.50m		

Plan	Remarks No groundwater encountered Trial pit stable Trial pit complete at 3.50m Trial pit backfilled upon completion
	Scale (approx) 1:25
	Logged By JK
	Figure No. 14814-06-25A.TP203



Site Project Shoreline Phase 2		Trial Pit Number TP204
Machine : JCB 3CX Method : Trial Pit		Job Number 14814-06-25A
Dimensions 3.60m x 0.85m x 3.20m (L x W x D)		Sheet 1/1
Location 723183.4 E 740849.8 N		
Ground Level (mOD) 7.60		
Dates 29/07/2025- 29/08/2025		
Client LDA		
Engineer		

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			7.40	(0.20) 0.20	TOPSOIL		
				7.20	(0.20) 0.40	MADE GROUND: Brown slightly sandy gravelly Clay with low cobble content and rare fragments of geotextile and concrete		
1.50	ES				(1.65)	Soft to firm brown mottled grey slightly sandy slightly gravelly CLAY with low cobble content		
				5.55	2.05	Stiff dark grey slightly sandy gravelly CLAY with low cobblecontent		
					(1.15)			
				4.40	3.20	Complete at 3.20m		

Plan					Remarks		
.	.	.	.	.	No groundwater encountered		
.	.	.	.	.	Trial pit stable		
.	.	.	.	.	Trial pit complete at 3.20m		
.	.	.	.	.	Trial pit backfilled upon completion		
.	.	.	.	.			
.	.	.	.	.			
					Scale (approx)	Logged By	Figure No.
					1:25	JK	14814-06-25A.TP204



Site	Project Shoreline Phase 2
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**Trial Pit
Number
TP205**

Machine : JCB 3CX
Method : Trial Pit

Dimensions
3.60m x 0.90m x 3.50m
(L x W x D)

Ground Level (mOD)	7.55
--------------------	------

Client	LDA
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Job Number	14814-06-25A
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Location	723210.5 E 740857.8 N
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Dates	29/07/2025- 29/08/2025
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Engineer

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			7.35	(0.20)	TOPSOIL		
					0.20	MADE GROUND: Dark grey slightly sandy slightly gravelly Clay with low cobble content and rare fragments of red brick, yellow brick and plastic		
6.75	(0.60)			Stiff to firm greyish brown slightly sandy slightly gravelly CLAY				
	(1.20)							
	5.55				2.00	Firm to stiff dark grey slightly sandy gravelly CLAY with lowcobble content		
4.05	(1.50)							
			Water strike(1) at 3.00m.					
				4.05	3.50	Complete at 3.50m		

Plan

Remarks

Groundwater encountered at 3.00m BGL; seepage
Trial pit stable
Trial pit complete at 3.60m
Trial pit backfilled upon completion

Scale (approx)

Logged By

Figure No.

1:25

JK

14814-06-25A.TP205



Site	Project Shoreline Phase 2
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**Trial Pit
Number**
TP206

Machine : JCB 3CX
Method : Trial Pit

Dimensions
3.60m x 0.85m x 3.20m
(L x W x D)

Ground Level (mOD)	7.02
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Client	LDA
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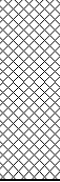
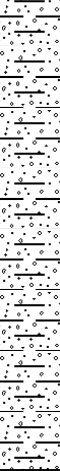
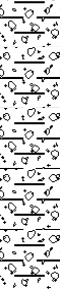
Job Number	14814-06-25A
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Location	723237.6 E 740850.1 N
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Dates	29/07/2025- 29/08/2025
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Engineer

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			6.42	0.60	MADE GROUND: dark grey slightly sandy clayey angular to subrounded fine to coarse Gravel with low cobble content and rare fragments of plastic, PVC pipe and styrofoam		
1.50	ES			4.82	2.20	Firm brown mottled grey slightly sandy slightly gravelly CLAY		
			Water strike(1) at 2.80m.	3.82	3.20	Stiff grey mottled brown slightly sandy slightly gravelly CLAY with low cobble content		▽1
						Complete at 3.20m		

Plan

Remarks

Groundwater encountered at 2.80m BGL; seepage
Trial pit stable
Trial pit complete at 3.20m
Trial pit backfilled upon completion

Scale (approx)

1:25

Logged By

JK

Figure No.

14814-06-25A.TP206



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Site Project Shoreline Phase 2	Trial Pit Number TP207
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Machine : JCB 3CX Method : Trial Pit	Dimensions 3.50m x 0.80m x 3.10m (L x W x D)	Ground Level (mOD) 7.23
	Location 723115.3 E 740825.7 N	Dates 29/07/2025- 29/08/2025

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			6.98	(0.25) 0.25	MADE GROUND: Grey and brown slightly sandy clayey angular to subangular fine to coarse Gravel with rare fragments of geotextile, red brick, plastic and aluminium can		
1.50	ES			5.33	(1.65) 1.90	Firm brown slightly sandy gravelly CLAY with low cobble content		
				4.13	(1.20) 3.10	Stiff dark grey slightly sandy gravelly CLAY with low cobble content		
						Complete at 3.10m		

Plan	Remarks
	No groundwater encountered Trial pit stable Trial pit complete at 3.10m Trial pit backfilled upon completion
	Scale (approx) 1:25
	Logged By JK
	Figure No. 14814-06-25A.TP207



**Trial Pit
Number**
TP208

Job Number	14814-06-25A
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Sheet
1/1

14814-06-25A.TP208



**Trial Pit
Number**
TP209

Job Number	14814-06-25A
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Sheet
1/1

Figure No.

JK

14814-06-25A.TP209



**Trial Pit
Number
TP210**

Job Number	14814-06-25A
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Sheet
1/1

14814-06-25A.TP210



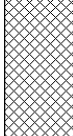
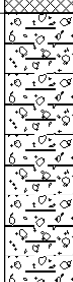
Ground Investigations Ireland Ltd
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Site Project Shoreline Phase 2	Trial Pit Number TP211
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Machine : JCB 3CX Method : Trial Pit	Dimensions 3.60m x 0.90m x 3.20m (L x W x D)	Ground Level (mOD) 7.53
	Location 723209.1 E 740832.1 N	Dates 29/07/2025- 29/08/2025

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			7.38	(0.15) 0.15	TOPSOIL		
					(0.55)	MADE GROUND: Dark grey slightly sandy gravelly Clay with medium cobble content and rare fragments of red brick, yellow brick, plastic, concrete and styrofoam		
				6.83	0.70 (0.30)	MADE GROUND: Dark grey slightly sandy slightly gravelly Clay with rare fragments of red brick		
				6.53	1.00 (0.50)	MADE GROUND: Dark grey slightly clayey slightly sandy angular to subrounded fine to coarse Gravel with medium cobble content		
1.50	ES			6.03	1.50 (1.70)	Firm brown mottled grey slightly sandy slightly gravelly CLAY		
				4.33	3.20	Complete at 3.20m		

Plan	Remarks
	No groundwater encountered Trial pit unstable; sidewall collapse at 2.10m BGL Trial pit complete at 3.20m Trial pit backfilled upon completion
	Scale (approx) 1:25
	Logged By JK
	Figure No. 14814-06-25A.TP211

<div></div> <div>Ground Investigations Ireland Ltd</div> <div>www.gii.ie</div>					<div>Site</div> <div>Project Shoreline Phase 2</div>		<div>Trial Pit Number</div> <div>TP212</div>		
<div>Machine : JCB 3CX</div> <div>Method : Trial Pit</div>		<div>Dimensions</div> <div>3.50m x 0.90m x 1.60m</div> <div>(L x W x D)</div>		<div>Ground Level (mOD)</div> <div>6.63</div>		<div>Client</div> <div>LDA</div>		<div>Job Number</div> <div>14814-06-25A</div>	
		<div>Location</div> <div>723239.9 E 740832 N</div>		<div>Dates</div> <div>29/07/2025-29/08/2025</div>		<div>Engineer</div>		<div>Sheet</div> <div>1/1</div>	
<div>Depth (m)</div>	<div>Sample / Tests</div>	<div>Water Depth (m)</div>	<div>Field Records</div>	<div>Level (mOD)</div>	<div>Depth (m) (Thickness)</div>	<div>Description</div>	<div>Legend</div>	<div>Water</div>	
0.50	ES		Water strike(1) at 0.70m.	6.43	(0.20)	TOPSOIL		▽1	
					0.20	MADE GROUND: Dark grey slightly sandy clayey angular to subangular fine to coarse Gravel with medium cobble content and low boulder content with rare fragments of plastic, red brick, timber, wood and rootlets			
1.50	ES			5.93	0.70	Firm grey mottled brown slightly sandy slightly gravelly CLAY with low cobble content			
					(0.90)				
				5.03	1.60	Terminated at 1.60m			
<div>Plan</div> <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>						<div>Remarks</div> <div>Groundwater encountered at 0.70m BGL; fast ingress</div> <div>Trial pit unstable; sidewall spalling at 0.50m to 1.20m BGL</div> <div>Trial pit terminated at 1.60m BGL due to groundwater ingress</div> <div>Trial pit backfilled upon completion</div>			
						<div>Scale (approx)</div> <div>1:25</div>	<div>Logged By</div> <div>JK</div>	<div>Figure No.</div> <div>14814-06-25A.TP212</div>	



Site	Project Shoreline Phase 2
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**Trial Pit
Number**
TP213

Machine : JCB 3CX
Method : Trial Pit

Dimensions
3.60m x 0.85m x 3.30m
(L x W x D)

Ground Level (mOD)	6.97
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Client	LDA
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Job Number	14814-06-25A
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Location	723114 4 E 740804 6 N
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Dates	29/07/2025- 29/08/2025
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Engineer

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water		
0.50	ES				6.87	(0.10) TOPSOIL				
					6.67	(0.10) (0.20)	MADE GROUND: Brown and grey slightly sandy clayey angular to subangular fine to coarse Gravel with low cobble content rare fragments of geotextile and plastic			
						0.30			Firm brown slightly sandy gravelly CLAY with low cobble content	
						(1.10)				
										
										
1.50	ES				5.57	1.40	Firm brown mottled grey slightly sandy slightly gravelly CLAY with low cobble content			
					(0.70)					
										
										
										
										
					4.87	2.10	Stiff dark grey slightly sandy gravelly CLAY with low cobble content			
					(1.20)					
										
										
										
										
	3.67	3.30	Complete at 3.30m							

Plan

Remarks

No groundwater encountered
Trial pit stable
Trial pit complete at 3.30m
Trial pit backfilled upon completion

Scale (approx)

1:25

Logged By

JK

Figure No.

14814-06-25A.TP213



Site	Project Shoreline Phase 2
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**Trial Pit
Number**
TP214

Machine : JCB 3CX
Method : Trial Pit

Dimensions
3.50m x 0.90m x 3.00m
(L x W x D)

Ground Level (mOD)	6.93
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Client	LDA
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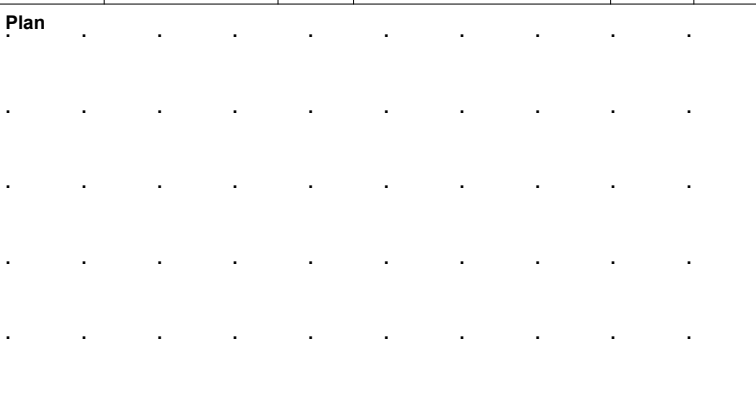
Job Number	14814-06-25A
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Location	723136.4 E 740808.3 N
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Dates	29/07/2025- 29/08/2025
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Engineer

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<div>Plan</div> 	Remarks		
	No groundwater encountered Trial pit stable Trial pit complete at 3.20m Trial pit backfilled upon completion		
Scale (approx)	Logged By	Figure No.	
1:25	JK	14814-06-25A.TP21	



**Trial Pit
Number**
TP215

Job Number	14814-06-25A
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Sheet
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14814-06-25A.TP215

 <div> Ground Investigations Ireland Ltd www.gii.ie </div>					Site Project Shoreline Phase 2		Trial Pit Number TP216			
Machine : JCB 3CX Method : Trial Pit		Dimensions 3.40m x 0.90m x 3.00m (L x W x D)		Ground Level (mOD) 6.76		Client LDA		Job Number 14814-06-25A		
		Location 723175.7 E 740799.4 N		Dates 29/07/2025- 29/08/2025		Engineer		Sheet 1/1		
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water		
0.50	ES			6.61	(0.15)	TOPSOIL				
					0.15	MADE GROUND: Dark grey slightly sandy gravelly Clay with rare fragments of geotextile				
1.50	ES			6.46	(0.15)	Firm brown mottled grey slightly sandy slightly gravelly CLAY				
					(0.15)					
					(0.15)					
					(0.15)					
					(0.15)					
					(0.15)					
					(0.15)					
					(0.15)					
					(0.15)					
					(0.15)					
					(2.00)					
					(2.00)					
					(2.00)					
					(2.00)					
					(2.30)	Stiff dark grey slightly sandy gravelly CLAY with low cobble content				
					(2.30)					
					(2.30)					
					(2.30)					
					(0.70)					
					(0.70)					
					(0.70)					
					(0.70)					
					(3.00)	Complete at 3.00m				
					(3.00)					
					(3.00)					
					(3.00)					
Plan					Remarks					
.					No groundwater encountered Trial pit stable Trial pit complete at 3.00m Trial pit backfilled upon completion					
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					Scale (approx)		Logged By		Figure No.	
					1:25		JK		14814-06-25A.TP216	



Site	Project Shoreline Phase 2
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Trial Pit Number
TP217

Machine : JCB 3CX
Method : Trial Pit

Dimensions
3.60m x 0.90m x 3.50m
(L x W x D)

Ground Level (mOD)	6.42
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Client	LDA
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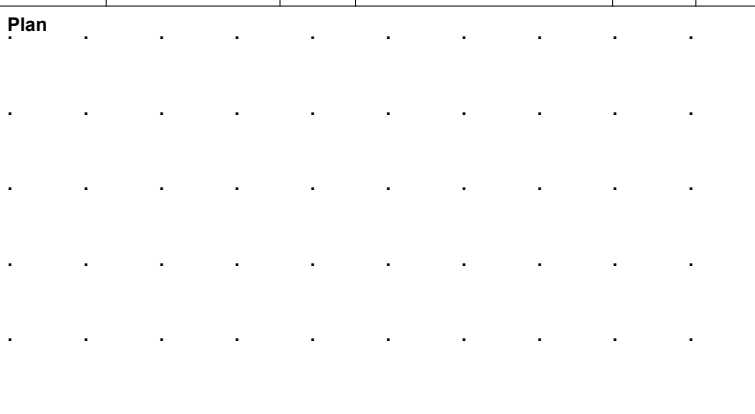
Job Number	14814-06-25A
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Location	723208.6 E 740810.6 N
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Dates	29/07/2025- 29/08/2025
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Engineer

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<div>Plan</div> 	Remarks		
	No groundwater encountered Trial pit stable Trial pit complete at 3.50m BGL Trial pit backfilled upon completion		
Scale (approx)		Logged By	Figure No.
1:25		JK	14814-06-25A.TP21



**Trial Pit
Number
TP218**

Dimensions
3.70m x 0.90m x 3.40m
(L x W x D)

Client	LDA
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Job Number	14814-06-25A
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Location	723232.9 E 740816.3 N
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Dates	29/07/2025- 29/08/2025
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Engineer

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Remarks

Groundwater encountered at 3.20m BGL; seepage
Trial pit stable
Trial pit complete at 3.40m
Trial pit backfilled upon completion

Scale (approx)

Logged By

Figure No.

1:25

JK

14814-06-25A.TP218



**Trial Pit
Number**
TP219

Job Number	14814-06-25A
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14814-06-25A.TP219



**Trial Pit
Number**
TP220

Job Number	14814-06-25A
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Sheet
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14814-06-25A.TP220



Ground Investigations Ireland Ltd
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Site
Project Shoreline Phase 2

Trial Pit
Number
TP221

Machine : JCB 3CX
Method : Trial Pit

Dimensions
3.60m x 0.95m x 3.20m
(L x W x D)

Ground Level (mOD)
6.36

Client
LDA

Job
Number
14814-06-25A

Location
723225.9 E 740785.8 N

Dates
29/07/2025-
29/08/2025

Engineer

Sheet
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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			6.06	(0.30) 0.30	TOPSOIL		
					(0.70)	Brown slightly sandy slightly gravelly CLAY with occasional sand lenses		
				5.36	1.00	Soft grey mottled brown slightly sandy slightly gravelly silty CLAY with occasional sand lenses		
					(0.60)			
1.50	ES			4.76	1.60	Grey slightly clayey slightly gravelly fine to coarse SAND with low cobble content		
					(1.20)			
				3.56	2.80	Stiff dark grey slightly sandy gravelly CLAY with low cobble content		
					(0.40)			
			Water strike(1) at 3.00m.	3.16	3.20	Complete at 3.20m		

Plan

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Remarks

Groundwater encountered at 2.10m BGL; slow ingress
Trial pit unstable; sidewall collapse at 1.60m to 3.00m BGL
Trial pit terminated due to sidewall collapse
Trial pit backfilled upon completion

Scale (approx)

1:25

Logged By

JK

Figure No.

14814-06-25A.TP221



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Site Project Shoreline Phase 2	Trial Pit Number TP222
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Machine : JCB 3CX Method : Trial Pit	Dimensions 3.60m x 0.95m x 3.10m (L x W x D)	Ground Level (mOD) 6.92
	Location 723241.9 E 740785.1 N	Dates 29/07/2025- 29/08/2025

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			6.32	(0.60)	MADE GROUND: Brown slightly sandy gravelly Clay with low cobble content and rare fragments of red brick, plastic, clay pipe and tarmac		
1.50	ES			5.12	0.60 (1.20)	Firm brown slightly sandy gravelly CLAY with low cobble content		
				3.82	1.80 (1.30)	Stiff dark grey slightly sandy gravelly CLAY with low cobble content		
					3.10	Complete at 3.10m		

Plan	Remarks
	No groundwater encountered Trial pit stable Trial pit complete at 3.10m BGL Trial pit backfilled upon completion



**Trial Pit
Number**
TP223

Dimensions
3.40m x 0.95m x 3.20m
(L x W x D)

Client	LDA
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Job Number	14814-06-25A
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Location
723116.3 E 740757.4 N

Dates	29/07/2025- 29/08/2025
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Engineer

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Scale (approx)	Logged By	Figure No.
1:25	JK	14814-06-25A.TP223



Site	Project Shoreline Phase 2
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**Trial Pit
Number**
TP224

Machine : JCB 3CX
Method : Trial Pit

Dimensions
3.40m x 0.90m x 2.90m
(L x W x D)

Ground Level (mOD)	6.35
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Client	LDA
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Job Number	14814-06-25A
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Location	723144.6 E 740757.1 N
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Dates	29/07/2025- 29/08/2025
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Engineer

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Plan

Remarks

Grndwater encountered at 2.10m BGL; seepage
Trial pit unstable; sidewall collapse at 1.50m to 2.70m BGL
Trial pit terminated due to sidewall collapse
Trial pit backfilled upon completion

Scale (approx)

Logged By

Figure No.

1:25

JK

14814-06-25A.TP224



**Trial Pit
Number**
TP225

Job Number	14814-06-25A
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14814-06-25A.TP225



**Trial Pit
Number**
TP226

Job Number	14814-06-25A
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Sheet
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14814-06-25A.TP226



Site	Project Shoreline Phase 2
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**Trial Pit
Number**
TP227

Machine : JCB 3CX
Method : Trial Pit

Dimensions
3.70m x 0.90m x 3.40m
(L x W x D)

Ground Level (mOD)	7.24
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Client	LDA
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Job Number	14814-06-25A
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Location	723212.7 E 740747.1 N
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Dates	29/07/2025- 29/08/2025
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Engineer

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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			6.94	(0.30)	TOPSOIL		
					0.30	MADE GROUND: Brown slightly sandy slightly gravelly Clay with rare fragments of plastic and yellow brick		
1.50	ES			6.14	(0.80)	Firm gey mottled brown slightly sandy slightly gravelly CLAY		
					1.10			
					(1.30)			
					2.40			
				4.84	(1.00)	Stiff dark grey slightly sandy gravelly CLAY with low cobble content		Σ1
								
								
								
			Water strike(1) at 3.00m.	3.84	3.40	Complete at 3.40m		

Plan

Remarks

Groundwater encountered at 3.00m BGL; seepage
Trail pit stable
Trial pit complete at 3.30m BGL
Trial pit backfilled upon completion

Scale (approx)

Logged By

Figure No.

1:25

JK

14814-06-25A.TP227



Site	Project Shoreline Phase 2
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**Trial Pit
Number
TP228**

Machine : JCB 3CX
Method : Trial Pit

Dimensions
3.40m x 0.95m x 3.20m
(L x W x D)

Ground Level (mOD)	6.40
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Client	LDA
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Job Number	14814-06-25A
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Location
723116 E 740723.9 N

Dates	29/07/2025- 29/08/2025
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Engineer

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Plan 	Remarks No groundwater encountered Trial pit stable Trial pit complete at 3.20m Trial pit backfilled upon completion		
	Scale (approx) 1:25	Logged By JK	Figure No. 14814-06-25A.TP22



Site	Project Shoreline Phase 2
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**Trial Pit
Number**
TP229

Machine : JCB 3CX
Method : Trial Pit

Dimensions
3.40m x 0.90m x 3.20m
(L x W x D)

Ground Level (mOD)	6.06
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Client	LDA
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Job Number	14814-06-25A
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Location	723141.4 E 740721.3 N
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Dates	29/07/2025- 29/08/2025
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Engineer

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Scale (approx)	Logged By	Figure No.
1:25	JK	14814-06-25A.TP229



Site	Project Shoreline Phase 2
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**Trial Pit
Number**
TP230

Machine : JCB 3CX
Method : Trial Pit

Dimensions
3.10m x 0.85m x 3.20m
(L x W x D)

Ground Level (mOD)	6.02
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Client	LDA
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Job Number	14814-06-25A
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Location	723159.3 E 740717.9 N
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Dates	29/07/2025- 29/08/2025
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Engineer

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[illegible]

Plan

Remarks

No groundwater encountered
Trial pit stable
Trial pit complete at 3.20m
Trial pit backfilled upon completion

Scale (approx)

1:25

Logged By

JK

Figure No.

14814-06-25A.TP230



Ground Investigations Ireland Ltd
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Site Project Shoreline Phase 2	Trial Pit Number TP231
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Machine : JCB 3CX Method : Trial Pit	Dimensions 3.40m x 0.85m x 3.20m (L x W x D)	Ground Level (mOD) 6.69
	Location 723183.3 E 740729.3 N	Dates 29/07/2025- 29/08/2025

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			6.34	0.35 (0.25)	TOPSOIL MADE GROUND: Brown slightly sandy gravelly Clay with many fragments of red brick		
				6.09	0.60 (0.40)	Soft to firm brown slightly sandy gravelly CLAY with low cobble content		
1.50	ES		Water strike(1) at 2.10m.	5.69	1.00 (1.00)	Firm grey mottled brown slightly sandy gravelly CLAY		
				4.69	2.00 (0.50)	Dark grey slightly clayey sandy GRAVEL with low cobble content		▽1
				4.19	2.50 (0.70)	Firm to stiff dark grey slightly sandy gravelly CLAY with low cobble content		
				3.49	3.20	Complete at 3.20m		

Plan	Remarks
	Groundwater encountered at 2.10m BGL; seepage Trial pit stable Trial pit complete at 3.20m Trial pit backfilled upon completion
	Scale (approx) 1:25
	Logged By JK
	Figure No. 14814-06-25A.TP231



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Site Project Shoreline Phase 2	Trial Pit Number TP232
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Machine : JCB 3CX Method : Trial Pit	Dimensions 3.50m x 0.90m x 3.20m (L x W x D)	Ground Level (mOD) 6.91
	Location 723206.9 E 740724.9 N	Dates 29/07/2025- 29/08/2025

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			6.61	(0.30) 0.30	TOPSOIL Soft to firm brown slightly sandy slightly gravelly CLAY		
1.50	ES			6.11	(0.50) 0.80	Firm brown slightly sandy gravelly CLAY with low cobble content		
				4.81	(1.30) 2.10	Stiff dark grey slightly sandy gravelly CLAY with low cobble and boulder content		
				3.71	(1.10) 3.20	Complete at 3.20m		

<div>Plan</div> <div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div></div></div>	Remarks		
	No groundwater encountered		
	Trial pit stable		
	Trial pit complete at 3.20m		
	Trial pit backfilled upon completion		
	Scale (approx)	Logged By	Figure No.
	1:25	JK	14814-06-25A.TP23



**Trial Pit
Number**
TP233

Job Number	14814-06-25A
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Sheet
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14814-06-25A.TP233



Machine : JCB 3CX Method : Trial Pit		Dimensions 3.60m x 0.90m x 3.20m (L x W x D)	Ground Level (mOD) 6.16	Client LDA	Job Number 14814-06-25A
		Location 723166.9 E 740696.3 N	Dates 29/07/2025- 29/08/2025	Engineer	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES					TOPSOIL		
				5.86	0.30 (0.30)	MADE GROUND: Brown slightly sandy gravelly Clay		
				5.66	0.50 (0.20)	Soft to firm brown slightly sandy gravelly CLAY		
1.50	ES				(0.50)			
				5.16	1.00 (0.50)	Grey slightly sandy clayey angular to subrounded fine to coarse GRAVEL with low cobble content		
				4.66	1.50 (0.10)	Dark grey slightly sandy subangular to subrounded fine to coarse GRAVEL with medium cobble content		
				4.56	1.60	Stiff dark grey slightly sandy gravelly CLAY with low cobble content		
					(1.60)			
				2.96	3.20	Complete at 3.20m		

Plan					Remarks		
.	.	.	.	.	No groundwater encountered Trial pit stable Trial pit complete at 3.30m Trial pit backfilled upon completion		
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.	.	.	.	.			
					Scale (approx)	Logged By	Figure No.
					1:25	JK	14814-06-25A.TP238



Ground Investigations Ireland Ltd
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Site Project Shoreline Phase 2	Trial Pit Number TP235
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Machine : JCB 3CX Method : Trial Pit	Dimensions 3.40m x 0.85m x 3.20m (L x W x D)	Ground Level (mOD) 6.38
	Location 723178 E 740713.1 N	Dates 29/07/2025- 29/08/2025

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			6.03	0.35 (0.25)	TOPSOIL MADE GROUND: Brown slightly sandy gravelly Clay with rare fragments of red brick		
				5.78	0.60 (0.40)	Soft to firm brown slightly sandy gravelly CLAY with low cobble content		
1.50	ES			5.38	1.00 (1.00)	Firm grey mottled brown slightly sandy gravelly CLAY		
			Water strike(1) at 2.10m.	4.38	2.00 (0.50)	Dark grey slightly clayey sandy subangular to subrounded fine to medium GRAVEL with low cobble content		▽1
				3.88	2.50 (0.70)	Firm to stiff dark grey slightly sandy gravelly CLAY with lowcobble content		
				3.18	3.20	Complete at 3.20m		

Plan	Remarks
	Groundwater encountered at 2.10m BGL; seepage Trial pit stable Trial pit complete at 3.20m Trial pit backfilled upon completion
	Scale (approx) 1:25
	Logged By JK
	Figure No. 14814-06-25A.TP235



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Site Project Shoreline Phase 2	Trial Pit Number TP236
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Machine : JCB 3CX Method : Trial Pit	Dimensions 3.60m x 0.85m x 3.20m (L x W x D)	Ground Level (mOD) 6.05
	Location 723208.3 E 740706.4 N	Dates 29/07/2025- 29/08/2025

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			5.85	(0.20) 0.20	TOPSOIL		
1.50	ES		Water strike(1) at 1.60m.	4.75	(1.10) 1.30	MADE GROUND: Brown and grey slightly sandy gravelly Clay with low cobble and boulder content and rare fragments of red brick and porcelain pipe		
				4.25	(0.50) 1.80	Firm to stiff greyish brown slightly sandy gravelly CLAY with low cobble content		▽1
					(1.40) 3.20	Stiff dark grey slightly sandy gravelly CLAY with low cobble content		
				2.85		Complete at 3.20m		

Plan	Remarks
	Groundwater encountered at 1.60m BGL; seepage Trial pit stable Trial pit complete at 3.20m Trial pit backfilled upon completion
	Scale (approx) 1:25
	Logged By JK
	Figure No. 14814-06-25A.TP236



**Trial Pit
Number**
TP237

Dimensions
3.50m x 0.80m x 3.30m
(L x W x D)

Client	LDA
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Job Number	14814-06-25A
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Dates	29/07/2025- 29/08/2025
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Engineer

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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	ES					TOPSOIL			
					6.52	0.30 (0.20)	MADE GROUND: Brown slightly sandy slightly gravelly Clay with low cobble content and rare fragments of metal and red brick		
					6.32	0.50	Firm brown slightly sandy slightly gravelly CLAY		
1.50	ES					(0.90)			
					5.42	1.40	Firm brown mottled grey slightly sandy slightly gravelly CLAY		
						(0.50)			
					4.92	1.90	Stiff dark grey slightly sandy gravelly CLAY with low cobble and boulder content		
						(1.40)			
									
									
									
									
									
									
									
									
									
									
		</							

Plan

Remarks

No groundwater encountered
Trial pit stable
Trial pit complete at 3.30m
Trial pit backfilled upon completion

Scale (approx)

Logged By

Figure No.

1:25

JK

14814-06-25A.TP237



**Trial Pit
Number
TP238**

Job Number	14814-06-25A
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14814-06-25A.TP238



Site	Project Shoreline Phase 2
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**Trial Pit
Number**
TP239

Machine : JCB 3CX
Method : Trial Pit

Dimensions
3.60m x 0.90m x 3.10m
(L x W x D)

Ground Level (mOD)	6.29
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Client	LDA
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Job Number	14814-06-25A
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Location	723164.2 E 740677.4 N
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Dates	29/07/2025- 29/08/2025
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Engineer

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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	ES				(0.20)	TOPSOIL			
					6.09	0.20	MADE GROUND: Brown slightly sandy slightly gravelly Clay with rare fragments of barbed wire		
					5.89	0.40	Soft to firm brown slightly sandy slightly gravelly CLAY with occasional grey mottling		
1.50	ES				(0.70)				
					5.19	1.10	Brownish grey slightly clayey sandy subangular to subrounded fine to coarse GRAVEL		
					4.79	1.50	Dark grey slightly clayey sandy subangular to subrounded fine to coarse GRAVEL with low cobble and boulder content		
					(1.10)				
					3.69	2.60	Firm to stiff dark grey slightly sandy gravelly CLAY with low cobble content		
					(0.50)				
					3.19	3.10	Complete at 3.10m		

Plan

Remarks

No groundwater encountered
Trial pit stable
Trial pit complete at 3.10m
Trial pit backfilled upon completion

Scale (approx)

Logged By

Figure No.

1:25

JK

14814-06-25A.TP239



Site	Project Shoreline Phase 2
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**Trial Pit
Number**
TP240

Machine : JCB 3CX
Method : Trial Pit

Dimensions
3.60m x 0.90m x 3.00m
(L x W x D)

Ground Level (mOD)	5.98
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Client	LDA
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Job Number	14814-06-25A
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Location	723192.4 E 740675.8 N
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Dates	29/07/2025- 29/08/2025
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Engineer

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Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES				(0.15) 0.15	TOPSOIL		Σ1
					(0.45)	MADE GROUND: Brown slightly sandy slightly gravelly Clay		
								
								
1.50	ES	Water strike(1) at 1.60m.	5.38	0.60	Firm brown slightly sandy gravelly CLAY with low cobble content			
			(0.60)					
								
								
								
			4.78	1.20	Brownish grey slightly sandy clayey subangular to subrounded fine to coarse GRAVEL with low cobble content			
			(0.50)					
			4.28	1.70	Firm to stiff grey slightly sandy gravelly CLAY with low cobble content			
			(0.40)					
								
								
								
3.88	2.10	Stiff dark grey slightly sandy gravelly CLAY with low cobble content						
(0.90)								
								
								
								
2.98	3.00	Complete at 3.00m						

Plan

Remarks

Groundwater encountered at 1.60m BGL; seepage
Trial pit unstable; sidewall spalling at 1.20m to 1.70m BGL
Trial pit complete at 3.00m
Trial pit backfilled upon completion

Scale (approx)

1:25

Logged By

JK

Figure No.

14814-06-25A.TP240



Site	Project Shoreline Phase 2
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**Trial Pit
Number
TP241**

Machine : JCB 3CX
Method : Trial Pit

Dimensions
4.00m x 0.85m x 3.10m
(L x W x D)

Ground Level (mOD)
7.09

Client	LDA
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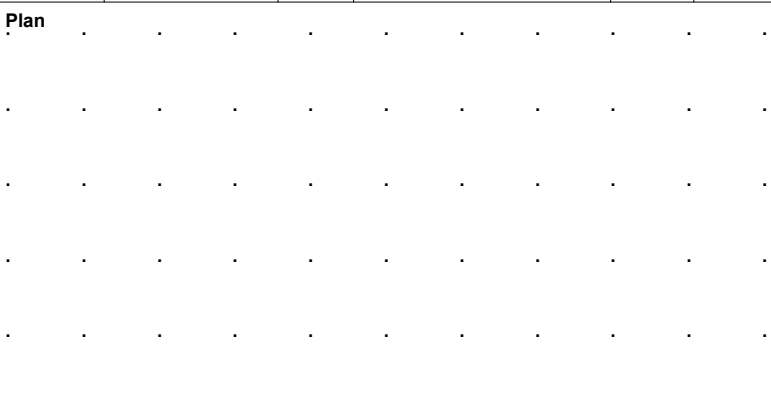
Job Number	14814-06-25A
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Location	723212.6 E 740681.6 N
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Dates	29/07/2025- 29/08/2025
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Engineer

Sheet
1/1

<div>Plan</div> 	Remarks		
	No groundwater encountered Trial pit stable Trial pit complete at 3.10m Trial pit backfilled upon completion		
Scale (approx)	Logged By	Figure No.	
1:25	JK	14814-06-25A.TP24	



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Site Project Shoreline Phase 2	Trial Pit Number TP242
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Machine : JCB 3CX Method : Trial Pit	Dimensions 3.60m x 0.95m x 3.20m (L x W x D)	Ground Level (mOD) 7.32
	Location 723135.5 E 740645.8 N	Dates 29/07/2025- 29/08/2025

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			7.02	0.30	TOPSOIL		
				6.52	0.80	MADE GROUND: Brown slightly gravelly clayey fine to coarse Sand		
				6.02	1.30	MADE GROUND: Brown slightly sandy gravelly Clay with low cobble content		
1.50	ES			5.52	1.80	Greyish brown slightly gravelly clayey fine to coarse SAND		
					(1.40)	Gryeish brown slightly sandy clayey subangular to subrounded fine to coarse GRAVEL with medium cobble content and low boulder content		
			Water strike(1) at 2.80m.	4.12	3.20	Complete at 3.20m		

Plan	Remarks
	Groundwater encountered at 2.80m BGL; slow ingress Trial pit unstable; sidewall collapses 2.50m to 3.00m BGL Trial pit complete at 3.20m Trial pit backfilled upon completion
	Scale (approx) 1:25
	Logged By JK
	Figure No. 14814-06-25A.TP242



**Trial Pit
Number**
TP243

Job Number	14814-06-25A
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Sheet
1/1

14814-06-25A.TP243



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Site Project Shoreline Phase 2	Trial Pit Number TP244
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Machine : JCB 3CX Method : Trial Pit		Dimensions 3.20m x 0.90m x 3.20m (L x W x D)	Ground Level (mOD) 6.42
		Location 723194.7 E 740634.6 N	Dates 29/07/2025- 29/08/2025

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	ES			6.22	(0.20)	TOPSOIL			
					0.20	MADE GROUND: Brown slightly sandy slightly gravelly Clay with low cobble content			
					(0.70)				
					5.52	0.90	Soft to firm brown slightly sandy slightly gravelly CLAY with low cobble content		
					(0.60)				
2.50	ES		Water strike(1) at 2.80m.	4.92	1.50	Grey and brown slightly sandy clayey angular to subangular fine to coarse GRAVEL with low cobble content		Σ1	
					(0.40)				
					4.52	1.90	Greyish brown slightly gravelly clayey fine to coarse SAND with low cobble and boulder content		
					(0.60)				
					3.92	2.50	Firm dark grey slightly sandy gravelly CLAY with low cobble content		
			(0.70)						
				3.22	3.20	Complete at 3.20m			

Plan					Remarks		
.	.	.	.	.	Groundwater encountered at 2.80m BGL; seepage Trial pit unstable; sidewall spalling at 4.50m to 2.50m BGL Trial pit complete at 3.20m Trial pit backfilled upon completion		
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.	.	.	.	.			
					Scale (approx)	Logged By	Figure No.
					1:25	JK	14814-06-25A.TP244



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Site Project Shoreline Phase 2	Trial Pit Number TP245
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Machine : JCB 3CX Method : Trial Pit	Dimensions 3.40m x 0.90m x 3.20m (L x W x D)	Ground Level (mOD) 6.48
	Location 723211.6 E 740639.5 N	Dates 29/07/2025- 29/08/2025

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	ES			6.28	(0.20) 0.20	TOPSOIL		
				5.78	(0.50) 0.70	MADE GROUND: Brown slightly sandy gravelly Clay with low cobble content and rare fragments of red brick, roots, porcelain tile and concrete blocks		
				5.38	(0.40) 1.10	MADE GROUND: Brown slightly sandy slightly gravelly Clay with rare fragments of red brick		
				4.68	(0.70) 1.80	Soft to firm brown mottled grey slightly gravelly sandy CLAY		
			Water strike(1) at 2.20m.	3.98	(0.70) 2.50	Grey slightly gravelly clayey medium to coarse SAND with low cobble content		▽1
2.50	ES			3.28	(0.70) 3.20	Firm dark grey slightly sandy gravelly CLAY with low cobblecontent		
						Complete at 3.20m		

Plan	Remarks
	Groundwater encountered at 2.20m BGL; seepage Trial pit stable Trial pit complete at 3.20m Trial pit backfilled upon completion
	Scale (approx) 1:25
	Logged By JK
	Figure No. 14814-06-25A.TP245

Project Shoreline Phase 2 – Trial Pit Photographs

TP201



TP201



Project Shoreline Phase 2 – Trial Pit Photographs

TP201



TP201



Project Shoreline Phase 2 – Trial Pit Photographs

TP202



TP202



Project Shoreline Phase 2 – Trial Pit Photographs

TP202



TP202



Project Shoreline Phase 2 – Trial Pit Photographs

TP203



TP203



Project Shoreline Phase 2 – Trial Pit Photographs

TP203



TP203



Project Shoreline Phase 2 – Trial Pit Photographs

TP204



TP204



Project Shoreline Phase 2 – Trial Pit Photographs

TP204



TP204



Project Shoreline Phase 2 – Trial Pit Photographs

TP205



TP205



Project Shoreline Phase 2 – Trial Pit Photographs

TP205



TP205



Project Shoreline Phase 2 – Trial Pit Photographs

TP206



TP206



Project Shoreline Phase 2 – Trial Pit Photographs

TP206



TP206



Project Shoreline Phase 2 – Trial Pit Photographs

TP207



TP207



Project Shoreline Phase 2 – Trial Pit Photographs

TP207



TP207



Project Shoreline Phase 2 – Trial Pit Photographs

TP208



TP208



Project Shoreline Phase 2 – Trial Pit Photographs

TP208



TP208



Project Shoreline Phase 2 – Trial Pit Photographs

TP209



TP209



Project Shoreline Phase 2 – Trial Pit Photographs

TP209



TP209



Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

TP217



TP217

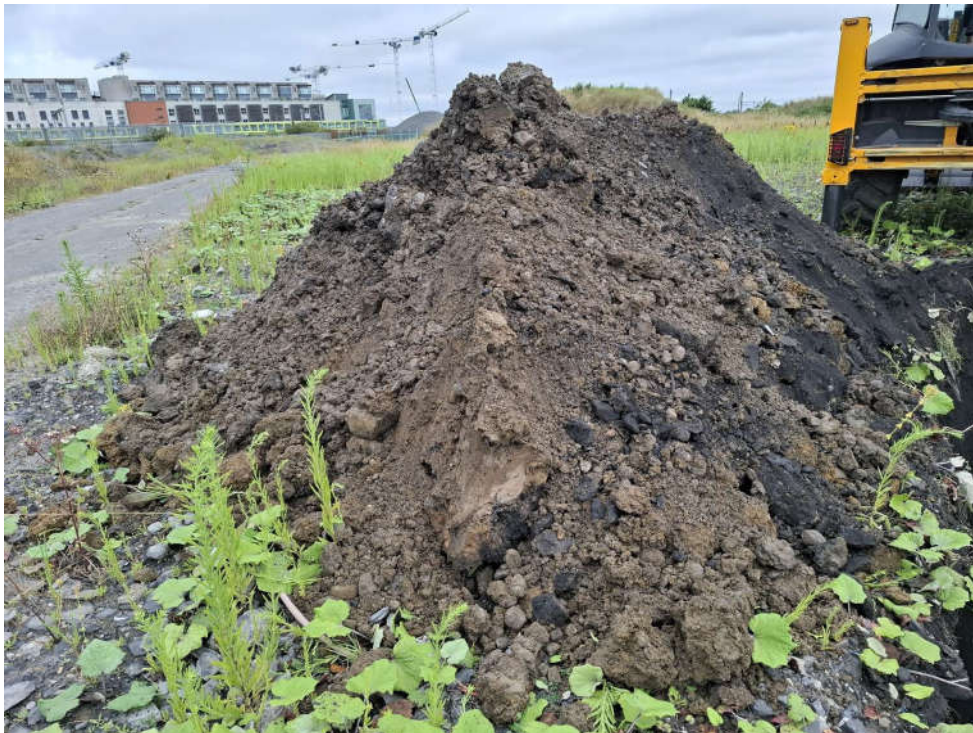


Project Shoreline Phase 2 – Trial Pit Photographs

TP218



TP218



Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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Project Shoreline Phase 2 – Trial Pit Photographs

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TP245



APPENDIX 3 – Dynamic Probe Records





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Site Project Shoreline Phase 2	Probe Number DP201
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 7.50
	Location 723117.2 E 740844.3 N	Dates 15/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	2		7.50	0.00	
0.10-0.20	4				
0.20-0.30	7				
0.30-0.40	7				
0.40-0.50	8				
0.50-0.60	10		7.00	0.50	
0.60-0.70	7				
0.70-0.80	9				
0.80-0.90	5				
0.90-1.00	8				
1.00-1.10	3		6.50	1.00	
1.10-1.20	3				
1.20-1.30	4				
1.30-1.40	4				
1.40-1.50	8				
1.50-1.60	3		6.00	1.50	
1.60-1.70	5				
1.70-1.80	8				
1.80-1.90	4				
1.90-2.00	6				
2.00-2.10	9		5.50	2.00	
2.10-2.20	11				
2.20-2.30	14				
2.30-2.40	26				
2.40-2.50	25		5.00	2.50	
			4.50	3.00	
			4.00	3.50	
			3.50	4.00	
			3.00	4.50	
			2.50	5.00	

Remarks
Refusal at 2.50m BGL.

Scale (approx) 1:25	Logged By AF
Figure No. 14814-06-25A.DP201	



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Site	Probe Number
Project Shoreline Phase 2	DP202
Client	Job Number
LDA	14814-06-25A
Engineer	Sheet
	1/1

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	43.7mm	7.38	LDA	14814-06-25A
	Location	Dates	Engineer	Sheet
	723132 E 740838.6 N	15/08/2025		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	4		7.38	0.00	
0.10-0.20	21				
0.20-0.30	22				
0.30-0.40	20				
0.40-0.50	21				
0.50-0.60	15		6.88	0.50	
0.60-0.70	13				
0.70-0.80	16				
0.80-0.90	12				
0.90-1.00	14				
1.00-1.10	16		6.38	1.00	
1.10-1.20	15				
1.20-1.30	12				
1.30-1.40	16				
1.40-1.50	13				
1.50-1.60	17		5.88	1.50	
1.60-1.70	22				
1.70-1.80	24				
1.80-1.90	25				
			5.38	2.00	
			4.88	2.50	
			4.38	3.00	
			3.88	3.50	
			3.38	4.00	
			2.88	4.50	
			2.38	5.00	

Remarks
Refusal at 1.90m BGL.

Scale (approx) 1:25
Logged By AF
Figure No. 14814-06-25A.DP202



Ground Investigations Ireland Ltd

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Site Project Shoreline Phase 2	Probe Number DP203
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

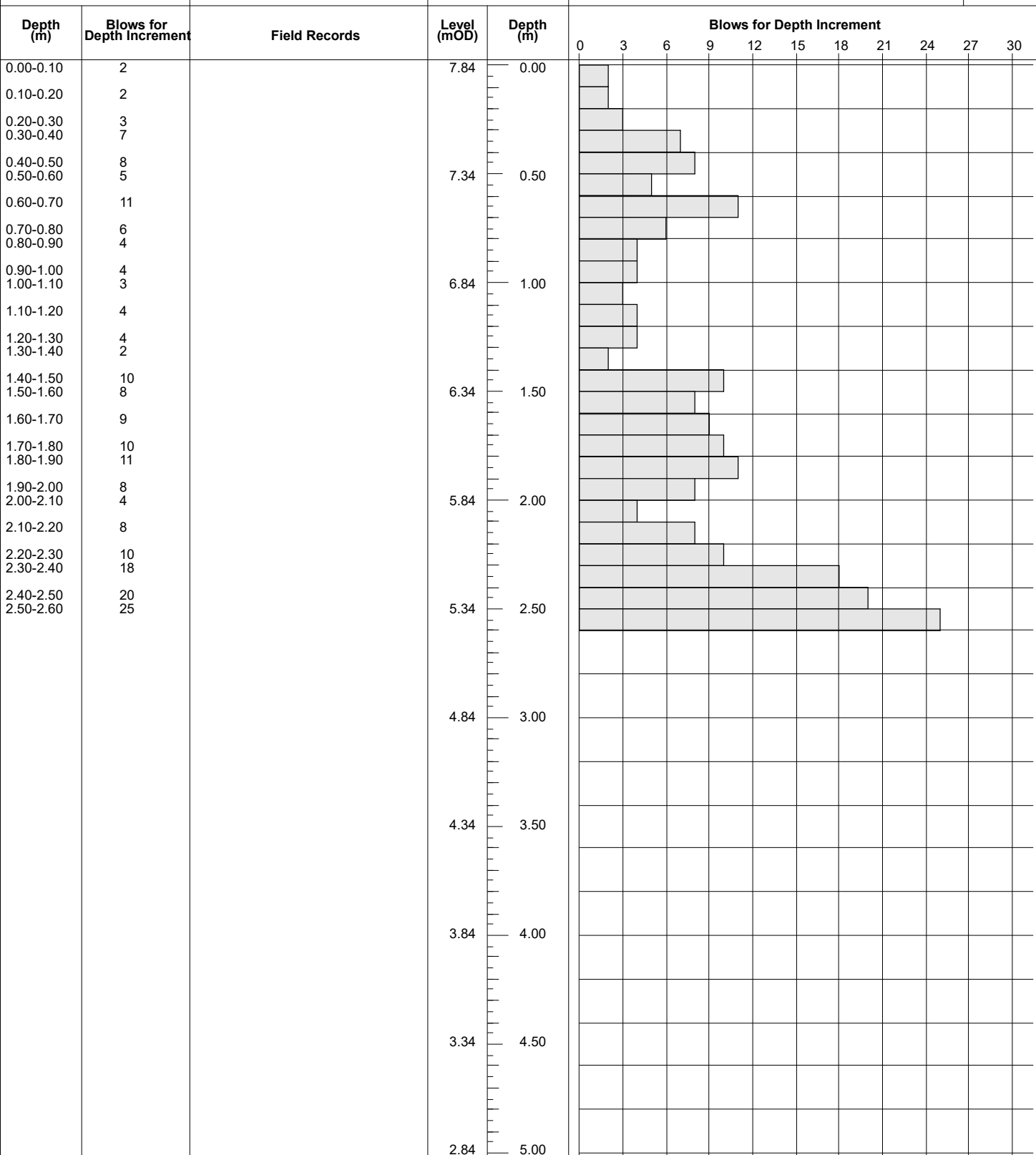
Method
Dynamic Probe Heavy (DPH)
Hammer Weight 50kg
Fall Height 500mm

Cone Dimensions
43.7mm

Ground Level (mOD)
7.84

Location
723155.6 E 740855.4 N

Dates
15/08/2025



Remarks
Refusal at 2.60m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP210



Site Project Shoreline Phase 2	Probe Number DP204
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 7.60
	Location 723183.4 E 740849.8 N	Dates 15/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	3		7.60	0.00	
0.10-0.20	6				
0.20-0.30	7				
0.30-0.40	7				
0.40-0.50	8				
0.50-0.60	8		7.10	0.50	
0.60-0.70	9				
0.70-0.80	11				
0.80-0.90	12				
0.90-1.00	12				
1.00-1.10	8		6.60	1.00	
1.10-1.20	10				
1.20-1.30	9				
1.30-1.40	11				
1.40-1.50	13				
1.50-1.60	18		6.10	1.50	
1.60-1.70	18				
1.70-1.80	23				
1.80-1.90	24				
1.90-2.00	26		5.60	2.00	
			5.10	2.50	
			4.60	3.00	
			4.10	3.50	
			3.60	4.00	
			3.10	4.50	
			2.60	5.00	

Remarks
Refusal at 2.00m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP204



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Site	Probe Number
Project Shoreline Phase 2	DP205
Client	Job Number
LDA	14814-06-25A
Engineer	Sheet
	1/1

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	43.7mm	7.55	LDA	14814-06-25A
	Location	Dates	Engineer	Sheet
	723210.5 E 740857.8 N	08/09/2025		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	1		7.55	0.00	
0.10-0.20	2				
0.20-0.30	4				
0.30-0.40	8				
0.40-0.50	7				
0.50-0.60	8		7.05	0.50	
0.60-0.70	6				
0.70-0.80	7				
0.80-0.90	8				
0.90-1.00	8				
1.00-1.10	8		6.55	1.00	
1.10-1.20	9				
1.20-1.30	11				
1.30-1.40	8				
1.40-1.50	6				
1.50-1.60	5		6.05	1.50	
1.60-1.70	7				
1.70-1.80	6				
1.80-1.90	6				
1.90-2.00	6				
2.00-2.10	5		5.55	2.00	
2.10-2.20	6				
2.20-2.30	7				
2.30-2.40	8				
2.40-2.50	11				
2.50-2.60	11		5.05	2.50	
2.60-2.70	11				
2.70-2.80	25				
			4.55	3.00	
			4.05	3.50	
			3.55	4.00	
			3.05	4.50	
			2.55	5.00	

Remarks
Refusal at 2.80m BGL.

Scale (approx)	Logged By
1:25	JG
Figure No.	
14814-06-25A.DP222	



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Site Project Shoreline Phase 2	Probe Number DP206
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 7.02
	Location 723237.6 E 740850.1 N	Dates 08/09/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	2		7.02	0.00	
0.10-0.20	8				
0.20-0.30	8				
0.30-0.40	9				
0.40-0.50	8				
0.50-0.60	7		6.52	0.50	
0.60-0.70	6				
0.70-0.80	10				
0.80-0.90	7				
0.90-1.00	6				
1.00-1.10	7		6.02	1.00	
1.10-1.20	5				
1.20-1.30	3				
1.30-1.40	3				
1.40-1.50	3				
1.50-1.60	2		5.52	1.50	
1.60-1.70	2				
1.70-1.80	3				
1.80-1.90	2				
1.90-2.00	4				
2.00-2.10	7		5.02	2.00	
2.10-2.20	11				
2.20-2.30	14				
2.30-2.40	13				
2.40-2.50	10				
2.50-2.60	6		4.52	2.50	
2.60-2.70	7				
2.70-2.80	7				
2.80-2.90	8				
2.90-3.00	7				
3.00-3.10	5		4.02	3.00	
3.10-3.20	4				
3.20-3.30	5				
3.30-3.40	6				
3.40-3.50	6				
3.50-3.60	8		3.52	3.50	
3.60-3.70	11				
3.70-3.80	13				
3.80-3.90	14				
3.90-4.00	16				
4.00-4.10	18		3.02	4.00	
4.10-4.20	18				
4.20-4.30	20				
4.30-4.40	21				
4.40-4.50	23		2.52	4.50	
			2.02	5.00	

Remarks
Refusal at 3.30m BGL.

Scale (approx)
1:25

Logged By
JG

Figure No.
14814-06-25A.DP222



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Site Project Shoreline Phase 2	Probe Number DP207
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Weight 50kg
Fall Height 500mm

Cone Dimensions
43.7mm

Ground Level (mOD)
7.23

Location
723115.3 E 740825.7 N

Dates
15/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	18		7.23	0.00	
0.10-0.20	20				
0.20-0.30	14				
0.30-0.40	14				
0.40-0.50	16				
0.50-0.60	17		6.73	0.50	
0.60-0.70	14				
0.70-0.80	15				
0.80-0.90	15				
0.90-1.00	12				
1.00-1.10	11		6.23	1.00	
1.10-1.20	12				
1.20-1.30	14				
1.30-1.40	9				
1.40-1.50	8				
1.50-1.60	11		5.73	1.50	
1.60-1.70	15				
1.70-1.80	18				
1.80-1.90	25				
1.90-2.00	26				
2.00-2.10	25		5.23	2.00	
			4.73	2.50	
			4.23	3.00	
			3.73	3.50	
			3.23	4.00	
			2.73	4.50	
			2.23	5.00	

Remarks
Refusal at 2.10m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP207



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Site Project Shoreline Phase 2	Probe Number DP208
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm		Cone Dimensions	Ground Level (mOD)	Client	Job Number
		Location	Dates	Engineer	Sheet
		43.7mm	7.23	LDA	14814-06-25A
		723140.1 E 740826.5 N	15/08/2025		1/1
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	8		7.23	0.00	
0.10-0.20	22				
0.20-0.30	18				
0.30-0.40	24				
0.40-0.50	18				
0.50-0.60	18		6.73	0.50	
0.60-0.70	19				
0.70-0.80	8				
0.80-0.90	4				
0.90-1.00	11				
1.00-1.10	16		6.23	1.00	
1.10-1.20	14				
1.20-1.30	14				
1.30-1.40	15				
1.40-1.50	18				
1.50-1.60	21		5.73	1.50	
1.60-1.70	26				
1.70-1.80	29				
			5.23	2.00	
			4.73	2.50	
			4.23	3.00	
			3.73	3.50	
			3.23	4.00	
			2.73	4.50	
			2.23	5.00	

Remarks
Refusal at 1.80m BGL.

Scale (approx) 1:25
Logged By AF
Figure No. 14814-06-25A.DP208



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Site Project Shoreline Phase 2	Probe Number DP209
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 7.28
	Location 723167 E 740832.3 N	Dates 15/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	13		7.28	0.00	
0.10-0.20	27				
0.20-0.30	26				
0.30-0.40	32				
0.40-0.50	34				
0.50-0.60	29		6.78	0.50	
0.60-0.70	31				
0.70-0.80	26				
0.80-0.90	28				
0.90-1.00	23				
1.00-1.10	24		6.28	1.00	
1.10-1.20	27				
1.20-1.30	29				
1.30-1.40	25				
			5.78	1.50	
			5.28	2.00	
			4.78	2.50	
			4.28	3.00	
			3.78	3.50	
			3.28	4.00	
			2.78	4.50	
			2.28	5.00	

Remarks
Refusal at 1.40m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP209



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Site	Probe Number
Project Shoreline Phase 2	DP210
Client	Job Number
LDA	14814-06-25A
Engineer	Sheet
	1/1

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	43.7mm	7.40	LDA	14814-06-25A
	Location	Dates	Engineer	Sheet
	723180.2 E 740827.2 N	15/08/2025		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	11		7.40	0.00	
0.10-0.20	21				
0.20-0.30	23				
0.30-0.40	24				
0.40-0.50	18				
0.50-0.60	18		6.90	0.50	
0.60-0.70	20				
0.70-0.80	17				
0.80-0.90	8				
0.90-1.00	10				
1.00-1.10	12		6.40	1.00	
1.10-1.20	13				
1.20-1.30	14				
1.30-1.40	14				
1.40-1.50	18				
1.50-1.60	20		5.90	1.50	
1.60-1.70	22				
1.70-1.80	27				
			5.40	2.00	
			4.90	2.50	
			4.40	3.00	
			3.90	3.50	
			3.40	4.00	
			2.90	4.50	
			2.40	5.00	

Remarks
Refusal at 1.80m BGL.

Scale (approx) 1:25
Logged By AF
Figure No. 14814-06-25A.DP210

Probe Number
DP211

**Job
Number**
14814-06-25A

Sheet
1/1

Remarks Refusal at 3.30m BGL.	Scale (approx)	Logged By
	1:25	JG
	Figure No. 14814-06-25A.DP222	



Ground Investigations Ireland Ltd
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Site	Probe Number
Project Shoreline Phase 2	DP212
Client	Job Number
LDA	14814-06-25A
Engineer	Sheet
	1/1

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	43.7mm	6.63	LDA	14814-06-25A
	Location	Dates	Engineer	Sheet
	723239.9 E 740832 N	08/09/2025		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	0		6.63	0.00	
0.10-0.20	1				
0.20-0.30	2				
0.30-0.40	3				
0.40-0.50	1				
0.50-0.60	3		6.13	0.50	
0.60-0.70	3				
0.70-0.80	2				
0.80-0.90	3				
0.90-1.00	7				
1.00-1.10	6		5.63	1.00	
1.10-1.20	4				
1.20-1.30	4				
1.30-1.40	3				
1.40-1.50	3				
1.50-1.60	3		5.13	1.50	
1.60-1.70	2				
1.70-1.80	4				
1.80-1.90	7				
1.90-2.00	8				
2.00-2.10	8		4.63	2.00	
2.10-2.20	5				
2.20-2.30	5				
2.30-2.40	5				
2.40-2.50	6				
2.50-2.60	6		4.13	2.50	
2.60-2.70	7				
2.70-2.80	6				
2.80-2.90	5				
2.90-3.00	7				
3.00-3.10	6		3.63	3.00	
3.10-3.20	7				
3.20-3.30	7				
3.30-3.40	9				
3.40-3.50	8				
3.50-3.60	14		3.13	3.50	
3.60-3.70	14				
3.70-3.80	16				
3.80-3.90	17				
3.90-4.00	17				
4.00-4.10	22		2.63	4.00	
4.10-4.20	22				
4.20-4.30	23				
			2.13	4.50	
			1.63	5.00	

Remarks
Refusal at 3.30m BGL.

Scale (approx)	Logged By
1:25	JG
Figure No.	
14814-06-25A.DP222	



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Site Project Shoreline Phase 2	Probe Number DP213
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probing	Cone Dimensions 43.7mm	Ground Level (mOD) 6.97
	Location 723114.4 E 740804.6 N	Dates 15/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	10		6.97	0.00	
0.10-0.20	21				
0.20-0.30	18				
0.30-0.40	14				
0.40-0.50	16				
0.50-0.60	4		6.47	0.50	
0.60-0.70	7				
0.70-0.80	16				
0.80-0.90	14				
0.90-1.00	17				
1.00-1.10	13		5.97	1.00	
1.10-1.20	11				
1.20-1.30	15				
1.30-1.40	7				
1.40-1.50	14				
1.50-1.60	13		5.47	1.50	
1.60-1.70	7				
1.70-1.80	6				
1.80-1.90	11				
1.90-2.00	18				
2.00-2.10	20		4.97	2.00	
2.10-2.20	24				
2.20-2.30	25				
			4.47	2.50	
			3.97	3.00	
			3.47	3.50	
			2.97	4.00	
			2.47	4.50	
			1.97	5.00	

Remarks
Refusal at 2.30m BGL.

Scale (approx) 1:25	Logged By AF
Figure No. 14814-06-25A.DP213	



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Site Project Shoreline Phase 2	Probe Number DP214
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 6.93
	Location 723136.4 E 740808.3 N	Dates 15/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	21		6.93	0.00	
0.10-0.20	26				
0.20-0.30	28				
0.30-0.40	31				
0.40-0.50	25		6.43	0.50	
			5.93	1.00	
			5.43	1.50	
			4.93	2.00	
			4.43	2.50	
			3.93	3.00	
			3.43	3.50	
			2.93	4.00	
			2.43	4.50	
			1.93	5.00	

Remarks
Refusal at 0.50m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP214



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Site Project Shoreline Phase 2	Probe Number DP214A
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

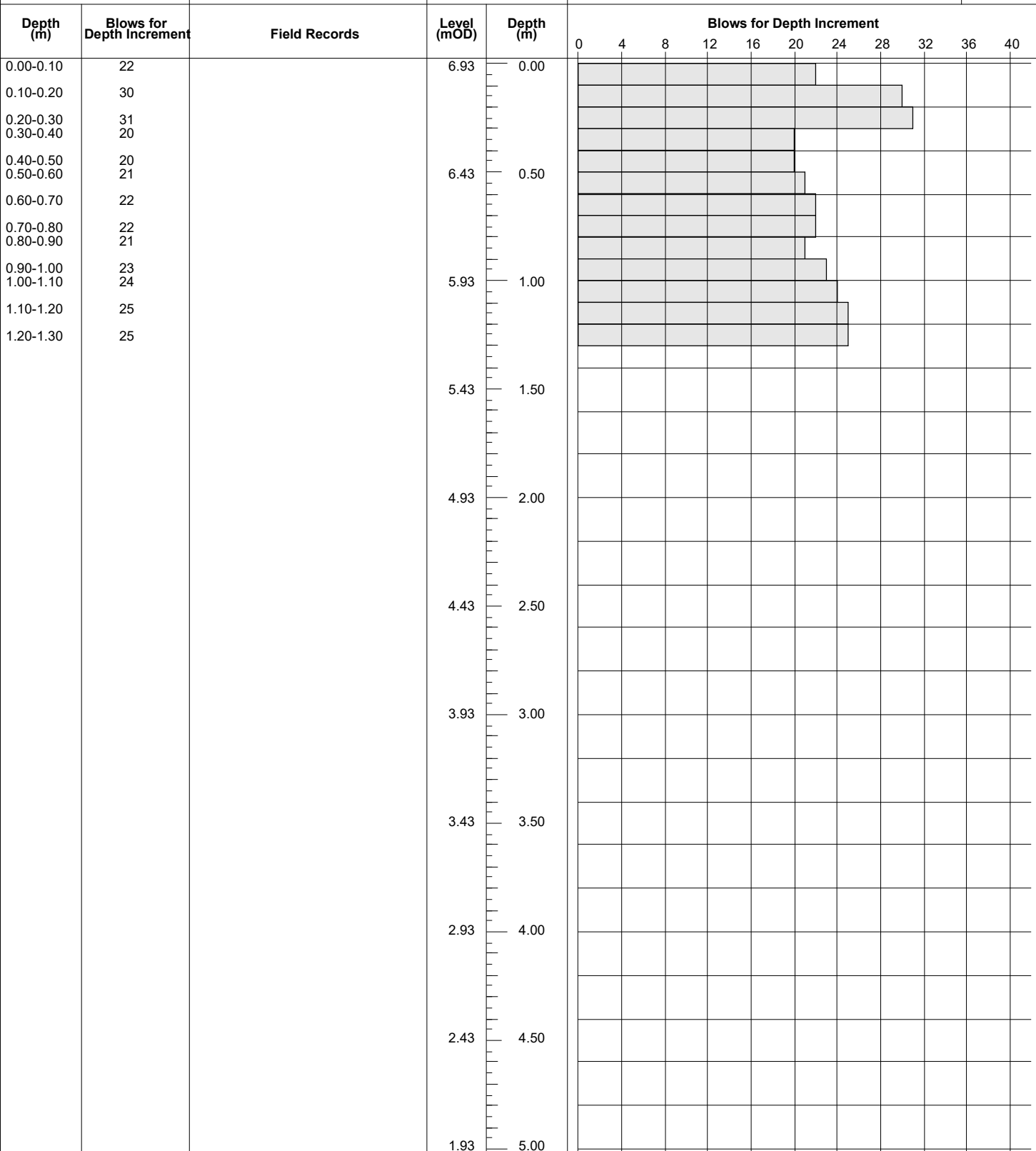
Method
Dynamic Probe Heavy (DPH)
Hammer Weight 50kg
Fall Height 500mm

Cone Dimensions
43.7mm

Ground Level (mOD)
6.93

Location
723136.4 E 740808.3 N

Dates
15/08/2025



Remarks
Refusal at 1.30m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.

14814-06-25A.DP214A



Site Project Shoreline Phase 2	Probe Number DP215
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 6.75
	Location 723158.5 E 740793.8 N	Dates 15/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	14		6.75	0.00	
0.10-0.20	16				
0.20-0.30	15				
0.30-0.40	10				
0.40-0.50	11				
0.50-0.60	12		6.25	0.50	
0.60-0.70	13				
0.70-0.80	17				
0.80-0.90	15				
0.90-1.00	11				
1.00-1.10	12		5.75	1.00	
1.10-1.20	12				
1.20-1.30	8				
1.30-1.40	14				
1.40-1.50	14				
1.50-1.60	18		5.25	1.50	
1.60-1.70	21				
1.70-1.80	22				
1.80-1.90	23				
			4.75	2.00	
			4.25	2.50	
			3.75	3.00	
			3.25	3.50	
			2.75	4.00	
			2.25	4.50	
			1.75	5.00	

Remarks
Refusal at 1.90m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP215



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Site Project Shoreline Phase 2	Probe Number DP216
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 6.76
	Location 723175.7 E 740799.4 N	Dates 15/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	10		6.76	0.00	
0.10-0.20	21				
0.20-0.30	18				
0.30-0.40	14				
0.40-0.50	16				
0.50-0.60	4		6.26	0.50	
0.60-0.70	7				
0.70-0.80	16				
0.80-0.90	14				
0.90-1.00	17				
1.00-1.10	13		5.76	1.00	
1.10-1.20	11				
1.20-1.30	15				
1.30-1.40	7				
1.40-1.50	14				
1.50-1.60	13		5.26	1.50	
1.60-1.70	7				
1.70-1.80	6				
1.80-1.90	11				
1.90-2.00	18				
2.00-2.10	20		4.76	2.00	
2.10-2.20	24				
2.20-2.30	25				
			4.26	2.50	
			3.76	3.00	
			3.26	3.50	
			2.76	4.00	
			2.26	4.50	
			1.76	5.00	

Remarks
Refusal at 2.30m BGL.

Scale (approx)
1:25

Logged By
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Figure No.
14814-06-25A.DP213



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Site Project Shoreline Phase 2	Probe Number DP216A
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

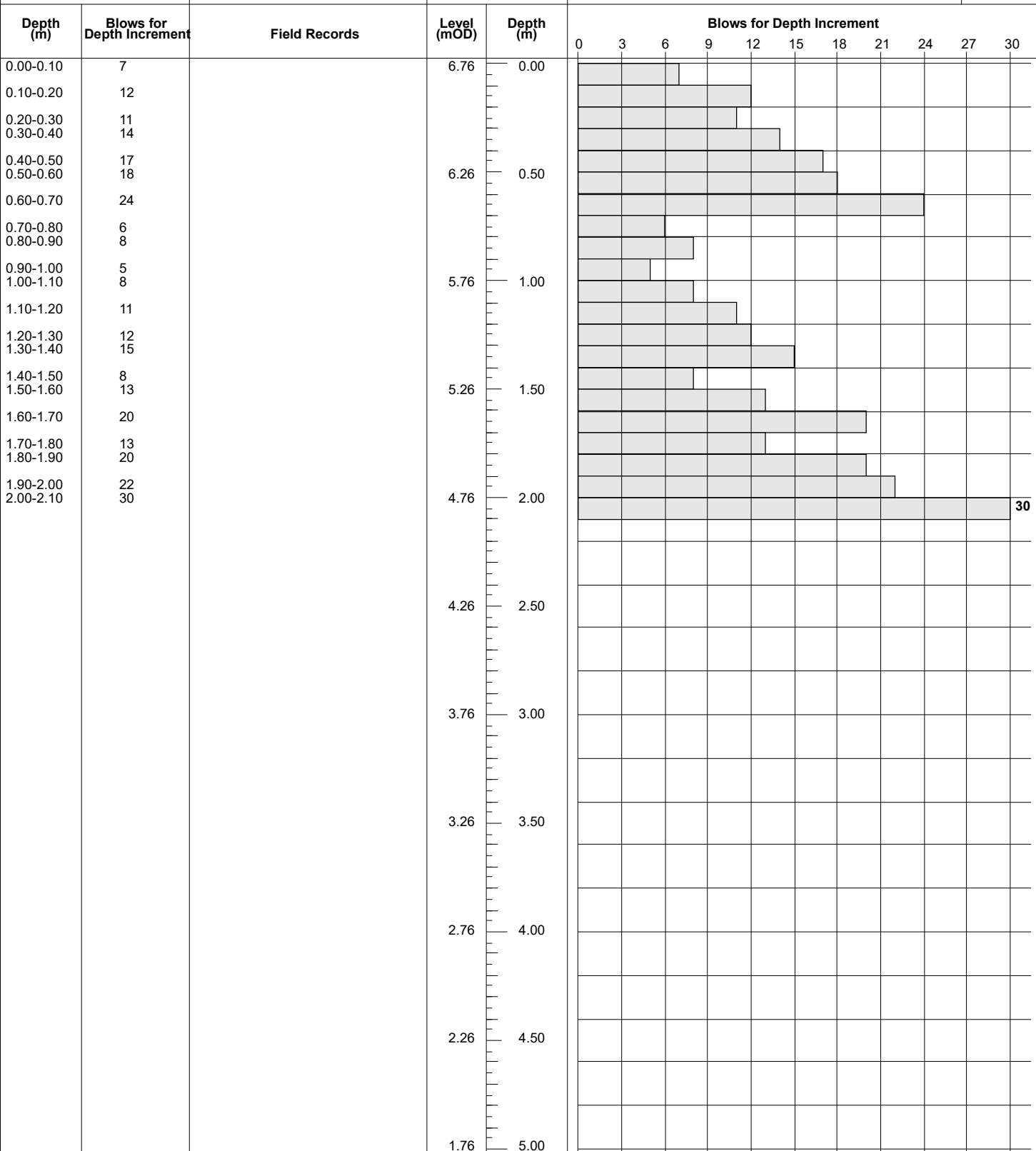
Method
Dynamic Probe Heavy (DPH)
Hammer Weight 50kg
Fall Height 500mm

Cone Dimensions
43.7mm

Ground Level (mOD)
6.76

Location
723175.7 E 740799.4 N

Dates
15/08/2025



Remarks
Refusal at 2.30m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP216A



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Site Project Shoreline Phase 2	Probe Number DP217
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Weight 50kg
Fall Height 500mm

Cone Dimensions
43.7mm

Ground Level (mOD)
6.42

Location
723208.6 E 740810.6 N

Dates
15/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	1		6.42	0.00	
0.10-0.20	3				
0.20-0.30	5				
0.30-0.40	8				
0.40-0.50	3				
0.50-0.60	3		5.92	0.50	
0.60-0.70	4				
0.70-0.80	6				
0.80-0.90	14				
0.90-1.00	13				
1.00-1.10	10		5.42	1.00	
1.10-1.20	8				
1.20-1.30	11				
1.30-1.40	10				
1.40-1.50	12				
1.50-1.60	13		4.92	1.50	
1.60-1.70	13				
1.70-1.80	15				
1.80-1.90	16				
1.90-2.00	18				
2.00-2.10	18		4.42	2.00	
2.10-2.20	20				
2.20-2.30	20				
2.30-2.40	21				
			3.92	2.50	
			3.42	3.00	
			2.92	3.50	
			2.42	4.00	
			1.92	4.50	
			1.42	5.00	

Remarks
Refusal at 2.40m BGL.

Scale (approx) 1:25
Logged By AF
Figure No. 14814-06-25A.DP217



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Site Project Shoreline Phase 2	Probe Number DP218
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/2

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 7.22
	Location 723232.9 E 740816.3 N	Dates 08/09/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	2		7.22	0.00	
0.10-0.20	2				
0.20-0.30	5				
0.30-0.40	7				
0.40-0.50	8		6.72	0.50	
0.50-0.60	7				
0.60-0.70	10				
0.70-0.80	7				
0.80-0.90	4				
0.90-1.00	4		6.22	1.00	
1.00-1.10	5				
1.10-1.20	6				
1.20-1.30	6				
1.30-1.40	6				
1.40-1.50	3		5.72	1.50	
1.50-1.60	4				
1.60-1.70	3				
1.70-1.80	4				
1.80-1.90	4				
1.90-2.00	3		5.22	2.00	
2.00-2.10	3				
2.10-2.20	4				
2.20-2.30	4				
2.30-2.40	5				
2.40-2.50	7		4.72	2.50	
2.50-2.60	8				
2.60-2.70	5				
2.70-2.80	3				
2.80-2.90	4				
2.90-3.00	4		4.22	3.00	
3.00-3.10	5				
3.10-3.20	4				
3.20-3.30	5				
3.30-3.40	5				
3.40-3.50	4		3.72	3.50	
3.50-3.60	4				
3.60-3.70	4				
3.70-3.80	4				
3.80-3.90	6				
3.90-4.00	7		3.22	4.00	
4.00-4.10	7				
4.10-4.20	7				
4.20-4.30	7				
4.30-4.40	8				
4.40-4.50	11		2.72	4.50	
4.50-4.60	14				
4.60-4.70	12				
4.70-4.80	11				
4.80-4.90	13				
4.90-5.00	13		2.22	5.00	

Remarks
Refusal at 3.30m BGL.

Scale (approx) 1:25	Logged By JG
Figure No. 14814-06-25A.DP222	



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Site Project Shoreline Phase 2	Probe Number DP218
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 2/2

Method
Dynamic Probe Heavy (DPH)
Hammer Weight 50kg
Fall Height 500mm

Cone Dimensions
43.7mm

Ground Level (mOD)
7.22

Location
723232.9 E 740816.3 N

Dates
08/09/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
5.00-5.10	13		2.22	5.00	
5.10-5.20	14				
5.20-5.30	14				
5.30-5.40	12				
5.40-5.50	11				
5.50-5.60	8		1.72	5.50	
5.60-5.70	6				
5.70-5.80	6				
5.80-5.90	7				
5.90-6.00	8				
6.00-6.10	12		1.22	6.00	
6.10-6.20	13				
6.20-6.30	12				
6.30-6.40	12				
6.40-6.50	13				
6.50-6.60	14		0.72	6.50	
6.60-6.70	13				
6.70-6.80	12				
6.80-6.90	13				
6.90-7.00	18				
7.00-7.10	18		0.22	7.00	
7.10-7.20	13				
7.20-7.30	11				
7.30-7.40	9				
7.40-7.50	11				
7.50-7.60	16		-0.28	7.50	
7.60-7.70	18				
7.70-7.80	18				
7.80-7.90	20				
7.90-8.00	20				
8.00-8.10	23		-0.78	8.00	
			-1.28	8.50	
			-1.78	9.00	
			-2.28	9.50	
			-2.78	10.00	

Remarks

Scale (approx)
1:25

Logged By
JG

Figure No.
14814-06-25A.DP222



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Site Project Shoreline Phase 2	Probe Number DP219
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 6.62
	Location 723113.8 E 740779.6 N	Dates 15/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	5		6.62	0.00	
0.10-0.20	22				
0.20-0.30	29				
0.30-0.40	12				
0.40-0.50	8				
0.50-0.60	11		6.12	0.50	
0.60-0.70	10				
0.70-0.80	6				
0.80-0.90	8				
0.90-1.00	11				
1.00-1.10	10		5.62	1.00	
1.10-1.20	10				
1.20-1.30	11				
1.30-1.40	11				
1.40-1.50	12				
1.50-1.60	13		5.12	1.50	
1.60-1.70	8				
1.70-1.80	11				
1.80-1.90	14				
1.90-2.00	16				
2.00-2.10	18		4.62	2.00	
2.10-2.20	22				
2.20-2.30	27				
2.30-2.40	28				
			4.12	2.50	
			3.62	3.00	
			3.12	3.50	
			2.62	4.00	
			2.12	4.50	
			1.62	5.00	

Remarks
Refusal at 2.40m BGL.

Scale (approx) 1:25	Logged By AF
Figure No. 14814-06-25A.DP219	



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Site Project Shoreline Phase 2	Probe Number DP220
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 6.55
	Location 723158.9 E 740774.9 N	Dates 14/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	7		6.55	0.00	
0.10-0.20	14				
0.20-0.30	15				
0.30-0.40	10				
0.40-0.50	6				
0.50-0.60	11		6.05	0.50	
0.60-0.70	12				
0.70-0.80	10				
0.80-0.90	8				
0.90-1.00	10				
1.00-1.10	8		5.55	1.00	
1.10-1.20	6				
1.20-1.30	11				
1.30-1.40	8				
1.40-1.50	5				
1.50-1.60	13		5.05	1.50	
1.60-1.70	10				
1.70-1.80	16				
1.80-1.90	16				
1.90-2.00	17				
2.00-2.10	14		4.55	2.00	
2.10-2.20	18				
2.20-2.30	16				
2.30-2.40	21				
2.40-2.50	22		4.05	2.50	
2.50-2.60	24				
			3.55	3.00	
			3.05	3.50	
			2.55	4.00	
			2.05	4.50	
			1.55	5.00	

Remarks
Refusal at 2.60m BGL.

Scale (approx) 1:25
Logged By AF
Figure No. 14814-06-25A.DP220



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Site	Probe Number
Project Shoreline Phase 2	DP221
Client	Job Number
LDA	14814-06-25A
Engineer	Sheet
	1/1

Method		Cone Dimensions	Ground Level (mOD)	Client	
Dynamic Probe Heavy (DPH)		43.7mm	6.36	LDA	
Hammer Weight 50kg					
Fall Height 500mm					
Location		Dates	Engineer		Sheet
723225.9 E 740785.8 N		08/09/2025			1/1
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	1		6.36	0.00	
0.10-0.20	5				
0.20-0.30	4				
0.30-0.40	3				
0.40-0.50	1				
0.50-0.60	2		5.86	0.50	
0.60-0.70	4				
0.70-0.80	8				
0.80-0.90	8				
0.90-1.00	12				
1.00-1.10	16		5.36	1.00	
1.10-1.20	19				
1.20-1.30	20				
1.30-1.40	18				
1.40-1.50	16				
1.50-1.60	11		4.86	1.50	
1.60-1.70	6				
1.70-1.80	4				
1.80-1.90	8				
1.90-2.00	8				
2.00-2.10	10		4.36	2.00	
2.10-2.20	12				
2.20-2.30	12				
2.30-2.40	12				
2.40-2.50	14				
2.50-2.60	16		3.86	2.50	
2.60-2.70	17				
2.70-2.80	16				
2.80-2.90	16				
2.90-3.00	16				
3.00-3.10	20		3.36	3.00	
3.10-3.20	21				
3.20-3.30	24				
			2.86	3.50	
			2.36	4.00	
			1.86	4.50	
			1.36	5.00	

Remarks
Refusal at 3.30m BGL.

Scale (approx) 1:25
Logged By JG
Figure No. 14814-06-25A.DP222



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Site Project Shoreline Phase 2	Probe Number DP222
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 6.92
	Location 723241.9 E 740785.1 N	Dates 08/09/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	1		6.92	0.00	
0.10-0.20	5				
0.20-0.30	6				
0.30-0.40	6				
0.40-0.50	8				
0.50-0.60	8		6.42	0.50	
0.60-0.70	6				
0.70-0.80	8				
0.80-0.90	7				
0.90-1.00	6				
1.00-1.10	11		5.92	1.00	
1.10-1.20	11				
1.20-1.30	10				
1.30-1.40	10				
1.40-1.50	25		5.42	1.50	
			4.92	2.00	
			4.42	2.50	
			3.92	3.00	
			3.42	3.50	
			2.92	4.00	
			2.42	4.50	
			1.92	5.00	

Remarks
Refusal at 1.50m BGL.

Scale (approx) 1:25	Logged By AF
Figure No. 14814-06-25A.DP222	



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Site	Probe Number
Project Shoreline Phase 2	DP224
Client	Job Number
LDA	14814-06-25A
Engineer	Sheet
	1/1

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	43.7mm	6.35	LDA	14814-06-25A
	Location	Dates	Engineer	Sheet
	723144.6 E 740757.1 N	14/08/2025		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	8		6.35	0.00	
0.10-0.20	20				
0.20-0.30	13				
0.30-0.40	13				
0.40-0.50	14				
0.50-0.60	14		5.85	0.50	
0.60-0.70	12				
0.70-0.80	6				
0.80-0.90	3				
0.90-1.00	4				
1.00-1.10	3		5.35	1.00	
1.10-1.20	2				
1.20-1.30	3				
1.30-1.40	6				
1.40-1.50	14				
1.50-1.60	22		4.85	1.50	
1.60-1.70	17				
1.70-1.80	17				
1.80-1.90	25				
1.90-2.00	25		4.35	2.00	
			3.85	2.50	
			3.35	3.00	
			2.85	3.50	
			2.35	4.00	
			1.85	4.50	
			1.35	5.00	

Remarks
Refusal at 2.00m BGL.

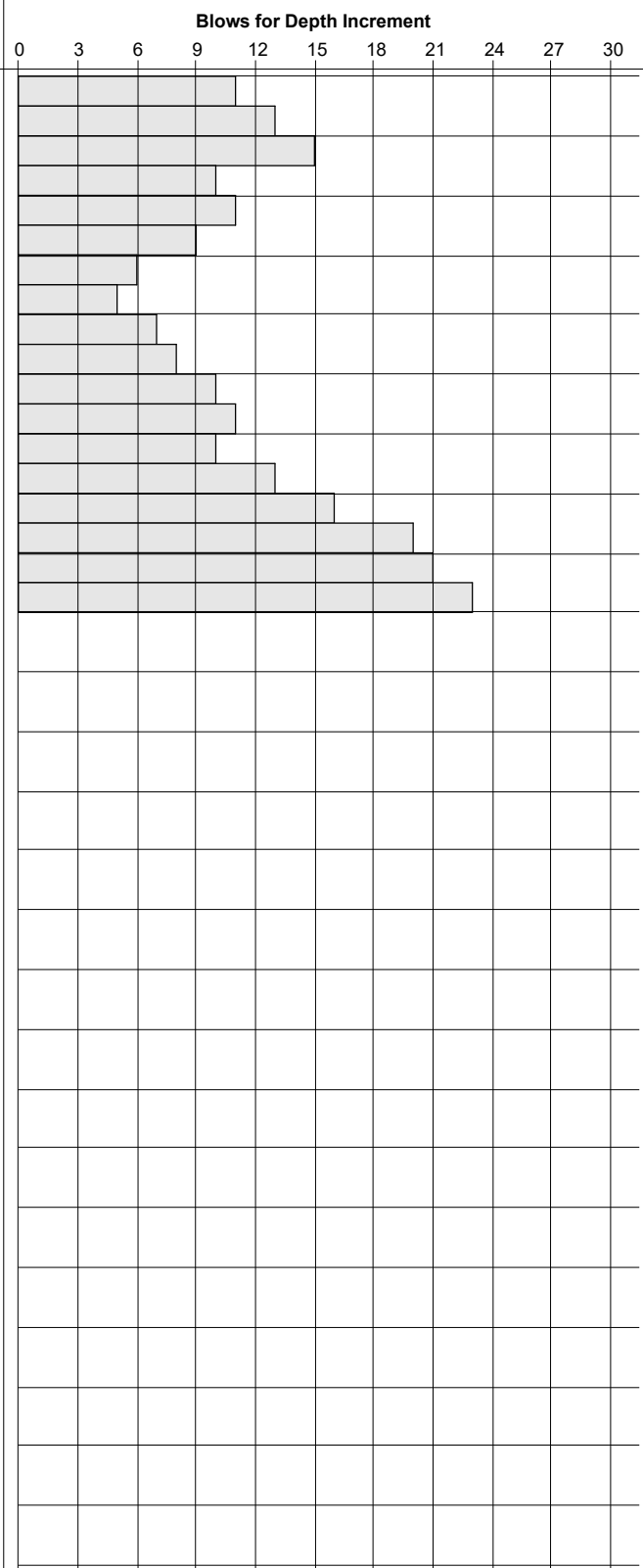
Scale (approx)	Logged By
1:25	AF
Figure No.	
14814-06-25A.DP224	



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Site Project Shoreline Phase 2	Probe Number DP225
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm		Cone Dimensions 43.7mm	Ground Level (mOD) 6.23
		Location 723167.4 E 740753.9 N	Dates 14/08/2025
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)
0.00-0.10	11		6.23
0.10-0.20	13		
0.20-0.30	15		
0.30-0.40	10		
0.40-0.50	11		
0.50-0.60	9		5.73
0.60-0.70	6		
0.70-0.80	5		
0.80-0.90	7		
0.90-1.00	8		
1.00-1.10	10		5.23
1.10-1.20	11		
1.20-1.30	10		
1.30-1.40	13		
1.40-1.50	16		
1.50-1.60	20		4.73
1.60-1.70	21		
1.70-1.80	23		
			4.23
			3.73
			3.23
			2.73
			2.23
			1.73
			1.23



Remarks
Refusal at 1.80m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP225



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Site Project Shoreline Phase 2	Probe Number DP226
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

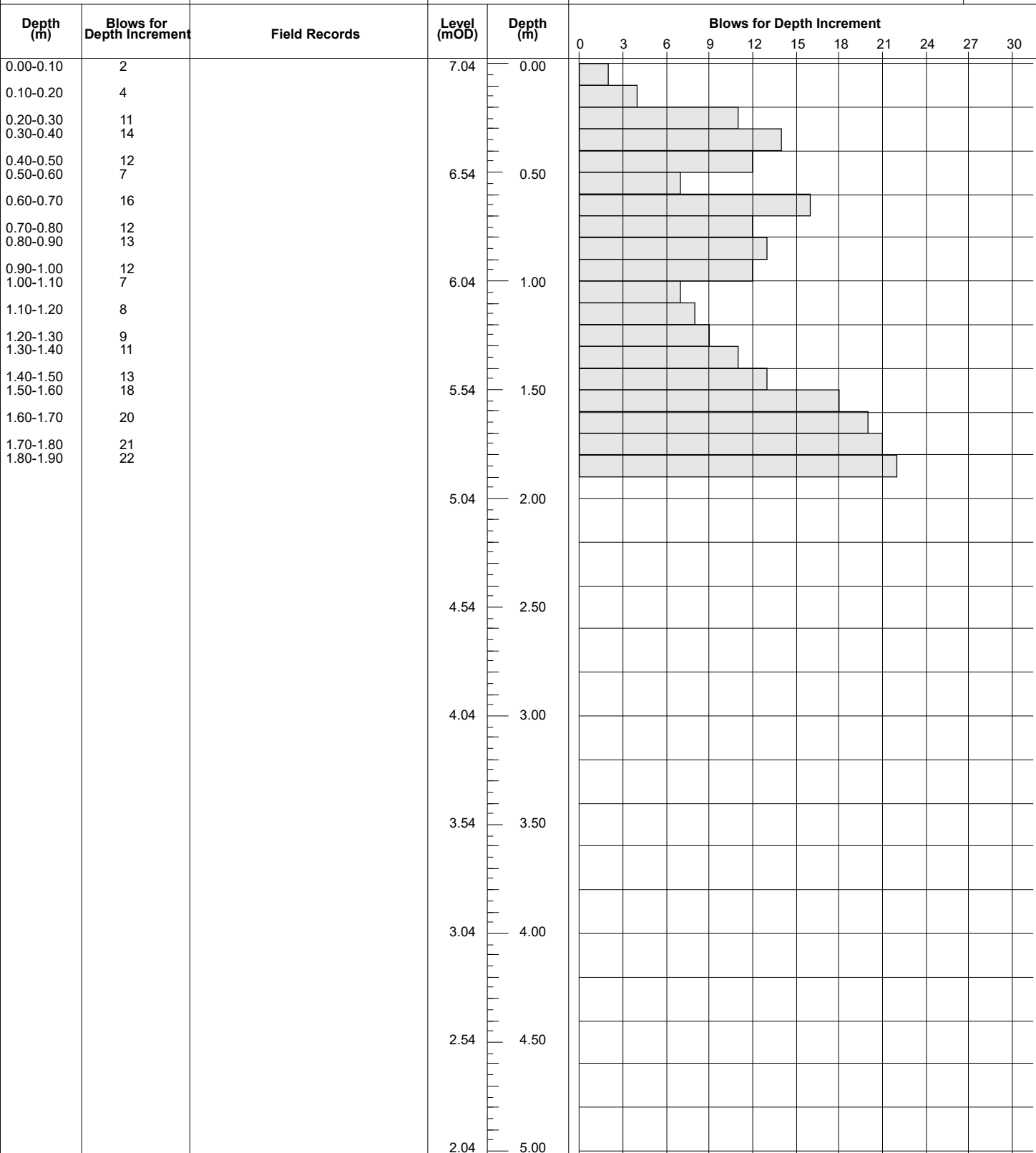
Method
Dynamic Probe Heavy (DPH)
Hammer Weight 50kg
Fall Height 500mm

Cone Dimensions
43.7mm

Ground Level (mOD)
7.04

Location
723194.9 E 740748.2 N

Dates
14/08/2025



Remarks
Refusal at 1.90m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP226



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Site Project Shoreline Phase 2	Probe Number DP227
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 7.24
	Location 723212.7 E 740747.1 N	Dates 14/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	4		7.24	0.00	
0.10-0.20	5				
0.20-0.30	3				
0.30-0.40	4				
0.40-0.50	6				
0.50-0.60	7		6.74	0.50	
0.60-0.70	7				
0.70-0.80	8				
0.80-0.90	5				
0.90-1.00	6				
1.00-1.10	7		6.24	1.00	
1.10-1.20	7				
1.20-1.30	11				
1.30-1.40	12				
1.40-1.50	10				
1.50-1.60	11		5.74	1.50	
1.60-1.70	18				
1.70-1.80	18				
1.80-1.90	17				
1.90-2.00	20				
2.00-2.10	23		5.24	2.00	
2.10-2.20	23				
			4.74	2.50	
			4.24	3.00	
			3.74	3.50	
			3.24	4.00	
			2.74	4.50	
			2.24	5.00	

Remarks
Refusal at 2.20m BGL.

Scale (approx) 1:25	Logged By AF
Figure No. 14814-06-25A.DP227	



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Site Project Shoreline Phase 2	Probe Number DP228
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 6.40
	Location 723116 E 740723.9 N	Dates 14/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	7		6.40	0.00	
0.10-0.20	23				
0.20-0.30	15				
0.30-0.40	11				
0.40-0.50	14				
0.50-0.60	14		5.90	0.50	
0.60-0.70	9				
0.70-0.80	15				
0.80-0.90	16				
0.90-1.00	20				
1.00-1.10	18		5.40	1.00	
1.10-1.20	12				
1.20-1.30	8				
1.30-1.40	10				
1.40-1.50	11				
1.50-1.60	3		4.90	1.50	
1.60-1.70	4				
1.70-1.80	4				
1.80-1.90	11				
1.90-2.00	16				
2.00-2.10	20		4.40	2.00	
2.10-2.20	20				
2.20-2.30	22				
			3.90	2.50	
			3.40	3.00	
			2.90	3.50	
			2.40	4.00	
			1.90	4.50	
			1.40	5.00	

Remarks
Refusal at 2.30m BGL.

Scale (approx) 1:25	Logged By AF
Figure No. 14814-06-25A.DP228	



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Site	Probe Number
Project Shoreline Phase 2	DP228A
Client	Job Number
LDA	14814-06-25A
Engineer	Sheet
	1/1

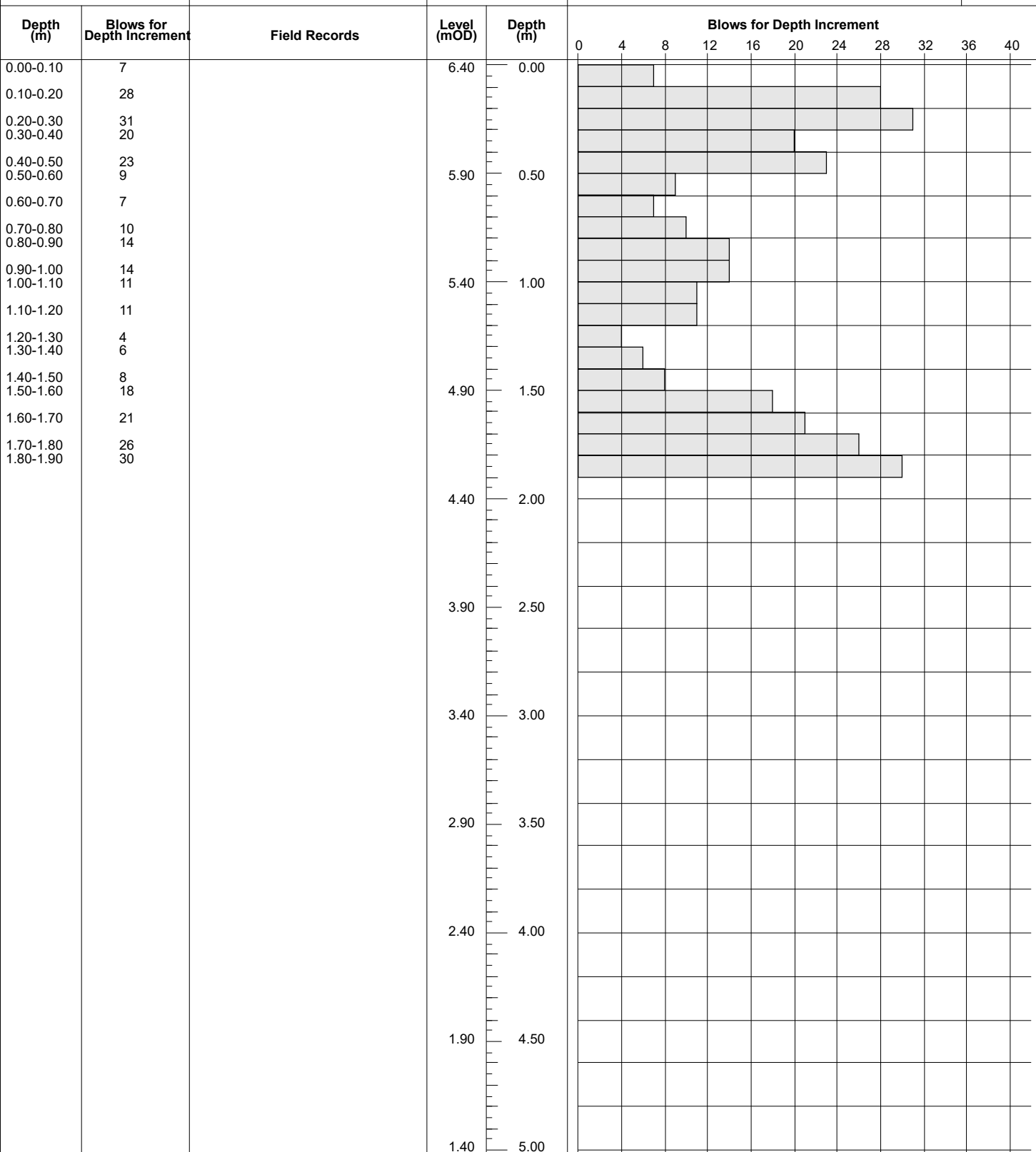
Method
Dynamic Probe Heavy (DPH)
Hammer Weight 50kg
Fall Height 500mm

Cone Dimensions
43.7mm

Ground Level (mOD)
6.40

Location
723116 E 740723.9 N

Dates
14/08/2025



Remarks
Refusal at 1.90m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP228A



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Site	Probe Number
Project Shoreline Phase 2	DP228B
Client	Job Number
LDA	14814-06-25A
Engineer	Sheet
	1/1

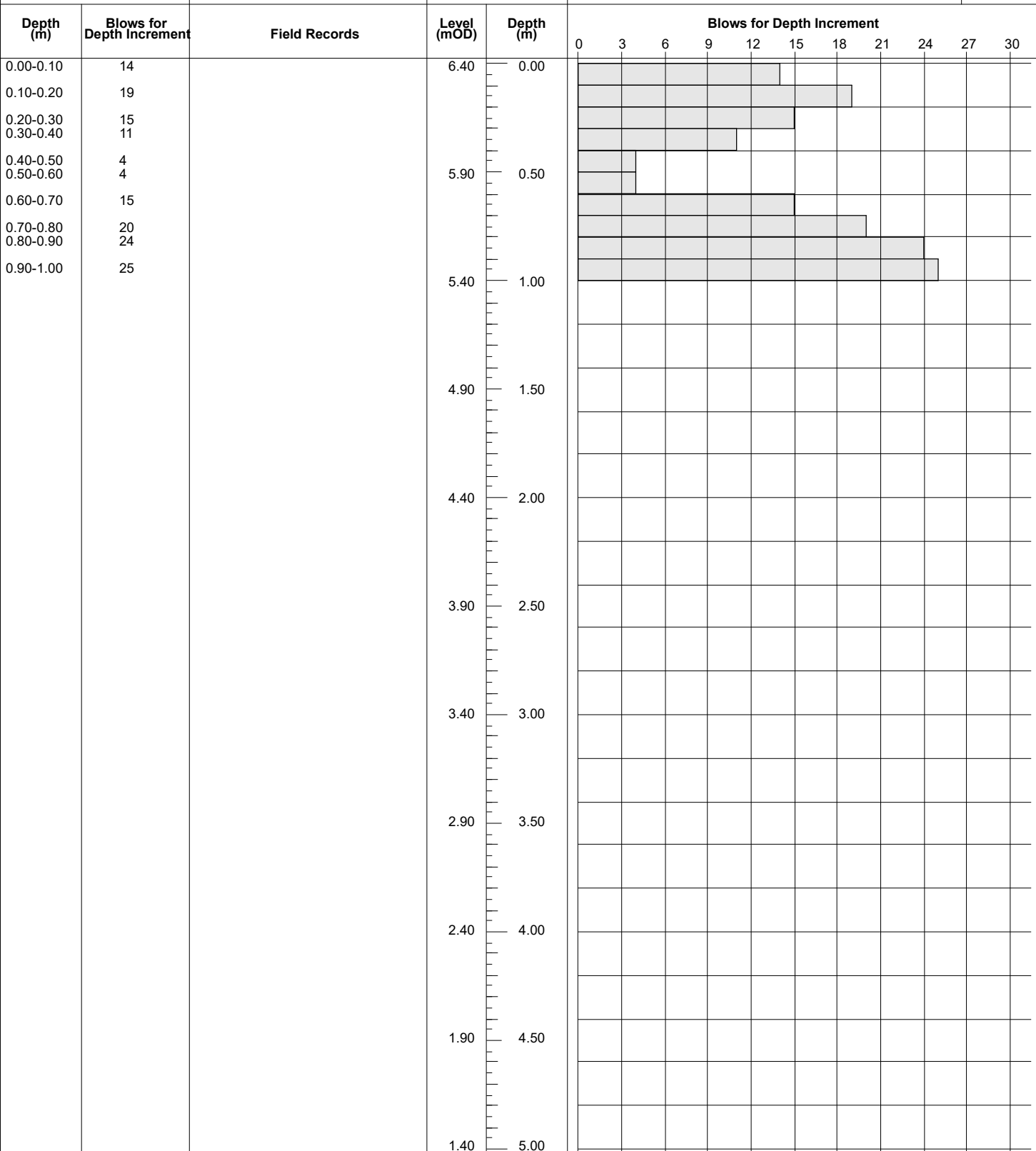
Method
Dynamic Probe Heavy (DPH)
Hammer Weight 50kg
Fall Height 500mm

Cone Dimensions
43.7mm

Ground Level (mOD)
6.40

Location
723116 E 740723.9 N

Dates
14/08/2025



Remarks
Refusal at 1.00m BGL.

Scale (approx) 1:25
Logged By AF

Figure No.

14814-06-25A.DP228B



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Site	Probe Number
Project Shoreline Phase 2	DP228C
Client	Job Number
LDA	14814-06-25A
Engineer	Sheet
	1/1

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	43.7mm	6.40	LDA	14814-06-25A
	Location	Dates	Engineer	Sheet
	723116 E 740723.9 N	14/08/2025		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	7		6.40	0.00	
0.10-0.20	23				
0.20-0.30	15				
0.30-0.40	11				
0.40-0.50	14				
0.50-0.60	14		5.90	0.50	
0.60-0.70	9				
0.70-0.80	15				
0.80-0.90	16				
0.90-1.00	20				
1.00-1.10	18		5.40	1.00	
1.10-1.20	12				
1.20-1.30	8				
1.30-1.40	10				
1.40-1.50	11				
1.50-1.60	3		4.90	1.50	
1.60-1.70	4				
1.70-1.80	4				
1.80-1.90	11				
1.90-2.00	16				
2.00-2.10	20		4.40	2.00	
2.10-2.20	20				
2.20-2.30	22				
			3.90	2.50	
			3.40	3.00	
			2.90	3.50	
			2.40	4.00	
			1.90	4.50	
			1.40	5.00	

Remarks
Refusal at 2.30m BGL.

Scale (approx) 1:25
Logged By AF
Figure No.

14814-06-25A.DP228C



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Site Project Shoreline Phase 2	Probe Number DP229
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 6.06
	Location 723141.4 E 740721.3 N	Dates 14/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	2		6.06	0.00	
0.10-0.20	7				
0.20-0.30	3				
0.30-0.40	3				
0.40-0.50	6				
0.50-0.60	7		5.56	0.50	
0.60-0.70	8				
0.70-0.80	7				
0.80-0.90	9				
0.90-1.00	8				
1.00-1.10	11		5.06	1.00	
1.10-1.20	18				
1.20-1.30	21				
1.30-1.40	28				
1.40-1.50	33		4.56	1.50	
			4.06	2.00	
			3.56	2.50	
			3.06	3.00	
			2.56	3.50	
			2.06	4.00	
			1.56	4.50	
			1.06	5.00	

Remarks
Refusal at 1.50m BGL.

Scale (approx) 1:25	Logged By AF
Figure No. 14814-06-25A.DP229	



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Site Project Shoreline Phase 2	Probe Number DP230
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 6.02
	Location 723159.3 E 740717.9 N	Dates 14/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	2		6.02	0.00	
0.10-0.20	5				
0.20-0.30	4				
0.30-0.40	4				
0.40-0.50	3				
0.50-0.60	4		5.52	0.50	
0.60-0.70	4				
0.70-0.80	3				
0.80-0.90	3				
0.90-1.00	3				
1.00-1.10	2		5.02	1.00	
1.10-1.20	3				
1.20-1.30	2				
1.30-1.40	2				
1.40-1.50	2				
1.50-1.60	3		4.52	1.50	
1.60-1.70	4				
1.70-1.80	7				
1.80-1.90	8				
1.90-2.00	10				
2.00-2.10	9		4.02	2.00	
2.10-2.20	11				
2.20-2.30	13				
2.30-2.40	17				
2.40-2.50	20				
2.50-2.60	21		3.52	2.50	
2.60-2.70	24				
			3.02	3.00	
			2.52	3.50	
			2.02	4.00	
			1.52	4.50	
			1.02	5.00	

Remarks
Refusal at 2.70m BGL.

Scale (approx) 1:25	Logged By AF
Figure No. 14814-06-25A.DP230	



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Site Project Shoreline Phase 2	Probe Number DP231
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 6.69
	Location 723183.3 E 740729.3 N	Dates 14/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	2		6.69	0.00	
0.10-0.20	5				
0.20-0.30	8				
0.30-0.40	11				
0.40-0.50	7				
0.50-0.60	12		6.19	0.50	
0.60-0.70	18				
0.70-0.80	14				
0.80-0.90	15				
0.90-1.00	16				
1.00-1.10	9		5.69	1.00	
1.10-1.20	14				
1.20-1.30	18				
1.30-1.40	20				
1.40-1.50	23				
1.50-1.60	18		5.19	1.50	
1.60-1.70	21				
1.70-1.80	22				
1.80-1.90	18				
1.90-2.00	18				
2.00-2.10	17		4.69	2.00	
2.10-2.20	25				
			4.19	2.50	
			3.69	3.00	
			3.19	3.50	
			2.69	4.00	
			2.19	4.50	
			1.69	5.00	

Remarks
Refusal at 2.20m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP231



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Site	Probe Number
Project Shoreline Phase 2	DP232
Client	Job Number
LDA	14814-06-25A
Engineer	Sheet
	1/1

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	43.7mm	6.91	LDA	14814-06-25A
	Location	Dates	Engineer	Sheet
	723206.9 E 740724.9 N	14/08/2025		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	2		6.91	0.00	
0.10-0.20	4				
0.20-0.30	4				
0.30-0.40	4				
0.40-0.50	5				
0.50-0.60	3		6.41	0.50	
0.60-0.70	4				
0.70-0.80	5				
0.80-0.90	7				
0.90-1.00	11				
1.00-1.10	15		5.91	1.00	
1.10-1.20	14				
1.20-1.30	6				
1.30-1.40	3				
1.40-1.50	4				
1.50-1.60	7		5.41	1.50	
1.60-1.70	11				
1.70-1.80	16				
1.80-1.90	16				
1.90-2.00	12				
2.00-2.10	18		4.91	2.00	
2.10-2.20	14				
2.20-2.30	10				
2.30-2.40	23				
2.40-2.50	25				
2.50-2.60	18		4.41	2.50	
2.60-2.70	25				
			3.91	3.00	
			3.41	3.50	
			2.91	4.00	
			2.41	4.50	
			1.91	5.00	

Remarks
Refusal at 2.70m BGL.

Scale (approx)	Logged By
1:25	AF
Figure No.	
14814-06-25A.DP232	



Site Project Shoreline Phase 2	Probe Number DP233
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 6.55
	Location 723137.6 E 740701.5 N	Dates 13/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	2		6.55	0.00	
0.10-0.20	3				
0.20-0.30	4				
0.30-0.40	4				
0.40-0.50	5				
0.50-0.60	7		6.05	0.50	
0.60-0.70	7				
0.70-0.80	8				
0.80-0.90	12				
0.90-1.00	13				
1.00-1.10	13		5.55	1.00	
1.10-1.20	14				
1.20-1.30	12				
1.30-1.40	11				
1.40-1.50	4				
1.50-1.60	3		5.05	1.50	
1.60-1.70	3				
1.70-1.80	3				
1.80-1.90	4				
1.90-2.00	14				
2.00-2.10	20		4.55	2.00	
2.10-2.20	23				
2.20-2.30	25				
			4.05	2.50	
			3.55	3.00	
			3.05	3.50	
			2.55	4.00	
			2.05	4.50	
			1.55	5.00	

Remarks
Refusal at 2.30m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP233



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Site Project Shoreline Phase 2	Probe Number DP234
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Weight 50kg
Fall Height 500mm

Cone Dimensions
43.7mm

Ground Level (mOD)
6.16

Location
723166.9 E 740696.3 N

Dates
13/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	1		6.16	0.00	
0.10-0.20	3				
0.20-0.30	4				
0.30-0.40	4				
0.40-0.50	6				
0.50-0.60	17		5.66	0.50	
0.60-0.70	15				
0.70-0.80	18				
0.80-0.90	18				
0.90-1.00	21				
1.00-1.10	22		5.16	1.00	
1.10-1.20	24				
1.20-1.30	25				
			4.66	1.50	
			4.16	2.00	
			3.66	2.50	
			3.16	3.00	
			2.66	3.50	
			2.16	4.00	
			1.66	4.50	
			1.16	5.00	

Remarks
Refusal at 1.30m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP234



Site Project Shoreline Phase 2	Probe Number DP235
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 6.38
	Location 723178 E 740713.1 N	Dates 14/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	1		6.38	0.00	
0.10-0.20	2				
0.20-0.30	5				
0.30-0.40	7				
0.40-0.50	8				
0.50-0.60	8		5.88	0.50	
0.60-0.70	3				
0.70-0.80	4				
0.80-0.90	4				
0.90-1.00	3				
1.00-1.10	5		5.38	1.00	
1.10-1.20	6				
1.20-1.30	8				
1.30-1.40	8				
1.40-1.50	7				
1.50-1.60	8		4.88	1.50	
1.60-1.70	8				
1.70-1.80	7				
1.80-1.90	8				
1.90-2.00	9				
2.00-2.10	13		4.38	2.00	
2.10-2.20	16				
2.20-2.30	14				
2.30-2.40	17				
2.40-2.50	18				
2.50-2.60	22		3.88	2.50	
2.60-2.70	25				
			3.38	3.00	
			2.88	3.50	
			2.38	4.00	
			1.88	4.50	
			1.38	5.00	

Remarks
Refusal at 2.70m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP235



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Site Project Shoreline Phase 2	Probe Number DP237
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method
Dynamic Probe Heavy (DPH)
Hammer Weight 50kg
Fall Height 500mm

Cone Dimensions
43.7mm

Ground Level (mOD)
6.82

Location
723126.2 E 740686.9 N

Dates
13/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	1		6.82	0.00	
0.10-0.20	3				
0.20-0.30	8				
0.30-0.40	8				
0.40-0.50	12				
0.50-0.60	14		6.32	0.50	
0.60-0.70	8				
0.70-0.80	7				
0.80-0.90	6				
0.90-1.00	5				
1.00-1.10	4		5.82	1.00	
1.10-1.20	3				
1.20-1.30	5				
1.30-1.40	14				
1.40-1.50	14				
1.50-1.60	12		5.32	1.50	
1.60-1.70	14				
1.70-1.80	15				
1.80-1.90	20				
1.90-2.00	20		4.82	2.00	
2.00-2.10	21				
			4.32	2.50	
			3.82	3.00	
			3.32	3.50	
			2.82	4.00	
			2.32	4.50	
			1.82	5.00	

Remarks
Refusal at 2.10m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP234



Site Project Shoreline Phase 2	Probe Number DP238
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 6.38
	Location 723142.6 E 740682.1 N	Dates 13/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	2		6.38	0.00	
0.10-0.20	3				
0.20-0.30	4				
0.30-0.40	4				
0.40-0.50	4				
0.50-0.60	4		5.88	0.50	
0.60-0.70	8				
0.70-0.80	16				
0.80-0.90	18				
0.90-1.00	18				
1.00-1.10	17		5.38	1.00	
1.10-1.20	12				
1.20-1.30	16				
1.30-1.40	17				
1.40-1.50	7				
1.50-1.60	14		4.88	1.50	
1.60-1.70	11				
1.70-1.80	16				
1.80-1.90	14				
1.90-2.00	12				
2.00-2.10	21		4.38	2.00	
2.10-2.20	23				
2.20-2.30	28				
			3.88	2.50	
			3.38	3.00	
			2.88	3.50	
			2.38	4.00	
			1.88	4.50	
			1.38	5.00	

Remarks
Refusal at 1.60m BGL.

Scale (approx) 1:25	Logged By AF
Figure No. 14814-06-25A.DP238	



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Site	Probe Number
Project Shoreline Phase 2	DP239
Client	Job Number
LDA	14814-06-25A
Engineer	Sheet
	1/1

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	43.7mm	6.29	LDA	14814-06-25A
	Location	Dates	Engineer	Sheet
	723164.2 E 740677.4 N	13/08/2025		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	3		6.29	0.00	
0.10-0.20	4				
0.20-0.30	6				
0.30-0.40	7				
0.40-0.50	7				
0.50-0.60	6		5.79	0.50	
0.60-0.70	9				
0.70-0.80	12				
0.80-0.90	13				
0.90-1.00	14				
1.00-1.10	10		5.29	1.00	
1.10-1.20	9				
1.20-1.30	13				
1.30-1.40	14				
1.40-1.50	18				
1.50-1.60	23		4.79	1.50	
1.60-1.70	24				
1.70-1.80	25				
			4.29	2.00	
			3.79	2.50	
			3.29	3.00	
			2.79	3.50	
			2.29	4.00	
			1.79	4.50	
			1.29	5.00	

Remarks
Refusal at 1.80m BGL.

Scale (approx)	Logged By
1:25	AF
Figure No.	
14814-06-25A.DP239	



Ground Investigations Ireland Ltd

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Site Project Shoreline Phase 2	Probe Number DP240
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

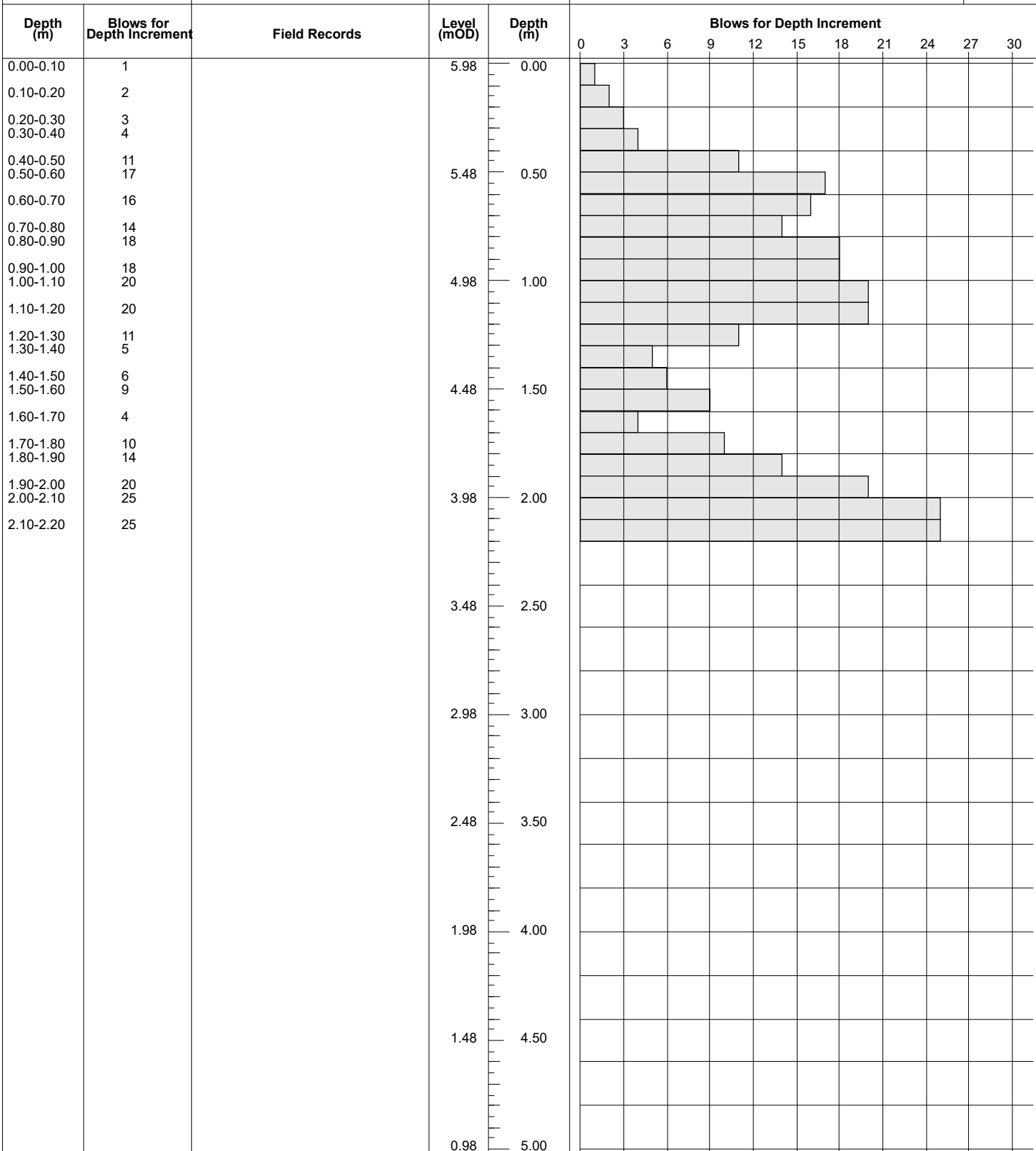
Method
Dynamic Probe Heavy (DPH)
Hammer Weight 50kg
Fall Height 500mm

Cone Dimensions
43.7mm

Ground Level (mOD)
5.98

Location
723192.4 E 740675.8 N

Dates
13/08/2025



Remarks
Refusal at 2.20m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.
14814-06-25A.DP240



Ground Investigations Ireland Ltd
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Site	Probe Number
Project Shoreline Phase 2	DP241
Client	Job Number
LDA	14814-06-25A
Engineer	Sheet
	1/1

Method	Cone Dimensions	Ground Level (mOD)	Client	Job Number
Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	43.7mm	7.09	LDA	14814-06-25A
	Location	Dates	Engineer	Sheet
	723212.6 E 740681.6 N	13/08/2025		1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	3		7.09	0.00	
0.10-0.20	8				
0.20-0.30	13				
0.30-0.40	18				
0.40-0.50	17				
0.50-0.60	10		6.59	0.50	
0.60-0.70	15				
0.70-0.80	12				
0.80-0.90	12				
0.90-1.00	13				
1.00-1.10	11		6.09	1.00	
1.10-1.20	6				
1.20-1.30	2				
1.30-1.40	7				
1.40-1.50	8				
1.50-1.60	3		5.59	1.50	
1.60-1.70	18				
1.70-1.80	20				
1.80-1.90	20				
1.90-2.00	8				
2.00-2.10	20		5.09	2.00	
2.10-2.20	22				
2.20-2.30	24				
			4.59	2.50	
			4.09	3.00	
			3.59	3.50	
			3.09	4.00	
			2.59	4.50	
			2.09	5.00	

Remarks
Refusal at 2.30m BGL.

Scale (approx)	Logged By
1:25	AF
Figure No.	
14814-06-25A.DP241	



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Site Project Shoreline Phase 2	Probe Number DP242
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 7.32
	Location 723135.5 E 740645.8 N	Dates 14/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	4		7.32	0.00	
0.10-0.20	9				
0.20-0.30	10				
0.30-0.40	7				
0.40-0.50	4				
0.50-0.60	2		6.82	0.50	
0.60-0.70	3				
0.70-0.80	7				
0.80-0.90	11				
0.90-1.00	14				
1.00-1.10	14		6.32	1.00	
1.10-1.20	21				
1.20-1.30	22				
1.30-1.40	27				
			5.82	1.50	
			5.32	2.00	
			4.82	2.50	
			4.32	3.00	
			3.82	3.50	
			3.32	4.00	
			2.82	4.50	
			2.32	5.00	

Remarks
Refusal at 1.40m BGL.

Scale (approx) 1:25	Logged By AF
Figure No. 14814-06-25A.DP242	



Ground Investigations Ireland Ltd
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Site	Probe Number
Project Shoreline Phase 2	DP242A
Client	Job Number
LDA	14814-06-25A
Engineer	Sheet
	1/1

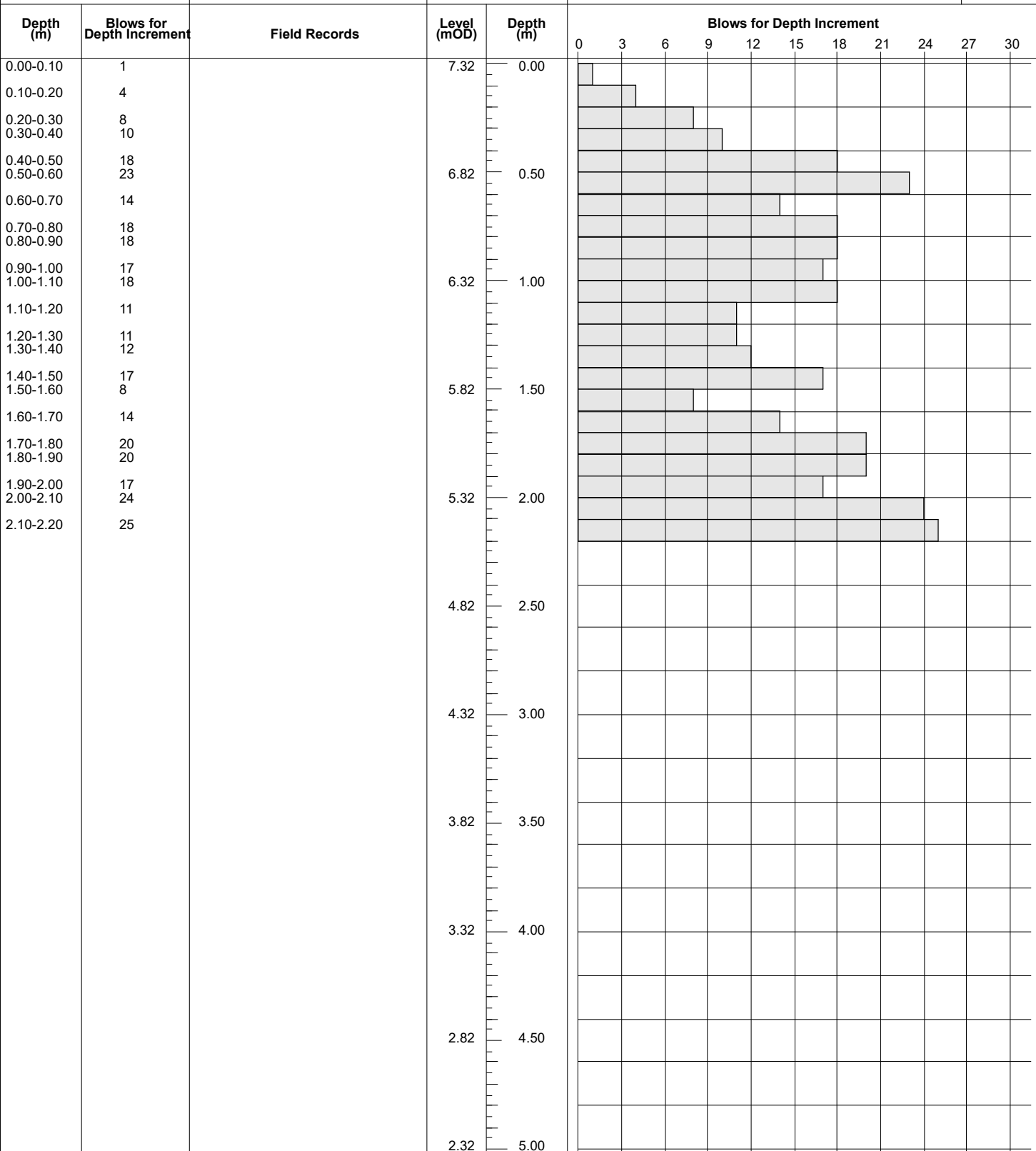
Method
Dynamic Probe Heavy (DPH)
Hammer Weight 50kg
Fall Height 500mm

Cone Dimensions
43.7mm

Ground Level (mOD)
7.32

Location
723135.5 E 740645.8 N

Dates
14/08/2025



Remarks
Refusal at 2.20m BGL.

Scale (approx)
1:25

Logged By
AF

Figure No.

14814-06-25A.DP242A



Ground Investigations Ireland Ltd

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Site Project Shoreline Phase 2	Probe Number DP243
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 7.07
	Location 723169.2 E 740648.9 N	Dates 13/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	5		7.07	0.00	
0.10-0.20	11				
0.20-0.30	7				
0.30-0.40	8				
0.40-0.50	9				
0.50-0.60	8		6.57	0.50	
0.60-0.70	6				
0.70-0.80	3				
0.80-0.90	4				
0.90-1.00	13				
1.00-1.10	18		6.07	1.00	
1.10-1.20	18				
1.20-1.30	23				
1.30-1.40	27				
1.40-1.50	31		5.57	1.50	
1.50-1.60	25				
			5.07	2.00	
			4.57	2.50	
			4.07	3.00	
			3.57	3.50	
			3.07	4.00	
			2.57	4.50	
			2.07	5.00	

Remarks
Refusal at 1.60m BGL.

Scale (approx) 1:25	Logged By AF
Figure No. 14814-06-25A.DP238	



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Site Project Shoreline Phase 2	Probe Number DP245
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Method Dynamic Probe Heavy (DPH) Hammer Weight 50kg Fall Height 500mm	Cone Dimensions 43.7mm	Ground Level (mOD) 6.48
	Location 723211.6 E 740639.5 N	Dates 15/08/2025

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment
0.00-0.10	9		6.48	0.00	
0.10-0.20	23				
0.20-0.30	25				
0.30-0.40	28				
0.40-0.50	13				
0.50-0.60	10		5.98	0.50	
0.60-0.70	11				
0.70-0.80	10				
0.80-0.90	11				
0.90-1.00	12				
1.00-1.10	10		5.48	1.00	
1.10-1.20	13				
1.20-1.30	13				
1.30-1.40	7				
1.40-1.50	11				
1.50-1.60	12		4.98	1.50	
1.60-1.70	13				
1.70-1.80	12				
1.80-1.90	25				
1.90-2.00	29				
2.00-2.10	25		4.48	2.00	
			3.98	2.50	
			3.48	3.00	
			2.98	3.50	
			2.48	4.00	
			1.98	4.50	
			1.48	5.00	

Remarks
Refusal at 2.10m BGL.

Scale (approx) 1:25	Logged By AF
Figure No. 14814-06-25A.DP245	

APPENDIX 4 – Rotary Coring Borehole Records





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Site Project Shoreline Phase 2	Borehole Number BH201
Client LDA	Job Number 14814-06-25A
Engineer	Sheet 1/1

Machine : Beretta T-44			Casing Diameter 96mm cased to 10.00m			Ground Level (mOD) 7.11				
Flush : Water										
Core Dia : 63.5 mm										
Method : Rotary Cored			Location 723148.3 E 740821 N			Dates 04/08/2025- 05/08/2025				
Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00								Recovery consists of brown slightly sandy gravelly Clay. Driller notes: Boulder Clay		
2.50	16				8,10/15,25,10 SPT(C) 50/225	4.61	2.50	Recovery consists of dark grey slightly sandy gravelly Clay. Driller notes: Boulder Clay		
2.50-2.88	40				25/50 SPT(C) 50/0	3.11	4.00	Very stiff dark brown slightly sandy gravelly CLAY (Very stiff)		
4.00	67				11,11/25,25 SPT(C) 50/150	1.61	5.50	Recovery consists of dark brown slightly sandy gravelly Clay. Driller notes: Boulder Clay (Very stiff)		
4.00-4.15					15,18/25,25 SPT(C) 50/150		(3.00)			
5.50	40				25/50 SPT(C) 50/0	-1.39	8.50	Very stiff dark brown slightly sandy gravelly CLAY		
5.50-5.80	87				25/50 SPT(C) 50/150	-2.89	10.00			
7.00										
7.00-7.30										
8.50										
8.50-8.65										
10.00										
10.00-10.30										

Remarks
Borehole complete at 10.00m BGL
Borehole backfilled upon completion

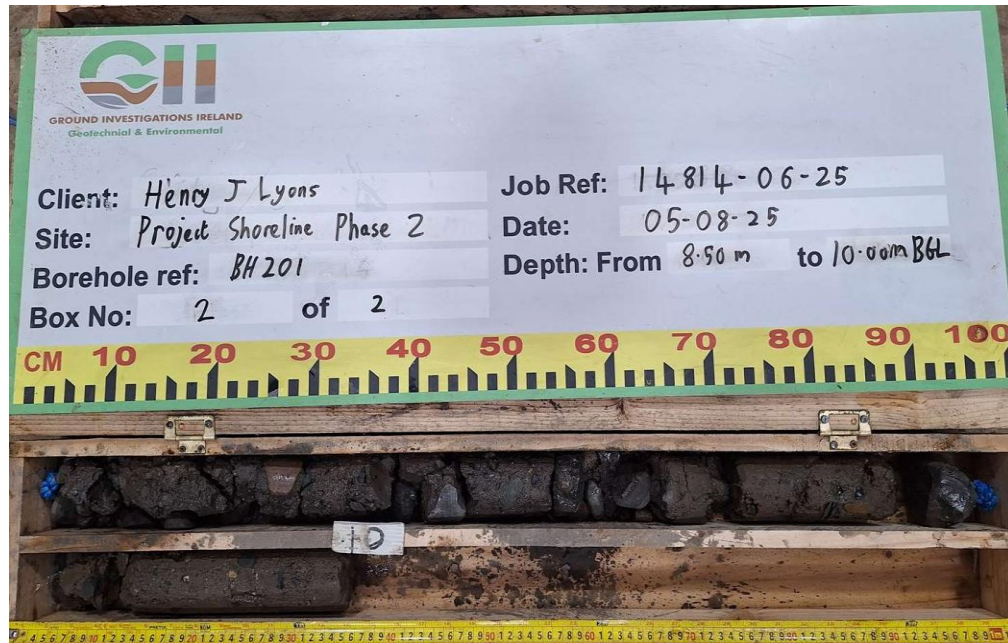
Scale (approx) 1:50	Logged By JG
Figure No. 14814-06-25A.BH201	

Project Shoreline Phase 2: Rotary Core Photographs

BH201



BH201



APPENDIX 5 – Laboratory Testing



Ground Investigations Ireland
Catherinestown House
Hazelhatch Road
Newcastle
Co. Dublin
Ireland
D22 K5P8



4225



Attention : Adam Browne
Date : 5th September, 2025
Your reference : 14814-06-25B
Our reference : Test Report 25/12706 Batch 1
Location : Project Shoreline Phase 2
Date samples received : 4th August, 2025
Status : Final Report
Issue : 202509051208

Sixty four samples were received for analysis on 4th August, 2025 of which sixty four were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 316.822 kg of CO2

Scope 1&2&3 emissions - 748.734 kg of CO2

Authorised By:



Sean English
Project Coordinator

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : Solid

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

[illegible]

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : Solid

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

EMT Sample No.	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP201	TP201	TP202	TP202	TP203	TP203	TP204	TP204	TP205	TP205			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TMS/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TMS/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TMS/PM8/PM16/PM12/PM18
>C6-C10 (HS_1D_AL)	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TMS/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TMS/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TMS/PM8/PM16/PM12/PM18
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	mg/kg	TMS/PM8/PM16/PM12/PM18
>EC6-EC10 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
MTBE #	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Benzene #	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Toluene #	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Ethylbenzene #	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
m/p-Xylene #	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
o-Xylene #	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : Solid

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

[illegible]

Element Materials Technology

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Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : Solid

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

EMT Sample No.	41-44	45-48	49-52	53-56	57-60	61-64	65-68	69-71,229	72-75	76-79	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP206	TP206	TP207	TP207	TP208	TP208	TP209	TP209	TP210	TP210			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	J T V	V J T	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TMS/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TMS/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TMS/PM8/PM16/PM12/PM18
>C6-C10 (HS_1D_AL)	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TMS/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TMS/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TMS/PM8/PM16/PM12/PM18
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	mg/kg	TMS/PM8/PM16/PM12/PM18
>EC6-EC10 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
MTBE #	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Benzene #	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Toluene #	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	7	<5	<5	ug/kg	TM36/PM12
Ethylbenzene #	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
m/p-Xylene #	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
o-Xylene #	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : Solid

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

[illegible]

Element Materials Technology

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Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : Solid

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

EMT Sample No.	80-83	84-87	88-91	92-95	96-99	100-103	104-107	108-111	112-115	116-119	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP211	TP211	TP212	TP212	TP213	TP213	TP214	TP214	TP215	TP215			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1 ^{SV}	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1 ^{SV}	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1 ^{SV}	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TMS/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TMS/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	30	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	16	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	46	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TMS/PM8/PM16/12/PM18
>C6-C10 (HS_1D_AL)	<0.1 ^{SV}	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	31	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TMS/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TMS/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	78	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	42	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	120	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TMS/PM8/PM16/12/PM18
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	166	<52	<52	<52	<52	<52	<52	<52	<52	mg/kg	TMS/PM8/PM16/12/PM18
>EC6-EC10 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	71	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
MTBE #	<5 ^{SV}	<5	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Benzene #	<5 ^{SV}	<5	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Toluene #	8 ^{SV}	<5	<5 ^{SV}	<5	<5	<5	<5	<5	<5	7	<5	ug/kg	TM36/PM12
Ethylbenzene #	<5 ^{SV}	<5	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
m/p-Xylene #	<5 ^{SV}	<5	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
o-Xylene #	<5 ^{SV}	<5	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : Solid

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

EMT Sample No.	120-123	124-127	128-131	132-135	136-139	140-143	144-147	148-151	152-155	156-159	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP216	TP216	TP218	TP218	TP219	TP219	TP220	TP220	TP227	TP227			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD/LOR	Units	Method No.
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025			
Antimony	1	2	3	2	2	2	2	2	1	2	<1	mg/kg	TM30/PM15
Arsenic #	6.1	10.3	17.8	13.7	14.8	9.5	9.9	10.6	11.9	10.7	<0.5	mg/kg	TM30/PM15
Barium #	58	95	63	105	111	93	93	86	82	89	<1	mg/kg	TM30/PM15
Cadmium #	0.9	1.2	0.8	0.7	1.1	1.4	1.1	1.7	1.7	1.8	<0.3	mg/kg	TM30/PM15
Chromium #	25.1	28.0	30.3	50.1	41.4	23.8	43.2	20.6	42.7	45.5	<0.5	mg/kg	TM30/PM15
Copper #	15	24	34	15	29	25	21	27	32	29	<1	mg/kg	TM30/PM15
Lead #	14	17	20	20	25	20	16	20	33	19	<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	2.9	3.7	3.8	6.8	3.3	3.8	3.2	4.3	3.6	6.5	<0.1	mg/kg	TM30/PM15
Nickel #	19.2	29.9	52.9	37.9	41.6	37.7	33.6	40.0	47.0	40.8	<0.7	mg/kg	TM30/PM15
Selenium #	<1	4	4	<1	2	<1	<1	<1	1	1	<1	mg/kg	TM30/PM15
Zinc #	52	64	135	60	84	69	53	77	96	76	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.09	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.17	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.16	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.11	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.12	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(k)fluoranthene #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.17	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.09	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.06	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	0.49	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	0.97	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	80	92	95	98	97	96	92	88	99	101	<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	mg/kg	TM5/PM8/PM16

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : Solid

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

EMT Sample No.	120-123	124-127	128-131	132-135	136-139	140-143	144-147	148-151	152-155	156-159	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP216	TP216	TP218	TP218	TP219	TP219	TP220	TP220	TP227	TP227			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TMS/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TMS/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TMS/PM8/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TMS/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TMS/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TMS/PM8/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	mg/kg	TMS/PM8/PM16
>EC6-EC10 (HS_1D_AR) #	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
MTBE #	<5	<5 ^{SV}	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Benzene #	<5	<5 ^{SV}	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Toluene #	<5	<5 ^{SV}	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5 ^{SV}	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5 ^{SV}	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5 ^{SV}	<5 ^{SV}	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : Solid

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

EMT Sample No.	160-163	164-167	168-169,246-248	170-171,249	172-174,255	175-177,256	178-181	182-185	186-187,250-251	188,252-254	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP230	TP230	TP233	TP233	TP234	TP234	TP235	TP235	TP236	TP236			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	J T V	T V	V T J	V J T	V J T	V J T	V T J	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD/LOR	Units	Method No.
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025			
Antimony	2	2	2	3	2	2	2	2	2	2	<1	mg/kg	TM30/PM15
Arsenic #	7.0	12.9	13.0	15.1	8.9	15.9	13.8	9.5	11.1	8.6	<0.5	mg/kg	TM30/PM15
Barium #	176	116	163	101	95	95	277	68	136	74	<1	mg/kg	TM30/PM15
Cadmium #	1.3	1.1	1.4	1.4	0.5	1.4	1.9	1.3	1.3	1.3	<0.3	mg/kg	TM30/PM15
Chromium #	48.0	17.2	47.8	40.3	63.2	31.5	71.1	30.1	27.9	47.7	<0.5	mg/kg	TM30/PM15
Copper #	16	26	37	29	13	27	29	26	26	24	<1	mg/kg	TM30/PM15
Lead #	20	21	60	19	16	19	33	18	20	17	<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	0.2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	3.5	3.7	4.4	7.2	5.9	4.5	6.6	4.1	4.1	5.3	<0.1	mg/kg	TM30/PM15
Nickel #	24.8	34.0	39.1	43.8	24.2	40.3	43.3	36.5	35.3	31.8	<0.7	mg/kg	TM30/PM15
Selenium #	<1	3	1	<1	<1	2	2	<1	<1	2	<1	mg/kg	TM30/PM15
Zinc #	87	69	146	90	66	81	127	68	70	72	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	0.08	<0.03	<0.03	<0.03	0.08	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	0.12	<0.03	<0.03	<0.03	0.12	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	0.11	<0.03	<0.03	<0.03	0.11	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	0.10	<0.06	<0.06	<0.06	0.08	<0.06	<0.06	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	0.08	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	0.10	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	0.27	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	98	95	97	93	96	98	90	100	87	97	<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	mg/kg	TM5/PM8/PM16
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Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : Solid

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

EMT Sample No.	160-163	164-167	168-169,246-248	170-171,249	172-174,255	175-177,256	178-181	182-185	186-187,250-251	188,252-254	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP230	TP230	TP233	TP233	TP234	TP234	TP235	TP235	TP236	TP236			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	J T V	T V	V T J	V J T	V J T	V J T	V T J	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TM5/PM8/PM16/12/PM18
>C6-C10 (HS_1D_AL)	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TM5/PM8/PM16/12/PM18
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	mg/kg	TM5/PM8/PM16/12/PM18
>EC6-EC10 (HS_1D_AR) #	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5 ^{SV}	<5	<5	<5	<5 ^{SV}	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Benzene #	<5	<5 ^{SV}	<5	<5	<5	<5 ^{SV}	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Toluene #	<5	<5 ^{SV}	<5	<5	<5	<5 ^{SV}	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5 ^{SV}	<5	<5	<5	<5 ^{SV}	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5 ^{SV}	<5	<5	<5	<5 ^{SV}	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5 ^{SV}	<5	<5	<5	<5 ^{SV}	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : Solid

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

EMT Sample No.	189-192	193-196	197-200	201-204	205-208	209-212	213-216	217-220	221-224	225-228	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP237	TP237	TP238	TP238	TP239	TP239	TP242	TP242	TP243	TP243			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD/LOR	Units	Method No.
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025			
Antimony	2	2	3	1	2	1	<1	1	2	2	<1	mg/kg	TM30/PM15
Arsenic #	10.0	10.6	20.3	7.4	12.3	6.0	7.8	9.2	12.7	9.5	<0.5	mg/kg	TM30/PM15
Barium #	95	103	714	174	197	38	46	56	76	117	<1	mg/kg	TM30/PM15
Cadmium #	1.3	1.3	3.6	1.5	1.2	0.9	1.4	1.3	1.7	1.2	<0.3	mg/kg	TM30/PM15
Chromium #	32.5	27.2	56.5	19.7	68.0	49.4	37.6	62.7	56.0	43.1	<0.5	mg/kg	TM30/PM15
Copper #	24	26	17	19	19	18	19	22	31	24	<1	mg/kg	TM30/PM15
Lead #	21	18	23	15	22	11	12	18	30	19	<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	3.3	4.3	10.9	2.8	8.1	4.3	3.6	5.3	6.1	5.0	<0.1	mg/kg	TM30/PM15
Nickel #	34.2	36.9	56.4	28.3	39.2	19.9	23.2	31.8	45.9	29.8	<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	3	<1	<1	<1	<1	<1	1	2	<1	mg/kg	TM30/PM15
Zinc #	70	73	79	62	73	54	51	79	93	99	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.06	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(k)fluoranthene #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	89	97	102	100	88	92	100	98	104	81	<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	mg/kg	TM5/PM8/PM16

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : Solid

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

EMT Sample No.	189-192	193-196	197-200	201-204	205-208	209-212	213-216	217-220	221-224	225-228	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP237	TP237	TP238	TP238	TP239	TP239	TP242	TP242	TP243	TP243			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TMS/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TMS/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TMS/PM8/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TMS/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TMS/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TMS/PM8/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	mg/kg	TMS/PM8/PM16
>EC6-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TMS/PM8/PM16
MTBE #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{sv}	<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{sv}	<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{sv}	<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{sv}	<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{sv}	<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{sv}	<5	ug/kg	TM36/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : Solid

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

EMT Sample No.	230-233	234-237	238-241	242-245							Please see attached notes for all abbreviations and acronyms		
Sample ID	TP217	TP217	TP225	TP225									
Depth	0.50	1.50	0.50	1.50									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025							LOD/LOR	Units	Method No.
Antimony	2	2	2	2							<1	mg/kg	TM30/PM15
Arsenic #	11.2	9.4	10.5	11.1							<0.5	mg/kg	TM30/PM15
Barium #	74	65	119	129							<1	mg/kg	TM30/PM15
Cadmium #	1.6	1.1	1.9	1.7							<0.3	mg/kg	TM30/PM15
Chromium #	64.0	55.9	44.9	38.3							<0.5	mg/kg	TM30/PM15
Copper #	24	23	28	29							<1	mg/kg	TM30/PM15
Lead #	22	16	21	19							<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM30/PM15
Molybdenum #	5.8	5.2	6.0	5.8							<0.1	mg/kg	TM30/PM15
Nickel #	42.7	32.5	35.8	37.7							<0.7	mg/kg	TM30/PM15
Selenium #	<1	1	<1	2							<1	mg/kg	TM30/PM15
Zinc #	80	76	76	72							<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03							<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05							<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	<0.03	<0.03							<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	<0.03	<0.03							<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03	<0.03							<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	<0.06							<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	<0.02							<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	<0.07							<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	<0.22	<0.22							<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	<0.64							<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05							<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	<0.02							<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1							<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	99	99	97	96							<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30							<30	mg/kg	TM5/PM8/PM16

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : Solid

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

EMT Sample No.	230-233	234-237	238-241	242-245							Please see attached notes for all abbreviations and acronyms		
Sample ID	TP217	TP217	TP225	TP225									
Depth	0.50	1.50	0.50	1.50									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025							LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1 ^{SV}							<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1 ^{SV}							<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1 ^{SV}							<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2							<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4							<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7							<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	<7							<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7	<7							<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26	<26							<26	mg/kg	TM5/PM8/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1 ^{SV}							<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	<10	<10							<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10	<10							<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1 ^{SV}							<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1 ^{SV}							<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1 ^{SV}							<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2							<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4							<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7							<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	<7							<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7	<7							<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26	<26							<26	mg/kg	TM5/PM8/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52							<52	mg/kg	TM5/PM8/PM16
>EC6-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1 ^{SV}							<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10	<10							<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10	<10							<10	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5	<5	<5 ^{SV}							<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	<5 ^{SV}							<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5	<5 ^{SV}							<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	<5 ^{SV}							<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5	<5 ^{SV}							<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	<5 ^{SV}							<5	ug/kg	TM36/PM12
PCB 28 #	<5	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5							<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35							<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : CEN 10:1 1 Batch

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

EMT Sample No.	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP201	TP201	TP202	TP202	TP203	TP203	TP204	TP204	TP205	TP205			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	LOD/LOR	Units	Method No.
Dissolved Antimony [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic [#]	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) [#]	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium [#]	0.057	0.014	0.007	0.010	<0.003	0.007	0.005	0.009	<0.003	0.006	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) [#]	0.57	0.14	0.07	0.10	<0.03	0.07	0.05	0.09	<0.03	0.06	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium [#]	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium [#]	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) [#]	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper [#]	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) [#]	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) [#]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum [#]	0.007	0.016	0.019	0.018	0.004	0.035	0.007	0.029	0.004	0.020	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) [#]	0.07	0.16	0.19	0.18	0.04	0.35	0.07	0.29	0.04	0.20	<0.02	mg/kg	TM30/PM17
Dissolved Nickel [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium [#]	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) [#]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc [#]	0.004	<0.003	<0.003	<0.003	0.004	0.003	<0.003	0.004	0.004	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) [#]	0.04	<0.03	<0.03	<0.03	0.04	0.03	<0.03	0.04	0.04	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVA [#]	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVA [#]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	<0.3	<0.3	<0.3	0.6	0.3	0.4	<0.3	0.5	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	<3	<3	<3	<3	6	3	4	<3	5	<3	<3	mg/kg	TM173/PM0
Sulphate as SO ₄ [#]	18.5	21.8	4.5	11.6	9.3	1.8	10.9	9.5	<0.5	0.7	<0.5	mg/l	TM38/PM0
Sulphate as SO ₄ [#]	185	218	45	116	93	18	109	95	<5	7	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.0964	0.102	0.0996	0.0992	0.1008	0.1012	0.1006	0.0985	0.1001	0.1004		kg	NONE/PM17
Chloride [#]	<0.3	<0.3	<0.3	<0.3	0.4	0.4	<0.3	<0.3	<0.3	<0.3	<0.3	mg/l	TM38/PM0
Chloride [#]	<3	<3	<3	<3	4	4	<3	<3	<3	<3	<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	mg/kg	TM60/PM0
pH	7.93	7.94	7.88	7.90	8.09	7.94	7.70	8.02	7.04	8.09	<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : CEN 10:1 1 Batch

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

[illegible]

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : CEN 10:1 1 Batch

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

EMT Sample No.	41-44	45-48	49-52	53-56	57-60	61-64	65-68	69-71,229	72-75	76-79	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP206	TP206	TP207	TP207	TP208	TP208	TP209	TP209	TP210	TP210			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	J T V	V J T	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	LOD/LOR	Units	Method No.
Dissolved Antimony [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic [#]	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) [#]	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium [#]	0.031	<0.003	0.004	0.006	0.007	0.006	0.008	0.007	<0.003	0.007	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) [#]	0.31	<0.03	0.04	0.06	0.07	0.06	0.08	0.07	<0.03	0.07	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium [#]	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium [#]	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) [#]	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper [#]	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) [#]	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) [#]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum [#]	0.006	<0.002	0.006	0.014	0.025	0.026	0.008	0.019	0.006	0.014	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) [#]	0.06	<0.02	0.06	0.14	0.25	0.26	0.08	0.19	0.06	0.14	<0.02	mg/kg	TM30/PM17
Dissolved Nickel [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium [#]	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) [#]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc [#]	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.004	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) [#]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF [#]	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF [#]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	0.4	<0.3	0.4	<0.3	<0.3	<0.3	0.4	<0.3	<0.3	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	4	<3	4	<3	<3	<3	4	<3	<3	<3	<3	mg/kg	TM173/PM0
Sulphate as SO4 [#]	634.0	70.3	3.8	2.8	2.0	1.3	8.1	1.9	9.5	4.4	<0.5	mg/l	TM38/PM0
Sulphate as SO4 [#]	6340	703	38	28	20	13	81	19	95	44	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1035	0.1036	0.0992	0.0968	0.0981	0.0983	0.0922	0.0989	0.0993	0.098		kg	NONE/PM17
Chloride [#]	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/l	TM38/PM0
Chloride [#]	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	<2	<2	<2	<2	<2	2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	mg/kg	TM60/PM0
pH	7.28	7.66	7.99	8.00	8.00	7.95	7.92	8.00	7.95	8.00	<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : CEN 10:1 1 Batch

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

[illegible]

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : CEN 10:1 1 Batch

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

EMT Sample No.	80-83	84-87	88-91	92-95	96-99	100-103	104-107	108-111	112-115	116-119	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP211	TP211	TP212	TP212	TP213	TP213	TP214	TP214	TP215	TP215			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	LOD/LOR	Units	Method No.
Dissolved Antimony [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic [#]	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0027	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) [#]	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.027	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium [#]	0.024	0.018	0.027	0.011	0.004	0.007	0.006	0.006	0.004	0.007	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) [#]	0.24	0.18	0.27	0.11	0.04	0.07	0.06	0.06	0.04	0.07	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium [#]	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium [#]	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) [#]	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper [#]	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) [#]	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) [#]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum [#]	0.006	0.018	0.008	0.003	0.005	0.021	0.012	0.019	0.004	0.018	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) [#]	0.06	0.18	0.08	0.03	0.05	0.21	0.12	0.19	0.04	0.18	<0.02	mg/kg	TM30/PM17
Dissolved Nickel [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium [#]	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) [#]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc [#]	<0.003	<0.003	<0.003	<0.003	0.004	0.005	0.004	<0.003	0.004	0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) [#]	<0.03	<0.03	<0.03	<0.03	0.04	0.05	0.04	<0.03	0.04	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF [#]	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF [#]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	0.4	<0.3	<0.3	0.5	<0.3	0.3	<0.3	0.3	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	<3	4	<3	<3	5	<3	3	<3	<3	<3	<3	mg/kg	TM173/PM0
Sulphate as SO4 [#]	809.0	39.9	1351.0	64.4	8.4	3.8	3.7	1.7	2.5	1.7	<0.5	mg/l	TM38/PM0
Sulphate as SO4 [#]	8092	399	13513	644	84	38	37	17	25	17	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1024	0.0993	0.1052	0.1143	0.1069	0.1025	0.0995	0.099	0.1032	0.1007		kg	NONE/PM17
Chloride [#]	0.5	0.3	0.5	0.9	<0.3	0.3	0.5	0.5	<0.3	0.5	<0.3	mg/l	TM38/PM0
Chloride [#]	5	3	5	9	<3	3	5	5	<3	5	<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	mg/kg	TM60/PM0
pH	7.81	8.08	7.68	8.04	7.79	7.84	7.85	7.88	7.81	7.75	<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : CEN 10:1 1 Batch

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

[illegible]

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : CEN 10:1 1 Batch

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

EMT Sample No.	120-123	124-127	128-131	132-135	136-139	140-143	144-147	148-151	152-155	156-159	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP216	TP216	TP218	TP218	TP219	TP219	TP220	TP220	TP227	TP227			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	LOD/LOR	Units	Method No.
Dissolved Antimony [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic [#]	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) [#]	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium [#]	<0.003	0.014	0.024	0.005	0.003	0.007	0.004	0.012	0.004	0.007	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) [#]	<0.03	0.14	0.24	0.05	0.03	0.07	0.04	0.12	0.04	0.07	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium [#]	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium [#]	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) [#]	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper [#]	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) [#]	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) [#]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum [#]	0.004	0.024	0.006	<0.002	0.004	0.017	0.003	0.020	0.003	0.021	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) [#]	0.04	0.24	0.06	<0.02	0.04	0.17	0.03	0.20	0.03	0.21	<0.02	mg/kg	TM30/PM17
Dissolved Nickel [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium [#]	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) [#]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc [#]	0.003	<0.003	<0.003	<0.003	0.003	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) [#]	0.03	<0.03	<0.03	<0.03	0.03	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF [#]	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF [#]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	<0.3	<0.3	<0.3	0.5	<0.3	0.4	<0.3	0.5	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	<3	<3	<3	<3	5	<3	4	<3	5	<3	<3	mg/kg	TM173/PM0
Sulphate as SO4 [#]	1.6	1.8	581.2	28.4	6.2	2.5	5.7	4.2	<0.5	0.5	<0.5	mg/l	TM38/PM0
Sulphate as SO4 [#]	16	18	5810	284	62	25	57	42	<5	5	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1007	0.0992	0.1011	0.105	0.1058	0.1	0.1013	0.102	0.1039	0.0975		kg	NONE/PM17
Chloride [#]	<0.3	0.3	0.4	<0.3	<0.3	<0.3	0.7	0.6	0.9	0.5	<0.3	mg/l	TM38/PM0
Chloride [#]	<3	<3	4	<3	<3	<3	7	6	9	5	<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	mg/kg	TM60/PM0
pH	7.84	7.67	7.56	7.84	8.01	8.03	7.92	8.10	8.10	8.26	<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : CEN 10:1 1 Batch

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

[illegible]

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : CEN 10:1 1 Batch

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

EMT Sample No.	160-163	164-167	168-169,246-248	170-171,249	172-174,255	175-177,256	178-181	182-185	186-187,250-251	188,252-254	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP230	TP230	TP233	TP233	TP234	TP234	TP235	TP235	TP236	TP236			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	J T V	T V	V T J	V J T	V J T	V J T	V T J	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	LOD/LOR	Units	Method No.
Dissolved Antimony [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic [#]	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) [#]	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium [#]	0.004	0.027	0.007	0.005	0.004	0.008	0.005	0.006	0.006	0.007	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) [#]	0.04	0.27	0.07	0.05	0.04	0.08	0.05	0.06	0.06	0.07	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium [#]	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium [#]	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) [#]	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper [#]	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) [#]	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) [#]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum [#]	0.003	0.040	0.004	0.021	0.008	0.011	<0.002	0.012	0.015	0.013	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) [#]	0.03	0.40	0.04	0.21	0.08	0.11	<0.02	0.12	0.15	0.13	<0.02	mg/kg	TM30/PM17
Dissolved Nickel [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium [#]	<0.003	0.008	<0.003	<0.003	<0.003	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) [#]	<0.03	0.08	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc [#]	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.004	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) [#]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF [#]	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF [#]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	0.4	0.3	0.6	0.4	0.6	0.4	0.4	<0.3	<0.3	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	4	<3	6	4	6	4	4	<3	<3	<3	<3	mg/kg	TM173/PM0
Sulphate as SO4 [#]	1.1	2.4	0.5	1.0	<0.5	2.8	<0.5	0.6	4.0	1.5	<0.5	mg/l	TM38/PM0
Sulphate as SO4 [#]	11	24	5	10	<5	28	<5	6	40	15	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1056	0.1008	0.1023	0.1008	0.1028	0.1009	0.104	0.0991	0.0998	0.1003		kg	NONE/PM17
Chloride [#]	0.4	0.5	<0.3	0.6	1.0	0.3	0.9	0.4	<0.3	0.7	<0.3	mg/l	TM38/PM0
Chloride [#]	4	5	<3	6	10	<3	9	4	<3	7	<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	mg/kg	TM60/PM0
pH	8.18	8.26	8.01	8.29	8.24	8.06	8.11	8.29	8.02	7.84	<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : CEN 10:1 1 Batch

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

[illegible]

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : CEN 10:1 1 Batch

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

EMT Sample No.	189-192	193-196	197-200	201-204	205-208	209-212	213-216	217-220	221-224	225-228	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP237	TP237	TP238	TP238	TP239	TP239	TP242	TP242	TP243	TP243			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025	LOD/LOR	Units	Method No.
Dissolved Antimony [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic [#]	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) [#]	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium [#]	0.004	0.011	0.007	0.005	0.003	0.005	<0.003	<0.003	<0.003	0.045	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) [#]	0.04	0.11	0.07	0.05	0.03	0.05	<0.03	<0.03	<0.03	0.45	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium [#]	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium [#]	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) [#]	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper [#]	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) [#]	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) [#]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum [#]	0.007	0.023	0.003	0.008	0.006	0.005	<0.002	0.003	<0.002	0.010	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) [#]	0.07	0.23	0.03	0.08	0.06	0.05	<0.02	0.03	<0.02	0.10	<0.02	mg/kg	TM30/PM17
Dissolved Nickel [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium [#]	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.027	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) [#]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.27	<0.03	mg/kg	TM30/PM17
Dissolved Zinc [#]	0.004	0.003	0.003	<0.003	<0.003	<0.003	0.003	0.004	0.004	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) [#]	0.04	0.03	0.03	<0.03	<0.03	<0.03	<0.03	0.04	0.04	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVA [#]	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVA [#]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	0.4	0.3	0.5	<0.3	0.7	<0.3	<0.3	0.3	<0.3	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	4	3	5	<3	7	<3	<3	3	<3	<3	<3	mg/kg	TM173/PM0
Sulphate as SO ₄ [#]	0.8	1.1	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	22.6	<0.5	mg/l	TM38/PM0
Sulphate as SO ₄ [#]	8	11	8	<5	<5	<5	<5	<5	<5	226	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1014	0.1016	0.1062	0.0976	0.105	0.0998	0.095	0.0966	0.0986	0.0971		kg	NONE/PM17
Chloride [#]	<0.3	<0.3	<0.3	<0.3	0.3	<0.3	<0.3	0.6	0.4	7.8	<0.3	mg/l	TM38/PM0
Chloride [#]	<3	<3	<3	<3	3	<3	<3	6	4	78	<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	3	<2	<2	<2	<2	<2	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	30	<20	<20	<20	<20	<20	<20	<20	<20	mg/kg	TM60/PM0
pH	8.02	7.99	7.98	8.04	8.01	7.96	7.91	8.00	7.88	7.84	<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : CEN 10:1 1 Batch

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

[illegible]

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : CEN 10:1 1 Batch

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

EMT Sample No.	230-233	234-237	238-241	242-245							Please see attached notes for all abbreviations and acronyms		
Sample ID	TP217	TP217	TP225	TP225									
Depth	0.50	1.50	0.50	1.50									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	30/07/2025	30/07/2025	30/07/2025	30/07/2025									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	04/08/2025	04/08/2025	04/08/2025	04/08/2025							LOD/LOR	Units	Method No.
Dissolved Antimony [#]	<0.002	<0.002	<0.002	<0.002							<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) [#]	<0.02	<0.02	<0.02	<0.02							<0.02	mg/kg	TM30/PM17
Dissolved Arsenic [#]	<0.0025	<0.0025	<0.0025	<0.0025							<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) [#]	<0.025	<0.025	<0.025	<0.025							<0.025	mg/kg	TM30/PM17
Dissolved Barium [#]	0.004	0.006	0.007	0.013							<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) [#]	0.04	0.06	0.07	0.13							<0.03	mg/kg	TM30/PM17
Dissolved Cadmium [#]	<0.0005	<0.0005	<0.0005	<0.0005							<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) [#]	<0.005	<0.005	<0.005	<0.005							<0.005	mg/kg	TM30/PM17
Dissolved Chromium [#]	<0.0015	<0.0015	<0.0015	<0.0015							<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) [#]	<0.015	<0.015	<0.015	<0.015							<0.015	mg/kg	TM30/PM17
Dissolved Copper [#]	<0.007	<0.007	<0.007	<0.007							<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) [#]	<0.07	<0.07	<0.07	<0.07							<0.07	mg/kg	TM30/PM17
Dissolved Lead [#]	<0.005	<0.005	<0.005	<0.005							<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) [#]	<0.05	<0.05	<0.05	<0.05							<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum [#]	0.006	0.011	0.020	0.034							<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) [#]	0.06	0.11	0.20	0.34							<0.02	mg/kg	TM30/PM17
Dissolved Nickel [#]	<0.002	<0.002	<0.002	<0.002							<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) [#]	<0.02	<0.02	<0.02	<0.02							<0.02	mg/kg	TM30/PM17
Dissolved Selenium [#]	<0.003	<0.003	<0.003	<0.003							<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) [#]	<0.03	<0.03	<0.03	<0.03							<0.03	mg/kg	TM30/PM17
Dissolved Zinc [#]	<0.003	<0.003	<0.003	<0.003							<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) [#]	<0.03	<0.03	<0.03	<0.03							<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVA ^F	<0.00001	<0.00001	<0.00001	<0.00001							<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVA ^F	<0.0001	<0.0001	<0.0001	<0.0001							<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01							<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM26/PM0
Fluoride	0.4	<0.3	<0.3	<0.3							<0.3	mg/l	TM173/PM0
Fluoride	4	<3	<3	<3							<3	mg/kg	TM173/PM0
Sulphate as SO ₄ [#]	7.5	4.1	2.1	2.9							<0.5	mg/l	TM38/PM0
Sulphate as SO ₄ [#]	75	41	21	29							<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1027	0.1005	0.1016	0.102								kg	NONE/PM17
Chloride [#]	0.7	0.6	0.7	0.6							<0.3	mg/l	TM38/PM0
Chloride [#]	7	6	7	6							<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09								kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	<2							<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20							<20	mg/kg	TM60/PM0
pH	7.85	7.63	7.80	7.79							<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12706

Report : CEN 10:1 1 Batch

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

[illegible]

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

Unable to perform guideline check. Limits of detection have been raised. This could be due to insufficient sample, dilution or matrix effect.

QF-PM 3.1.17 v3

Please include all sections of this report if it is reproduced

All solid results are expressed on a dry weight basis unless stated otherwise.

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

Unable to perform guideline check. Limits of detection have been raised. This could be due to insufficient sample, dilution or matrix effect.

QF-PM 3.1.17 v3

Client Name:	Ground Investigations Ireland	Report :	EN12457_2
Reference:	14814-06-25B		
Location:	Project Shoreline Phase 2	Solids:	V=60g VOC jar, J=250g glass jar, T=plastic tub
Contact:	Adam Browne		
EMT Job No:	25/12706		

Unable to perform guideline check. Limits of detection have been raised. This could be due to insufficient sample, dilution or matrix effect.

Please include all sections of this report if it is reproduced

QF-PM 3.1.17 v3 All solid results are expressed on a dry weight basis unless stated otherwise. 39 of 61

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

Unable to perform guideline check. Limits of detection have been raised. This could be due to insufficient sample, dilution or matrix effect.

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Client Name:	Ground Investigations Ireland	Report :	EN12457_2
Reference:	14814-06-25B		
Location:	Project Shoreline Phase 2	Solids:	V=60g VOC: jar, J=250g glass jar, T=plastic tub
Contact:	Adam Browne		
EMT Job No:	25/12706		

Please see attached notes for all abbreviations and acronyms

Unable to perform guideline check. Limits of detection have been raised. This could be due to insufficient sample, dilution or matrix effect.

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
25/12706	1	TP201	0.50	1-4	No interpretation possible
25/12706	1	TP201	1.50	5-8	No interpretation possible
25/12706	1	TP202	0.50	9-12	No interpretation possible
25/12706	1	TP202	1.50	13-16	No interpretation possible
25/12706	1	TP203	0.50	17-20	No interpretation possible
25/12706	1	TP203	1.50	21-24	No interpretation possible
25/12706	1	TP204	0.50	25-28	No interpretation possible
25/12706	1	TP204	1.50	29-32	No interpretation possible
25/12706	1	TP205	0.50	33-36	No interpretation possible
25/12706	1	TP205	1.50	37-40	No interpretation possible
25/12706	1	TP206	0.50	41-44	No interpretation possible
25/12706	1	TP206	1.50	45-48	No interpretation possible
25/12706	1	TP207	0.50	49-52	No interpretation possible
25/12706	1	TP207	1.50	53-56	No interpretation possible
25/12706	1	TP208	0.50	57-60	No interpretation possible
25/12706	1	TP208	1.50	61-64	No interpretation possible
25/12706	1	TP209	0.50	65-68	No interpretation possible
25/12706	1	TP209	1.50	69-71,229	No interpretation possible
25/12706	1	TP210	0.50	72-75	No interpretation possible
25/12706	1	TP210	1.50	76-79	No interpretation possible
25/12706	1	TP211	0.50	80-83	No interpretation possible
25/12706	1	TP211	1.50	84-87	No interpretation possible
25/12706	1	TP212	0.50	88-91	Possible lubricating oil
25/12706	1	TP212	1.50	92-95	No interpretation possible
25/12706	1	TP213	0.50	96-99	No interpretation possible
25/12706	1	TP213	1.50	100-103	No interpretation possible
25/12706	1	TP214	0.50	104-107	No interpretation possible
25/12706	1	TP214	1.50	108-111	No interpretation possible
25/12706	1	TP215	0.50	112-115	No interpretation possible
25/12706	1	TP215	1.50	116-119	No interpretation possible
25/12706	1	TP216	0.50	120-123	No interpretation possible
25/12706	1	TP216	1.50	124-127	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
25/12706	1	TP218	0.50	128-131	No interpretation possible
25/12706	1	TP218	1.50	132-135	No interpretation possible
25/12706	1	TP219	0.50	136-139	No interpretation possible
25/12706	1	TP219	1.50	140-143	No interpretation possible
25/12706	1	TP220	0.50	144-147	No interpretation possible
25/12706	1	TP220	1.50	148-151	No interpretation possible
25/12706	1	TP227	0.50	152-155	No interpretation possible
25/12706	1	TP227	1.50	156-159	No interpretation possible
25/12706	1	TP230	0.50	160-163	No interpretation possible
25/12706	1	TP230	1.50	164-167	No interpretation possible
25/12706	1	TP233	0.50	168-169,246-248	No interpretation possible
25/12706	1	TP233	1.50	170-171,249	No interpretation possible
25/12706	1	TP234	0.50	172-174,255	No interpretation possible
25/12706	1	TP234	1.50	175-177,256	No interpretation possible
25/12706	1	TP235	0.50	178-181	No interpretation possible
25/12706	1	TP235	1.50	182-185	No interpretation possible
25/12706	1	TP236	0.50	186-187,250-251	No interpretation possible
25/12706	1	TP236	1.50	188,252-254	No interpretation possible
25/12706	1	TP237	0.50	189-192	No interpretation possible
25/12706	1	TP237	1.50	193-196	No interpretation possible
25/12706	1	TP238	0.50	197-200	No interpretation possible
25/12706	1	TP238	1.50	201-204	No interpretation possible
25/12706	1	TP239	0.50	205-208	No interpretation possible
25/12706	1	TP239	1.50	209-212	No interpretation possible
25/12706	1	TP242	0.50	213-216	No interpretation possible
25/12706	1	TP242	1.50	217-220	No interpretation possible
25/12706	1	TP243	0.50	221-224	No interpretation possible
25/12706	1	TP243	1.50	225-228	No interpretation possible
25/12706	1	TP217	0.50	230-233	No interpretation possible
25/12706	1	TP217	1.50	234-237	No interpretation possible
25/12706	1	TP225	0.50	238-241	No interpretation possible
25/12706	1	TP225	1.50	242-245	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
25/12706	1	TP201	0.50	4	Mathew Day	12/08/2025	General Description (Bulk Analysis)	Grey soil, stones
					Mathew Day	12/08/2025	Asbestos Fibres	NAD
					Mathew Day	12/08/2025	Asbestos ACM	NAD
					Mathew Day	12/08/2025	Asbestos Type	NAD
25/12706	1	TP201	1.50	8	Charlotte Taylor	12/08/2025	General Description (Bulk Analysis)	brown soil/stones
					Charlotte Taylor	12/08/2025	Asbestos Fibres	NAD
					Charlotte Taylor	12/08/2025	Asbestos ACM	NAD
					Charlotte Taylor	12/08/2025	Asbestos Type	NAD
25/12706	1	TP202	0.50	12	Catherine Coles	12/08/2025	General Description (Bulk Analysis)	brown soil,stone
					Catherine Coles	12/08/2025	Asbestos Fibres	NAD
					Catherine Coles	12/08/2025	Asbestos ACM	NAD
					Catherine Coles	12/08/2025	Asbestos Type	NAD
25/12706	1	TP202	1.50	16	Miriam Silverlock	12/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Miriam Silverlock	12/08/2025	Asbestos Fibres	NAD
					Miriam Silverlock	12/08/2025	Asbestos ACM	NAD
					Miriam Silverlock	12/08/2025	Asbestos Type	NAD
25/12706	1	TP203	0.50	20	Catherine Coles	12/08/2025	General Description (Bulk Analysis)	brown soil,stone
					Catherine Coles	12/08/2025	Asbestos Fibres	NAD
					Catherine Coles	12/08/2025	Asbestos ACM	NAD
					Catherine Coles	12/08/2025	Asbestos Type	NAD
25/12706	1	TP203	1.50	24	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP204	0.50	28	Mathew Day	12/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Mathew Day	12/08/2025	Asbestos Fibres	NAD
					Mathew Day	12/08/2025	Asbestos ACM	NAD
					Mathew Day	12/08/2025	Asbestos Type	NAD

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
25/12706	1	TP204	1.50	32	Charlotte Taylor	12/08/2025	General Description (Bulk Analysis)	brown soil/stones
					Charlotte Taylor	12/08/2025	Asbestos Fibres	NAD
					Charlotte Taylor	12/08/2025	Asbestos ACM	NAD
					Charlotte Taylor	12/08/2025	Asbestos Type	NAD
25/12706	1	TP205	0.50	36	Catherine Coles	12/08/2025	General Description (Bulk Analysis)	brown soil,stone
					Catherine Coles	12/08/2025	Asbestos Fibres	NAD
					Catherine Coles	12/08/2025	Asbestos ACM	NAD
					Catherine Coles	12/08/2025	Asbestos Type	NAD
25/12706	1	TP205	1.50	40	Miriam Silverlock	12/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Miriam Silverlock	12/08/2025	Asbestos Fibres	NAD
					Miriam Silverlock	12/08/2025	Asbestos ACM	NAD
					Miriam Silverlock	12/08/2025	Asbestos Type	NAD
25/12706	1	TP206	0.50	44	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP206	1.50	48	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP207	0.50	52	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP207	1.50	56	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP208	0.50	60	Catherine Coles	12/08/2025	General Description (Bulk Analysis)	brown soil,clay
					Catherine Coles	12/08/2025	Asbestos Fibres	NAD
					Catherine Coles	12/08/2025	Asbestos ACM	NAD
					Catherine Coles	12/08/2025	Asbestos Type	NAD

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
25/12706	1	TP208	1.50	64	Kieran Hubbard	11/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	11/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	11/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	11/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	11/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	11/08/2025	Asbestos Type	NAD
					Kieran Hubbard	11/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP209	0.50	68	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP209	1.50	71	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP210	0.50	75	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP210	1.50	79	Kieran Hubbard	11/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	11/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	11/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	11/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	11/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	11/08/2025	Asbestos Type	NAD
					Kieran Hubbard	11/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP211	0.50	83	Mathew Day	13/08/2025	General Description (Bulk Analysis)	Grey soil, stones, concrete/masonry debris
					Mathew Day	13/08/2025	Asbestos Fibres	Fibre Bundles
					Mathew Day	13/08/2025	Asbestos ACM	NAD
					Mathew Day	13/08/2025	Asbestos Type	Chrysotile
					Anthony Carman	28/08/2025	Total ACM Gravimetric Quantification (% Asb)	<0.001 (mass %)
					Anthony Carman	28/08/2025	Total Detailed Gravimetric Quantification (% Asb)	<0.001 (mass %)
					Anthony Carman	28/08/2025	Total Gravimetric Quantification (ACM + Detailed) (% Asb)	<0.001 (mass %)
25/12706	1	TP211	1.50	87	Charlotte Taylor	13/08/2025	General Description (Bulk Analysis)	brown soil/stones
					Charlotte Taylor	13/08/2025	Asbestos Fibres	NAD
					Charlotte Taylor	13/08/2025	Asbestos ACM	NAD
					Charlotte Taylor	13/08/2025	Asbestos Type	NAD

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
25/12706	1	TP212	0.50	91	Kieran Hubbard	18/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	18/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	18/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	18/08/2025	Asbestos Type	NAD
25/12706	1	TP212	1.50	95	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	BROWN SOIL
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
25/12706	1	TP213	0.50	99	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	BROWN SOIL
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP213	1.50	103	Mathew Day	13/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Mathew Day	13/08/2025	Asbestos Fibres	NAD
					Mathew Day	13/08/2025	Asbestos ACM	NAD
					Mathew Day	13/08/2025	Asbestos Type	NAD
25/12706	1	TP214	0.50	107	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	BROWN SOIL
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP214	1.50	111	Charlotte Taylor	12/08/2025	General Description (Bulk Analysis)	brown soil/stonesn
					Charlotte Taylor	12/08/2025	Asbestos Fibres	NAD
					Charlotte Taylor	12/08/2025	Asbestos Fibres (2)	NAD
					Charlotte Taylor	12/08/2025	Asbestos ACM	NAD
					Charlotte Taylor	12/08/2025	Asbestos ACM (2)	NAD
					Charlotte Taylor	12/08/2025	Asbestos Type	NAD
					Charlotte Taylor	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP215	0.50	115	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	Brown soil
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP215	1.50	119	Catherine Coles	13/08/2025	General Description (Bulk Analysis)	brown soil,stone
					Catherine Coles	13/08/2025	Asbestos Fibres	NAD
					Catherine Coles	13/08/2025	Asbestos ACM	NAD
					Catherine Coles	13/08/2025	Asbestos Type	NAD

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
25/12706	1	TP216	0.50	123	Mathew Day	13/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Mathew Day	13/08/2025	Asbestos Fibres	NAD
					Mathew Day	13/08/2025	Asbestos ACM	NAD
					Mathew Day	13/08/2025	Asbestos Type	NAD
25/12706	1	TP216	1.50	127	Catherine Coles	13/08/2025	General Description (Bulk Analysis)	brown soil,stone
					Catherine Coles	13/08/2025	Asbestos Fibres	NAD
					Catherine Coles	13/08/2025	Asbestos ACM	NAD
					Catherine Coles	13/08/2025	Asbestos Type	NAD
25/12706	1	TP218	0.50	131	Kieran Hubbard	13/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	13/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	13/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	13/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	13/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	13/08/2025	Asbestos Type	NAD
					Kieran Hubbard	13/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP218	1.50	135	Catherine Coles	12/08/2025	General Description (Bulk Analysis)	browmn soil,clay
					Catherine Coles	12/08/2025	Asbestos Fibres	NAD
					Catherine Coles	12/08/2025	Asbestos ACM	NAD
					Catherine Coles	12/08/2025	Asbestos Type	NAD
25/12706	1	TP219	0.50	139	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP219	1.50	143	Catherine Coles	12/08/2025	General Description (Bulk Analysis)	brown soil,clay
					Catherine Coles	12/08/2025	Asbestos Fibres	NAD
					Catherine Coles	12/08/2025	Asbestos ACM	NAD
					Catherine Coles	12/08/2025	Asbestos Type	NAD
25/12706	1	TP220	0.50	147	Catherine Coles	12/08/2025	General Description (Bulk Analysis)	brown soil,stone
					Catherine Coles	12/08/2025	Asbestos Fibres	NAD
					Catherine Coles	12/08/2025	Asbestos ACM	NAD
					Catherine Coles	12/08/2025	Asbestos Type	NAD
25/12706	1	TP220	1.50	151	Mathew Day	12/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Mathew Day	12/08/2025	Asbestos Fibres	NAD
					Mathew Day	12/08/2025	Asbestos ACM	NAD
					Mathew Day	12/08/2025	Asbestos Type	NAD
25/12706	1	TP227	0.50	155	Mathew Day	12/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Mathew Day	12/08/2025	Asbestos Fibres	NAD
					Mathew Day	12/08/2025	Asbestos ACM	NAD
					Mathew Day	12/08/2025	Asbestos Type	NAD
25/12706	1	TP227	1.50	159	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
25/12706	1	TP227	1.50	159	Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP230	0.50	163	Catherine Coles	12/08/2025	General Description (Bulk Analysis)	brownsoil,stone
					Catherine Coles	12/08/2025	Asbestos Fibres	NAD
					Catherine Coles	12/08/2025	Asbestos ACM	NAD
					Catherine Coles	12/08/2025	Asbestos Type	NAD
25/12706	1	TP230	1.50	167	Catherine Coles	12/08/2025	General Description (Bulk Analysis)	brown soil,stone
					Catherine Coles	12/08/2025	Asbestos Fibres	NAD
					Catherine Coles	12/08/2025	Asbestos ACM	NAD
					Catherine Coles	12/08/2025	Asbestos Type	NAD
25/12706	1	TP233	0.50	169	Anthony Carman	12/08/2025	General Description (Bulk Analysis)	Brown Soil/Stones
					Anthony Carman	12/08/2025	Asbestos Fibres	NAD
					Anthony Carman	12/08/2025	Asbestos ACM	NAD
					Anthony Carman	12/08/2025	Asbestos Type	NAD
25/12706	1	TP233	1.50	171	Catherine Coles	12/08/2025	General Description (Bulk Analysis)	brown soil,stone
					Catherine Coles	12/08/2025	Asbestos Fibres	NAD
					Catherine Coles	12/08/2025	Asbestos ACM	NAD
					Catherine Coles	12/08/2025	Asbestos Type	NAD
25/12706	1	TP234	0.50	174	Mathew Day	12/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Mathew Day	12/08/2025	Asbestos Fibres	NAD
					Mathew Day	12/08/2025	Asbestos ACM	NAD
					Mathew Day	12/08/2025	Asbestos Type	NAD
25/12706	1	TP234	1.50	177	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
25/12706	1	TP234	1.50	177	Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP235	0.50	181	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP235	1.50	185	Charlotte Taylor	07/08/2025	General Description (Bulk Analysis)	brown soil/stones
					Charlotte Taylor	07/08/2025	Asbestos Fibres	NAD
					Charlotte Taylor	07/08/2025	Asbestos ACM	NAD
					Charlotte Taylor	07/08/2025	Asbestos Type	NAD

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
25/12706	1	TP237	0.50	192	Charlotte Taylor	07/08/2025	General Description (Bulk Analysis)	brown soil/stones
					Charlotte Taylor	07/08/2025	Asbestos Fibres	NAD
					Charlotte Taylor	07/08/2025	Asbestos ACM	NAD
					Charlotte Taylor	07/08/2025	Asbestos Type	NAD
25/12706	1	TP237	1.50	196	Charlotte Taylor	07/08/2025	General Description (Bulk Analysis)	brown soil/stones
					Charlotte Taylor	07/08/2025	Asbestos Fibres	NAD
					Charlotte Taylor	07/08/2025	Asbestos ACM	NAD
					Charlotte Taylor	07/08/2025	Asbestos Type	NAD
25/12706	1	TP238	0.50	200	Kieran Hubbard	13/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	13/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	13/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	13/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	13/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	13/08/2025	Asbestos Type	NAD
					Kieran Hubbard	13/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP238	1.50	204	Mathew Day	12/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Mathew Day	12/08/2025	Asbestos Fibres	NAD
					Mathew Day	12/08/2025	Asbestos ACM	NAD
					Mathew Day	12/08/2025	Asbestos Type	NAD
25/12706	1	TP239	0.50	208	Mathew Day	12/08/2025	General Description (Bulk Analysis)	Brown soil/clay
					Mathew Day	12/08/2025	Asbestos Fibres	NAD
					Mathew Day	12/08/2025	Asbestos ACM	NAD
					Mathew Day	12/08/2025	Asbestos Type	NAD
25/12706	1	TP239	1.50	212	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP242	0.50	216	Catherine Coles	12/08/2025	General Description (Bulk Analysis)	brown soil,stone
					Catherine Coles	12/08/2025	Asbestos Fibres	NAD
					Catherine Coles	12/08/2025	Asbestos ACM	NAD
					Catherine Coles	12/08/2025	Asbestos Type	NAD
25/12706	1	TP242	1.50	220	Mathew Day	12/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Mathew Day	12/08/2025	Asbestos Fibres	NAD
					Mathew Day	12/08/2025	Asbestos ACM	NAD
					Mathew Day	12/08/2025	Asbestos Type	NAD
25/12706	1	TP243	0.50	224	Catherine Coles	12/08/2025	General Description (Bulk Analysis)	brown soil,stone
					Catherine Coles	12/08/2025	Asbestos Fibres	NAD
					Catherine Coles	12/08/2025	Asbestos ACM	NAD
					Catherine Coles	12/08/2025	Asbestos Type	NAD
25/12706	1	TP243	1.50	228	Kieran Hubbard	12/08/2025	General Description (Bulk Analysis)	brown soi
					Kieran Hubbard	12/08/2025	Asbestos Fibres	NAD

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
25/12706	1	TP243	1.50	228	Kieran Hubbard	12/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	12/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type	NAD
					Kieran Hubbard	12/08/2025	Asbestos Type (2)	NAD
25/12706	1	TP217	0.50	233	Michael Reilly	18/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Michael Reilly	18/08/2025	Asbestos Fibres	NAD
					Michael Reilly	18/08/2025	Asbestos ACM	NAD
					Michael Reilly	18/08/2025	Asbestos Type	NAD
25/12706	1	TP217	1.50	237	Catherine Coles	13/08/2025	General Description (Bulk Analysis)	brown soil, stone
					Catherine Coles	13/08/2025	Asbestos Fibres	NAD
					Catherine Coles	13/08/2025	Asbestos ACM	NAD
					Catherine Coles	13/08/2025	Asbestos Type	NAD
25/12706	1	TP225	0.50	241	Catherine Coles	18/08/2025	General Description (Bulk Analysis)	brown soil, stone
					Catherine Coles	18/08/2025	Asbestos Fibres	NAD
					Catherine Coles	18/08/2025	Asbestos ACM	NAD
					Catherine Coles	18/08/2025	Asbestos Type	NAD
25/12706	1	TP225	1.50	245	Catherine Coles	18/08/2025	General Description (Bulk Analysis)	brown soil, stone
					Catherine Coles	18/08/2025	Asbestos Fibres	NAD
					Catherine Coles	18/08/2025	Asbestos ACM	NAD
					Catherine Coles	18/08/2025	Asbestos Type	NAD
25/12706	1	TP236	0.50	251	Mathew Day	13/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Mathew Day	13/08/2025	Asbestos Fibres	NAD
					Mathew Day	13/08/2025	Asbestos ACM	NAD
					Mathew Day	13/08/2025	Asbestos Type	NAD
25/12706	1	TP236	1.50	254	Michael Reilly	18/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Michael Reilly	18/08/2025	Asbestos Fibres	NAD
					Michael Reilly	18/08/2025	Asbestos ACM	NAD
					Michael Reilly	18/08/2025	Asbestos Type	NAD

Element Materials Technology **Notification of Deviating Samples**

Client Name: Ground Investigations Ireland **Matrix : Solid**

Reference: 14814-06-25B

Location: Project Shoreline Phase 2

Contact: Adam Browne

Notification of Deviating Samples

Matrix : Solid

[illegible]

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

It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 25/12706

SOILS and ASH

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

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

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

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

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

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

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

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

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

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

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

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

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

WATERS

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

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

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

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

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

DEVIATING SAMPLES

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

SURROGATES

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

DILUTIONS

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

BLANKS

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

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

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

Measurement Uncertainty

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

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).

Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitatively, with a matrix specific limit of detection.

Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

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

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 25/12706

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM17	Modified US EPA method 8270D v5:2014. Determination of specific Polychlorinated Biphenyl congeners by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM20	Modified BS 1377-3:1990/USEPA 160.1/3 (TDS/TS: 1971) Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.	Yes		AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.	Yes		AD	Yes

EMT Job No: 25/12706

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 degrees Celsius. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 degrees Celsius. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM17	Modified method BS EN12457-2:2002 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.	Yes		AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes
TM61	Determination of Mercury by Cold Vapour Atomic Fluorescence - WATERS: Modified USEPA Method 245.7, Rev 2, Feb 2005. SOILS: Modified USEPA Method 7471B, Rev.2, Feb 2007	PM0	No preparation is required.	Yes		AR	Yes

EMT Job No: 25/12706

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	Yes
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM131	Quantification of Asbestos Fibres and ACM based on HSG 248 Second edition:2021, HSG 264 Second edition:2012, HSE Contract Research Report No.83/1996, MDHS 87:1998, WM3 1st Edition v1.1:2018	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	Yes
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 9214 - 340.2 (EPA 1998)	PM0	No preparation is required.			AR	Yes
NONE	No Method Code	NONE	No Method Code			AD	Yes
NONE	No Method Code	PM17	Modified method BS EN12457-2:2002 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.				
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Ground Investigations Ireland
Catherinstown House
Hazelhatch Road
Newcastle
Co. Dublin
Ireland
D22 K5P8



4225



Attention : Adam Browne
Date : 13th August, 2025
Your reference : 14814-06-25B
Our reference : Test Report 25/12526 Batch 1
Location : Project Shoreline Phase 2
Date samples received : 31st July, 2025
Status : Final Report
Issue : 202508131128

Twenty six samples were received for analysis on 31st July, 2025 of which twenty six were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 128.872 kg of CO2

Scope 1&2&3 emissions - 304.558 kg of CO2

Authorised By:



Sean English
Project Coordinator

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12526

Report : Solid

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

[illegible]

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12526

Report : Solid

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

EMT Sample No.	9-12	13-16	17-20	21-24	25-27,131	28-31	32-35	36-39	48-51	52-55	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP221	TP221	TP222	TP222	TP223	TP223	TP224	TP224	TP226	TP226			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	2.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V T J	V J T	V J T	V J T	V J T	V J T			
Sample Date	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TM5/PM8/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TM5/PM8/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	mg/kg	TM5/PM8/PM16
>EC6-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{sv}	<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{sv}	<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{sv}	<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{sv}	<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{sv}	<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{sv}	<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{sv}	<5	ug/kg	TM36/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12526

Report : Solid

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

[illegible]

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
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EMT Job No: 25/12526

Report : Solid

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

EMT Sample No.	56-59	60-63	64-67	68-71	72-75	76-79	81-83,132	84-87	99-102	103-106	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP228	TP228	TP229	TP229	TP231	TP231	TP232	TP232	TP240	TP240			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	J T V	V J T	V J T	V J T			
Sample Date	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	25/07/2025	25/07/2025	24/07/2025	24/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD/LOR	Units	Method No.
Date of Receipt	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025			
Antimony	2	1	2	2	2	2	2	2	1	2	<1	mg/kg	TM30/PM15
Arsenic #	13.3	6.6	14.1	8.1	11.6	10.6	10.5	10.6	7.6	12.4	<0.5	mg/kg	TM30/PM15
Barium #	193	24	155	79	55	62	107	94	59	99	<1	mg/kg	TM30/PM15
Cadmium #	1.1	1.0	0.9	1.2	1.9	1.8	1.4	1.5	1.1	1.8	<0.3	mg/kg	TM30/PM15
Chromium #	27.9	20.1	63.7	35.2	26.3	15.4	54.2	17.9	38.8	44.6	<0.5	mg/kg	TM30/PM15
Copper #	142	20	22	23	31	26	22	27	18	30	<1	mg/kg	TM30/PM15
Lead #	43	13	17	15	23	18	18	19	13	20	<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	3.1	2.0	5.7	4.5	2.8	3.6	4.8	3.5	5.7	6.2	<0.1	mg/kg	TM30/PM15
Nickel #	35.4	24.4	42.4	28.6	39.3	38.3	35.7	42.6	19.7	40.4	<0.7	mg/kg	TM30/PM15
Selenium #	2	<1	<1	1	<1	<1	<1	<1	<1	1	<1	mg/kg	TM30/PM15
Zinc #	116	60	77	63	71	76	92	72	59	76	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.10	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.12	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	0.11	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.08	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(k)fluoranthene #	0.10	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
PAH 6 Total #	0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	97	111	117	94	109	111	94	99	94	93	<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	mg/kg	TM5/PM8/PM16

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12526

Report : Solid

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

EMT Sample No.	56-59	60-63	64-67	68-71	72-75	76-79	81-83,132	84-87	99-102	103-106	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP228	TP228	TP229	TP229	TP231	TP231	TP232	TP232	TP240	TP240			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	J T V	V J T	V J T	V J T			
Sample Date	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	25/07/2025	25/07/2025	24/07/2025	24/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TM5/PM8/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TM5/PM8/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	mg/kg	TM5/PM8/PM16
>EC6-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM36/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8

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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12526

Report : Solid

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

EMT Sample No.	107-110	111-114	115-118	119-122	123-126	127-130					Please see attached notes for all abbreviations and acronyms		
Sample ID	TP241	TP241	TP244	TP244	TP245	TP245							
Depth	0.50	1.50	0.50	2.50	0.50	2.50							
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T							
Sample Date	24/07/2025	24/07/2025	24/07/2025	24/07/2025	24/07/2025	24/07/2025							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025					LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1 ^{SV}					<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1 ^{SV}					<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1 ^{SV}					<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2					<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4					<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	27	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	10	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	37	<26	<26	<26	<26	<26					<26	mg/kg	TM5/PM8/PM16/12/PM18
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1 ^{SV}					<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	<10	<10	<10	<10					<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	25	<10	<10	<10	<10	<10					<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1 ^{SV}					<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1 ^{SV}					<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1 ^{SV}					<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2					<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	<4					<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	24	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7	<7	<7	<7					<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26	<26	<26	<26					<26	mg/kg	TM5/PM8/PM16/12/PM18
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52	<52					<52	mg/kg	TM5/PM8/PM16/12/PM18
>EC6-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1	<0.1 ^{SV}					<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10					<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	20	<10	<10	<10	<10	<10					<10	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5	<5	<5 ^{SV}	<5	<5 ^{SV}					<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	<5 ^{SV}	<5	<5 ^{SV}					<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5	<5 ^{SV}	<5	<5 ^{SV}					<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	<5 ^{SV}	<5	<5 ^{SV}					<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5	<5 ^{SV}	<5	<5 ^{SV}					<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	<5 ^{SV}	<5	<5 ^{SV}					<5	ug/kg	TM36/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35					<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12526

Report : Solid

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

[illegible]

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12526

Report : CEN 10:1 1 Batch

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

EMT Sample No.	9-12	13-16	17-20	21-24	25-27,131	28-31	32-35	36-39	48-51	52-55	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP221	TP221	TP222	TP222	TP223	TP223	TP224	TP224	TP226	TP226			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	2.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V T J	V J T	V J T	V J T	V J T	V J T			
Sample Date	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	LOD/LOR	Units	Method No.
Dissolved Antimony [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic [#]	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) [#]	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium [#]	0.003	0.004	0.003	0.005	<0.003	0.005	0.004	0.005	0.004	0.024	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) [#]	0.03	0.04	0.03	0.05	<0.03	0.05	0.04	0.05	0.04	0.24	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium [#]	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium [#]	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) [#]	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper [#]	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) [#]	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) [#]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum [#]	0.005	0.005	0.005	0.027	0.006	0.007	0.003	0.009	0.017	0.039	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) [#]	0.05	0.05	0.05	0.27	0.06	0.07	0.03	0.09	0.17	0.39	<0.02	mg/kg	TM30/PM17
Dissolved Nickel [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium [#]	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) [#]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc [#]	0.004	0.004	0.004	<0.003	<0.003	<0.003	0.006	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) [#]	0.04	0.04	0.04	<0.03	<0.03	<0.03	0.06	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVA [#]	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVA [#]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	0.4	<0.3	0.5	<0.3	<0.3	<0.3	0.5	<0.3	0.4	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	4	<3	5	<3	<3	<3	5	<3	4	<3	<3	mg/kg	TM173/PM0
Sulphate as SO ₄ [#]	9.7	9.6	9.9	2.2	1.3	2.3	6.5	1.2	<0.5	2.7	<0.5	mg/l	TM38/PM0
Sulphate as SO ₄ [#]	97	96	99	22	13	23	65	12	<5	27	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1021	0.1239	0.1011	0.0988	0.0977	0.1009	0.1143	0.1013	0.0981	0.0996		kg	NONE/PM17
Chloride [#]	0.5	1.3	<0.3	<0.3	<0.3	<0.3	0.5	<0.3	0.4	0.3	<0.3	mg/l	TM38/PM0
Chloride [#]	5	13	<3	<3	<3	<3	5	<3	4	<3	<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17
Dissolved Organic Carbon	2	<2	<2	<2	<2	<2	2	<2	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	mg/kg	TM60/PM0
pH	7.93	7.95	7.93	8.06	8.24	7.95	7.89	8.02	7.98	8.02	<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12526

Report : CEN 10:1 1 Batch

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

[illegible]

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12526

Report : CEN 10:1 1 Batch

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

EMT Sample No.	56-59	60-63	64-67	68-71	72-75	76-79	81-83,132	84-87	99-102	103-106	Please see attached notes for all abbreviations and acronyms		
Sample ID	TP228	TP228	TP229	TP229	TP231	TP231	TP232	TP232	TP240	TP240			
Depth	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50	0.50	1.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	J T V	V J T	V J T	V J T			
Sample Date	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	28/07/2025	25/07/2025	25/07/2025	24/07/2025	24/07/2025			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	LOD/LOR	Units	Method No.
Dissolved Antimony [#]	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) [#]	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic [#]	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) [#]	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium [#]	0.021	<0.003	0.003	0.022	<0.003	0.005	0.006	0.007	<0.003	0.005	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) [#]	0.21	<0.03	<0.03	0.22	<0.03	0.05	0.06	0.07	<0.03	0.05	<0.03	mg/kg	TM30/PM17
Dissolved Cadmium [#]	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/kg	TM30/PM17
Dissolved Chromium [#]	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) [#]	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	mg/kg	TM30/PM17
Dissolved Copper [#]	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) [#]	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM30/PM17
Dissolved Lead [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) [#]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum [#]	0.008	0.010	0.009	0.028	0.004	0.013	0.007	0.026	<0.002	0.020	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) [#]	0.08	0.10	0.09	0.28	0.04	0.13	0.07	0.26	<0.02	0.20	<0.02	mg/kg	TM30/PM17
Dissolved Nickel [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Selenium [#]	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) [#]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Dissolved Zinc [#]	<0.003	0.003	0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) [#]	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF [#]	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF [#]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM26/PM0
Fluoride	0.5	<0.3	0.4	<0.3	0.5	<0.3	0.4	<0.3	0.3	0.4	<0.3	mg/l	TM173/PM0
Fluoride	5	<3	4	<3	5	<3	4	<3	3	4	<3	mg/kg	TM173/PM0
Sulphate as SO4 [#]	27.5	5.2	0.6	1.4	<0.5	1.2	1.0	1.5	1.8	1.1	<0.5	mg/l	TM38/PM0
Sulphate as SO4 [#]	275	52	6	14	<5	12	10	15	18	11	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1018	0.1026	0.1046	0.0994	0.1	0.1032	0.1008	0.0982	0.0983	0.1021		kg	NONE/PM17
Chloride [#]	1.0	<0.3	<0.3	<0.3	<0.3	0.4	<0.3	<0.3	0.4	<0.3	<0.3	mg/l	TM38/PM0
Chloride [#]	10	<3	<3	<3	<3	4	<3	<3	4	<3	<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09		kg	NONE/PM17
Dissolved Organic Carbon	4	<2	<2	<2	2	<2	2	<2	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	40	<20	<20	<20	<20	<20	20	<20	<20	<20	<20	mg/kg	TM60/PM0
pH	8.11	8.06	8.16	8.01	8.17	8.18	8.09	8.52	8.02	8.04	<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12526

Report : CEN 10:1 1 Batch

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

EMT Sample No.	107-110	111-114	115-118	119-122	123-126	127-130					Please see attached notes for all abbreviations and acronyms		
Sample ID	TP241	TP241	TP244	TP244	TP245	TP245							
Depth	0.50	1.50	0.50	2.50	0.50	2.50							
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T							
Sample Date	24/07/2025	24/07/2025	24/07/2025	24/07/2025	24/07/2025	24/07/2025							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025					LOD/LOR	Units	Method No.
Dissolved Antimony [#]	<0.002	<0.002	<0.002	<0.002	<0.002	0.002					<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					<0.02	mg/kg	TM30/PM17
Dissolved Arsenic [#]	0.0035	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025					<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) [#]	0.035	<0.025	<0.025	<0.025	<0.025	<0.025					<0.025	mg/kg	TM30/PM17
Dissolved Barium [#]	0.009	0.004	<0.003	0.039	0.005	0.042					<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) [#]	0.09	0.04	<0.03	0.39	0.05	0.42					<0.03	mg/kg	TM30/PM17
Dissolved Cadmium [#]	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005					<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					<0.005	mg/kg	TM30/PM17
Dissolved Chromium [#]	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015					<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) [#]	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015					<0.015	mg/kg	TM30/PM17
Dissolved Copper [#]	<0.007	<0.007	<0.007	<0.007	<0.007	<0.007					<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) [#]	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07					<0.07	mg/kg	TM30/PM17
Dissolved Lead [#]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) [#]	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum [#]	0.003	0.007	0.004	0.044	0.006	0.016					<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) [#]	0.03	0.07	0.04	0.44	0.06	0.16					<0.02	mg/kg	TM30/PM17
Dissolved Nickel [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002					<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					<0.02	mg/kg	TM30/PM17
Dissolved Selenium [#]	<0.003	<0.003	<0.003	<0.003	<0.003	0.036					<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) [#]	<0.03	<0.03	<0.03	<0.03	<0.03	0.36					<0.03	mg/kg	TM30/PM17
Dissolved Zinc [#]	0.004	<0.003	<0.003	<0.003	<0.003	<0.003					<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) [#]	0.04	<0.03	<0.03	<0.03	<0.03	<0.03					<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF [#]	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00002					<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF [#]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002					<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01	<0.01	0.01	<0.01					<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	0.5	0.4	0.3	0.5	<0.3					<0.3	mg/l	TM173/PM0
Fluoride	<3	5	4	3	5	<3					<3	mg/kg	TM173/PM0
Sulphate as SO4 [#]	9.5	17.9	2.5	51.1	1.7	47.3					<0.5	mg/l	TM38/PM0
Sulphate as SO4 [#]	95	179	25	511	17	473					<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1011	0.0996	0.1042	0.099	0.1013	0.0991						kg	NONE/PM17
Chloride [#]	1.6	0.4	<0.3	197.4	<0.3	5.1					<0.3	mg/l	TM38/PM0
Chloride [#]	16	4	<3	1975	<3	51					<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09						kg	NONE/PM17
Dissolved Organic Carbon	4	<2	<2	<2	2	<2					<2	mg/l	TM60/PM0
Dissolved Organic Carbon	40	<20	<20	<20	<20	<20					<20	mg/kg	TM60/PM0
pH	7.95	7.91	7.94	7.90	8.00	8.37					<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne
EMT Job No: 25/12526

Report : EN12457_2

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

EMT Sample No.	107-110	111-114	115-118	119-122	123-126	127-130					<div> Please see attached notes for all abbreviations and acronyms </div> <div> <div>Unable to perform guideline check. Limits of detection have been raised. This could be due to insufficient sample, dilution or matrix effect.</div> </div>					
Sample ID	TP241	TP241	TP244	TP244	TP245	TP245										
Depth	0.50	1.50	0.50	2.50	0.50	2.50										
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T	V J T										
Sample Date	24/07/2025	24/07/2025	24/07/2025	24/07/2025	24/07/2025	24/07/2025										
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil										
Batch Number	1	1	1	1	1	1					Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Date of Receipt	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025										
Solid Waste Analysis																
Total Organic Carbon #	0.56	0.35	0.26	0.66	0.72	0.54					3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025 ^{SV}	<0.025	<0.025 ^{SV}					6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035					1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	37	<30	<30	<30	<30	<30					500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	<0.22	0.34	<0.22					-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	0.79	<0.64					100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	0.035	<0.025	<0.025	<0.025	<0.025	<0.025					0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	0.09	0.04	<0.03	0.39	0.05	0.42					20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015					0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07					2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002					0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.03	0.07	0.04	0.44	0.06	0.16					0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02					0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	0.36					0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	0.04	<0.03	<0.03	<0.03	<0.03	<0.03					4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	830	580	400	440	470	1150					4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	40	<20	<20	<20	<20	<20					500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1011	0.0996	0.1042	0.099	0.1013	0.0991					-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	89.5	90.5	86.1	91.4	89.2	91.3					-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.889	0.891	0.886	0.892	0.889	0.891					-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	11.8	10.5	16.1	9.4	12.1	9.6					-	-	-	<0.1	%	PM4/PM0
pH #	8.57	8.60	8.68	8.68	8.57	8.36					-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	5	4	3	5	<3					10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	95	179	25	511	17	473					1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	16	4	<3	1975	<3	51					800	15000	25000	<3	mg/kg	TM38/PM0

Matrix : Solid

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Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
25/12526	1	TP221	0.50	12	Kieran Hubbard	07/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	07/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	07/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	07/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	07/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	07/08/2025	Asbestos Type	NAD
					Kieran Hubbard	07/08/2025	Asbestos Type (2)	NAD
25/12526	1	TP221	1.50	16	Kieran Hubbard	07/08/2025	General Description (Bulk Analysis)	BROWN SOIL
					Kieran Hubbard	07/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	07/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	07/08/2025	Asbestos Type	NAD
25/12526	1	TP222	0.50	20	Simon Postlewhite	07/08/2025	General Description (Bulk Analysis)	Brown soil/stones
					Simon Postlewhite	07/08/2025	Asbestos Fibres	NAD
					Simon Postlewhite	07/08/2025	Asbestos ACM	NAD
					Simon Postlewhite	07/08/2025	Asbestos Type	NAD
25/12526	1	TP222	1.50	24	Charlotte Taylor	07/08/2025	General Description (Bulk Analysis)	brown soil/stones
					Charlotte Taylor	07/08/2025	Asbestos Fibres	NAD
					Charlotte Taylor	07/08/2025	Asbestos ACM	NAD
					Charlotte Taylor	07/08/2025	Asbestos Type	NAD
25/12526	1	TP223	0.50	27	Kieran Hubbard	08/08/2025	General Description (Bulk Analysis)	Brown soil
					Kieran Hubbard	08/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	08/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	08/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	08/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	08/08/2025	Asbestos Type	NAD
					Kieran Hubbard	08/08/2025	Asbestos Type (2)	NAD
25/12526	1	TP223	1.50	31	Charlotte Taylor	07/08/2025	General Description (Bulk Analysis)	brown soil/stones
					Charlotte Taylor	07/08/2025	Asbestos Fibres	NAD
					Charlotte Taylor	07/08/2025	Asbestos ACM	NAD
					Charlotte Taylor	07/08/2025	Asbestos Type	NAD
25/12526	1	TP224	0.50	35	Kieran Hubbard	08/08/2025	General Description (Bulk Analysis)	brown soil;
					Kieran Hubbard	08/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	08/08/2025	Asbestos Fibres (2)	NAD

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
25/12526	1	TP224	0.50	35	Kieran Hubbard	08/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	08/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	08/08/2025	Asbestos Type	NAD
					Kieran Hubbard	08/08/2025	Asbestos Type (2)	NAD
25/12526	1	TP224	1.50	39	Kieran Hubbard	08/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	08/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	08/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	08/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	08/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	08/08/2025	Asbestos Type	NAD
					Kieran Hubbard	08/08/2025	Asbestos Type (2)	NAD
25/12526	1	TP226	0.50	51	Mathew Day	07/08/2025	General Description (Bulk Analysis)	Stones, concrete debris, sand
					Mathew Day	07/08/2025	Asbestos Fibres	NAD
					Mathew Day	07/08/2025	Asbestos ACM	NAD
					Mathew Day	07/08/2025	Asbestos Type	NAD
25/12526	1	TP226	2.50	55	Caoimhe Anders	07/08/2025	General Description (Bulk Analysis)	Brown soil and stones
					Caoimhe Anders	07/08/2025	Asbestos Fibres	NAD
					Caoimhe Anders	07/08/2025	Asbestos ACM	NAD
					Caoimhe Anders	07/08/2025	Asbestos Type	NAD
25/12526	1	TP228	0.50	59	Charlotte Taylor	07/08/2025	General Description (Bulk Analysis)	brown soil/stones
					Charlotte Taylor	07/08/2025	Asbestos Fibres	NAD
					Charlotte Taylor	07/08/2025	Asbestos ACM	NAD
					Charlotte Taylor	07/08/2025	Asbestos Type	NAD
25/12526	1	TP228	1.50	63	Miriam Silverlock	07/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Miriam Silverlock	07/08/2025	Asbestos Fibres	NAD
					Miriam Silverlock	07/08/2025	Asbestos ACM	NAD
					Miriam Silverlock	07/08/2025	Asbestos Type	NAD
25/12526	1	TP229	0.50	67	Charlotte Taylor	07/08/2025	General Description (Bulk Analysis)	brown soil/stones
					Charlotte Taylor	07/08/2025	Asbestos Fibres	NAD
					Charlotte Taylor	07/08/2025	Asbestos ACM	NAD
					Charlotte Taylor	07/08/2025	Asbestos Type	NAD
25/12526	1	TP229	1.50	71	Kieran Hubbard	07/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	07/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	07/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	07/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	07/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	07/08/2025	Asbestos Type	NAD
					Kieran Hubbard	07/08/2025	Asbestos Type (2)	NAD
25/12526	1	TP231	0.50	75	Miriam Silverlock	07/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Miriam Silverlock	07/08/2025	Asbestos Fibres	NAD
					Miriam Silverlock	07/08/2025	Asbestos ACM	NAD
					Miriam Silverlock	07/08/2025	Asbestos Type	NAD
25/12526	1	TP231	1.50	79	Kieran Hubbard	07/08/2025	General Description (Bulk Analysis)	brown soils
					Kieran Hubbard	07/08/2025	Asbestos Fibres	NAD

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
25/12526	1	TP231	1.50	79	Kieran Hubbard	07/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	07/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	07/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	07/08/2025	Asbestos Type	NAD
					Kieran Hubbard	07/08/2025	Asbestos Type (2)	NAD
25/12526	1	TP232	0.50	83	Kieran Hubbard	07/08/2025	General Description (Bulk Analysis)	Brown Soil
					Kieran Hubbard	07/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	07/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	07/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	07/08/2025	Asbestos ACM (2)	NAD
25/12526	1	TP232	1.50	87	Kieran Hubbard	07/08/2025	Asbestos Type	NAD
					Kieran Hubbard	07/08/2025	Asbestos Type (2)	NAD
					Caoimhe Anders	07/08/2025	General Description (Bulk Analysis)	Brown soil and stones
					Caoimhe Anders	07/08/2025	Asbestos Fibres	NAD
					Caoimhe Anders	07/08/2025	Asbestos ACM	NAD
25/12526	1	TP240	0.50	102	Caoimhe Anders	07/08/2025	Asbestos Type	NAD
					Kieran Hubbard	07/08/2025	General Description (Bulk Analysis)	Brown Soil
					Kieran Hubbard	07/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	07/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	07/08/2025	Asbestos ACM	NAD
25/12526	1	TP240	1.50	106	Kieran Hubbard	07/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	07/08/2025	Asbestos Type	NAD
					Kieran Hubbard	07/08/2025	Asbestos Type (2)	NAD
					Kieran Hubbard	07/08/2025	General Description (Bulk Analysis)	Brown soil
					Kieran Hubbard	07/08/2025	Asbestos Fibres	NAD
25/12526	1	TP241	0.50	110	Kieran Hubbard	07/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	07/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	07/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	07/08/2025	Asbestos Type	NAD
					Kieran Hubbard	07/08/2025	Asbestos Type (2)	NAD
25/12526	1	TP241	1.50	114	Simon Postlewhite	07/08/2025	General Description (Bulk Analysis)	Brown soil/stones
					Simon Postlewhite	07/08/2025	Asbestos Fibres	NAD
					Simon Postlewhite	07/08/2025	Asbestos ACM	NAD
					Simon Postlewhite	07/08/2025	Asbestos Type	NAD
					Simon Postlewhite	07/08/2025	Asbestos Type (2)	NAD
25/12526	1	TP244	0.50	118	Simon Postlewhite	07/08/2025	General Description (Bulk Analysis)	Brown soil/stones
					Simon Postlewhite	07/08/2025	Asbestos Fibres	NAD
					Simon Postlewhite	07/08/2025	Asbestos ACM	NAD
					Simon Postlewhite	07/08/2025	Asbestos Type	NAD
					Simon Postlewhite	07/08/2025	Asbestos Type (2)	NAD
25/12526	1	TP244	2.50	122	Mathew Day	07/08/2025	General Description (Bulk Analysis)	Grey soil, stones
					Mathew Day	07/08/2025	Asbestos Fibres	NAD
					Mathew Day	07/08/2025	Asbestos ACM	NAD

Client Name: Ground Investigations Ireland
Reference: 14814-06-25B
Location: Project Shoreline Phase 2
Contact: Adam Browne

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
25/12526	1	TP244	2.50	122	Mathew Day	07/08/2025	Asbestos Type	NAD
25/12526	1	TP245	0.50	126	Miriam Silverlock	07/08/2025	General Description (Bulk Analysis)	Brown soil, stones
					Miriam Silverlock	07/08/2025	Asbestos Fibres	NAD
					Miriam Silverlock	07/08/2025	Asbestos ACM	NAD
					Miriam Silverlock	07/08/2025	Asbestos Type	NAD
25/12526	1	TP245	2.50	130	Kieran Hubbard	07/08/2025	General Description (Bulk Analysis)	brown soil
					Kieran Hubbard	07/08/2025	Asbestos Fibres	NAD
					Kieran Hubbard	07/08/2025	Asbestos Fibres (2)	NAD
					Kieran Hubbard	07/08/2025	Asbestos ACM	NAD
					Kieran Hubbard	07/08/2025	Asbestos ACM (2)	NAD
					Kieran Hubbard	07/08/2025	Asbestos Type	NAD
					Kieran Hubbard	07/08/2025	Asbestos Type (2)	NAD

Element Materials Technology

Notification of Deviating Samples

Notification of Deviating Samples

Client Name:	Ground Investigations Ireland	Matrix : Solid
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Reference: 14814-06-25B

Location: Project Shoreline Phase 2

Contact: Adam Browne

[illegible]

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

It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 25/12526

SOILS and ASH

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

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

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

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

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

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

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

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

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

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

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

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

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

WATERS

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

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

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

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

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

DEVIATING SAMPLES

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

SURROGATES

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

DILUTIONS

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

BLANKS

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

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

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

Measurement Uncertainty

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

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).

Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitatively, with a matrix specific limit of detection.

Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

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

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

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Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM17	Modified US EPA method 8270D v5:2014. Determination of specific Polychlorinated Biphenyl congeners by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM20	Modified BS 1377-3:1990/USEPA 160.1/3 (TDS/TS: 1971) Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.	Yes		AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.	Yes		AD	Yes

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Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 degrees Celsius. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 degrees Celsius. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM17	Modified method BS EN12457-2:2002 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.	Yes		AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes
TM61	Determination of Mercury by Cold Vapour Atomic Fluorescence - WATERS: Modified USEPA Method 245.7, Rev 2, Feb 2005. SOILS: Modified USEPA Method 7471B, Rev.2, Feb 2007	PM0	No preparation is required.	Yes		AR	Yes

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Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	Yes
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 9214 - 340.2 (EPA 1998)	PM0	No preparation is required.			AR	Yes
NONE	No Method Code	NONE	No Method Code			AD	Yes
NONE	No Method Code	PM17	Modified method BS EN12457-2:2002 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.				
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	



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