

Preliminary Construction Environmental Management Plan

Cherry Orchard Point – Phase 3 of Proposed Development at Sites 4 and 5, Park West Avenue, Dublin 10

September 2026

Waterman Moylan Consulting Engineers Limited
Block S, East Point Business Park, Alfie Byrne Road, Dublin D03 H3F4
www.waterman-moylan.ie

Client Name:	The Land Development Agency
Document Reference:	22-010r.045 Preliminary Construction Environmental Management Plan Phase 3
Project Number:	22-010

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015 and BS EN ISO 14001: 2015)

Issue	Date	Prepared by	Checked by	Approved by
No. 1	15 September 2026	C Maher	P Ingle	
No. 2	17 September 2026	P. Ingle	I. Worrell	

Comments

Disclaimer

This report has been prepared by Waterman Moylan, with all reasonable skill, care, and diligence within the terms of the Contract with the Client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the Client.

We disclaim any responsibility to the Client and others in respect of any matters outside the scope of the above.

This report is confidential to the Client, and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

Content

1. Introduction 1

2. Surrounding Environs and the Proposed Site 3

2.1 Cherry Orchard Point Site Location and Description 3

2.2 Indicative Phasing 4

2.3 Proposed Development Description 4

2.4 Phasing of Construction 5

3. Site Management 6

3.1 Site Compound Access – Construction 6

3.2 Construction Traffic Routes 7

4. General Site Set Up and Pre-Commencement Measures 9

4.1 Condition Survey 9

4.2 Site Security and Hoarding Lines 9

5. Environmental Management for Site Preparation and Construction 11

5.1 Arborist Exclusion Zone & Site Preparation 11

5.2 Archaeological Environment 11

5.2.1 Site Clearance & Preparation 11

5.2.2 Demolition Phase 11

5.2.3 Topsoil 11

6. Cut and Fill Volumes 13

7. Soil Conditions & Site Investigations 14

8. Management of Watercourses 17

9. Invasive species 18

10. Construction Stage 19

10.1 Earthworks and Dust Suppression 19

10.2 Lighting During Construction (and Operational Phase) 21

10.3 Noise/Vibration 21

10.4 Spills and Leaks 24

11. Construction Waste Management 25

12. Ground Water 26

13. Runoff Pollution and Sediment Control 27

13.1 Runoff Pollution Control 27

13.2 Sediment Control 29

13.2.1 Sediment Control Measures 29

Figures

Figure 2-1: Site Location Map (Source: Google Maps) 3
Figure 2-2: Indicative Masterplan Development Phasing Layout 4
Figure 3-1: Potential Site Compound Locations for Subject Site 6
Figure 3-2: Subject Site Location and Potential Access Routes from M50 Motorway 8
Figure 4-1: Elevation Solid Hoarding 2.4m High 10

Tables

Table 12-1: Pollution Protection Measures 27

Appendices

Appendix A - GII Site Investigation Report undertaken in 2018

Appendix B – GII Site Investigation Reports undertaken in 2024

Appendix C – GII Site Investigation Report undertaken in 2026

Appendix D – GII Waste Classification Report undertaken in 2026

1. Introduction

Waterman Moylan in conjunction with the Project Design Team have prepared the following Preliminary Construction Environmental Management Plan, which is to accompany the planning application, for the implementation of the construction of the Proposed Phase 3 development of the Cherry Orchard Point masterplan development at Sites 4 and 5, Park West Avenue, Dublin 10.

This report outlines details relating to management of construction on the proposed sites, some of which are included in the reports of the wider Environmental Report - Addendum to Permitted Phase 1 Parent EIAR & project design teams reports. Mitigation measures noted throughout this report should be referred to the relevant project team's specialist's report and the Environmental Report - Addendum to Permitted Phase 1 Parent EIAR Chapter as appropriate for thoroughness.

This document sets out the typical and site/project specific arrangements and measures that are required to be implemented during the construction stage of the project for environmental protection. The measures recorded in this preliminary report will be fully incorporated by the Contractor, whom will be required to develop and implement the Construction Environmental Management Plan on site.

This management plan should not be construed as representing the exact method or sequence in which the construction works shall be carried out.

In advance of work starting on site, the works Contractor will prepare a detailed Construction Environmental Management Plan (CEMP). The detailed CEMP will set out the overarching vision of how the construction of the proposed development will be managed in a safe and organised manner by the Contractor. The CEMP will be a live document, and it will go through a number of iterations before works commence and during the works, and all planned works by the Contractor will be in compliance with the CEMP. It will set out requirements and standards which must be met during the construction stage and will include the relevant methods and mitigation measures outlined in this report, the reports of other specialists, the EIA Report, and any subsequent planning conditions relevant to the proposed development.

As a minimum, the CEMP will be formulated in accordance with best international practice including but not limited to:

- CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors;
- Construction Industry Research and Information Association (CIRIA) Environmental Good Practice on Site (C811), 2023;
- BPGCS005, Oil Storage Guidelines;
- Eastern Regional Fisheries Board, (2006), Fisheries Protection Guidelines: Requirements for the Protection of Fisheries Habitat during Construction and Development Works at Rivier Sites;
- CIRIA 753, The SUDS Manual, 2015;
- Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors (CIRIA 532, 2001);
- UK pollution Prevention Guidelines (PPG) UK Environment Agency, 2004; and
- London Good Practice Guide: Noise and Vibration Control for Demolition and Construction produced by the London Authorities Noise Action Forum, July 2016.

This preliminary CEMP is submitted to outline the mitigation measures and construction methodologies which will be implemented during the construction period. **The preliminary CEMP is, of course, a live document and will be updated by the Main Contractor**, once appointed, prior to and during the course of construction to take account of any conditions imposed as part of the consent received as well as conditions on-site as the construction progresses.

The Main Contractor will also prepare the project's Environmental Emergency Response Procedures (or incorporate this as part of the Construction Environmental Management Plan or Construction Management Plan), while a separate document to the Construction Environmental Management Plan, there is a considerable subject overlap between the documents.

2. Surrounding Environs and the Proposed Site

2.1 Cherry Orchard Point Site Location and Description

The subject masterplan development is comprised of two sites. Site 4 & Site 5 are bisected by Park West Avenue and lie to the west and east of this roadway respectively. Site 4 is shown as per the blue shaded area of the masterplan development indicated on Figure 2-1: Site Location Map (Source: Google Maps). The proposed Phase 3 subject site is located within Site 5: Barnville of the masterplan development, which is shown within the redline boundary in the below figure. Site 5 is accessed via a secured gate from Cedar Brook Way.

The proposed Phase 3 development is bound by Park West Avenue to the west, the realigned Cedar Brook Way (completed under the Approved Phase 1 development with ref. ABP-318607-23 which is currently under construction) to the north, Cherry Orchard Green (previously Barnville Park) to the east, and Barnville Park, residential dwellings, and the Dublin-Kildare Rail Line to the south.

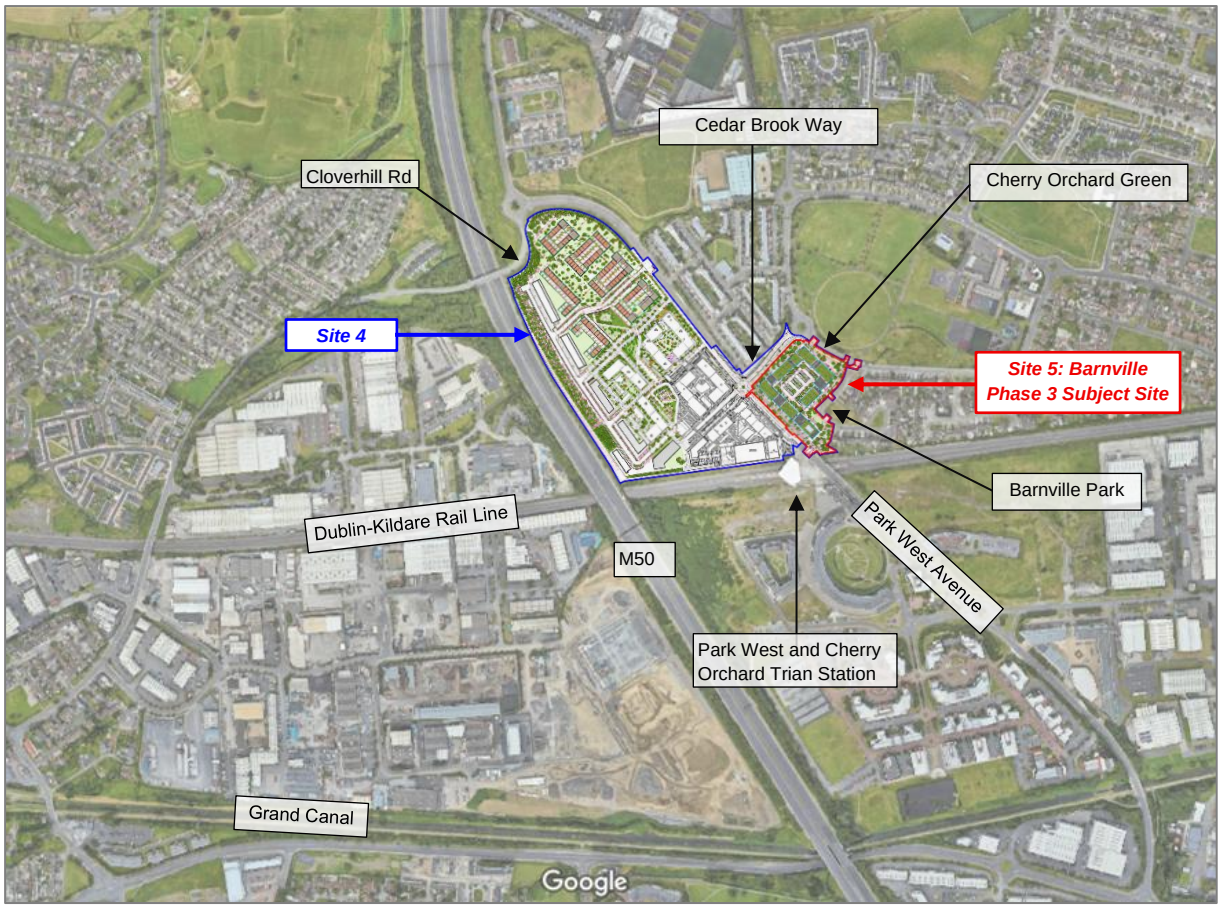


Figure 2-1: Site Location Map (Source: Google Maps)

The overall masterplan development area as per the blue line boundaries is c. 14.24 ha, with Site 5 being c. 1.72 ha. The area of the subject application indicated by the redline boundary in the above figure, including for works in the public domain, is 1.72 ha.

2.2 Indicative Phasing

The indicative phasing of the 4-phase masterplan development is illustrated in Figure 2-2: Indicative Masterplan Development Phasing Layout, below.

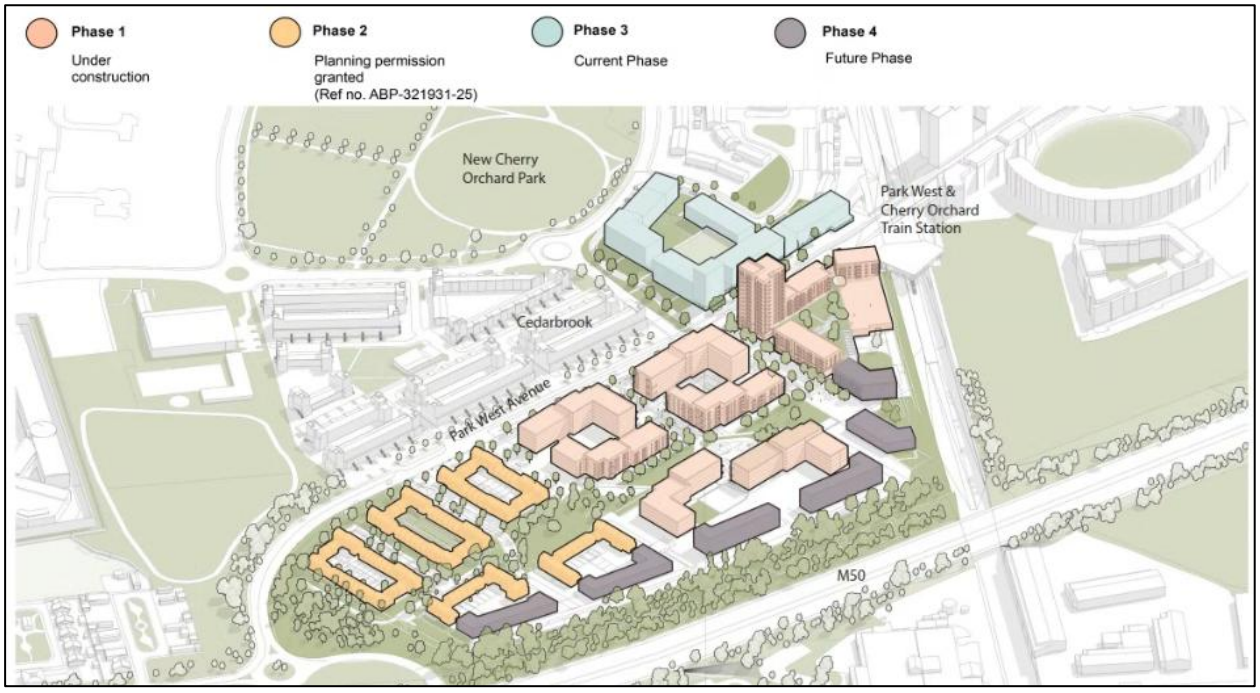


Figure 2-2: Indicative Masterplan Development Phasing Layout

2.3 Proposed Development Description

The proposed development will consist of the construction of a residential led mixed-use scheme containing 312no. residential apartments comprising 244no. cost rental and 68no. social units, 8no. local retail and commercial units, landscaped public and communal open space. The proposed development includes a new principal access via Barnville Park to the south, providing entry to an internal undercroft parking court, upgraded pedestrian and cycle footpaths, Barnville link connecting the Park West Avenue and Cherry Orchard railway station and all associated site and public realm works. The proposed development represents Phase 3 of the overall planned development at Cherry Orchard Pointe for Development Sites 4 and 5 of the LAP lands. Phase 1 of the overall planned development was granted permission in July 2024 (ACP Case Ref: 318607-23) and Phase 2 was granted in September 2025 (ACP Ref. 31-395-2025). The proposed development comprises the works to be undertaken on Site 5: Barnville, which forms the subject of this planning application.

The proposed development (Total GFA c. 28,413 sq.m) involves construction of 312no. residential apartments (c. 24,556 sq.m), across 7 blocks consisting of 4 to 10 floors, comprising 16no. studio units,

146no. one-bed units, 139no. two-bed units (15no. two-bed three-person and 124no. two-bed four person), 9no. 3-bed units (three four-person) and 2no. 4-bed units (one four-bed seven-person) together with 8no. Local Retail and Commercial units (c. 1,441 sq.m GFA), and all ancillary and sundry accommodation (c. 2,416sq.m total GFA). The proposed development also includes the provision of landscaped public open space of 1691 sq.m and 6519sq.m of communal open space. The communal open space has been designed to provide a high-quality amenity area, incorporating a community garden seating and play areas and fitness facilities, and associated landscaping. The scheme also provides private open space for all residential units.

The proposed development will involve the provision of car parking (including accessible and EV car parking spaces), car sharing spaces, bicycle parking spaces, motorbike spaces, motorcycle parking spaces, and loading bays. The scheme includes a Barnville link to the south of the site connecting Barnville Park with Park West Avenue and providing direct pedestrian access to the railway station, along with over 40no. pedestrian crossing points connecting Park West Avenue, Barnville Park and New Cherry Orchard Park.

The development will also provide for all associated ancillary site development infrastructure including site clearance, boundary treatment, associated public lighting, internal roads and pathways, substations, switch room, water tank rooms, storage room, rainwater/surface water attenuation, stormwater, bin storage, bicycle stores, hard and soft landscaping, play equipment, boundary walls, attenuation area, green and blue roof systems, photovoltaic panels and all associated works and infrastructure to facilitate the development including connection to foul and surface water drainage and water supply.

Refer to the enclosed statutory notices for a full description of development as part of this planning application.

2.4 Phasing of Construction

The Approved Phase 1 development is earmarked for completion by Q2 of 2028.

The Approved Phase 2 development is earmarked for completion by Q3 of 2029.

Construction timelines for the Proposed Phase 3 development and the future Phase 4 development will be subject to obtaining planning approval from An Coimisiún Pleanála.

The Proposed Phase 3 development is currently anticipated to commence construction in Q3 2028, with the construction programme expected to take at least 24 months. Completion is currently earmarked, subject to change, for Q3 2030.

Working hours for the site will be set out in the conditions of planning approval and would typically be 08.00 to 19.00 from Monday to Friday and 08.00 to 14.00 on Saturday. No Sunday or Bank Holiday work will generally be permitted. The above working hours are typical; however, special construction operations may need to be carried out outside these hours in order to minimise disruption to the surrounding area. As per the Development Plan (15.18.1.4): *"deviation from these times may be permitted in exceptional circumstances, where prior written approval has been received from Dublin City Council. Such approval may be given subject to conditions pertaining to the particular circumstances being set by Dublin City Council."*

3. Site Management

3.1 Site Compound Access – Construction

Site access for construction traffic is proposed from Cedar Brook Way via the existing junction of Park West Avenue. A site compound, including offices and welfare facilities, will be established by the main contractor at locations within or near the subject site to be agreed.

A preliminary proposal for a potential site compound location is provided below in **Figure 3-1: Potential Site Compound Locations for Subject Site; however, this remains subject to agreement with the local authority, the applicant, and the appointed contractor**. The potential site compound is located at the proposed green space area adjacent to Barnville Park, this location is within the subject site's redline boundary.

The final agreed location of the site compound is the responsibility of the contractor to agree with the relevant parties.



Figure 3-1: Potential Site Compound Locations for Subject Site

The potential construction access routes to and from the subject site are discussed in the section to follow.

3.2 Construction Traffic Routes

Potential access routes to the subject site and proposed compound are available from the M50 to the south of the subject development via the R110 (Naas Road) and the R134 respectively. The site is readily accessible from the motorway network through established industrial areas along these regional routes. The main contractor will be required to schedule delivery of materials daily. The main contractor will be required to provide a site compound on the site for the secure storage of materials. Refer to Figure 3-2: Subject Site Location and Potential Access Routes from M50 Motorway for details.

The designated construction traffic routes for the proposed site and site compound have been selected to minimise disruption to local residents, commercial enterprises, and reduce impacts on the surrounding road network. As mentioned, the site and site compound are readily accessible to construction vehicles via the M50 motorway and connecting regional roads.

Construction access will be facilitated via two primary routes:

- M50 / R110 (Naas Road) / Knockmitten Lane / Willow Road / R134 / Park West Avenue
- M50 / R110 (Naas Road) / R134 / Park West Avenue

Both routes are two-way and provide suitable access to and from the M50 motorway, as depicted in Figure 3-2: Subject Site Location and Potential Access Routes from M50 Motorway. The blue route reflects the route from the subject site and the red reflects the route to the subject site.

The proposed construction compound can be accessed via Cedar Brook Way off Park West Avenue. The final site compound location and access arrangement will be determined by the relevant Stakeholders.

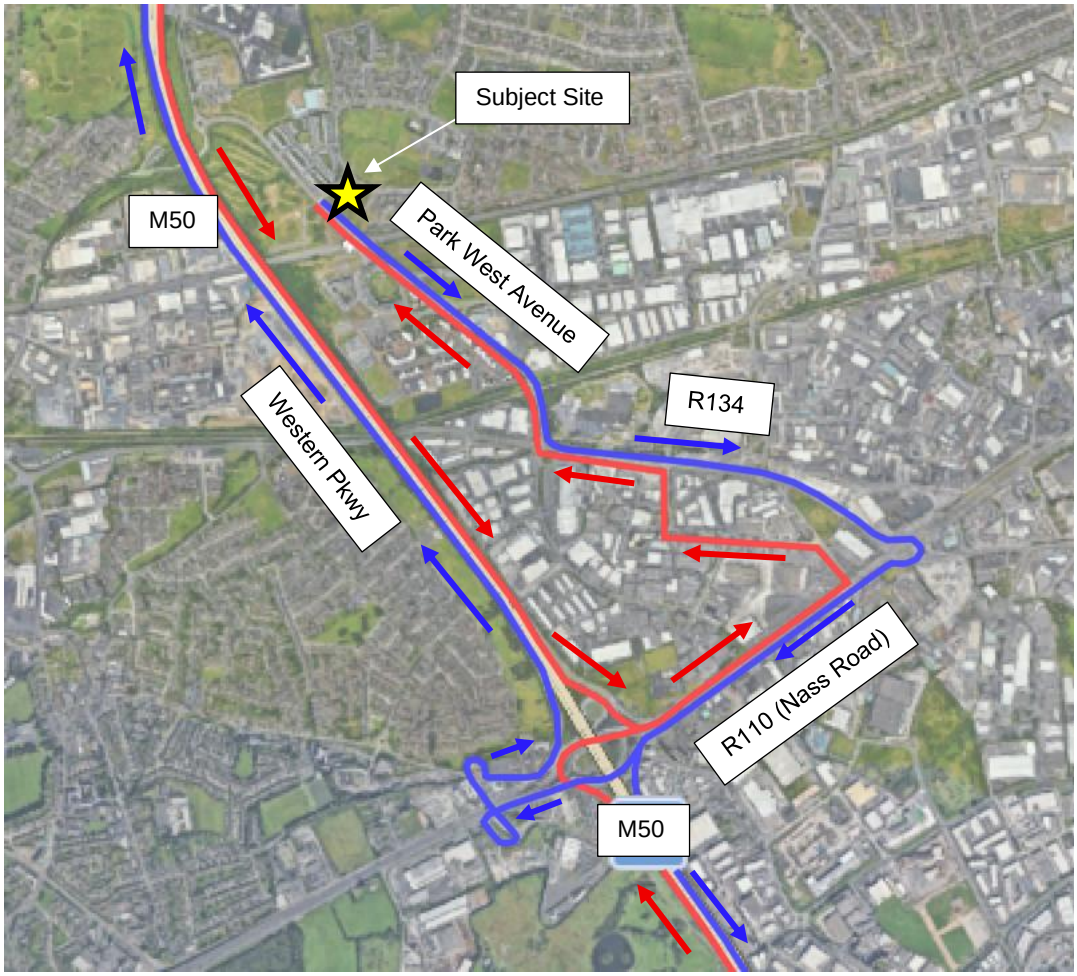


Figure 3-2: Subject Site Location and Potential Access Routes from M50 Motorway

4. General Site Set Up and Pre-Commencement Measures

4.1 Condition Survey

A detailed condition survey (including photographs) will be carried out on the boundaries surrounding the site. The purpose of the survey is to record the condition of the road and footpath networks, hedgerows, and watercourses around the site prior to the works commencing.

Prior to the commencement of any site works, the Main Contractor will attend a site meeting with the Project Ecologist, where applicable, to identify and review any ecological sensitivities associated with the site. The programme of mitigation measures set out throughout this report will also be reviewed and agreed between the Main Contractor and the relevant environmental specialists prior to the commencement of works.

The project archaeologist: Archer Heritage Planning Ltd, did not undertake test excavations on the Site 5 subject lands as the lands were not suitable for excavation due to large mounds of made ground. Further detail in relation to this can be found in the Cultural Heritage and Archaeology Chapter of the Environmental Report - Addendum to Permitted Phase 1 Parent EIAR, accompanying this application.

4.2 Site Security and Hoarding Lines

Hoarding lines and site security will be set up within the development site as required.

As per Section 3 of the Arboricultural Impact Assessment undertaken by Arborcare, no trees are present within the Site 5 subject lands.

During the construction stage, it is proposed to erect a solid 2.4m high solid hoarding to the road frontage along Park West Avenue, Cedar Brook Way, and Barnville Park with 2.4m high timber hinged gates for the construction site access.

The hoarding will be timber or corrugated metal similar to Figure 4-1: Elevation Solid Hoarding 2.4m Highand will remain situ until such time as the completed development is occupied.



Figure 4-1: Elevation Solid Hoarding 2.4m High

5. Environmental Management for Site Preparation and Construction

The following chapters note some of the issues, actions, and mitigation measures to be undertaken by the Main Contractor as part of site preparation and during construction works.

A programme will be agreed between the Main Contractor, Project Ecologist & Project Arborist, for undertaking the works specific to their expertise, and implementation of mitigations measures, and arranging of supervision if required, before commencement of any works on site.

5.1 Arborist Exclusion Zone & Site Preparation

The Arboricultural Impact Assessment (AIA) prepared by Arbore-care in July 2024 for Sites 4 and 5 of the Masterplan lands, submitted as part of the Approved Phase 2 planning application, identified Site 4 as a large greenfield site subdivided by hedgerows and containing extensive areas of scrub willow and hawthorn. The assessment also confirmed that no trees were present within Site 5.

An updated Arboricultural Impact Assessment, prepared by Arbore-care in January 2026 for the Proposed Phase 3 development, confirms the findings of the 2024 survey and similarly concludes that no trees are present within the Site 5 subject lands.

Accordingly, mitigation measures relating to the establishment of arboricultural exclusion zones are not applicable to the Site 5 subject lands, as no trees were identified within the site during either arboricultural assessment.

5.2 Archaeological Environment

The project Archaeologists, Archer Heritage Planning Ltd., provided the Archaeological Testing Report for Site 4 and Site 5 submitted as part of the Approved Phase 1 planning application. As part of this, a geophysical survey was undertaken under licence number: 22R0221. Text excavations were performed in July 2022, comprising 14 No. trenches, all of which were located on Site 4.

The project Archaeologists did not undertake test excavations on the Site 5 subject lands as the lands were not suitable for excavation due to large mounds of made ground. Further detail in relation to this can be found in the Cultural Heritage and Archaeology Chapter of the Environmental Report - Addendum to Permitted Phase 1 Parent EIAR, accompanying this application.

5.2.1 Site Clearance & Preparation

Prior to construction work the site clearance groundworks will need to be undertaken. This will involve the removal of made ground and scraping and stockpiling of topsoil. The project archaeologist for the masterplan lands has recommended that the scraping of topsoil be supervised by a suitably qualified archaeologist.

5.2.2 Demolition Phase

No demolition phase is expected for the subject development as no existing structures are present on site.

5.2.3 Topsoil

The project archaeologist for the masterplan lands has recommended that the scraping of topsoil be supervised by a suitably qualified archaeologist.

In the case of topsoil careful planning and on-site storage can ensure that this resource is reused on-site as much as possible. Any surplus of soil not reused on site can be sold. However, topsoil is quite sensitive and can be rendered useless if not stored and cared for properly.

- Topsoil will be kept completely separate from all other construction waste as any cross-contamination of the topsoil can render it useless for reuse.
- Topsoil will be protected from all kinds of vehicle damage and kept away from site-track, delivery vehicle turning areas, and site plant and vehicle storage areas.

Topsoil will be stored in stockpiles less than two metres in height as otherwise the soil matrix (internal structure) can be damaged beyond repair. It will also be kept as dry as possible and used as soon as possible to reduce any deterioration through lengthy storage and excess moving around the site.

In the unlikely case of a topsoil surplus the Contractor will carry out appropriate environmental chemistry testing in order to determine the waste classification of the soils that are to be excavated and that will include Waste Acceptance Criteria testing. The test regime will be agreed with the receiving landfill operator, if not suitable for an Article 27 transfer, and the testing will be carried out by an accredited laboratory.

Records of topsoil storage, movements and transfer from site will be kept by the C&D Waste Manager. It is projected that all the topsoil will be reused on-site for landscaping purposes in both private residential gardens and public green areas.

6. Cut and Fill Volumes

With the implementation of practical design measures, the requirement for fill material during the course of construction of the development has been reduced as far as practically possible. In order to optimise the impact of the generation of excavated material the following principles have been considered during the detail design and construction phase:-

- Surplus subsoil excavated from the site will be reviewed for possible reuse as engineering fill.
- Surplus unsuitable sub-soils generated by excavations on site will be reviewed for reuse as landscaping or non-engineering fills on site.
- Careful separation of builder's rubble packaging and contaminated waste from re-usable material will result in the minimisation of the disposal of material to landfill.

Where feasible, excavated subsoil will be used as part of the construction works with suitable surplus subsoil being used in areas requiring fill where appropriate. Any unsuitable and / or surplus subsoil is required to be disposed of appropriately.

McGahon's Surveyors have stated that based on the current earthworks assessment, approximately 27,749m³ of material will be generated from reduced level excavations.

The available ground investigation and waste classification reports do not specifically confirm the suitability of excavated site-won material for reuse as engineered fill within the proposed development. The investigations identified Made Ground containing varying quantities of anthropogenic materials, while the underlying cohesive deposits generally comprise low to intermediate plasticity clay. Further assessment and material testing would therefore be required to confirm the suitability of any site-won material proposed for reuse as engineered fill, including assessment of its geotechnical properties and environmental quality.

The **estimated** cut and fill volumes for the masterplan lands corresponds with the original estimated bulk excavation volume (as per the Approved Phase 1 EIAR) of 65,300 m^3 and the original estimated volume of material to be removed off-site, of 30,000 m^3. The final excavation volumes should be confirmed by the Project Surveyor.

All excavated materials will be stored on site in the spoil heap/stockpile area of the construction compound as per the Proposed Construction Compound Layout Plan. The Landscaping Plan has been optimised to ensure that cut materials will be incorporated to the site as part of the final reinstatement and regrading works including future phases to minimise the requirement for offsite disposal. Please refer to the Landscape Architects reports and drawings in this regard.

The excavation of soil can lead to dust pollution. Methods and mitigation measures for this topic are discussed in Chapter 10 of this report.

It is anticipated that there will be a demand for additional soil volumes to be imported for the project, such that an Article 27 notification to the EPA will be required.

All vehicles entering the site will be inspected so as to ensure they are free from muck/dirt which may carry invasive species. No importation of soil type materials to the site is permitted without an Article 27 notification having been approved by the EPA.

7. Soil Conditions & Site Investigations

Multiple site investigations have been undertaken at the subject lands over a number of years, between 2018 and 2026. These investigations have been carried out at various stages to inform the assessment and development of the masterplan lands. A summary of the investigations undertaken, including the relevant dates, scope and key findings, is provided below.

2018 Site Investigation Report

A site investigation for the Site 5 subject site was commissioned by Dublin City Council and undertaken by Ground Investigations Ireland (GII) in January of 2018. The following was noted for subsoil conditions:

COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Made Ground and were described typically as brown sandy gravelly CLAY with frequent cobbles and occasional boulders. The secondary sand and gravel constituents varied across the site and with depth, with granular lenses occasionally present in the glacial till matrix. The strength of the cohesive deposits typically increased with depth and was firm to stiff to very stiff between 1.60m and 4.10m BGL in the majority of the exploratory holes. These deposits had some, occasional or frequent cobble and boulder content where noted on the exploratory hole logs. Made Ground was encountered overlying the natural subsoil beneath the topsoil/surfacing.

A copy of this site investigation report is included as Appendix A of this report.

2024 Site Investigation Reports

The Site Investigation Report undertaken in 2024 by GII for the masterplan lands (including the Site 5 subject site) has shown that the sites are composed of stratified layers of topsoil, cohesive deposits (brown sandy gravelly clays), and bedrock. Made ground has also been identified on the sites and these deposits are typically composed of brown slightly sandy slightly gravelly clay with occasional cobbles and contained occasional fragments of concrete, red brick, glass, rope, timber, ceramic, metal, and plastic. These findings are in-line with the 2018 Site Investigation undertaken on Site 5.

A copy of this site investigation report is included as Appendix B of this report.

2026 Site Investigation Report

The Site Investigation Report undertaken by GII in 2026 for the Site 5 subject site identified a generally consistent sequence of subsurface strata across the site. The ground conditions encountered during the investigation broadly comprised the following:

Topsoil;

- Made Ground;
- Cohesive Deposits; and
- Bedrock.

TOPSOIL: Topsoil was encountered in the majority of the exploratory holes and extended to a maximum depth of approximately 0.20 m below ground level (BGL).

MADE GROUND: Made Ground was encountered either from existing ground level or beneath the Topsoil, extending to depths ranging from approximately 0.50 m to 2.50 m BGL. The material was generally described as brown to dark brown, gravelly/sandy, slightly sandy gravelly CLAY, with low cobble and

boulder content. Occasional fragments of concrete, red brick, glass, ceramics, roots, shells, metal and plastic were also identified within the Made Ground.

COHESIVE DEPOSITS: Cohesive deposits were generally encountered beneath the Made Ground and were typically described as brown, slightly sandy, gravelly CLAY with low cobble and boulder content, overlying dark grey, sandy gravelly CLAY with similarly low cobble and boulder content. The proportions of sand and gravel varied across the site and with depth, with occasional granular lenses identified within the glacial till matrix. The deposits contained varying proportions of cobbles and boulders, generally categorised as low (<5%), medium (5–20%) or high (20–50%), depending on the exploratory hole and depth.

BEDROCK: Rotary core drilling encountered interbedded, medium strong to strong, thinly bedded, dark grey, fine-grained argillaceous LIMESTONE and black calcareous MUDSTONE. This lithology is characteristic of the Lucan Formation, as identified on the Geological Survey Ireland (GSI) geological mapping for the site.

A copy of this site investigation report is included as Appendix C of this report.

2026 WAC Report

Ground Investigations Ireland (GII) undertook a Waste Classification Assessment for the proposed development at Cherry Orchard Phase 3 Site 5, with site investigation works completed in June 2026. The assessment was undertaken to characterise materials that may be excavated during the construction works and to determine the appropriate waste management and disposal/recovery routes. The investigation comprised a site walkover, historical desk study, 30 no. trial pits, collection of soil samples and environmental laboratory testing, together with assessment of the excavated materials against waste classification and Soil Recovery Facility (SRF) criteria.

The ground conditions encountered generally comprised topsoil overlying Made Ground, with cohesive deposits beneath. The Made Ground was encountered to depths of approximately 0.8 m to at least 3.0 m below ground level and generally comprised sandy/gravelly clay with varying quantities of anthropogenic materials, including fragments of brick, glass, concrete, ceramic, plastic, timber, metal and mortar.

A total of 86 samples were assessed using the HazWasteOnLine™ waste classification tool. The assessment determined that the majority of samples were non-hazardous. Two samples were classified as hazardous: TP-02 at 2.50 m, due to elevated total petroleum hydrocarbons (TPH), with associated carcinogenic and mutagenic hazardous properties; and TP-18 at 0.50 m, due to elevated zinc and the associated ecotoxic hazardous property. All other samples assessed were classified as non-hazardous.

Asbestos fibres were detected in sample TP-11 at 0.50 m; however, asbestos-containing material was not identified in the sample and the detected concentration was below the hazardous threshold of 0.1%.

Where excavated materials are required to be removed from site as waste, the report identifies the applicable List of Waste (LoW) codes as 17 05 04 or 17 09 04 for non-hazardous material, and 17 05 03* or 17 09 03* for hazardous material. Where more than 2% anthropogenic material is identified during excavation, the 17 09 04 or 17 09 03* codes, as applicable, should be used. The final waste classification is to be confirmed based on the material encountered during excavation and the requirements of the receiving facility.

The assessment also considered the potential suitability of the materials for acceptance at authorised Soil Recovery Facilities. While some materials were considered potentially suitable subject to the relevant

geochemical domain criteria, acceptance is dependent on the specific facility and a visual assessment during bulk excavation. In particular, the report notes that material proposed for an SRF should contain less than 2% anthropogenic material and that acceptance remains at the discretion of the receiving facility.

From a construction management perspective, any hazardous material encountered during excavation should be segregated from other excavated materials and managed appropriately to prevent cross-contamination. GII recommends that excavation of identified hazardous material is supervised and validated by a suitably qualified environmental engineer or scientist and, where such material is to be removed from site, that it is excavated in advance of the main excavation works. Copies of the relevant laboratory and HazWasteOnLine™ reports should be provided to the appointed waste contractor and receiving facility.

Refer to the WAC Report included as Appendix D of the report for further information.

8. Management of Watercourses

There is no direct hydrological connectivity from the subject site, Site 5, to natural watercourses or surface water networks. There is potential for an indirect hydrological connectivity to the local surface water drainage network, whereby during heavy rainfall events, surface water from the sites flows over the site boundary to the road gullies on the adjacent streets.

The most likely potential sources of contamination to the local surface water network are from silt and suspended particles, and from chemical compounds entering these networks as surface water runoff.

Silt and suspended particles may arise from surface runoff from stockpiled materials or from the pumping of water volumes in excavations.

Chemical contamination can result due to fuel/chemical leaks and spills.

Spoil heap/stockpiles will not be located within 20m of the existing surface water networks. Spoil heaps/stockpiles will be considered for seeding if their storage is likely to be longer than a few seasons. Drainage diversion ditches will be constructed between the stockpile area and local surface water networks. This drainage ditch will flow to a sedimentation/settlement pond prior to out falling to the surface water network. A Discharge Licence will be obtained from the local Authority by the Main Contractor. If topography doesn't allow for a gravity outfall from the sedimentation/settlement pond, a commercially available modular settlement tank will be utilised for the project, or outfall volumes may instead be pumped. Untreated surface water will not be permitted to flow to any natural or piped surface water network.

Further details on method statements and mitigation measures against pollutant run-off is located in Chapter 13 of this report.

9. Invasive species

The project ecologist for the masterplan lands, Gerard Tobin, has identified *Buddleja davidii* onsite (on Site 4) as part of the Approved Phase 1 and Phase 2 development planning applications.

The 2024 assessment undertaken by the project ecologist, Gerard Tobin, for the Phase 2 Subject Site, advises that "*there is currently only one non-native invasive species on site in Cherry Orchard. There is no necessity to eradicate this plant as the process of development will control its spread."*

It is noted that the location of these Flora and Fauna will not be located within the subject development's Phase 3 boundary.

There is a potential requirement for the importation of soil. This importation is subject to an article 27 notification to the Environmental protection Agency (EPA). A part of the Article 27 notification will involve the review of the source site from where the import material is located to ensure there are no invasive species present prior to importation.

Plant and delivery vehicles entering the site will be clean and will be inspected prior to entry, so as to ensure no importation of invasive species to the site.

10. Construction Stage

The following method statements and mitigation measures, as well as those discussed previously, will be subject to frequent reviews and inspections to ensure they are working or will work as intended.

Further methods to reduce and eliminate environmental risks at construction phase, post site preparation phase, are discussed in the following chapters of this report. As noted previously, these details are compiled from the wider Environmental Report - Addendum to Permitted Phase 1 Parent EIAR, and various reports and drawings of the wider design team. Full consideration will be given to these other documents by the main contractor when preparing their Construction Environmental Management Plan.

10.1 Earthworks and Dust Suppression

Nuisance dust emissions from construction activities are a common and well recognised problem. Fine particles from these sources are recognised as a potential significant cause of pollution.

The main contractor will be required to demonstrate that both nuisance dust and fine particle emissions from the site are adequately controlled and are within acceptable limits.

Dust and fine particle generation from construction and demolition activities on the site can be substantially reduced through carefully selected mitigation techniques and effective management. Once particles are airborne it is very difficult to prevent them from dispersing into the surrounding area. The most effective technique is to control dust at source and prevent it from becoming airborne, since suppression is virtually impossible once it has become airborne.

The following are techniques and methods which are widely used currently throughout the construction industry, and which will be used in the development.

1. The roads around the site are all surfaced, and no dust is anticipated arising from unsealed surfaces.
2. A regime of ‘wet’ road sweeping will be set up to ensure the roads around the immediate site are as clean and free from dirt / dust arising from the site, as is reasonably practicable. This cleaning will be carried out by approved mechanical sweepers.
3. Footpaths immediately around the site will be cleaned by hand regularly, with damping, as necessary.
4. High level walkways and surfaces such as scaffolding will be cleaned regularly using safe ‘wet’ methods, as opposed to dry methods.
5. Vehicle waiting areas or hard standings will be regularly inspected and kept clean by brushing or vacuum sweeping and will be regularly sprayed to keep moist, if necessary.
6. Vehicle and wheel washing facilities will be provided at the site exit(s). If necessary, vehicles will be washed down before exiting the site.
7. Netting will be provided to enclose scaffolding in order to mitigate escape of airborne dust from the new buildings.
8. Vehicles and equipment will not emit black smoke from exhaust system, except during ignition at start up.

9. Engines and exhaust systems will be maintained so that exhaust emissions do not breach stationary emission limits set for the vehicle / equipment type and mode of operation.
10. Servicing of vehicles and plant will be carried out regularly, rather than just following breakdowns.
11. Internal combustion plant will not be left running unnecessarily.
12. Exhaust direction and heights will be such as not to disturb dust on the ground and to ensure adequate local dispersal of emissions.
13. Fixed plant such as generators will be located away from residential areas.
14. The number of handling operations for materials will be kept to a minimum in order to ensure that dusty material is not moved or handled unnecessarily.
15. The transport of dusty materials and aggregates will be carried out using covered / sheeted lorries.
16. Material handling areas will be clean, tidy, and free from dust.
17. Vehicle loading will be dampened down and drop heights for material to be kept to a minimum.
18. Drop heights for chutes / skips will be kept to a minimum.
19. Dust dispersal over the site boundary will be minimised using static sprinklers or other watering methods, as necessary.
20. Stockpiles of materials will be kept to a minimum and if necessary, they will be kept away from sensitive receptors such as residential areas etc.
21. Stockpiles where necessary, will be sheeted or watered down.
22. Methods and equipment will be in place for immediate clean-up of spillages of dusty material.
23. No burning of materials will be permitted on site.
24. Earthworks excavations will be kept damp where necessary and where reasonably practicable.
25. Cutting on site will be avoided where possible by using pre-fabrication methods.
26. Equipment and techniques for cutting / grinding / drilling / sawing / sanding etc, which minimise dust emissions and which have the best available dust suppression measures, will be employed.
27. Where scabbling is to be employed, tools will be fitted with dust bags, residual dust will be vacuumed up rather than swept away, and areas to be scabbled will be screened off.
28. Wet processes will be used to clean building facades if possible. If dry grit blasting is unavoidable, then areas of work will be sealed off and dust extraction systems used.
29. Where possible pre-mixed plasters and masonry compounds will be used to minimise dust arising from on-site mixing.
30. Prior to commencement, the main contractor will identify the construction operations which are likely to generate dust and to draw up action plans to minimise emissions. Furthermore, the main contractor will prepare environmental risk assessments for all dust generating processes, which are envisaged.

31. The main contractor will allocate suitably qualified personnel to be responsible for ensuring the generation of dust is minimised and effectively controlled.
32. Vehicles using the adjacent public roads network will have their speed restricted, and this speed restriction must be enforced rigidly. On any un-surfaced road, the limit shall be 20 kph, and on surfaced roads as site management dictates.

10.2 Lighting During Construction (and Operational Phase)

- Construction phase lighting will be controlled to minimise light pollution as a matter of good practice. Controls will include implementations of lights out hours when construction is not active on site.
- Operational phase lighting at night will only be used when necessary and will be direction/cowled and at a low level where possible. Illumination of surrounding canopies will be avoided.

10.3 Noise/Vibration

The contractor will meet the requirements of the Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition, which has been produced with reference to the London Good Practice Guide: Noise and Vibration Control for Demolition and Construction produced by the London Authorities Noise Action Forum, July 2016.

Environmental Noise Mitigation Measures:

General Considerations:

1. All site staff will be briefed on noise mitigation measures and the application of best practicable means to be employed to control noise.
2. Site hoarding will be erected to maximise the reduction in noise levels.
3. The contact details of the Main Contractor and site manager will be displayed to the public, together with the permitted operating hours, including any special permissions given for out of hours work.
4. In the event that the Main Contractor gets a complaint about noise from a neighbour he or she will act immediately to remedy the situation.
5. The site entrance will be located to minimise disturbance to noise sensitive receptors.
6. Internal haul routes will be maintained, and steep gradients will be avoided.
7. Material and plant loading and unloading will only take place during normal working hours unless the requirement for extended hours is for traffic management (i.e. road closure) or health and safety reasons (advance notification, or possibly an application to the local council would be required if proposing to work outside non-typical hours).
8. Use rubber linings in chutes, dumpers, and hoppers to reduce impact noise.
9. Minimise opening and shutting of gates through good coordination of deliveries and vehicle movements.

Plant:

1. Ensure that each item of plant and equipment complies with the noise limits quoted in the relevant European Commission Directive 2000/14/EC.

2. Fit all plant and equipment with appropriate mufflers or silencers of the type recommended by the manufacturer.
3. Use all plant and equipment only for the tasks for which it has been designed.
4. Shut down all plant and equipment in intermittent use in the intervening periods between work or throttle down to a minimum.
5. Power all plant by mains electricity where possible rather than generators.
6. Maximise screening from existing features or structures and employ the use of partial or full enclosures for fixed plant.
7. Locate movable plant away from noise sensitive receptors where possible.
8. All plant operators will be qualified in their specific piece of plant.
9. Compressors and generators will be sited in areas least likely to give rise to nuisance where practicable.

Vehicle activity:

1. Ensure all vehicle movement (on site) occur within normal working hours. (Other than where extension of work requiring such movements has been granted in cases of required road closures or for health and safety reasons).
2. Plan deliveries and vehicle movements so that vehicles are not waiting or queuing on the public highway, if unavoidable engines should be turned off.
3. Plan the site layout to ensure that reversing is kept to a minimum.
4. Where reversing is required use broadband reverse sirens or where it is safe to do so disengage all sirens and use banks-men.
5. Rubber/neoprene or similar non-metal lining material matting to line the inside of material transportation vehicles to avoid first drop high noise levels.
6. Wheel washing of vehicles prior to exiting the site will take place to ensure that adjoining roads are kept clean of dirt and debris. Regular washing of adjoining streets will also take place as required by road sweepers.

Demolition Phase (not expected):

Demolition is not expected on the Phase 3 Subject Site, however, if any demolition works are to be carried out, it will be subject to the following measures:

1. Employ the use of acoustic screening; this can include planning the demolition sequence to utilise screening afforded by buildings to be demolished.
2. If working out of hours for Health and Safety reasons (following approval by council) limit demolition activities to low level noise activity (unless absolutely unavoidable).
3. Use low impact demolition methods such as non-percussive plant where practicable.
4. Use rotary drills and ‘bursters’ activated by hydraulic or electrical power or chemically based expansion compounds to facilitate fragmentation and excavation of hard material.

5. Avoid the transfer of noise and vibration from demolition activities to adjoining occupied buildings through cutting any vibration transmission path or by structural separation of buildings.
6. Consider the removal of larger sections by lifting them out and breaking them down either in an area away from sensitive receptors or off site.

Ground Works and Piling Phase:

1. The following hierarchy of groundwork/piling methods will be used if ground conditions, design and safety allow;
    - Pressed in methods, e.g., hydraulic jacking
    - Auger/bored piling
    - Diaphragm walling
    - Vibratory piling or vibro-replacement
    - Driven Piling or dynamic consolidation
2. The location and layout of the piling plant will be designed to minimise potential noise impact of generators and motors.
3. Where impact piling is the only option, utilise a non-metallic dolly between the hammer and driving helmet or enclose the hammer and helmet with an acoustic shroud.
4. Consider concrete pour sizes and pump locations. Plan the start of concrete pours as early as possible to avoid overruns.
5. Where obstructions are encountered, work will be stopped, and a review undertaken to ensure that work methods that minimise noise are used.
6. When using an auger piling rig do not dislodge material from the auger by rotating it back and forth. Use alternate methods where safe to do so.
7. Prepare pile caps using methods which minimise the use of breakers, e.g., use hydraulic splitters to crack the top of the pile.

Monitoring:

1. Carry out regular on-site observation monitoring and checks/audits. Such checks will include;
    - Hours of work
    - Presence of mitigation measures
    - Number and type of plant
    - Construction methods
2. In the event that the Main Contractor gets a complaint about noise from a neighbour he or she will act immediately to remedy the situation.
3. A sound level digital meter will be employed as necessary to monitor noise, with results recorded to inform the contractor of noise level.
4. Site reviews must be recorded and made available for inspection.
5. Appraise and review working methods, processes, and procedures on a regular basis to ensure continuous development of BPM.

Communication and Liaison:

1. A Community Liaison Strategy will be developed by the developer in consultation with local residents/businesses and a single point of contact nominated to engage with Dublin City Council and the residents/businesses and to handle complaints and communication of site information.
2. All site staff will be briefed on the complaints procedure and mitigation requirements and their responsibilities to register and escalate complaints received.

   Where appropriate, a resident monitoring committee will be established for the duration of the project in order to promote best construction management and considered construction practices to protect the amenities of adjacent properties as provided in Section 15.18.1 of the Development Plan.

Section 15.18.1.2 of the same documents advises that': "Considered Construction seeks to improve the image of the construction industry which requires registered contractors to commit to care about appearance, respect the community, protect the environment, secure everyone's safety and value their workforce. Dublin City Council will support the provision of considered construction in all planning applications. Commitment to the scheme should be identified as part of the Construction Management Plan submitted with planning applications."

10.4 Spills and Leaks

Spills and leaks may contaminate soil, groundwater, and surface water networks via surface run-off. Method statements and mitigation measures reduce the potential for leaks and spills and limit their impact should they occur. As any potential leaks and spills are likely to be from storage containers to the surface of the ground, the associated methods and measures are discussed in Chapter 10 of this report however, these measures nonetheless also provide protection to the soils and groundwater.

11. Construction Waste Management

Construction waste management is discussed in full in the Resource & Waste Management Plan Report prepared by AWN Consulting and is submitted under a separate cover. This report details the requirements of the Main Contractor in order to minimise and mitigate any environmental impacts from the waste streams generated on-site during the construction phase of the project.

12. Ground Water

The excavations for the drainage pipes, water supply, utilities, and foundations have been designed to be as shallow as possible in order to reduce excavation depths. Careful attention will be required to maintain the excavations clear of ground water.

A discharge licence will be required for all water pumped from the excavations to any public water course or sewer.

All water pumped from the excavations will require to be treated for silt and deleterious matter. During any discharge of surface water from the excavations, the quality of the water will be regularly monitored visually for hydrocarbon sheen and suspended solids. Periodic laboratory testing of discharge water samples will be carried out in accordance with the requirements of the discharge licence obtained from the Local Authority. Further details on Pollution and Sediment control are contained in the following chapter.

Method statements and mitigation measures against groundwater contamination are discussed in the following Chapter.

13. Runoff Pollution and Sediment Control

13.1 Runoff Pollution Control

Significant quantities of waste and potential pollutants can be generated during construction. Controls will be put in place to prevent these pollutants from washing into the local watercourse network during storm events.

The recommendations as outlined in the Eastern Regional Fisheries Board, (2006), Fisheries Protection Guidelines: Requirements for the Protection of Fisheries Habitat during Construction and Development Works at Rivier Sites outline the following seven items to be considered for the protection of adjacent water courses during the construction stage:

1. Fuels, oils, greases, and hydraulic fluids must be stored in bunded compounds well away from the watercourse/ditches. Refuelling of machinery, etc., will be carried out in bunded areas.
2. Runoff from machine service and concrete mixing areas must not enter the watercourse.
3. Stockpile areas for sands and gravel will be kept to minimum size, well away from the watercourse.
4. Runoff from the above should only be routed to the watercourse via suitably designed and sited settlement ponds/filter channels. If topography doesn't allow for this, commercially available modular settlement tanks will be utilised. Untreated runoff will not be permitted to enter the natural watercourse.
5. Settlement ponds will be inspected daily and maintained regularly.
6. Temporary crossings will be designed to the criteria laid down for permanent works.
7. Watercourse banks will be left intact if possible. If they have to be disturbed, all practicable measures should be taken to prevent soils from entering the watercourses.

The main pollutants of site water are silt, fuel/oil, concrete, and chemicals. See the below table for a list and brief description of pollution prevention measures.

Table 13-1: Pollution Protection Measures

Source	**Action**
Detergents	Use of detergents will be carried out in designated areas draining to the construction stage foul sewer.
Fuel/Oil	Fuel/oil stores must be located away from the site drainage system and the edge of watercourses.
Fuel/Oil	Ensure adequate measures are identified to prevent or contain any spillage such as creating a fall away from any drainage grid or blocking drainage points.
	Prevent oil pollution by

Source	Action
	• Suitable bunded storage of fuel/oil (roofed to exclude rainwater), and use of drip trays under plant, and • An oil separator, and/or • On-site spill-kit • Commercially available absorbent granules, pads, or booms. • Refuel plant in designated bunded areas only
Material Storage	Store drums, oil, and chemicals on an impervious base and within a secured bund.
	Ensure topsoil and/or spoil heaps are located at least 20m away from water courses. Consider seeding them or covering with a tarpaulin to prevent silty runoff and losses due to wind.
Leaks and Spills	Storage facilities will be checked on a regular basis to ensure any leaks or drips are fixed to prevent loss and pollution.
	Ensure appropriate spill response equipment is located near to the material in case of containment failure or material spills and ensure site staff know how to use it.
	Adequate stocks of absorbent materials, such as sand or commercially available spill kits and booms will be available at all times.
Litter	Provide waste bins on-site as appropriate.
Construction Vehicles	Provide vehicle wheel washing.
Concrete, Cement, and Bentonite	Washout of these materials will be carried out in a designated, impermeable contained area. The washout water itself should be disposed of off-site, or discharged to the construction stage foul sewer if authorised.

Guidelines such as “Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors” (CIRIA 532, 2001) will be complied with.

Where feasible all ready-mixed concrete will be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline wastewaters or contaminated storm water to the underlying subsoil. Wash down and washout of concrete transporting vehicles will take place at an appropriate facility offsite.

In the case of drummed fuel or other chemicals which may be used during construction, containers will be stored in a dedicated internally bunded chemical storage cabinet and labelled clearly to allow appropriate remedial action in the event of a spillage.

Emergency response procedures will be outlined in the detailed CEMP. All personnel working on the site will be suitably trained in the implementation of the procedures.

13.2 Sediment Control

Construction runoff is heavily laden with silt which can block road gullies and reduce the hydraulic capacity in pipes and watercourses, contributing to ponding and flooding. Continued development without appropriate controls will ultimately keep maintenance costs elevated, whether that be in cleaning gullies, jetting pipes, or dredging. Sediment control plans will be implemented on-site to mitigate these issues.

Sediment basins and traps will be installed before any major site grading takes place. Should topography not permit for this, commercially available modular settlement tanks will be employed. Untreated surface runoff will not be permitted to enter the natural watercourses. Additional sediment traps and silt fences will be installed as grading takes place to keep sediment contained on site at appropriate locations.

Key runoff-control measures will be located in conjunction with sediment traps to divert water from planned undisturbed areas away from the traps and sediment-laden water into the traps. Diversions will be installed above the areas to be disturbed before any grading operations. Any perimeter drains will be installed with stable outlets before opening major areas for development. Any additional facilities needed for runoff control will be installed as grading takes place.

During grading operations temporary diversions, slope drains, and inlet and outlet protection installed in a timely manner can be very effective in controlling erosion and sediment build up.

The main run-off conveyance system with inlet and outlet protection measures will be installed early and used to convey stormwater run-off through the development site without creating gullies or channels. Inlet protection for storm drains will be installed as soon as the drain is functional to trap sediment on site in shallow pools and to allow the flood flows to enter the storm drainage system safely. Outlet protection will be installed at the same time as the conveyance system to prevent damage to the receiving watercourse.

During the final stages of construction unstable sediment from sediment basins and traps will be removed and if possible incorporated into the topsoil, not just spread on the surface.

13.2.1 Sediment Control Measures

Sediment entrapment facilities are necessary to reduce sediment discharges to downstream properties and receiving waters. All run-off leaving a disturbed area will pass through a sediment entrapment facility before it exits the site and flows downstream.

Straw Bales:

Straw bales can be placed at the base of a slope to act as a sediment barrier. These are not recommended for use within a swale or channel. Straw bales are temporary in nature and may perform for only a period of weeks or months. Proper installation and maintenance is necessary to ensure their performance.

Silt Fencing

A silt fence is made of a woven synthetic material, geotextile, and acts to filter run-off. Silt fencing can be placed as a temporary barrier along the contour at the base of a disturbed area but is not recommended for use in a channel or swale. The material is durable and will last for more than one season if properly installed and maintained. Silt fencing is not intended to be used as a perimeter fence or in area of concentrated flow. If concentrated flow conditions exist, a more robust filter should be considered.

Silt Barriers

Silt barriers can also be temporarily installed in any road gullies of partially constructed roads to prevent sediment movement into downstream drainage systems or SUDS components.

When the catchment area is greater than that allowed for straw bale barriers or silt fences, runoff should be collected in diversion drains and routed through temporary sediment basins.

Diversion Drains

Diversion drains are simple linear ditches, often with an earth bund, for channelling water to a desired location. If the drains are being eroded, they can be lined with geotextile fabric or large stones or boulders.

Settlement tank

Commercially available settlement tanks, also known as sediment tanks, have compartments that allow suspended solid contents such as sand and silts to precipitate and sink to the bottom, falling out of suspension. The settlement tank has an inlet for the runoff which enters a chamber where it is held before flowing to the next compartment or tank for further treatment, prior to outfall.

APPENDICES

A. GII Site Investigation Report – Barnville Park Cherry Orchard undertaken in 2018

Ground Investigations Ireland Ltd.,
Catherinestown House,
Hazelhatch Road,
Newcastle, Co Dublin.
Tel: 01 601 5175 / 5176 | Fax: 01 601 5173
Email: info@gii.ie | Web: gii.ie

Ground Investigations Ireland

Barnville Park Cherry Orchard

Ground Investigation Report

DOCUMENT CONTROL SHEET

Project Title	Barnville Park Cherry Orchard
Engineer	Dublin City Council
Project No	7137-10-17
Document Title	Ground Investigation Report

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
A	Final	R O'Toole	C Finnerty	F McNamara	Dublin	29 January 2018

GROUND INVESTIGATIONS IRELAND

Ground Investigations Ireland Ltd.,
Catherinestown House,
Hazelhatch Road,
Newcastle, Co Dublin.
Tel: 01 601 5175 / 5176 | Fax: 01 601 5173
Email: info@gii.ie | Web: gii.ie

CONTENTS

1.0 Preamble 3
2.0 Overview 3
2.1. Background 3
2.2. Purpose and Scope 3
3.0 Subsurface Exploration 3
3.1. General 3
3.2. Trial Pits 3
3.3. Soakaway Testing 4
3.4. Cable Percussion Boreholes 4
3.5. Laboratory Testing 5
4.0 Ground Conditions 5
4.1. General 5
4.2. Groundwater 6
4.3. Laboratory Testing 6
5.0 Recommendations & Conclusions 7
5.1. General 7
5.2. Foundations 7
5.3. Excavations 7
5.4. Soakaway Design 7

APPENDICES

Appendix 1 Site Location Plan
Appendix 2 Trial Pit Records
Appendix 3 Soakaway Records
Appendix 4 Cable Percussion Borehole Records
Appendix 5 Laboratory Testing

1.0 Preamble

On the instructions of Dublin City Council, a site investigation was carried out by Ground Investigations Ireland Ltd., in October 2017 at the site of the proposed development at Barnville Park, Cherry Orchard in Dublin 10.

2.0 Overview

2.1. Background

It is proposed to construct a new residential development with associated services, access roads and car parking at the proposed site. The site is currently overgrown and is situated in Cherry Orchard, Ballyfermot, Dublin 10. 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 2 No. Trial Pits to a maximum depth of 3.20m BGL
- Carry out 2 No. Soakaways to determine a soil infiltration value to BRE digest 365
- Carry out 10 No. Cable Percussion boreholes to a maximum depth of 6.10m BGL
- Geotechnical & 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 was undertaken in the exploratory holes to facilitate the geotechnical descriptions and to enable laboratory testing to be carried out on the soil samples recovered during excavation and drilling.
The procedures used in this site investigation are in accordance with Eurocode 7 Part 2: Ground Investigation and testing (ISEN 1997 – 2:2007) and B.S. 5930:2015.

3.2. Trial Pits

The trial pits were excavated using a 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. Soakaway Testing

The soakaway testing was carried out in selected trial pits at the locations shown in the exploratory hole location plan in Appendix 1. These pits were carefully excavated and filled with water to assess the infiltration characteristics of the proposed site. The pits were allowed to drain and the drop in water level was recorded over time as required by BRE Digest 365. The pits were logged prior to completing the soakaway test and were backfilled with arising's upon completion. The soakaway test results are provided in Appendix 3 of this Report.

3.4. Cable Percussion Boreholes

The Cable Percussion Boreholes were drilled using a Dando 2000 drilling rig with regular in-situ testing and sampling undertaken to facilitate the production of geotechnical logs and laboratory testing.
The standard method of boring in soil for site investigation is known as the Cable Percussion method. It consists of using a Shell in non cohesive soils and a clay cutter in cohesive soils, both operated on a wire cable. Very hard soils, boulders and other hard obstructions are broken up by chiselling and the fragments removed with the Shell. Where ground conditions made it necessary, the borehole was lined with 200mm diameter steel casing. While the use of the Cable Percussion method of boring gives the maximum data on soil conditions, some mixing of laminated soil is inevitable. For this reason, thin lenses of granular material may not be noticed. Disturbed samples were taken from the boring tools at suitable depths, so that there is a representative sample at the top of each change in stratum and thereafter at regular intervals down the borehole until the next stratum was encountered. The disturbed samples were then sealed and sent to the laboratory where they were visually examined to confirm the description of the relevant strata.
Standard Penetration Tests were carried out in the boreholes. The results of these tests, together with the depths at which the tests were taken are shown on the accompanying borehole records. The test consists of a thick wall sampler tube, 50mm external diameter, being driven into the soil by a monkey weighing 63.5kg and with a free drop of 760mm. For gravels and glacial till the driving shoe was replaced by a solid 60º cone. The Standard Penetration Test number referred to as the 'N' value is the number of blows required to drive the tube 300mm, after an initial penetration of 150mm. The number gives a guide to the consistency of the soil and can also be used to estimate the relative strength/density at the depth of the test and also to estimate the bearing capacity and compressibility of the soil. The cable percussion borehole logs are provided in Appendix 4 of this Report.

3.5. 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 testing consisting of the Rialta Suite was carried out by Jones Environmental Laboratory in the UK. The results of the laboratory testing are included 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 insitu and laboratory test results. The full details of the strata encountered during the ground investigation are provided in the exploratory hole logs included in the appendices of this report.

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

- Topsoil/Surfacing
- Made Ground
- Granular Deposits
- Cohesive Deposits

TOPSOIL: Topsoil was encountered in BH01 and BH09, and was present to a maximum depth of 0.20m BGL.

MADE GROUND: Made Ground deposits were encountered in the majority of exploratory holes and was present to a relatively consistent depth of between 0.80m and 3.20m BGL. These deposits were described generally as *clayey fine to coarse sub angular to sub rounded SAND and GRAVEL occasional cobbles and boulders and contained occasional fragments of concrete, plastic, rubber hose, wood, rope, red brick, cloth fabric, tarmac, ceramic and glass.*

COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Made Ground and were described typically as *brown sandy gravelly CLAY with frequent cobbles and occasional boulders*. The secondary sand and gravel constituents varied across the site and with depth, with granular lenses occasionally present in the glacial till matrix. The strength of the cohesive deposits typically increased with depth and was firm to stiff to very stiff between 1.60m and 4.10m BGL in the majority of the exploratory holes. These deposits had some, occasional or frequent cobble and boulder content where noted on the exploratory hole logs.

4.2. Groundwater

No groundwater was noted during the investigation however we would point out 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 time of year, rainfall, nearby construction and other factors.

4.3. Laboratory Testing

The results of the Rialta Test Suite are presented with the individual parameter limits for “Inert” “Non Hazardous” and “Hazardous” as outlined within European Council Directive 1999 131/EC Article 16 Annex II, “Criteria and procedures for the acceptance of waste at landfills”. The intended disposal site should be consulted to ensure compliance with their specific requirements.

The results indicate that the results are below the inert limits, all spoil disposed of off-site should be sent to a suitably licenced facility. 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 results of the geotechnical laboratory testing can be found in appendix 5. Testo=ing was carried out for moisture content, atterberg limits and PSD.

.

5.0 Recommendations & Conclusions

5.1. General

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

5.2. Foundations

An allowable bearing capacity of 125 kN/m^2 is recommended for conventional strip or pad foundations on the stiff cohesive deposits below the Made Ground, which is proposed to be removed from the site to bring the existing site levels back down to the existing road levels. Where there is deeper Made Ground and the stiff cohesive deposits are deeper lean mix trench fill to a depth of 2.0m BGL is recommended to achieve the recommended allowable bearing capacity.

The possibility for variation in the depth of the Made Ground deposits 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 firm to stiff cohesive deposits, below the Made Ground, 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.

5.3. Excavations

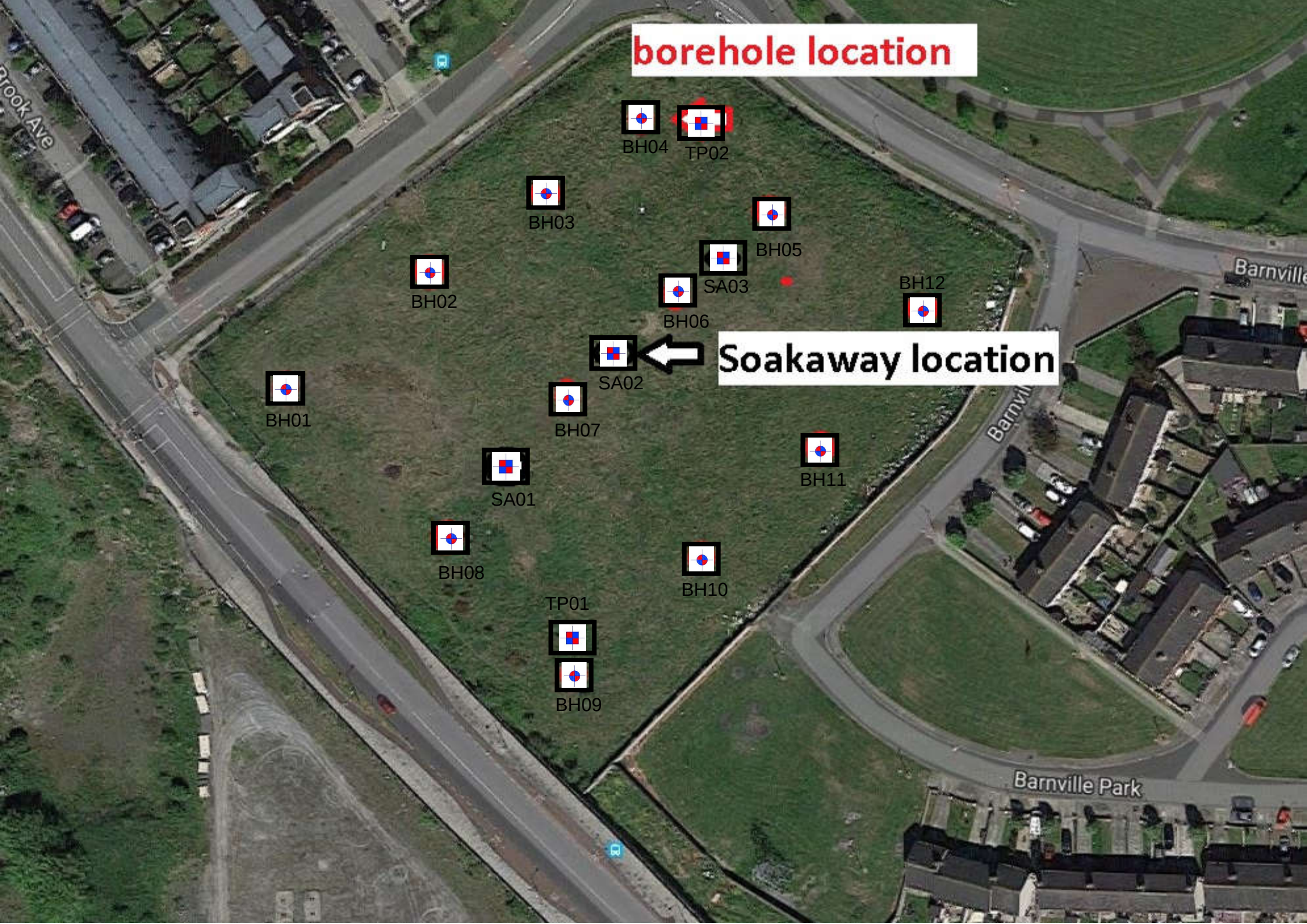
Excavations in the Made Ground, will require to be appropriately battered or the sides supported due to the low strength of these deposits. Short term temporary excavations in the cohesive deposits will remain stable for a limited time only and will require to be appropriately battered or the sides supported if the excavation is below 1.25m BGL or is required to permit man entry. The groundwater and stability noted on the trial pit logs should be consulted when determining the most appropriate construction methods for excavations. Any spoil removed from site should be disposed of to an appropriately licenced facility.

5.4. Soakaway Design

At the locations of SA01, SA02 and SA03 the water level dropped too slowly to allow calculation of ‘f’ the soil infiltration rate. These locations are therefore not recommended as suitable for soakaway design and construction.

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

APPENDIX 1 - Site Location Plan


borehole location
BH04
TP02
BH03
BH05
BH02
SA03
BH06
BH12
Soakaway location
SA02
BH01
BH07
BH11
SA01
BH08
BH10
TP01
BH09
Brook Ave
Barnville
Barnville Park

APPENDIX 2 – Trial Pit Records

Ground Investigations Ireland Ltd
www.gii.ie

Site Barnville Park, Cherry Orchard			**Trial Pit Number** SA01
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions** (L x W x D) 3.0 x 1.2 x 2.50	**Ground Level (mOD)** 57.08	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location (dGPS) 707965.3 E 732880.9 N	**Dates** 18/10/2017	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.80)	MADE GROUND: Brown sandy gravelly CLAY with occasional cobbles and fragments of concrete, plastic, rubber hose, wood and rope		
				56.28	0.80			
					(0.80)	Soft brown sandy gravelly silty CLAY with occasional cobbles		
				55.48	1.60			
					(0.90)	Firm grey sandy gravelly CLAY with occasional cobbles		
				54.58	2.50			
						Complete at 2.50m		

Plan

Remarks

TP terminated at 2.50m BGL to conduct soakaway test
Side walls stable
TP backfilled on completion of soakaway test

Scale (approx)	Logged By	Figure No.
1:25	RO'T	7137-10-17.SA01

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Barnville Park, Cherry Orchard			**Trial Pit Number** SA02
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions** (L x W x D) 3.00 x 1.20 x 3.50	**Ground Level (mOD)** 57.97	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location (dGPS) 707989.7 E 732913.9 N	**Dates** 18/10/2017	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(1.70)	MADE GROUND: Brown sandy gravelly slightly silty CLAY with occasional cobbles and fragments of concrete, red brick, plastic, cloth fabric, wire and aluminium		
				56.27	1.70	Firm to stiff grey sandy gravelly CLAY with occasional cobbles		
					(1.80)			
				54.47	3.50	Complete at 3.50m		

Plan

Remarks

TP terminated at 3.50m BGL to conduct soakaway test
Side walls stable
TP backfilled on completion of soakaway test

Scale (approx)	Logged By	Figure No.
1:25	RO'T	7137-10-17.SA02

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Barnville Park, Cherry Orchard			**Trial Pit Number** SA03
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions** (L x W x D) 3.00 x 1.20 x 4.10	**Ground Level (mOD)** 57.77	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location (dGPS) 708016.2 E 732938.9 N	**Dates** 18/10/2017	**Engineer**	**Sheet** 1/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(2.30)	MADE GROUND: Brown grey sandy gravelly CLAY with occasional cobbles and fragments of concrete, wood, tarmac, paper, rope and plastic		
				55.47	2.30	Firm grey sandy silty gravelly CLAY with occasional cobbles and pockets of black sand		
					(1.80)			

Plan

Remarks

TP terminated at 4.10m BGL to conduct soakaway test
Side walls stable
TP backfilled on completion of soakaway test

Scale (approx)	Logged By	Figure No.
1:25	RO'T	7137-10-17.SA03

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd

www.gii.ie

Site Barnville Park, Cherry Orchard			**Trial Pit Number** SA03
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions** (L x W x D) 3.00 x 1.20 x 4.10	**Ground Level (mOD)** 57.77	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location (dGPS) 708016.2 E 732938.9 N	**Dates** 18/10/2017	**Engineer**	**Sheet** 2/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				53.67	4.10	Complete at 4.10m		

Plan

Remarks

Scale (approx)	Logged By	Figure No.
1:25	RO'T	7137-10-17.SA03

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Barnville Park, Cherry Orchard			**Trial Pit Number** TP01
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions** (L x W x D) 3.00 x 1.20 x 3.00	**Ground Level (mOD)** 57.18	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location (dGPS) 707984.7 E 732851.6 N	**Dates** 18/10/2017	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B				(1.10)	MADE GROUND: Brown grey sandy gravelly CLAY with occasional cobbles and fragments of concrete, red brick, ceramic, plastic, wood and glass		
				56.08	1.10			
1.50	B				(0.60)	Soft to firm brown grey sandy gravelly CLAY with occasional cobbles		
				55.48	1.70			
2.50	B				(1.30)	Firm grey sanddy gravelly slightly silty CLAY with occasional cobbles		
				54.18	3.00			
						Complete at 3.00m		

Plan

Remarks

TP terminated at 4.10m BGL to conduct soakaway test
Side walls stable
No water observed in TP
TP backfilled on completion

Scale (approx)	Logged By	Figure No.
1:25	RO'T	7137-10-17.TP01

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Barnville Park, Cherry Orchard			**Trial Pit Number** TP02
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions** (L x W x D) 3.00 x 1.20 x 3.20	**Ground Level (mOD)** 57.58	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location 707987.8 E 732958.8 N	**Dates** 18/10/2017	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B					MADE GROUND: Brown grey sandy gravelly CLAY with occasional cobbles and fragments of concrete blocks, red brick, rubber. tarmac, alluminium, ceramic, rubber pipe and cloth fragments		
1.50	B				(3.20)			
2.50	B							
				54.38	3.20	Complete at 3.20m		

Plan

Remarks

TP terminated at 4.10m BGL to conduct soakaway test
Side walls stable
No water observed in TP
TP backfilled on completion

Scale (approx)	Logged By	Figure No.
1:25	RO'T	7137-10-17.TP02

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

APPENDIX 3 – Soakaway Records

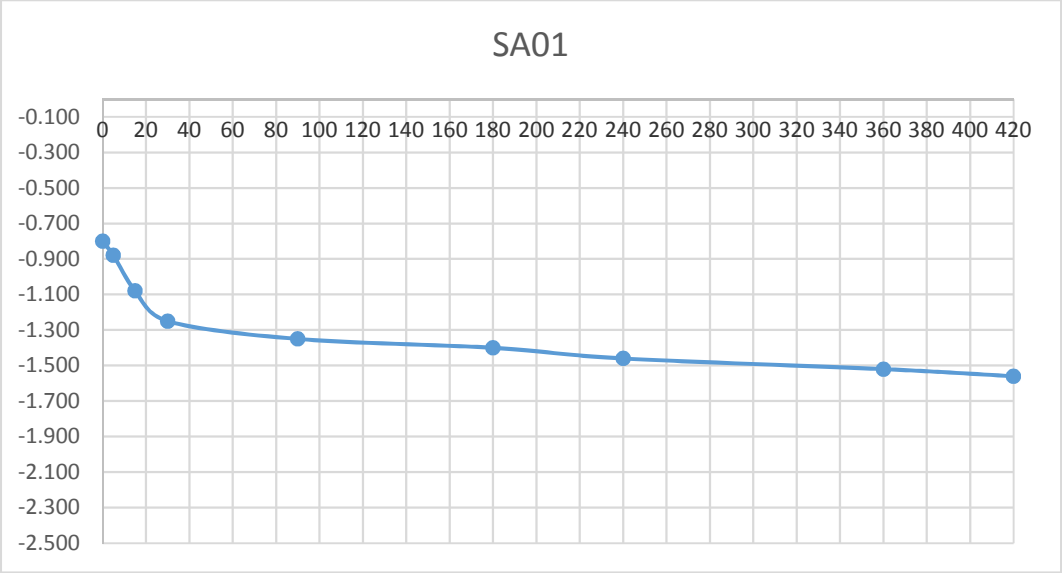
SA01

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 3.00m x 1.20m 2.50m (L x W x D)

Date	Time	Water level (m bgl)
19/09/2017	0	-0.800
19/09/2017	5	-0.880
19/09/2017	15	-1.080
19/09/2017	30	-1.250
19/09/2017	90	-1.350
19/09/2017	180	-1.400
19/09/2017	240	-1.460
19/09/2017	360	-1.520
19/09/2017	420	-1.560

Start depth	Depth of Pit	Diff	75% full	25%full
0.80	2.500	1.700	1.225	2.075

***Soakaway failed - Pit backfilled**



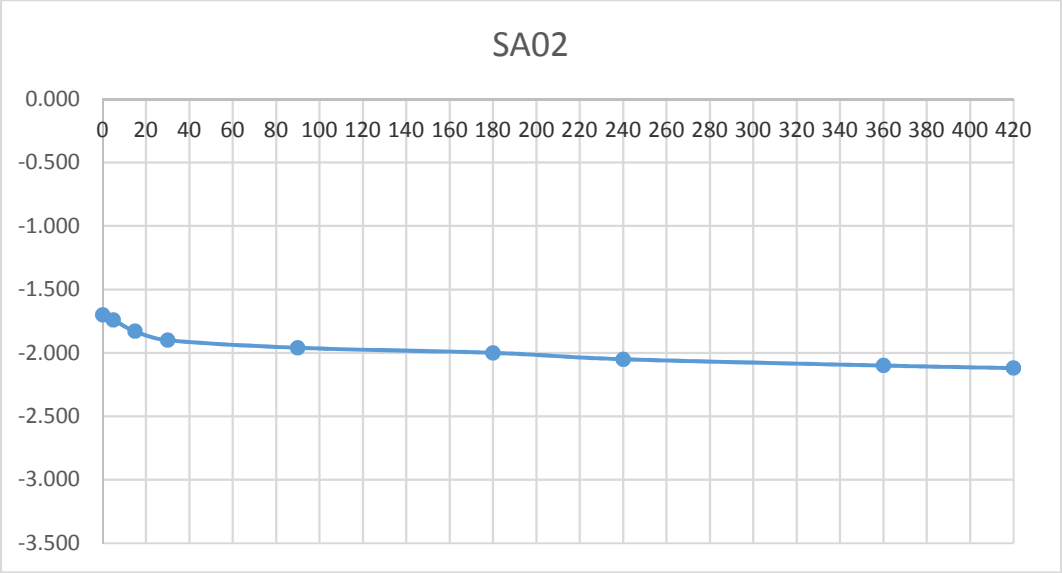
SA02

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 3.00m x 1.20m 3.50m (L x W x D)

Date	Time	Water level (m bgl)
19/09/2017	0	-1.700
19/09/2017	5	-1.740
19/09/2017	15	-1.830
19/09/2017	30	-1.900
19/09/2017	90	-1.960
19/09/2017	180	-2.000
19/09/2017	240	-2.050
19/09/2017	360	-2.100
19/09/2017	420	-2.120

Start depth	Depth of Pit	Diff	75% full	25%full
1.70	3.500	1.800	2.15	3.05

***Soakaway failed - Pit backfilled**



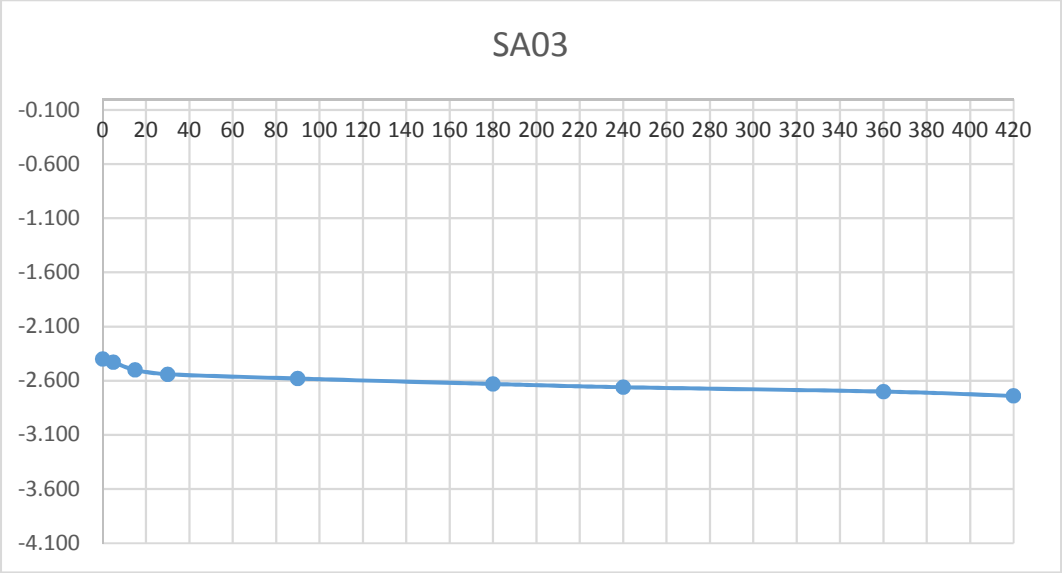
SA01

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 3.00m x 1.20m 4.10m (L x W x D)

Date	Time	Water level (m bgl)
19/09/2017	0	-2.400
19/09/2017	5	-2.430
19/09/2017	15	-2.500
19/09/2017	30	-2.540
19/09/2017	90	-2.580
19/09/2017	180	-2.630
19/09/2017	240	-2.660
19/09/2017	360	-2.700
19/09/2017	420	-2.740

Start depth	Depth of Pit	Diff	75% full	25%full
2.40	4.100	1.700	2.825	3.675

***Soakaway failed - Pit backfilled**



APPENDIX 4 - Cable Percussion Borehole Records

Ground Investigations Ireland Ltd
www.gii.ie

Site Barnville Park, Cherry Orchard			**Borehole Number** BH01
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.30m	**Ground Level (mOD)** 56.44	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location (dGPS) 707923.7 E 732902.4 N	**Dates** 24/10/2017	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					56.34	0.10	TOPSOIL		
							Stiff brown sandy gravelly CLAY with occasional cobbles		
0.50	B								
0.50	T								
1.00-1.45	SPT(C) N=50			2,3/6,8,36					
1.00	B					(2.20)			
1.00	T								
1.50	B								
1.50	T								
2.00-2.15	SPT(C) 25*/75 50/75			25,0/50					
2.00	B				54.14	2.30			
2.00	T						Complete at 2.30m		

Remarks
BH terminated at 2.30m BGL - Refusal
No water observed in BH
BH backfilled on completion
Chiselling from 2.00m to 2.30m for 1 hour.

Scale (approx)	Logged By
1:50	RO'T

Figure No. 7137-10-17.BH01

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Barnville Park, Cherry Orchard			**Borehole Number** BH02
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 4.50m	**Ground Level (mOD)** 56.97	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location (dGPS) 707953.1 E 732923.8 N	**Dates** 24/10/2017	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50 0.50	B T					(1.50)	MADE GROUND: Brown sandy gravelly CLAY with occasional cobbles		
1.00-1.45 1.00 1.00	SPT(C) N=19 B T			2,4/4,5,5,5					
1.50 1.50	B T				55.47	1.50	Firm to stiff brown sandy gravelly CLAY with frequent cobbles		
2.00-2.45 2.00 2.00	SPT(C) N=10 B T			1,1/3,2,3,2					
						(2.30)			
3.00-3.45 3.00 3.00	SPT(C) N=36 B T			4,4/7,8,11,10					
					53.17	3.80	Stiff to very stiff brown grey sandy gravelly CLAY with frequent cobbles and occasional boulders		
4.00-4.30 4.00 4.00	SPT(C) 50/150 B T			2,7/15,35		(0.70)			
					52.47	4.50	Complete at 4.50m		

Remarks
BH terminated at 4.50m BGL - Refusal
No water observed in BH
BH backfilled on completion
Chiselling from 4.30m to 4.50m for 1 hour.

Scale (approx)	Logged By
1:50	RO'T

Figure No. 7137-10-17.BH02

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site	Borehole Number
Barnville Park, Cherry Orchard	BH03

Machine : Dando 2000 Method : Cable Percussion	Casing Diameter 200mm cased to 4.50m	Ground Level (mOD) 57.34	Client Dublin City Council	Job Number 7137-10-17
	Location (dGPS) 707976.4 E 732942.3 N	Dates 24/10/2017	Engineer	Sheet 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50 0.50	B T					(1.90)	MADE GROUND: Brown sandy gravelly CLAY occasional cobbles and fragments of concrete		
1.00-1.45 1.00 1.00	SPT(C) N=13 B T			1,2/2,4,4,3					
1.50 1.50	B T				55.44	1.90			
2.00-2.45 2.00 2.00	SPT(C) N=24 B T			2,1/3,3,7,11		(2.20)	Stiff to very stiff brown sandy gravelly CLAY with frequent cobbles		
3.00-3.45 3.00 3.00	SPT(C) N=20 B T			1,0/5,5,4,6					
4.00-4.38 4.00 4.00	SPT(C) 66/225 B T			2,7/7,9,16,34	53.24	4.10			
						(0.40)	Very stiff bown gravelly CLAY with frequent cobbles		
					52.84	4.50			
							Complete at 4.50m		

Remarks
BH terminated at 4.50m BGL - Refusal
No water observed in BH
BH backfilled on completion
Chiselling from 4.30m to 4.50m for 1 hour.

Scale (approx)	Logged By
1:50	RO'T

Figure No.
7137-10-17.BH03

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site	Borehole Number
Barnville Park, Cherry Orchard	**BH04**

Machine : Dando 2000 Method : Cable Percussion	Casing Diameter 200mm cased to 4.70m	Ground Level (mOD) 57.46	Client Dublin City Council	Job Number 7137-10-17
	Location (dGPS) 707995.2 E 732949.1 N	Dates 24/10/2017	Engineer	Sheet 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50 0.50	B T						MADE GROUND: Brown sandy gravelly CLAY with occasional cobbles and fragments of concrete		
1.00-1.45 1.00 1.00	SPT(C) N=18 B T			3,5/5,4,5,4					
1.50 1.50	B T					(3.00)			
2.00-2.23 2.00 2.00	SPT(C) 50/75 B T			5,18/50					
3.00-3.45 3.00 3.00	SPT(C) N=21 B T			3,3/4,4,6,7	54.46	3.00	Stiff to very stiff brown sandy gravelly CLAY with frequent cobbles		
4.00-4.38 4.00 4.00	SPT(C) 50/225 B T			6,11/14,21,15		(1.70)			
					52.76	4.70	Complete at 4.70m		

Remarks
BH terminated at 4.70m BGL - Refusal
No water observed in BH
BH backfilled on completion
Chiselling from 2.20m to 2.60m for 1 hour. Chiselling from 4.50m to 4.70m for 1 hour.

Scale (approx)	Logged By
1:50	RO'T

Figure No.
7137-10-17.BH04

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Barnville Park, Cherry Orchard			**Borehole Number** BH05
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 6.10m	**Ground Level (mOD)** 57.73	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location (dGPS) 708021.6 E 732931.1 N	**Dates** 24/10/2017	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50 0.50	B T						MADE GROUND:Brown sandy gravelly CLAY with occasional cobbles with fragments of concrete		
1.00-1.45 1.00 1.00	SPT(C) N=13 B T			1,3/2,3,4,4		(2.70)			
1.50 1.50	B T								
2.00-2.45 2.00 2.00	SPT(C) N=18 B T			3,4/4,4,5,5					
					55.03	2.70	Stiff brown sandy gravelly CLAY with frequent cobbles		
3.00-3.45 3.00 3.00	SPT(C) N=25 B T			1,4/5,5,7,8					
4.00-4.45 4.00 4.00	SPT(C) N=26 B T			4,6/7,7,5,7		(3.20)			
5.00-5.38 5.00 5.00	SPT(C) 50/225 B T			6,11/9,23,18					
					51.83	5.90			
6.00-6.15 6.00 6.00	SPT(C) 25*/75 50/75 B T			25,0/50	51.63	(0.20) 6.10	Stiff to very stiff brown gravelly CLAY with frequent cobbles		
							Complete at 6.10m		

Remarks
BH terminated at 6.10m BGL - Refusal
No water observed in BH
BH backfilled on completion
Chiselling from 5.90m to 6.10m for 1 hour.

Scale (approx)	Logged By
1:50	RO'T

Figure No. 7137-10-17.BH05

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Barnville Park, Cherry Orchard			**Borehole Number** BH06
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 4.70m	**Ground Level (mOD)** 57.87	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location (dGPS) 708002.1 E 732918.6 N	**Dates** 25/10/2017	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50 0.50	B T						MADE GROUND: Brown sandy gravelly CLAY with occasional cobbles and fragments of concrete		
1.00-1.45 1.00 1.00	SPT(C) N=13 B T			1,1/2,3,4,4					
1.50 1.50	B T					(3.20)			
2.00-2.45 2.00 2.00	SPT(C) N=21 B T			3,4/4,5,5,7					
3.00-3.45 3.00 3.00	SPT(C) N=35 B T			2,3/5,7,8,15	54.67	3.20	Stiff to very stiff brown sandy gravelly CLAY with frequent cobbles		
4.00-4.30 4.00 4.00	SPT(C) 50/150 B T			5,11/12,38		(1.50)			
					53.17	4.70	Complete at 4.70m		

Remarks
BH terminated at 4.70m BGL - Refusal
No water observed in BH
BH backfilled on completion
Chiselling from 5.90m to 6.10m for 1 hour.

Scale (approx)	Logged By
1:50	RO'T

Figure No. 7137-10-17.BH06

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Barnville Park, Cherry Orchard			**Borehole Number** BH09
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.70m	**Ground Level (mOD)** 56.22	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location (dGPS) 707978.7 E 732841.1 N	**Dates** 25/10/2017	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					56.02	(0.20) 0.20	TOPSOIL		
0.50 0.50	B T						Stiff brown sandy gravelly CLAY with frequent cobbles		
1.00-1.45 1.00 1.00	SPT(C) N=22 B T			1,3/3,4,6,9		(2.50)			
1.50 1.50	B T								
2.00-2.45 2.00 2.00	SPT(C) N=29 B T			3,4/4,6,6,13	53.52	2.70	Complete at 2.70m		

Remarks
BH terminated at 2.70m BGL - Refusal
No water observed in BH
BH backfilled on completion
Chiselling from 2.70m to 2.70m for 1 hour.

Scale (approx)	Logged By
1:50	RO'T

Figure No. 7137-10-17.BH09

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Barnville Park, Cherry Orchard			**Borehole Number** BH10
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.80m	**Ground Level (mOD)** 57.05	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location (dGPS) 708006.1 E 732872.6 N	**Dates** 26/10/2017	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50 0.50	B T					(1.60)	MADE GROUND: Brown sandy gravelly CLAY with occasional cobbles and fragments of concrete		
1.00-1.45 1.00 1.00	SPT(C) N=24 B T			9,8/9,5,4,6					
1.50 1.50	B T				55.45	1.60	Stiff brown sandy gravelly CLAY with frequent cobbles		
2.00-2.45 2.00 2.00	SPT(C) N=25 B T			3,2/4,4,11,6		(1.20)			
					54.25	2.80	Complete at 2.80m		

Remarks
BH terminated at 2.80m BGL - Refusal
No water observed in BH
BH backfilled on completion
Chiselling from 2.40m to 2.80m for 1 hour.

Scale (approx)	Logged By
1:50	RO'T

Figure No. 7137-10-17.BH10

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Barnville Park, Cherry Orchard			**Borehole Number** BH11
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 5.20m	**Ground Level (mOD)** 57.54	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location (dGPS) 708030.1 E 732901.4 N	**Dates** 25/10/2017	**Engineer**	**Sheet** 1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
							MADE BROUND: Brown sandy gravelly CLAY with occasional cobbles with fragments of concrete		
0.50 0.50	B T								
1.00-1.23 1.00 1.00	SPT(C) 50/75 B T			6,15/50					
						(2.50)			
1.50 1.50	B T								
2.00-2.45 2.00 2.00	SPT(C) N=21 B T			1,4/5,4,6,6					
					55.04	2.50	Stiff brown sandy gravelly CLAY with frequent cobbles		
3.00-3.45 3.00 3.00	SPT(C) N=17 B T			1,1/3,3,5,6					
						(2.30)			
4.00-4.23 4.00 4.00	SPT(C) 50/75 B T			3,5/50					
					52.74	4.80	Stiff to very stiff brown gravelly CLAY with frequent cobbles		
5.00-5.15	50/75 SPT(C) 25*/75			25,0/50					

Remarks
BH terminated at 5.20m BGL - Refusal
No water observed in BH
BH backfilled on completion
Chiselling from 1.20m to 1.60m for 0.5 hours.

Scale (approx)	Logged By
1:25	RO'T

Figure No. 7137-10-17.BH011

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Barnville Park, Cherry Orchard			**Borehole Number** BH11
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 5.20m	**Ground Level (mOD)** 57.54	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location (dGPS) 708030.1 E 732901.4 N	**Dates** 25/10/2017	**Engineer**	**Sheet** 2/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
5.00 5.00	B T					(0.40)			
					52.34	5.20	Complete at 5.20m		

Remarks
Chiselling from 5.10m to 5.20m for 1 hour.

Scale (approx)	Logged By
1:25	RO'T

Figure No. 7137-10-17.BH011

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Barnville Park, Cherry Orchard			**Borehole Number** BH12
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 5.20m	**Ground Level (mOD)** 57.61	**Client** Dublin City Council	**Job Number** 7137-10-17
	Location (dGPS) 708042.6 E 732919.8 N	**Dates** 25/10/2017	**Engineer**	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50 0.50	B T						MADE GROUND: Brown sandy gravelly CLAY with occasional cobbles with fragments of concrete		
1.00-1.45 1.00 1.00	SPT(C) N=14 B T			2,3/3,2,4,5		(2.70)			
1.50 1.50	B T								
2.00-2.45 2.00 2.00	SPT(C) N=14 B T			2,4/3,3,4,4					
					54.91	2.70	Stiff brown sandy gravelly CLAY with frequent cobbles		
3.00-3.45 3.00 3.00	SPT(C) N=22 B T			6,4/6,5,5,6		(1.40)			
4.00-4.38 4.00 4.00	SPT(C) 50/225 B T			4,7/9,17,24	53.51	4.10	Stiff to very stiff brown gravelly CLAY with frequent cobbles		
						(1.10)			
5.00-5.15 5.00 5.00	SPT(C) 25*/75 50/75 B T			25,0/50	52.41	5.20	Complete at 5.20m		

Remarks
BH terminated at 5.2m BGL - Refusal
No water observed in BH
BH backfilled on completion
Chiselling from 4.80m to 5.20m.

Scale (approx)	Logged By
1:50	RO'T

Figure No. 7137-10-17.BH012

Produced by the GEOtechnical DAtabase SYstem (GEODASY) (C) all rights reserved

APPENDIX 5 – Laboratory Testing

Exova Jones Environmental

Registered Address : Exova (UK) Ltd, Lochend Industrial Estate, Newbridge, Midlothian, EH28 8PL

Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

Tel: +44 (0) 1244 833780
Fax: +44 (0) 1244 833781

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

Attention :	Conor Finnerty
Date :	7th December, 2017
Your reference :	
Our reference :	Test Report 17/18304 Batch 1
Location :	Barvlle Park
Date samples received :	6th November, 2017
Status :	Final report
Issue :	2

Ten samples were received for analysis on 6th November, 2017 of which ten 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.

Where Waste Acceptance Criteria Suite (EC Decision of 19 December 2002 (2003/33/EC)) has been requested, all analyses have been performed using the relevant EN methods where they exist.

Compiled By:

Bruce Leslie
Project Co-ordinator

Client Name: Ground Investigations Ireland
Reference:
Location: Barvlle Park
Contact: Conor Finnerty
JE Job No.: 17/18304

Report : Solid

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

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	BH01	BH02	BH03	BH04	BH05	BH06	BH09	BH10	BH11	BH12			
Depth	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017			
Antimony	3	3	2	3	2	2	2	2	3	3	<1	mg/kg	TM30/PM15
Arsenic #	16.1	10.2	7.1	8.2	10.3	5.1	6.6	9.7	10.3	10.0	<0.5	mg/kg	TM30/PM15
Barium #	83	80	60	52	77	105	70	73	81	82	<1	mg/kg	TM30/PM15
Cadmium #	2.5	1.9	1.4	1.6	2.5	0.9	1.2	1.2	1.6	1.5	<0.1	mg/kg	TM30/PM15
Chromium #	66.2	53.8	46.6	59.5	56.2	57.0	56.3	58.2	46.5	50.1	<0.5	mg/kg	TM30/PM15
Copper #	49	61	40	56	49	41	29	30	64	109	<1	mg/kg	TM30/PM15
Lead #	22	47	32	36	41	23	15	19	47	96	<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 #	5.8	4.3	3.0	4.6	4.2	3.5	3.6	3.4	4.4	4.5	<0.1	mg/kg	TM30/PM15
Nickel #	73.2	40.0	24.2	32.1	42.8	31.7	61.1	38.3	38.3	38.1	<0.7	mg/kg	TM30/PM15
Selenium #	1	2	<1	2	2	<1	<1	1	1	1	<1	mg/kg	TM30/PM15
Zinc #	148	125	129	103	111	121	69	91	173	158	<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	0.06	0.14	<0.03	<0.03	0.52	<0.03	<0.03	<0.03	0.06	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	0.07	<0.04	<0.04	0.08	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	0.08	0.34	<0.03	<0.03	0.67	<0.03	<0.03	<0.03	0.11	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	0.07	0.29	<0.03	<0.03	0.57	<0.03	<0.03	<0.03	0.12	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	0.21	<0.06	<0.06	0.27	<0.06	<0.06	<0.06	0.09	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	0.06	0.20	<0.02	<0.02	0.28	<0.02	<0.02	<0.02	0.07	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	0.41	<0.07	<0.07	0.44	<0.07	<0.07	<0.07	0.18	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	0.22	<0.04	<0.04	0.22	<0.04	<0.04	<0.04	0.10	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	0.13	<0.04	<0.04	0.14	<0.04	<0.04	<0.04	0.07	<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	0.13	<0.04	<0.04	0.14	<0.04	<0.04	<0.04	0.07	<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	1.23	<0.22	<0.22	1.61	<0.22	<0.22	<0.22	0.53	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	2.14	<0.64	<0.64	3.33	<0.64	<0.64	<0.64	0.87	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	0.30	<0.05	<0.05	0.32	<0.05	<0.05	<0.05	0.13	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	0.11	<0.02	<0.02	0.12	<0.02	<0.02	<0.02	0.05	<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	48	92	95	93	94	96	95	97	94	94	<0	%	TM4/PM8
Mineral Oil (C10-C40)	<30	<30	102	46	<30	<30	<30	45	<30	<30	<30	mg/kg	TM5/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference:
Location: Barvlle Park
Contact: Conor Finnerty
JE Job No.: 17/18304

Report : Solid

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

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	BH01	BH02	BH03	BH04	BH05	BH06	BH09	BH10	BH11	BH12			
Depth	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017			
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C10-C12 #	<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/PM16
>C12-C16 #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM16
>C16-C21 #	<7	<7	8	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM16
>C21-C35 #	<7	17	75	46	25	13	<7	30	<7	12	<7	mg/kg	TM5/PM16
>C35-C40	<7	<7	19	<7	<7	<7	<7	15	<7	<7	<7	mg/kg	TM5/PM16
Total aliphatics C5-40	<26	<26	102	46	<26	<26	<26	45	<26	<26	<26	mg/kg	TM5/TM36/PM12/PM16
>C6-C10	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C10-C25	<10	<10	25	<10	<10	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM16
>C25-C35	<10	16	57	38	21	13	<10	30	<10	12	<10	mg/kg	TM5/PM16
Aromatics													
>C5-EC7 #	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	<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/PM16
>EC12-EC16 #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM16
>EC16-EC21 #	<7	12	<7	<7	<7	8	<7	<7	<7	<7	<7	mg/kg	TM5/PM16
>EC21-EC35 #	<7	88	98	30	25	81	<7	70	<7	54	<7	mg/kg	TM5/PM16
>EC35-EC40	<7	31	42	<7	<7	25	<7	41	<7	24	<7	mg/kg	TM5/PM16
Total aromatics C5-40	<26	131	140	30	<26	114	<26	111	<26	78	<26	mg/kg	TM5/TM36/PM12/PM16
Total aliphatics and aromatics(C5-40)	<52	131	242	76	<52	114	<52	156	<52	78	<52	mg/kg	TM5/TM36/PM12/PM16
>EC6-EC10 #	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC10-EC25	<10	29	<10	<10	<10	22	<10	<10	<10	<10	<10	mg/kg	TM5/PM16
>EC25-EC35	<10	69	98	27	20	61	<10	68	<10	51	<10	mg/kg	TM5/PM16
MTBE #	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5 SV	<5	<5 SV	<5	ug/kg	TM31/PM12
Benzene #	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5 SV	<5	<5 SV	<5	ug/kg	TM31/PM12
Toluene #	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5 SV	<5	<5 SV	<5	ug/kg	TM31/PM12
Ethylbenzene #	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5 SV	<5	<5 SV	<5	ug/kg	TM31/PM12
m/p-Xylene #	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5 SV	<5	<5 SV	<5	ug/kg	TM31/PM12
o-Xylene #	<5	<5 SV	<5	<5 SV	<5	<5	<5	<5 SV	<5	<5 SV	<5	ug/kg	TM31/PM12
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50 AA	<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50 AA	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50 AA	<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50 AA	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50 AA	<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50 AA	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<50 AA	<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<350 AA	<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference:
Location: Barvlle Park
Contact: Conor Finnerty
JE Job No.: 17/18304

Report : Solid

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

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	BH01	BH02	BH03	BH04	BH05	BH06	BH09	BH10	BH11	BH12			
Depth	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017			
Natural Moisture Content	21.3	13.0	11.3	16.5	19.4	34.5	8.6	12.1	17.9	15.3	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	17.5	11.5	10.2	14.2	16.2	25.7	7.9	10.8	15.2	13.3	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0237	-	-	0.2424	-	0.0899	-	-	-	0.0884	<0.0015	g/l	TM38/PM20
Chromium III	66.2	53.8	46.6	59.5	56.2	57.0	56.3	58.2	46.5	50.1	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.43	0.98	0.77	0.78	0.87	0.93	0.68	0.78	0.91	1.14	<0.02	%	TM21/PM24
pH #	8.45	8.26	8.01	7.93	7.89	8.10	8.13	8.24	7.97	8.12	<0.01	pH units	TM73/PM11
Mass of raw test portion	0.1079	0.1083	0.1129	0.1155	0.1084	0.1103	0.105	0.1049	0.1106	0.1076		kg	NONE/PM17
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

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference:
Location: Barvlle Park
Contact: Conor Finnerty
JE Job No.: 17/18304

Report : CEN 10:1 1 Batch

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

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	LOD/LOR	Units	Method No.
Sample ID	BH01	BH02	BH03	BH04	BH05	BH06	BH09	BH10	BH11	BH12			
Depth	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00			
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>			
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	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017			
Dissolved Antimony #	<0.002	0.003	<0.002	0.003	<0.002	0.005	<0.002	<0.002	0.006	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	0.03	<0.02	0.03	<0.02	0.05	<0.02	<0.02	0.06	<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	0.008	0.014	0.023	0.007	0.031	0.005	0.004	0.009	0.006	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	0.08	0.14	0.23	0.07	0.31	0.05	0.04	0.09	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 #	<0.002	0.012	0.009	0.020	0.012	0.018	0.006	0.012	0.009	0.011	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	<0.02	0.12	0.09	0.20	0.12	0.18	0.06	0.12	0.09	0.11	<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	0.004	<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	0.04	<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	0.00002	0.00002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	mg/l	TM61/PM38
Mercury Dissolved by CVAF #	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	mg/kg	TM61/PM38
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	0.9	0.7	0.4	0.4	0.5	0.5	0.8	0.7	0.7	<0.3	mg/l	TM173/PM0
Fluoride	4	9	7	4	4	5	5	8	7	7	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	5.43	24.11	55.85	78.51	19.41	27.01	14.87	9.62	49.93	15.51	<0.05	mg/l	TM38/PM0
Sulphate as SO4 #	54.3	241.0	558.3	785.3	194.0	270.0	148.7	96.2	499.5	155.2	<0.5	mg/kg	TM38/PM0
Chloride #	0.7	0.4	0.6	0.8	0.6	0.8	<0.3	0.9	0.4	0.7	<0.3	mg/l	TM38/PM0
Chloride #	7	4	6	8	6	8	<3	9	4	7	<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	<2	3	4	5	4	5	3	4	2	5	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	30	40	50	40	50	30	40	20	50	<20	mg/kg	TM60/PM0
pH	7.98	8.28	8.05	8.03	8.25	8.22	8.22	8.18	8.18	8.22	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	64	86	191	270	94	120	93	98	140	92	<35	mg/l	TM20/PM0
Total Dissolved Solids #	640	860	1909	2701	940	1200	930	980	1401	920	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference:
Location: Barvlle Park
Contact: Conor Finnerty
JE Job No.: 17/18304

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

J E Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30						
Sample ID	BH01	BH02	BH03	BH04	BH05	BH06	BH09	BH10	BH11	BH12						
Depth	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	2.00	1.00						
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	<>	<>	<>	<>	<>	<>	<>	<>	<>	<>						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1	1	1	1	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Date of Receipt	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017	06/11/2017						
Solid Waste Analysis																
Total Organic Carbon #	0.43	0.98	0.77	0.78	0.87	0.93	0.68	0.78	0.91	1.14	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025 SV	<0.025	<0.025 SV	<0.025	<0.025	<0.025	<0.025 SV	<0.025	<0.025 SV	6	-	-	<0.025	mg/kg	TM31/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.350 BA	1	-	-	<0.035	mg/kg	TM17/PM8
PAH Sum of 6 #	<0.22	<0.22	1.23	<0.22	<0.22	1.61	<0.22	<0.22	<0.22	0.53	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	2.14	<0.64	<0.64	3.33	<0.64	<0.64	<0.64	0.87	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	0.08	0.14	0.23	0.07	0.31	0.05	0.04	0.09	0.06	20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005	<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	<0.015	<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	<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	0.0002	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM38
Molybdenum #	<0.02	0.12	0.09	0.20	0.12	0.18	0.06	0.12	0.09	0.11	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	0.02	<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	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	0.03	<0.02	0.03	<0.02	0.05	<0.02	<0.02	0.06	<0.02	0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	640	860	1909	2701	940	1200	930	980	1401	920	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	30	40	50	40	50	30	40	20	50	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1079	0.1083	0.1129	0.1155	0.1084	0.1103	0.105	0.1049	0.1106	0.1076	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	83.2	82.9	79.9	78.1	82.8	81.3	85.6	85.8	81.5	83.9	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.882	0.881	0.877	0.875	0.881	0.879	0.885	0.885	0.88	0.883	-	-	-		l	NONE/PM17
Eluate Volume	0.67	0.74	0.8	0.8	0.67	0.72	0.76	0.86	0.66	0.87	-	-	-		l	NONE/PM17
Mineral Oil (C10-C40)	<30	<30	102	46	<30	<30	<30	45	<30	<30	-	-	-	<30	mg/kg	TM5/PM16
pH #	8.45	8.26	8.01	7.93	7.89	8.10	8.13	8.24	7.97	8.12	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	4	9	7	4	4	5	5	8	7	7	-	-	-	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	54.3	241.0	558.3	785.3	194.0	270.0	148.7	96.2	499.5	155.2	1000	20000	50000	<0.5	mg/kg	TM38/PM0
Chloride #	7	4	6	8	6	8	<3	9	4	7	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland **Matrix : Solid**
Reference:
Location: Barvlle Park
Contact: Conor Finnerty

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	EPH Interpretation
17/18304	1	BH01	1.00	1-3	No interpretation possible
17/18304	1	BH02	1.00	4-6	Possible tarmac/bitumen & Possible PAH's
17/18304	1	BH03	1.00	7-9	Possible tarmac/bitumen, Trace of possible lubricating oil & Possible PAH's
17/18304	1	BH04	2.00	10-12	Possible lubricating oil
17/18304	1	BH05	2.00	13-15	No interpretation possible
17/18304	1	BH06	2.00	16-18	Trace of PAH's
17/18304	1	BH09	1.00	19-21	No interpretation possible
17/18304	1	BH10	1.00	22-24	Possible tarmac/bitumen
17/18304	1	BH11	2.00	25-27	No interpretation possible
17/18304	1	BH12	1.00	28-30	Possible tarmac/bitumen

Client Name: Ground Investigations Ireland
Reference:
Location: Barvlle Park
Contact: Conor Finnerty

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). Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Opinions, including ACM type and Asbestos level, lie outside the scope of our UKAS accreditation.

Where the sample is not taken by a Jones Environmental Laboratory consultant, Jones Environmental Laboratory cannot be responsible for inaccurate or unrepresentative sampling.

Signed on behalf of Jones Environmental Laboratory:



Ryan Butterworth
Asbestos Team Leader

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
17/18304	1	BH01	1.00	2	13/11/2017	**General Description (Bulk Analysis)**	soil.stones
					13/11/2017	**Asbestos Fibres**	NAD
					13/11/2017	**Asbestos Fibres (2)**	NAD
					13/11/2017	**Asbestos ACM**	NAD
					13/11/2017	**Asbestos ACM (2)**	NAD
					13/11/2017	**Asbestos Type**	NAD
					13/11/2017	**Asbestos Type (2)**	NAD
					13/11/2017	**Asbestos Level Screen**	NAD
17/18304	1	BH02	1.00	5	13/11/2017	**General Description (Bulk Analysis)**	Soil/Stones
					13/11/2017	**Asbestos Fibres**	NAD
					13/11/2017	**Asbestos Fibres (2)**	NAD
					13/11/2017	**Asbestos ACM**	NAD
					13/11/2017	**Asbestos ACM (2)**	NAD
					13/11/2017	**Asbestos Type**	NAD
					13/11/2017	**Asbestos Type (2)**	NAD
					13/11/2017	**Asbestos Level Screen**	NAD
17/18304	1	BH03	1.00	8	13/11/2017	**General Description (Bulk Analysis)**	soil/stones
					13/11/2017	**Asbestos Fibres**	NAD
					13/11/2017	**Asbestos Fibres (2)**	NAD
					13/11/2017	**Asbestos ACM**	NAD
					13/11/2017	**Asbestos ACM (2)**	NAD
					13/11/2017	**Asbestos Type**	NAD
					13/11/2017	**Asbestos Type (2)**	NAD
					13/11/2017	**Asbestos Level Screen**	NAD
17/18304	1	BH04	2.00	11	13/11/2017	**General Description (Bulk Analysis)**	soil.stones
					13/11/2017	**Asbestos Fibres**	NAD
					13/11/2017	**Asbestos Fibres (2)**	NAD
					13/11/2017	**Asbestos ACM**	NAD
					13/11/2017	**Asbestos ACM (2)**	NAD
					13/11/2017	**Asbestos Type**	NAD
					13/11/2017	**Asbestos Type (2)**	NAD
					13/11/2017	**Asbestos Level Screen**	NAD
17/18304	1	BH05	2.00	14	13/11/2017	**General Description (Bulk Analysis)**	soil.stones
					13/11/2017	**Asbestos Fibres**	NAD
					13/11/2017	**Asbestos Fibres (2)**	NAD

Client Name: Ground Investigations Ireland
Reference:
Location: Barvlle Park
Contact: Conor Finnerty

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
17/18304	1	BH05	2.00	14	13/11/2017	**Asbestos ACM**	NAD
					13/11/2017	**Asbestos ACM (2)**	NAD
					13/11/2017	**Asbestos Type**	NAD
					13/11/2017	**Asbestos Type (2)**	NAD
					13/11/2017	**Asbestos Level Screen**	NAD
17/18304	1	BH06	2.00	17	13/11/2017	**General Description (Bulk Analysis)**	Soil/Stones
					13/11/2017	**Asbestos Fibres**	NAD
					13/11/2017	**Asbestos Fibres (2)**	NAD
					13/11/2017	**Asbestos ACM**	NAD
					13/11/2017	**Asbestos ACM (2)**	NAD
					13/11/2017	**Asbestos Type**	NAD
					13/11/2017	**Asbestos Type (2)**	NAD
					13/11/2017	**Asbestos Level Screen**	NAD
17/18304	1	BH09	1.00	20	13/11/2017	**General Description (Bulk Analysis)**	Soil/Stones
					13/11/2017	**Asbestos Fibres**	NAD
					13/11/2017	**Asbestos Fibres (2)**	NAD
					13/11/2017	**Asbestos ACM**	NAD
					13/11/2017	**Asbestos ACM (2)**	NAD
					13/11/2017	**Asbestos Type**	NAD
					13/11/2017	**Asbestos Type (2)**	NAD
					13/11/2017	**Asbestos Level Screen**	NAD
17/18304	1	BH10	1.00	23	13/11/2017	**General Description (Bulk Analysis)**	soil/stones
					13/11/2017	**Asbestos Fibres**	NAD
					13/11/2017	**Asbestos Fibres (2)**	NAD
					13/11/2017	**Asbestos ACM**	NAD
					13/11/2017	**Asbestos ACM (2)**	NAD
					13/11/2017	**Asbestos Type**	NAD
					13/11/2017	**Asbestos Type (2)**	NAD
					13/11/2017	**Asbestos Level Screen**	NAD
17/18304	1	BH11	2.00	26	13/11/2017	**General Description (Bulk Analysis)**	Soil/Stones
					13/11/2017	**Asbestos Fibres**	NAD
					13/11/2017	**Asbestos Fibres (2)**	NAD
					13/11/2017	**Asbestos ACM**	NAD
					13/11/2017	**Asbestos ACM (2)**	NAD
					13/11/2017	**Asbestos Type**	NAD
					13/11/2017	**Asbestos Type (2)**	NAD
					13/11/2017	**Asbestos Level Screen**	NAD
17/18304	1	BH12	1.00	29	13/11/2017	**General Description (Bulk Analysis)**	soil/stones
					13/11/2017	**Asbestos Fibres**	NAD
					13/11/2017	**Asbestos Fibres (2)**	NAD
					13/11/2017	**Asbestos ACM**	NAD
					13/11/2017	**Asbestos ACM (2)**	NAD
					13/11/2017	**Asbestos Type**	NAD
					13/11/2017	**Asbestos Type (2)**	NAD
					13/11/2017	**Asbestos Level Screen**	NAD

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference:

Location: Barvlle Park

Contact: Conor Finnerty

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Analysis	Reason
17/18304	1	BH01	1.00	1-3	All analyses	No sampling date given
17/18304	1	BH01	1.00	1-3	GRO	Solid Samples were received at a temperature above 9°C.
17/18304	1	BH02	1.00	4-6	All analyses	No sampling date given
17/18304	1	BH02	1.00	4-6	GRO	Solid Samples were received at a temperature above 9°C.
17/18304	1	BH03	1.00	7-9	All analyses	No sampling date given
17/18304	1	BH03	1.00	7-9	GRO	Solid Samples were received at a temperature above 9°C.
17/18304	1	BH04	2.00	10-12	All analyses	No sampling date given
17/18304	1	BH04	2.00	10-12	GRO	Solid Samples were received at a temperature above 9°C.
17/18304	1	BH05	2.00	13-15	All analyses	No sampling date given
17/18304	1	BH05	2.00	13-15	GRO	Solid Samples were received at a temperature above 9°C.
17/18304	1	BH06	2.00	16-18	All analyses	No sampling date given
17/18304	1	BH06	2.00	16-18	GRO	Solid Samples were received at a temperature above 9°C.
17/18304	1	BH09	1.00	19-21	All analyses	No sampling date given
17/18304	1	BH09	1.00	19-21	GRO	Solid Samples were received at a temperature above 9°C.
17/18304	1	BH10	1.00	22-24	All analyses	No sampling date given
17/18304	1	BH10	1.00	22-24	GRO	Solid Samples were received at a temperature above 9°C.
17/18304	1	BH11	2.00	25-27	All analyses	No sampling date given
17/18304	1	BH11	2.00	25-27	GRO	Solid Samples were received at a temperature above 9°C.
17/18304	1	BH12	1.00	28-30	All analyses	No sampling date given
17/18304	1	BH12	1.00	28-30	GRO	Solid Samples were received at a temperature above 9°C.

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.

Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

JE Job No.: 17/18304

SOILS

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

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

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

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

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

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

All analysis is reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

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

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

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any test results that may be compromised highlighted on your deviating samples report.

SURROGATES

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

DILUTIONS

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

BLANKS

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

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

REPORTS FROM THE SOUTH AFRICA LABORATORY

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

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.
++	Result outside calibration range, results should be considered as indicative only and are not accredited.
*	Analysis subcontracted to a Jones Environmental approved laboratory.
AD	Samples are dried at 35°C ±5°C
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
AA	x10 Dilution
BA	x10 Dilution

JE Job No: 17/18304

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. Calculation based on ISO 11465 and BS1377.	PM0	No preparation is required.				
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465 and BS1377.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270 method for the solvent extraction and determination of 16 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 8270 method for the solvent extraction and determination of 16 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 USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5	Modified USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5/TM36	please refer to TM5 and TM36 for method details	PM12/PM16	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis./Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM17	Modified US EPA method 8270. 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 160.3 Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.	Yes		AR	Yes

JE Job No: 17/18304

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM21	Modified USEPA 415.1. 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, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes
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 Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM17	Modified method EN12457-2 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
TM31	Modified USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM31	Modified USEPA 8015B. Determination of Methyltertbutylether, Benzene, Toluene, Ethylbenzene and Xylene by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM0	No preparation is required.	Yes		AR	Yes

JE Job No: 17/18304

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	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	Modified USEPA 9060. Determination of TOC by calculation from Total Carbon and Inorganic Carbon using a TOC analyser, the carbon in the sample is converted to CO2 and then passed through a non-dispersive infrared gas analyser (NDIR).	PM0	No preparation is required.			AR	Yes
TM61	Modified US EPA methods 245.7 and 200.7. Determination of Mercury by Cold Vapour Atomic Fluorescence.	PM38	Samples are brominated to reduce all mercury compounds to Mercury (II) which is analysed using method TM061.	Yes		AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248.	PM42	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 and 9045D and BS1377:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	Yes
TM73	Modified US EPA methods 150.1 and 9045D and BS1377:1990. 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 340.2	PM0	No preparation is required.			AR	Yes
NONE	No Method Code	NONE	No Method Code			AR	Yes
NONE	No Method Code	PM17	Modified method EN12457-2 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.				

JE Job No: 17/18304

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
NONE	No Method Code	PM17	Modified method EN12457-2 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.			AR	
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465 and BS1377.			AR	

Appendix - Methods used for WAC (2003/33/EC)

Leachate tests	
10l/kg; 4mm	I.S. EN 12457-2:2002 Specified particle size; water added to L/S ratio; capped; agitated for 24 ± 0.5 hours; eluate settled and filtered over 0.45 µm membrane filter.
Eluate analysis	
As	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Ba	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cd	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cr total	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Cu	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Hg	I.S. EN 13370 rec. EN 1483 (CVAAS)
Mo	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Ni	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Pb	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Sb	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Se	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Zn	I.S. EN 12506 : EN ISO 11885 (ICP-OES)
Chloride	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Fluoride	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Sulphate	I.S. EN 12506 rec. EN ISO 10304-part 1 (liquid chromatography of ions)
Phenol index	I.S. EN 13370 rec. ISO 6439 (4-Aminoantipyrine spectrometic methods after distillation)* (BY HPLC - Jones Env)
DOC	I.S. EN 1484
TDS	I.S. EN 15216
Compositional analysis	
TOC	I.S. EN 13137 Method B: carbonates removed with acid; TOC by combustion.
BTEX	GC-FID
PCB7**	I.S. EN 15308 analysis by GC-ECD.
Mineral oil	I.S. EN 14039 C10 to C40 analysis by GC-FID.
PAH17***	I.S. EN 15527 PAH17 analysis by GC-MS
Metals	I.S. EN 13657 - Aqua regia digestion: EN ISO 11885 (ICP-OES)
Other	
Dry matter	I.S. EN 14346 sample is dried to a constant mass in an oven at 105 ± 3 °C; Method B Water content by direct Karl-Fischer-titration and either volumetric or coulometric detection.
LOI	I.S. EN 15169 Difference in mass after heating in a furnace up to 550 ± 25 °C.
ANC	CEN/TS 15364 Determined by amouns of acid or base needed to cover the pH range

Notes:

*If not suitable due to LOD, precision, etc., any other suitable method can be used, e.g. AFS, ICP-MS

**PCB-28, PCB-52, PCB-101, PCB-118, PCB-138, PCB-153 and PCB-180

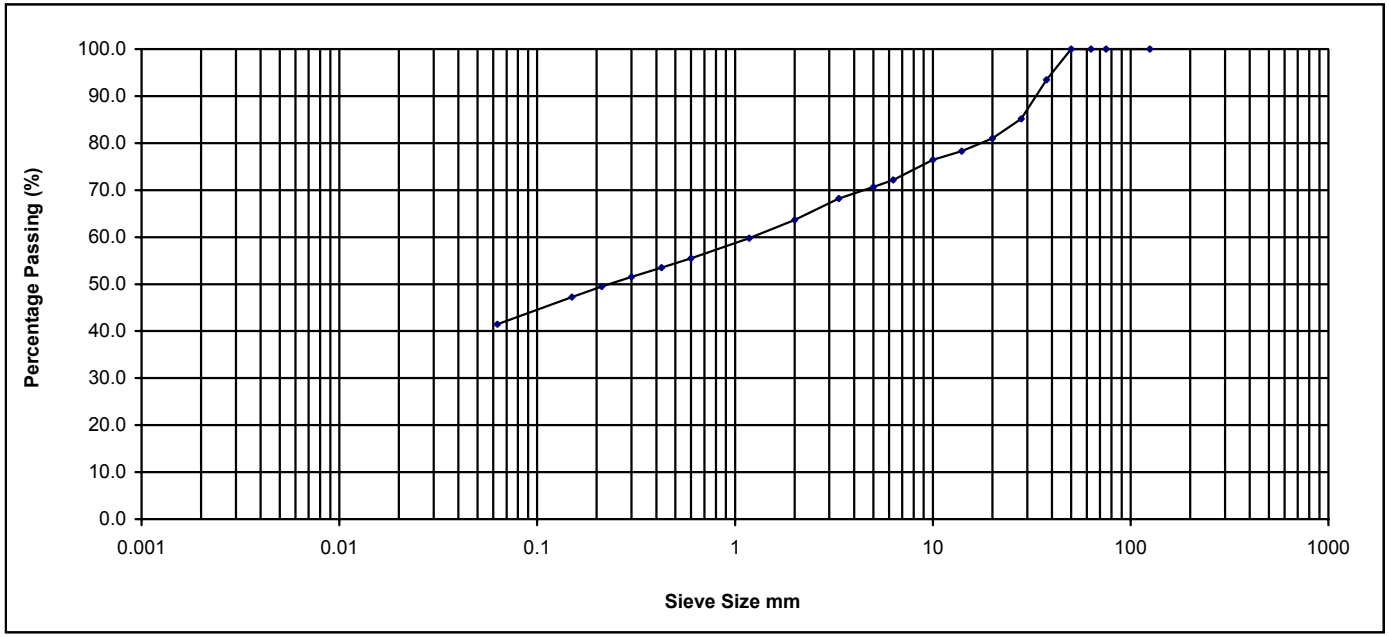
***Naphthalene, Acenaphthylene, Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene, Benzo(a)pyrene, Chrysene, Coronene, Dibenzo(a,h)anthracene, Fluorene, Fluoranthene, Indeno(1,2,3-c,d)pyrene, Phenanthrene and Pyrene.

NMTL Ltd

Determination of Particle Size Distribution

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

Sieve Size mm	% Passing
125.000	100.0
75.000	100.0
63.000	100.0
50.000	100.0
37.500	93.5
28.000	85.2
20.000	81.0
14.000	78.3
10.000	76.5
6.300	72.1
5.000	70.7
3.350	68.2
2.000	63.6
1.180	59.7
0.600	55.5
0.425	53.5
0.300	51.5
0.212	49.5
0.150	47.2
0.063	41.5



Percentage Particle Size

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulder
		Silt			Sand			Gravel			
		41.5			22.2			36.4		0.0	0.0

Sample Description: Dark brown slightly sandy gravelly silty CLAY.

Project: Branville

Operator	Tzr	Checked	Nc	Approved	Bc	Date sample tested	15/12/2017

Project No. NMTL 2375

BH/TP No. BH02

Sample No. B

Depth 2.00m

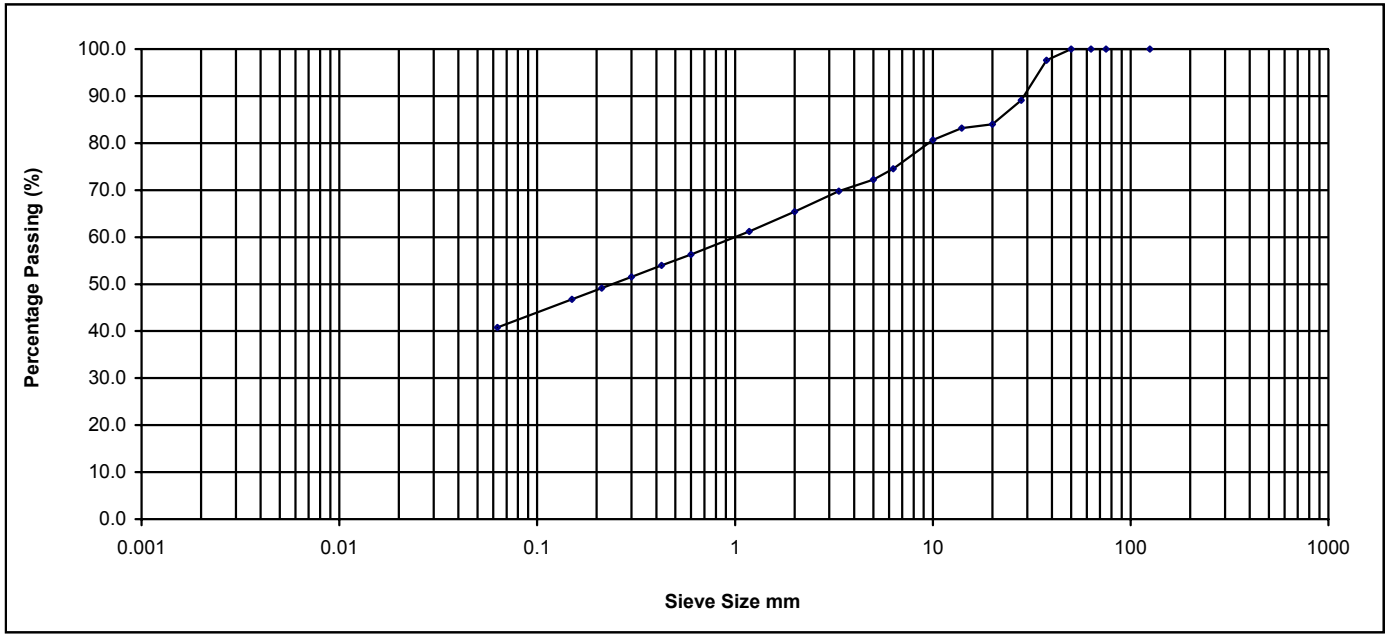
NMTL Ltd

NMTL Ltd

Determination of Particle Size Distribution

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

Sieve Size mm	% Passing
125.000	100.0
75.000	100.0
63.000	100.0
50.000	100.0
37.500	97.6
28.000	89.1
20.000	84.0
14.000	83.2
10.000	80.6
6.300	74.5
5.000	72.2
3.350	69.7
2.000	65.4
1.180	61.2
0.600	56.3
0.425	54.0
0.300	51.6
0.212	49.2
0.150	46.7
0.063	40.7



Percentage Particle Size

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulder
		Silt			Sand			Gravel			
		40.7			24.7			34.6		0.0	0.0

Sample Description: Dark brown slightly sandy slightly gravelly silty CLAY.

Project: Branville

Operator	Tzr	Checked	Nc	Approved	Bc	Date sample tested	15/12/2017

Project No.	NMTL 2375
BH/TP No.	BH04
Sample No.	B
Depth	3.00m

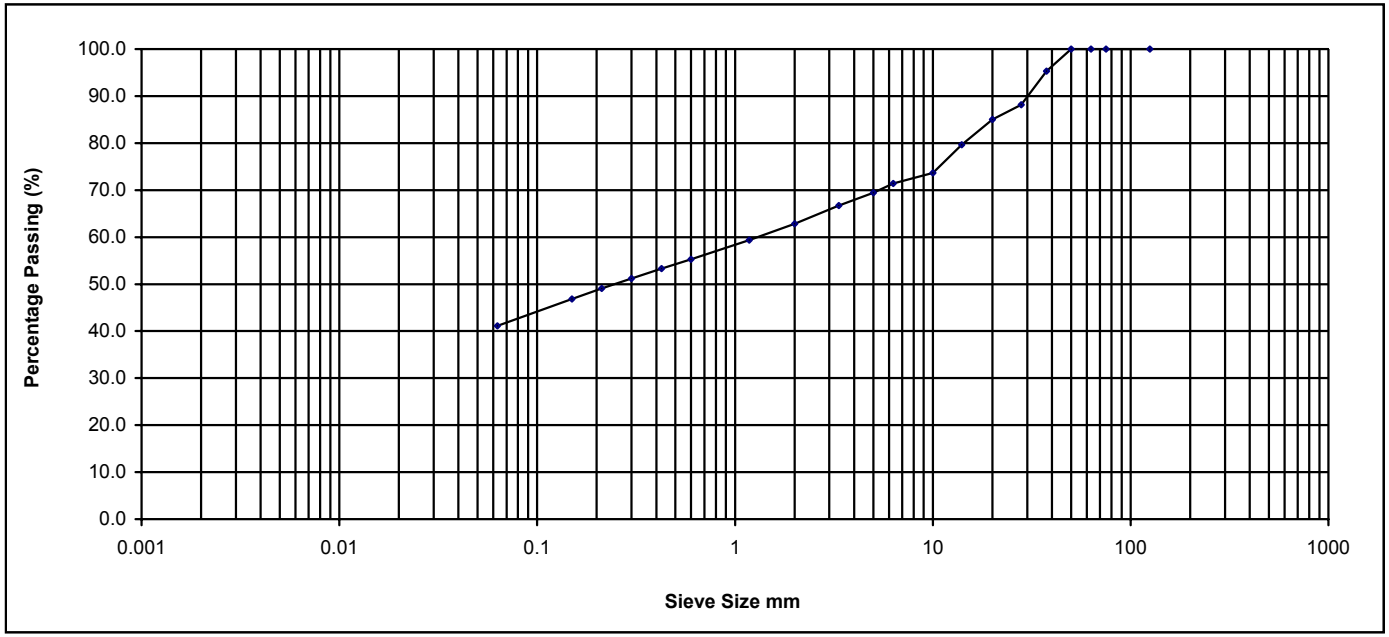
NMTL Ltd

NMTL Ltd

Determination of Particle Size Distribution

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

Sieve Size mm	% Passing
125.000	100.0
75.000	100.0
63.000	100.0
50.000	100.0
37.500	95.3
28.000	88.1
20.000	85.0
14.000	79.7
10.000	73.7
6.300	71.4
5.000	69.4
3.350	66.7
2.000	62.9
1.180	59.4
0.600	55.3
0.425	53.3
0.300	51.2
0.212	49.1
0.150	46.9
0.063	41.1



Percentage Particle Size

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulder
		Silt			Sand			Gravel			
		41.1			21.7			37.1		0.0	0.0

Sample Description: Dark brown slightly sandy gravelly silty CLAY.

Project: Branville

Operator	Tzr	Checked	Nc	Approved	Bc	Date sample tested	15/12/2017

Project No.	NMTL 2375
BH/TP No.	BH09
Sample No.	B
Depth	1.00m

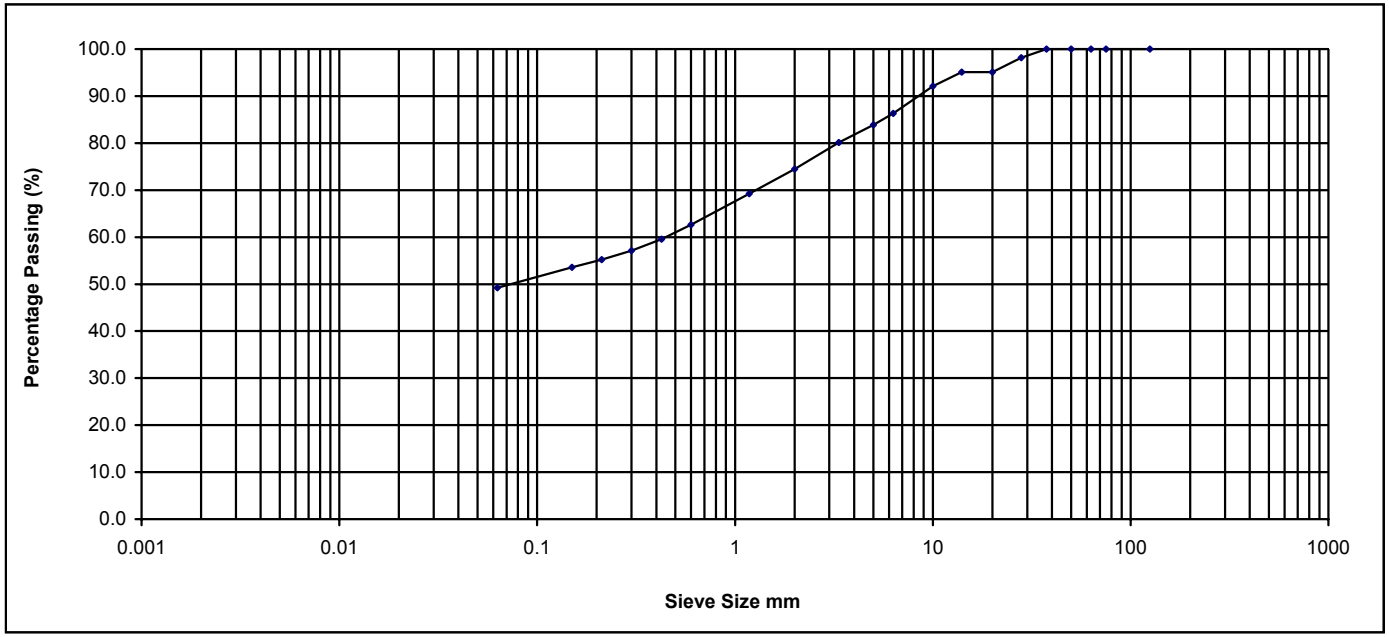
NMTL Ltd

NMTL Ltd

Determination of Particle Size Distribution

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

Sieve Size mm	% Passing
125.000	100.0
75.000	100.0
63.000	100.0
50.000	100.0
37.500	100.0
28.000	98.2
20.000	95.1
14.000	95.1
10.000	92.1
6.300	86.3
5.000	83.8
3.350	80.1
2.000	74.5
1.180	69.2
0.600	62.6
0.425	59.6
0.300	57.1
0.212	55.2
0.150	53.6
0.063	49.2



Percentage Particle Size

Clay	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Cobbles	Boulder
		Silt			Sand			Gravel			
		49.2			25.3			25.5		0.0	0.0

Sample Description: Dark brown slightly sandy slightly gravelly silty CLAY.

Project: Branville

Operator	Tzr	Checked	Nc	Approved	Bc	Date sample tested	15/12/2017

Project No. NMTL 2375

BH/TP No. BH12

Sample No. B

Depth 3.00m

NMTL Ltd

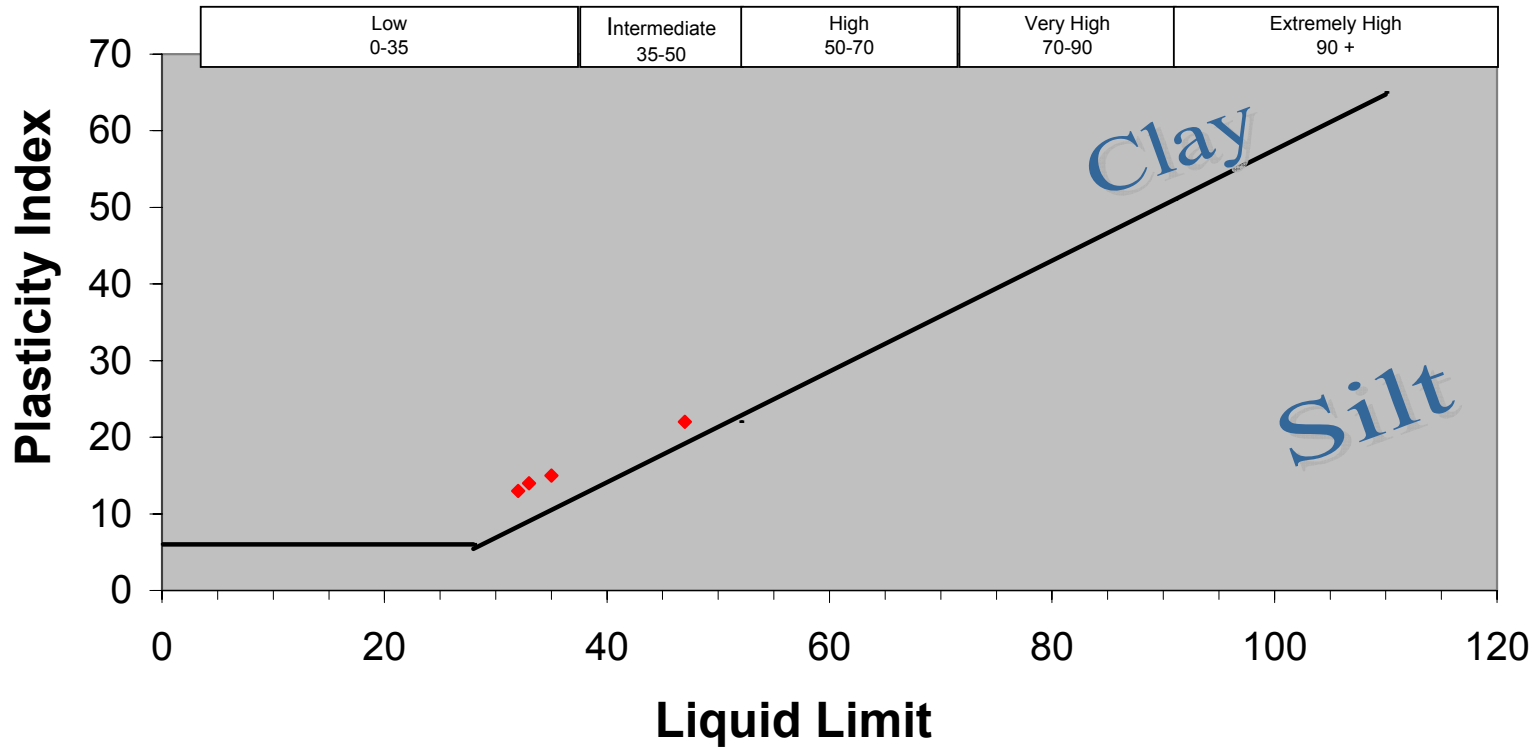
National Materials Testing Laboratory Ltd.

SUMMARY OF TEST RESULTS

				Particle			Index Properties		Bulk	Cell	Undrained Triaxial Tests		Lab	
BH/TP	Depth	sample	Moisture	Density	<425um	LL	PL	PI	Density	Presssure	Compressive	Strain at	Vane	Remarks
No	m	No.	%	Mg/m3	%	%	%	%	Mg/m3	kPa	Stress kPa	Failure %	kPa	
BH02	2.00	B	19.1		53.5	35	20	15						
BH04	3.00	B	18.4		54.0	33	19	14						
BH09	1.00	B	15.2		53.3	32	19	13						
BH12	3.00	B	25.2		59.6	47	25	22						

NMTL	Notes :	Job ref No.	NMTL 2375	Table
	1. All BS tests carried out using preferred (definitive) method unless otherwise stated.	Location	Branville	

NMTL LTD **Unit 18c, Tullow Industrial Estate** **Tullow** **County Carlow** **Tel: 00353 59 9180822** **Mob: 00353 872575508** billachana@eircom.net	**Contract:** Branville **Client:** Ground Investigations Ireland Ltd **Engineer:** N/A **Date:** 19/12/2017 **Tested By:** Tzr **Checked:** Bc **Job ref No.** NMTL 2375



B. GII Site Investigation Report – Cherry Orchard Site 4 and 5 undertaken in 2024

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

Ground Investigations Ireland

Cherry Orchard Site 4 and 5 Phase 2

LDA

Ground Investigation Report

August 2024

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

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

DOCUMENT CONTROL SHEET

Project Title	Cherry Orchard Sites 4 & 5 Phase 2
Engineer	Waterman Moylan
Client	LDA
Project No	13687-03-24
Document Title	Ground Investigation Report

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
A	Interim	M Sutton	M Sutton	C Finnerty	Dublin	27 June 2024
B	Interim	M Sutton	M Sutton	C Finnerty	Dublin	02 July 2024
C	Final	M Sutton	M Sutton	C Finnerty	Dublin	28 August 2024

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

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

CONTENTS

1.0 Preamble 1
2.0 Overview 1
2.1. Background 1
2.2. Purpose and Scope 1
3.0 Subsurface Exploration 1
3.1. General 1
3.2. Trial Pits 2
3.3. Slit Trenching 2
3.4. Soakaway Testing 2
3.5. Window Sampling 2
3.6. Cable Percussion Boreholes 3
3.7. Rotary Boreholes 3
3.8. Surveying 4
3.9. Laboratory Testing 4
4.0 Ground Conditions 5
4.1. General 5
4.2. Groundwater 6
4.3. Laboratory Testing 6
4.3.1. Geotechnical Laboratory Testing 6
4.3.2. Chemical Laboratory Testing 6
4.3.3. Environmental Laboratory Testing 7
4.3.4. Rock Laboratory Testing 7
5.0 Recommendations & Conclusions 8
5.1. General 8
5.2. Foundations Recommendations - Whole Site 8
5.3. Site 4 - Foundations Block 1,2 and 3 8
5.4. Site 4 - Foundations Block 5 9

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

5.5. Site 4 - Foundations Block 6 and 7 10
5.6. Site 4 - Foundations Block 8 and 9 11
5.7. Site 4 - Foundations Block 10 11
5.8. Site 4 - Foundations Northern Section of Site 4 12
5.9. Site 5 Foundations 13
5.10. Excavations 14
5.11. Soakaway Design 14

APPENDICES

Appendix 1	**Site Location Plan**
Appendix 2	**Trial Pit Records**
Appendix 3	**Slit Trench Records**
Appendix 4	**Soakaway Records**
Appendix 5	**Window Sample Records**
Appendix 6	**Cable Percussion Borehole Records**
Appendix 7	**Rotary Core Records**
Appendix 8	**Laboratory Testing**

1.0 Preamble

On the instructions of Waterman Moylan Engineers, a second phase of site investigation was carried out by Ground Investigations Ireland Ltd., between May and June at the site of the proposed Residential Development in Cherry Orchard, Dublin 10.
An initial phase of investigation was previously carried by Ground investigations Ireland in 2022. Report reference for the 1st phase of investigation is 'Cherry Orchard Site 4 & 5 14-11-2022 Rev A'

2.0 Overview

2.1. Background

It is proposed to construct a new residential development with associated services, access roads and car parking at the proposed site. The area proposed for development consists of site 4 to the West of Park West Avenue and site 5 to the East of park West Avenue. Site 4 is currently a mixture of greenfield and brownfield and some areas of the site previously used as a site compound. Site 5 is a brownfield site where infilling has taken place. The proposed construction is envisaged to consist of piled or conventional foundations and pavement make up with some local excavations for services and plant. It is understood that building heights will vary from 2 to 10+ stories across the two sites.

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 118 No. Trial Pits to a maximum depth of 3.6m BGL
- Carry out 5 No. Soakaways to determine a soil infiltration value to BRE digest 365
- Carry out 6 No. Slit trenches to determine existing services.
- Carry out 5 No. Window Sample Boreholes to recover soil samples
- Carry out 33 No. Cable Percussion boreholes to a maximum depth of 4.0m BGL
- Carry out 14 No. Rotary Core Boreholes to a maximum depth of 10.1m BGL
- Geotechnical & 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 was undertaken in the exploratory holes to facilitate the geotechnical descriptions and to enable laboratory testing to be carried out on the soil samples recovered during excavation and drilling.
The procedures used in this site investigation are in accordance with Eurocode 7 Part 2: Ground Investigation and testing (ISEN 1997 – 2:2007) and B.S. 5930:2015.

3.2. Trial Pits

The trial pits were excavated using a 8T, 13T tracked or 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. Slit Trenching

The slit trenches were excavated using 3T tracked 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 soil was slowly stripped using a spotter on the trench to alert the driver if any services were seen, to avoid damage to any underlying services. The slit trenches 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 slit trench records which are provided in Appendix 3 of this Report.

3.4. Soakaway Testing

The soakaway testing was carried out in selected trial pits at the locations shown in the exploratory hole location plan in Appendix 1. These pits were carefully excavated and filled with water to assess the infiltration characteristics of the proposed site. The pits were allowed to drain and the drop in water level was recorded over time as required by BRE Digest 365. The pits were logged prior to completing the soakaway test and were backfilled with arising's upon completion. The soakaway test results are provided in Appendix 4 of this Report.

3.5. Window Sampling

The window sampling was carried out at the locations shown in the location plan in Appendix 1 using a Tecopsa SPT Tec 10 percussion drilling rig. The window sampling consists of a 1m long steel tube with a cutting edge and an internal plastic liner which is mechanically driven into the ground utilising a 50kg weight falling a height of 500mm. Upon completion of the 1m sample, the tube is withdrawn and the plastic liner removed and sealed for logging and sub sampling by a Geotechnical Engineer/Engineering Geologist. The tube is replaced in the borehole and a subsequent 1m sample can be recovered. Occasionally outer casing

or a reduced diameter tube is utilised to enable the window sample to progress in difficult drilling conditions. Geotechnical or environmental soil samples can be recovered from each of the liners following logging. The window sample records are provided in Appendix 5 of this Report.

3.6. Cable Percussion Boreholes

The Cable Percussion Boreholes were drilled using a Dando 2000 drilling rig with regular in-situ testing and sampling undertaken to facilitate the production of geotechnical logs and laboratory testing.
The standard method of boring in soil for site investigation is known as the Cable Percussion method. It consists of using a Shell in non cohesive soils and a clay cutter in cohesive soils, both operated on a wire cable. Very hard soils, boulders and other hard obstructions are broken up by chiselling and the fragments removed with the Shell. Where ground conditions made it necessary, the borehole was lined with 200mm diameter steel casing. While the use of the Cable Percussion method of boring gives the maximum data on soil conditions, some mixing of laminated soil is inevitable. For this reason, thin lenses of granular material may not be noticed. Disturbed samples were taken from the boring tools at suitable depths, so that there is a representative sample at the top of each change in stratum and thereafter at regular intervals down the borehole until the next stratum was encountered. The disturbed samples were then sealed and sent to the laboratory where they were visually examined to confirm the description of the relevant strata.
Standard Penetration Tests were carried out in the boreholes. The results of these tests, together with the depths at which the tests were taken are shown on the accompanying borehole records. The test consists of a thick wall sampler tube, 50mm external diameter, being driven into the soil by a monkey weighing 63.5kg and with a free drop of 760mm. For gravels and glacial till the driving shoe was replaced by a solid 60º cone. The Standard Penetration Test number referred to as the 'N' value is the number of blows required to drive the tube 300mm, after an initial penetration of 150mm. The number gives a guide to the consistency of the soil and can also be used to estimate the relative strength/density at the depth of the test and also to estimate the bearing capacity and compressibility of the soil. The cable percussion borehole logs are provided in Appendix 6 of this Report.

3.7. Rotary Boreholes

The rotary coring was carried out by a track mounted T44 Beretta rig at the locations shown on the location plan in Appendix 1. The rotary boreholes were completed from the ground surface or alternatively, where noted on the individual borehole log, from the base of the cable percussion borehole where a temporary liner was installed to facilitate follow-on rotary coring.
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 7 of this Report.

3.8. Surveying

The exploratory hole locations have been recorded using a KQ GEO Technologies KQ-M8 System which records the coordinates and elevation of the locations to ITM or Irish National Grid as required by the project specification. The coordinates and elevations are provided on the exploratory hole logs in the appendices of this Report.

3.9. 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, pH and sulphate testing was carried out by Element Materials Technology Laboratory in the UK. The Rilta suite testing includes both Solid Waste and Leachate Waste Acceptance Criteria.

Geotechnical testing consisting of moisture content, Atterberg limits, Particle Size Distribution (PSD) were carried out in Professional Soils Laboratory (PSL Ltd) in the UK.

Rock strength testing including Point Load (Is_{50}) and Unconfined Compressive Strength (UCS) testing was carried out in CMTL Portlaoise Geotechnical Laboratory

The results of the laboratory testing are included in Appendix 8 of this Report.

4.0 Ground Conditions

4.1. General

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

The sequence of strata encountered generally comprised;

- Topsoil
- Made Ground
- Granular Deposits
- Cohesive Deposits
- Weathered Bedrock
- Bedrock

TOPSOIL: Topsoil was encountered in the majority of the exploratory holes and was present to a maximum depth of 0.3m BGL. Tarmac and concrete surfacing was present in the slit trenches.

MADE GROUND: Made Ground deposits were encountered beneath the Topsoil/Surfacing at some locations and were present to depths of up to 2.1m BGL. These deposits were described generally as either *grey sandy Gravel* or *brown sandy slightly gravelly CLAY with frequent cobbles and boulders and contained occasional fragments of concrete, red brick, glass and plastic.*

COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Topsoil or Made Ground and were described typically as *brown sandy gravelly CLAY with occasional cobbles and boulders, in places* overlying a *stiff black sandy gravelly CLAY with occasional cobbles and boulders*. The secondary sand and gravel constituents varied across the site and with depth, with granular lenses occasionally present in the glacial till matrix. The strength of the cohesive deposits typically increased with depth and was generally firm to stiff or stiff below 1.0m BGL in the majority of the exploratory holes. These deposits had some, occasional or frequent cobble and boulder content, where noted on the exploratory hole logs.

WEATHERED BEDROCK: In some of exploratory holes weathered rock was encountered which was digable with the large excavator to a depth of up to 2.0m below the top of the stratum. The trial pits were terminated upon encountering the more competent bedrock, in which further excavation became more difficult. This material was recovered typically as angular gravel and cobbles of Limestone/Mudstone however there was some variability in the fracture spacing and the ease at which the excavator could progress. Some clay and sand were also present with the rock mass either from weathering or as infilling to fractures which were opened upon excavation. In some locations residual soil was encountered described as slightly sandy very gravelly CLAY.

BEDROCK: The rotary core boreholes recovered Medium strong to strong grey/dark grey fine to medium grained laminated argillaceous LIMESTONE interbedded with weak black fine grained laminated calcareous Mudstone. This is typical of the Calp Formation, which is noted on the geological mapping of the proposed site. Rare visible pyrite veins were noted during logging which are typically present within the Calp Limestone. It should be noted that in some areas competent bedrock was encountered overlying more highly weathered rock recovered as residual soil.

The depth to rock varies from 2.0m BGL in RC02 to a maximum of 6.1m and 6.6m BGL in BH78 and BH77. The total core recovery is good, typically 100% with some of the uppermost runs dropping to 80 or 90%. The SCR and RQD both are relatively poor in the upper weathered zone, often recovered as non-intact, however both indices show an increase with depth in each of the boreholes.

4.2. Groundwater

Groundwater strikes are noted on the exploratory hole logs where they occurred and where possible drilling was suspended for twenty minutes to allow the subsequent rise in groundwater to be recorded. We would point out 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.

4.3. Laboratory Testing

4.3.1. Geotechnical Laboratory Testing

The geotechnical testing carried out on soil samples recovered generally confirm the descriptions on the logs with the primary constituent of the cohesive deposits found to be a CLAY of low to intermediate plasticity. The Particle Size Distribution tests confirm that generally the cohesive deposits are well-graded with percentages of sands and gravels ranging between 8% and 54% generally with fines contents of 21% to 69%.

4.3.2. Chemical Laboratory Testing

The pH and sulphate testing carried out indicate that pH results are near neutral and that the water soluble sulphate results is low when compared to the guideline values from BRE Special Digest 1:2005. The samples tested classify the soil as a Design Sulphate Level DS-1.

4.3.3. 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.

4.3.4. Rock Laboratory Testing

The rock testing carried out on samples recovered from the boreholes reported Unconfined Compressive Strength (UCS) values ranging between 41.6 and 144.0 MPa while the point load testing gave Is_{50} values ranging between 1.40 to 6.71 MPa. The Is_{50} results correlate to the UCS values using a factor of approximately 20, giving values of 28 MPa and 134.2 MPa. These results correlate to the strength descriptions ranging between of Extremely Weak to Very Strong and confirming the variability of this stratum and the descriptions on the logs.

The results from the completed laboratory testing are included in Appendix 9 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 Recommendations - Whole Site

The proposed foundation scheme has been advised as strip or pad foundations bearing on the bedrock underlying the site. This is a practical solution where the depth to bedrock is shallow and where high loading is anticipated. The depth to bedrock is generally within the normal range for conventional foundations across the site however in some locations, where the depth to rock is deeper, an alternative solution may be more practical. If basements are proposed below the proposed structures, then the depth to reach the proposed foundation stratum will be more achievable. If the proposed excavation is greater than the depth of conventional excavation equipment, such as at the location of BH77 & BH78, then the use of benched excavations or piled foundations may be more appropriate.

A ground bearing floor slab is recommended to be based on the firm or firm to stiff cohesive deposits with an appropriate depth of compacted hardcore specified by the consulting engineer and in accordance with the limits and guidelines in SR21:2014+A1:2016 and/or NRA SRW CL808 Type E granular stone fill. Where the depth of Made Ground/Soft deposits exceeds 0.9m then suspended floor slabs should be considered.

The pH and sulphate testing completed on samples recovered from the exploratory holes indicates the pH results are near neutral and the sulphate results are low, when compared to the guideline values from BRE Special Digest 1:2005. No special precautions are required for concrete foundations to prevent sulphate attack. The samples tested were below the limits of DS1 in the BRE Special Digest 1:2005.

5.3. Site 4 - Foundations Block 1,2 and 3

The following investigations that were undertaken in in the area of site where Blocks 1, 2 and 3 are proposed are shown in Table 1 below.

Table 1 - Investigation points at location of Block 1,2 and 3

Investigation Type	Investigation ID
Trial Pit	TP116 / TP117/ TP118/ TP119/ TP120 / TP121 / TP123 / TP124 / TP125 / TP126 / TP127 /TP128 / TP129 / TP130 / TP131 / TP132 / TP133 / TP134 / TP135 / TP136

Cable Percussion Borehole	BH86 / BH88 / BH90 / BH91
Rotary Borehole	BH85 / BH87 / BH89 / RC01 / RC02 / RC03
Previous Investigation	BH16 / ST08 (Information provided in report 'Cherry Orchard Site 4 & 5 14-11-2022 Rev A')

Is it understood that structures up to 14 stories are proposed which will result in a high loading on the proposed foundations. It is recommended that foundations are excavated to the underlying bedrock where an allowable bearing capacity of 1000 kN/m^2 is recommended for conventional strip or pad foundations. In the area proposed for block 1, 2 and 3 the bedrock was encountered in the boreholes at depths of between 2.0m BGL in RC03 and 4.3m BGL in BH85. In the areas where bedrock is deeper, lean mix trench fill from bedrock to foundation level is anticipated to achieve the recommended allowable bearing capacity. In any part of the site, should part of the foundation be on rock we would recommend that all the foundations of the unit in question be lowered to the competent rock stratum to avoid differential settlement.

The possibility for variation in the depth of the bedrock 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.

5.4. Site 4 - Foundations Block 5

The investigations that were undertaken in in the area of site where Block 5 is proposed are shown in Table 2 below.

Table 2 – Investigation points at location of Block 5	
Investigation Type	**Investigation ID**
Trial Pit	TP025 / TP106 / TP107 / TP108/ TP109 / TP110 / TP111 / TP112 / TP113 / TP114 / TP115
Cable Percussion Borehole	BH83
Rotary Borehole	BH81 / BH82
Previous Investigation	BH10 / ST07 / TP05 (See report 'Cherry Orchard Site 4 & 5 14-11-2022 Rev A')

As apartments are proposed with high loading, it may be more economically advantageous that foundations are excavated to the underlying bedrock where an allowable bearing capacity of 1000 kN/m^2 is recommended for conventional strip or pad foundations.

In the area proposed for block 5, the bedrock was encountered in the boreholes at depths of between 2.7m BGL in BH81 and 4.0m BGL in BH82. In the areas where bedrock is deeper, lean mix trench fill from bedrock to foundation level is anticipated to achieve the recommended allowable bearing capacity. In any

part of the site, should part of the foundation be on rock we would recommend that all the foundations of the unit in question be lowered to the competent rock stratum to avoid differential settlement.

The possibility for variation in the depth of the made ground and bedrock 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.

5.5. Site 4 - Foundations Block 6 and 7

The investigations that were undertaken in the area of site where Blocks 6 and 7 are proposed are shown in Table 3 below.

Table 3- Investigation points at location of Block 6 and 7	
Investigation Type	**Investigation ID**
Trial Pit	TP091 / TP092 / TP093 / TP094 / TP095 / TP096 / TP097 / TP098 / TP099 / TP100 / TP101 /TP102 / TP103 / TP104 / TP122
Cable Percussion Borehole	BH75 / BH79 / BH84
Rotary Borehole	BH76 / BH77 / BH78 / BH80
Previous Investigation	TP09 / BH15 (Information provided in report 'Cherry Orchard Site 4 & 5 14-11-2022 Rev A')

As apartments are proposed with high loading, it may be more economically advantageous that foundations are excavated to the underlying bedrock where an allowable bearing capacity of 1000 kN/m^2 is recommended for conventional strip or pad foundations.

In the area proposed for block 6 and 7 the bedrock was encountered in the boreholes at depths of between 2.3m BGL in BH76 and 6.8m BGL in BH77. In the areas where bedrock is deeper, lean mix trench fill from bedrock to foundation level is anticipated to achieve the recommended allowable bearing capacity. In the southern area of block 6 & 7, bedrock was encountered at 6.10m BGL in BH78 and 6.6m BGL in BH77 with a possible raft of Limestone overlying possible highly weathered rock recovered as residual (highly weathered) rock. The use of conventional strip or pad foundations on the bedrock may be practical here where basements are proposed below the proposed structures. If excavation from ground level is proposed, benched excavations or alternative methods should be considered to safely excavate to the competent bedrock.

In any part of the site, should part of the foundation be on rock we would recommend that all the foundations of the unit in question be lowered to the competent rock stratum to avoid differential settlement.

The possibility for variation in the depth of the bedrock 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.

5.6. Site 4 - Foundations Block 8 and 9

The investigations that were undertaken in the area of site where Blocks 8 and 9 are proposed are shown in Table 4 below.

Table 4 – Investigation points at location of Block 8 and 9	
Investigation Type	**Investigation ID**
Trial Pit	TP020 / TP021 / TP039 / TP040 / TP041 / TP042 / TP043 / TP044 / TP045 / TP046 / TP047 /TP048 / TP049
Cable Percussion Borehole	BH71 / BH72 / BH73 / BH74
Rotary Borehole	BH73
Previous Investigation	BH09 / BH14 (Information provided in report 'Cherry Orchard Site 4 & 5 14-11-2022 Rev A')

As apartments are proposed with high loading, it may be more economically advantageous that foundations are excavated to the underlying bedrock where an allowable bearing capacity of 1000 kN/m^2 is recommended for conventional strip or pad foundations.

In the area proposed for block 8 and 9, the bedrock was encountered in the boreholes at depths of between 3.2m BGL in BH73 and 2.25m BGL in BH09. In the areas where bedrock is deeper, lean mix trench fill from bedrock to foundation level is anticipated to achieve the recommended allowable bearing capacity. In any part of the site, should part of the foundation be on rock we would recommend that all the foundations of the unit in question be lowered to the competent rock stratum to avoid differential settlement.

The possibility for variation in the depth of the bedrock 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.

5.7. Site 4 - Foundations Block 10

The investigations that were undertaken in the area of site where Blocks 10 are proposed are shown in Table 5 below.

Table 5 - Investigation points at location of Block 10	
Investigation Type	**Investigation ID**
Trial Pit	TP091 / TP092 / TP093 / TP094 / TP095 / TP096 / TP097 / TP098 / TP099 / TP100 / TP101 /TP102 / TP103 / TP104 / TP122

Cable Percussion Borehole	BH75 / BH79 / BH84
Rotary Borehole	BH66
Previous Investigation	TP04 / BH09 (Information provided in report 'Cherry Orchard Site 4 & 5 14-11-2022 Rev A')

As apartments are proposed with high loading, it may be more economically advantageous that foundations are excavated to the underlying bedrock where an allowable bearing capacity of 1000 kN/m^2 is recommended for conventional strip or pad foundations.

In the area proposed for block 10 the bedrock was encountered in the boreholes at depths of between 2.25m BGL in BH09 and 4.00m BGL in BH66. In the areas where bedrock is deeper, lean mix trench fill from bedrock to foundation level is anticipated to achieve the recommended allowable bearing capacity. In any part of the site, should part of the foundation be on rock we would recommend that all the foundations of the unit in question be lowered to the competent rock stratum to avoid differential settlement.

The possibility for variation in the depth of the bedrock 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.

5.8. Site 4 - Foundations Northern Section of Site 4

The investigations that were undertaken in the northern part of the site are shown in Table 6 below.

Table 6 - Investigation points in the Northern Part of site 4	
Investigation Type	**Investigation ID**
Trial Pit	TP032 / TP033 / TP034 / TP035 / TP036 / TP037 / TP097 / TP098 / TP050 / TP051 / TP052 / TP053 / TP054 / TP055 / TP056 / TP057 / TP058 / TP059 / TP060 / TP061 / TP062 / TP063 / TP064 / TP065 / TP066 / TP067 / TP068 / TP069 / TP070 / TP071 / TP072 / TP073 / TP074 / TP075 / TP076 / TP077 / TP078 / TP079 / TP080 / TP081 / TP082 / TP083 / TP084 / TP085 / TP086 / TP087 /TP088 / TP089 / TP090 / TP137
Cable Percussion Borehole	BH50 /BH51 /BH52 / BH53 / BH54 / BH55 / BH56 / BH57 / BH58 / BH59 / BH60 / BH61 / BH63 / BH64 / BH65
Previous Investigation	BH01 / BH03 / BH07 / BH08 / BH12 / BH13 / ST01 / ST02 / ST03 / ST05 / TP01 / TP02 / TP03 / TP07 (Information provided in report 'Cherry Orchard Site 4 & 5 14-11-2022 Rev A')

An allowable bearing capacity of 100 kN/m^2 is recommended for conventional strip or pad foundations on the stiff cohesive deposits at a depths of between 1.0m and 2.00m BGL on the northern part of the site for lightly loaded structures or conventional two-story residential development. A higher allowable bearing

capacity of 250 kN/m^2 is recommended on the very stiff dark grey/black cohesive deposits however this stratum is not present in each of the exploratory holes completed and in some cases rock is shallow.

If apartments are proposed with high loading, it may be more economically advantageous that foundations are excavated to the underlying bedrock where an allowable bearing capacity of 1000 kN/m^2 is recommended for conventional strip or pad foundations. In any part of the site, should part of the foundation be on rock we would recommend that all the foundations of the unit in question be lowered to the competent rock stratum to avoid 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.

5.9. Site 5 Foundations

The investigations that were undertaken in the northern part of the site are shown in Table 7 below.

Table 7 - Investigation Site 5	
Investigation Type	**Investigation ID**
Window sample	WS01 / WS02 / WS03 / WS04 / WS05
Previous Investigation	BH17 / BH18 / BH19 BH19A / TP/DP11 / TP/DP12 / TP/DP13 / TP/DP14 / ST09 / ST10 / ST11 (Information provided in report 'Cherry Orchard Site 4 & 5 14-11-2022 Rev A')

On Site 5 deeper Made Ground was encountered consistently across the site. An allowable bearing capacity of 100 kN/m^2 is achievable for strip or pad foundations at a depth of between 2.0m and 3.2m BGL below the Made Ground on the firm to stiff cohesive deposits. If apartments are proposed with high loading, it may be more economically advantageous that foundations are excavated to the underlying bedrock where an allowable bearing capacity of 1000 kN/m^2 is recommended for conventional strip or pad foundations.

The depth to bedrock is between 4.0m BGL in BH17 and 5.6m in BH18. In any part of the site, should part of the foundation be on rock we would recommend that all the foundations of the unit in question be lowered to the competent rock stratum to avoid 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.

5.10. 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, Peat 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 and are likely to require dewatering due to the groundwater seepages noted in the exploratory hole logs in the Appendices of this Report.
The groundwater and stability noted on the trial pit logs should be consulted when determining the most appropriate construction methods for excavations

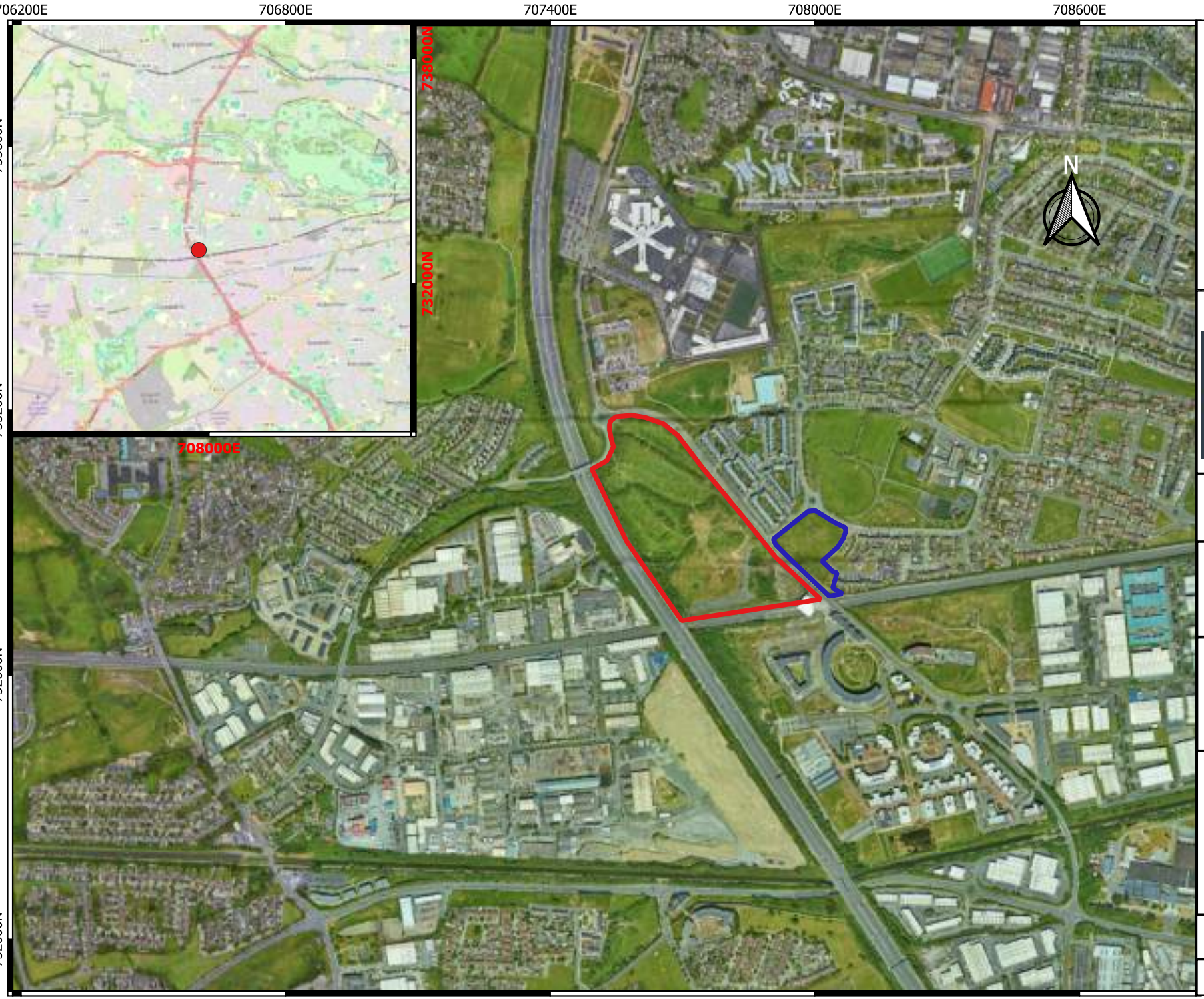
Excavations in the upper cohesive and weathered rock deposits are expected to be excavatable with conventional excavation equipment, with zones of more intact bedrock below this depth requiring rock breaking techniques. Based on the fracture spacing, the rock strength testing and Pettifer & Fookes (1994) Revised Excavatability Graph, the Calp Limestone ranges from hard digging to hard ripping, however the zones recovered as non-intact should be easy to hard digging. The 13T excavator was generally able to excavate to depths of 0.9m to 1.9m below the top of the weathered rock and became difficult to excavate within the confines of the trial pit on encountering the more competent rock.
The environmental testing completed during the ground investigation is reported under the cover of a separate GII Waste Classification/Subsoil Assessment Report.

5.11. Soakaway Design

At the locations of SA A, SA B, SA C, SA D, and SA E the water level dropped too slowly to allow calculation of ‘f’ the soil infiltration rate. These locations are therefore not recommended as suitable for soakaway design and construction.

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

APPENDIX 1 - Site Location Plan



Legend

- Site Location
- Site 4 Indicative Site Boundary
- Site 5 Indicative Site Boundary

Client:

LDA

Project Code:
13687-06-24

Project Title:
Cherry Orchard Sites 4 & 5

Drawing Title:
Site Location

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

0 100 200 300 400 m

Drawn By:	Date:
MS	26-06-2024


707550E
707600E
707650E
707700E
707750E
707800E
733150N
733100N
733050N
733000N
732950N
TP050
BH01
TP/DPH01
TP061
ST01
TP060
BH54
TP051
TP052
BH50
TP059
TP062
TP053
BH53
BH51
TP063
BH12
TP078
TP/DPH02
TP057
TP058
TP076
TP064
TP056
SA-A
TP077
ST01A
ST01B
BH07
TP067
TP080
TP079
TP055
TP065
TP/DPH07
TP068
TP066
TP054
TP090
TP075
BH57
ST05
TP081
TP069
BH58
BH02
BH52
TP074
TP137
TP082
TP083
TP089
BH13
ST02
BH56
TP084
TP088
BH59
BH55
TP072
TP073
TP087
TP040
TP070
TP085
ST02B
ST06
TP042
TP071
SA-B
TP086
ST02A
BH08
TP043
TP/DPH03
BH60
BH73
TP045
TP037
8
BH72
TP035
BH63
TP038
TP039
TP044
TP049
BH74
BH62
TP036
TP041
TP/DPH08
BH03
BH61
BH61A
9
BH71
BH14
TP034
BH64A
BH64
TP048
TP021
TP023
TP047
TP022
SA-C
BH69
BH65
BH70A
TP093
7
TP033
BH70
TP032
BH66
10
BH67
BH09
TP020
TP094
6
Legend
Borehole
Soakaway
Trial Pit
Previous Investigation
Silt Trench
Indicative Building Location
Spoil Heap Sample
Client:
LDA
Project Code:
13687-03-24
Project Title:
Cherry Orchard Sites 4&5
Phase 2
Drawing Title:
Investigation Locations
Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie
01-6015175/5176
0
10
20
30
40
50 m
Drawn By:
MS
Date:
20/06/2024


707700E
707750E
707800E
707850E
707900E
707950E
7330000N
7329500N
7329000N
7328500N
7328000N
SA-B
BH08
TP086
ST06
TP042
ST02A
TP043
BH73
TP045
8
BH72
TP038
TP039
TP046
TP044
BH74
TP036
TP/DPH08
9
BH71
TP049
BH14
TP041
TP023
TP021
TP048
TP047
TP091
TP022
SA-C
BH69
ST03C
ST03B
ST03B.1
BH70A
TP093
BH76
SPOILHEAP B
BH70
TP092
ST10
BH66
BH09
TP020
TP094
10
BH67
TP/DPH04
TP027
BH80
TP/DPH09
BH75
BH17
TP095
7
TP026
TP096
SPOILHEAP A
TP103
TP104
TP097
TP098
BH15
TP099
TP030
TP024
TP102
6
BH78
TP/DPH11
TP028
BH68
BH77
TP132
ST07
TP105
BH79
ST04C
SA-D
TP107
TP106
TP100
TP131
TP133
TP025
BH81
RC01
ST04B
ST04B.1
TP122
TP130
TP/DPH05
TP108
TP101
ST04.1A
TP129
BH10
5
RC03
2
TP134
BH91
TP109
BH84
TP029
TP110
TP114
TP127
BH85
TP/DPH10
TP128
BH05
BH83
BH82
TP115
3
ST08
RC02
TP135
SA-E
TP111
TP117
TP126
TP123
BH16
TP116
TP119
TP125
BH86
TP121
BH88
1
TP113
BH90
TP112
TP/DPH06
BH87
BH89
TP136
ST04
TP118
TP120
BH11
TP124
N
Legend
Borehole
Soakaway
Trial Pit
Previous Investigation
Silt Trench
Indicative Building Location
Spoil Heap Sample
Client:
LDA
Project Code:
13687-03-24
Project Title:
Cherry Orchard Sites 4&5
Phase 2
Drawing Title:
Investigation Locations
Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie
01-6015175/5176
0
10
20
30
40
50 m
Drawn By:
MS
Date:
20/06/2024



Legend

- Borehole
- Soakaway
- Trial Pit
- Previous Investigation
- Slit Trench
- Indicative Building Location
- Spoil Heap Sample

Client:

LDA

Project Code:
13687-03-24

Project Title:
Cherry Orchard Sites 4&5
Phase 2

Drawing Title:
Investigation Locations

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

0 10 20 30 40 50 m

Drawn By:	Date:
MS	20/06/2024

APPENDIX 2 – Trial Pit Records

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP020
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.30	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707766.7 E 732914.4 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.35)	Brown slightly sandy slightly gravelly TOPSOIL. Some fragments of plastic.Gravel is sub-angular to sub-rounded fine to coarse.		
				55.95	0.35	Firm light grey mottled brown slightly sandy gravelly CLAY with medium cobbles content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.75)			
				55.20	1.10	Weathered rock recovered as dark grey with angular cobbles and boulders LIMESTONE.		
					(1.10)			
				54.10	2.20	Residual Soil stiff dark grey slightly sandy very gravelly CLAY with high cobbles and boulders content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.70)			
				53.40	2.90	Weathered rock recovered as dark grey angular to sub-angular fine to course Gravel with many cobbles LIMESTONE.		
					(0.20)			
				53.20	3.10	Complete at 3.10m		

Plan

Remarks

Ground water encountered at 1.70m and 3.00m as slow seepage
Trial pit spalling
Trial pit backfilled upon completion
Trial pit refused at 3.10m BGL due to obstruction. Possible boulders or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP020

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP021
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.12	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707741.5 E 732941.6 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.02	(0.10) 0.10	Brown slightly sandy slightly gravelly TOPSOIL.		
0.50	B				(1.50)	Firm light brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	B			54.52	1.60	Weathered rock recovered as dark grey angular cobbles of limestone and mudstone.		
					(0.40)			
				54.12	2.00	Residual Soil Firm to stiff dark brownish grey slightly sandy very gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
2.40	B				(0.60)			
				53.52	2.60	Complete at 2.60m		

Plan

Remarks

No ground water encountered during excavation.
Trial pit spalling
Trial pit backfilled upon completion
Trial pit refused at 2.60m on obstruction. Possible boulders or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP021

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP022
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.40m x 1.00m x 2.70m	**Ground Level (mOD)** 56.32	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707691.8 E 732934.4 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Brown sandy gravelly TOPSOIL with fragments of glass. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.07	0.25	Soft to firm light brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.35)			
				55.72	0.60	Firm to stiff greyish brown slightly sandy gravelly CLAY with some cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.40)			
				55.32	1.00	Firm to stiff grey mottled brown slightly sandy gravelly CLAY with some cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Fast(1) at 1.50m.					▽1
					(1.30)			
				54.02	2.30	Stiff dark grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.40)			
			Fast(2) at 2.70m.	53.62	2.70	Complete at 2.70m		▽2

Plan

Remarks

Trial pit refused at 2.90m on obstruction. Possible bedrock or boulders.
Ground water encountered at 1.50m and 2.70m BGL as fast ingress.
Trial pit spalling.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP022

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP023
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.37	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707692 E 732941.6 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.27	(0.10) 0.10 (0.10)	Dark brown slightly gravelly organic clay TOPSOIL with rootlets and tyre. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.17	0.20	MADE GROUND brown sandy gravelly Clay with some ceramic. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	B				(0.60)	Soft light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.57	0.80	sift to firm grey sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.50)			
				55.07	1.30	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with cobbles and some boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	B				(1.10)			
			Moderate(1) at 2.20m.					▽1
2.40	B			53.97	2.40	Stiff dark grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.50)			
			Moderate(2) at 2.90m.	53.47	2.90	Complete at 2.90m		▽2

Plan

Remarks

Trial pit refused at 2.90m on obstruction. Possible boulders or bedrock.
Ground water encountered at 2.20m and 2.90m BGL as moderate ingress.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP023

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP024
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.84	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707730.4 E 732882.3 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown slightly sandy gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.54	0.30			
					(0.25)	Firm to stiff greyish brown slightly sandy gravelly CLAY with medium cobbles content. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50 0.50	B ES			56.29	0.55	Firm brown mottled grey slightly sandy gravelly CLAY with high cobbles and boulders content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.35)			
1.70	B							
				54.94	1.90	Weathered rock recovered as grey angular Gravel with cobbles content mudstone and limestone.		
					(0.50)			
2.40	B			54.44	2.40	Complete at 2.40m		

Plan

Remarks

Ground water encountered at 2.00m as slow seepage
Trial pit stable
Trial pit backfilled upon completion
Trial pit refused at 2.40m on obstruction. Possible rock or boulders.

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP024

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP025
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.0 x 1.10 x 2.0	**Ground Level (mOD)** 56.47	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707719.3 E 732860.5 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.37	(0.10) 0.10	brown sandy gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
0.50	B				(0.80)	MADE GROUND brown sandy gravelly Clay with cobbles, ,boulders and red brick fragments. Gravel is subangular to subrounded fine to coarse.		
				55.57	0.90	Firm to stiff brownish grey slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.60	B				(0.70)			
				54.87	1.60	Stiff grey slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
					(0.40)			
			slow(1) at 2.00m.	54.47	2.00	Complete at 2.00m		▽1

Plan

Remarks

Trial pit stable
Ground water encountered at 2.0m BGL slow ingress
Trial pit back filled upon completion
Trial pit refused at 2.00m BGL due to obstruction. Possible boulders or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP25

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP026
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.10m x 1.20m x 2.30m	**Ground Level (mOD)** 56.50	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707708 E 732900.7 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL with fragments of red brick and roots. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.20	0.30			
					(0.50)	Soft to firm grey slightly sandy gravelly CLAY with boulder recovered as angular cobble. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.70	0.80			
					(1.00)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.70	1.80			
					(0.20)	Stiff brown mottled grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.50	2.00			
					(0.30)	Stiff dark grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Moderate(1) at 2.30m.	54.20	2.30	Complete at 2.30m		▽1

Plan

Remarks

Trial pit refused at 2.30m BGL on obstruction. Possible boulders or bedrock.
Ground water encountered at 2.30m BGL as moderate ingress.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP026

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP027
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.00m x 1.00m x 2.80m	**Ground Level (mOD)** 56.27	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707686.4 E 732901.7 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL with fragments of glass, rubber and rootlets. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.97	0.30			
					(0.35)	Soft to firm light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	B			55.62	0.65			
					(0.65)	Soft to firm brownish grey sandy gravelly CLAY with cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.97	1.30			
1.50	B				(1.00)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with cobbles and rare boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Moderate(1) at 2.30m.	53.97	2.30			▽1
2.50	B				(0.50)	Stiff dark grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.47	2.80			
						Complete at 2.80m		

Plan

Remarks

Trial pit refused at 2.80m BGL on obstruction. Possible boulders or bedrock.
Ground water encountered at 2.30m BGL as moderate ingress.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP027

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP028
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.29	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707693.1 E 732873.9 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.09	(0.20) 0.20	Brown sandy gravelly TOPSOIL with rootlets and fragments of brick and glass. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.40)	Soft light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.69	0.60	Firm to stiff greyish brown slightly sandy gravelly CLAY with many cobbles and rare boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.70)			
				54.99	1.30	Stiff greyish brown slightly sandy gravelly CLAY with cobbles and some boulders recovered as angular gravel or cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.70)			
				54.29	2.00	Stiff brownish grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Moderate(1) at 2.20m.		(0.20)			▽1
				54.09	2.20	Complete at 2.20m		

Plan

Remarks

Trial pit refused at 2.20m BGL on obstruction. Possible boulder or bedrock.
Ground water encountered at 2.20m BGL as moderate ingress.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP028

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP029
Machine : 3Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.84	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707680.5 E 732823 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.79	0.05	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.45)	Possible MADE GROUND. Brownish grey slightly sandy very gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
0.40	B							
0.40	ES			56.34	0.50	Firm to stiff brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.30)			
				56.04	0.80	Firm to stiff greyish brown slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.60)			
1.20	B							
				55.44	1.40	Firm light brownish grey slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.50)			
1.80	B							
				54.94	1.90	Weathered rock recovered as dark grey angular cobbles limestone.		
				54.84	(0.10) 2.00			
						Complete at 2.00m		

Plan

Remarks

No ground water encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.
Trial pit refused at 2.00m BGL on obstruction. Possible rock.

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP029

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP030
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.10m x 1.00m x 3.00m	**Ground Level (mOD)** 56.48	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707667.9 E 732881.7 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with fragments of glass. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.28	0.20			
					(0.30)	Soft light brown slightly sandy gravelly CLAY with some cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.98	0.50			
					(1.00)	Soft to firm greyish brown slightly sandy gravelly CLAY with cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	B			54.98	1.50			
					(1.00)	Greyish brown sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
2.50	B			53.98	2.50			
					(0.50)	Dark grey slightly sandy slightly gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Moderate(1) at 2.90m.	53.48	3.00			▽1
						Complete at 3.00m		

Plan

Remarks

Trial pit refused at 3.00m BGL on obstruction. Possible bedrock or boulder.
Ground water encountered at 2.90m BGL as moderate ingress.
Trial pit spalling from 1.90m to 2.80m BGL, one wall.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP030

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP031
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.20m x 1.00m x 3.40m	**Ground Level (mOD)** 56.82	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707658.3 E 732887.8 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.62	0.20	Soft light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.40)			
				56.22	0.60	Soft to firm grey slightly sandy gravelly CLAY with cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.40)			
				55.82	1.00	Firm brown mottled grey slightly sandy gravelly CLAY with cobbles and rare boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Slow(1) at 2.20m.		(1.60)			▽1
				54.22	2.60	Stiff dark grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Slow(2) at 2.90m.		(0.80)			▽2
				53.42	3.40	Complete at 3.40m		

Plan

Remarks

Trial pit refused at 3.40m BGL on obstruction. Possible boulders or bedrock.
Ground water encountered at 2.00m and 2.90m BGL as slow seepage.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP031

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP032
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.40m x 1.00m x 2.50m	**Ground Level (mOD)** 57.24	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707629.5 E 732924.8 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	MADE GROUND Dark brown slightly sandy gravelly clay with fragments of pottery and rubbish.		
				56.84	0.40	Soft to firm yellowish brown slightly sandy gravelly CLAY.Gravel is sub angular to sub rounded fine to coarse.		
					(0.60)			
				56.24	1.00	Soft to firm greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub angular to sub rounded fine to coarse.		
					(0.70)			
				55.54	1.70	Soft to firm Grey slightly sandy very gravelly CLAY with low cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
2.00	B				(0.50)			
				55.04	2.20	Soft to firm greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
					(0.30)			
				54.74	2.50	Complete at 2.50m		

Plan

Remarks

Trial pit stable.
No ground water encountered during excavation.
Trial pit refused at 2.6m BGL on obstructiuon, possible boulder or bedrock.
Trial pit back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP032

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP033
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.00m x 1.00m x 2.50m	**Ground Level (mOD)** 57.18	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707643.8 E 732936.7 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with fragments of pottery. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.98	0.20			
0.50	B				(0.80)	Soft to firm brown slightly sandy gravelly CLAY with some cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.18	1.00			
					(0.40)	Grey slightly clayey sub-angular to sub-rounded fine to coarse GRAVEL with low cobble content.		
				55.78	1.40			
1.50	B				(0.50)	Grey sandy sub-angular to sub-rounded fine to coarse GRAVEL with low cobble and boulder content.		
				55.28	1.90			
					(0.60)	Grey slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
2.50	B			54.68	2.50	Complete at 2.50m		

Plan

Remarks

Trial pit refused at 2.50m on obstruction. Possible bedrock.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP033

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP034
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.90m x 1.00m x 2.10m	**Ground Level (mOD)** 57.01	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707617.8 E 732944.5 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.71	0.30			
					(0.40)	Light brown sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.31	0.70			
					(0.55)	Grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.76	1.25			
1.50	B				(0.85)	Firm to stiff grey slightly sandy gravelly CLAY with high angular cobble and medium boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.91	2.10			
						Complete at 2.10m		

Plan

Remarks

Trial pit refused at 2.10m on obstruction. Possible boulders.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP034

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP035
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.00m x 1.00m x 2.30m	**Ground Level (mOD)** 56.56	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707606.3 E 732968.2 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.45)	Brown sandy gravelly TOPSOIL with roots, brick fragments and plastic fragments. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.11	0.45			
0.50	B				(0.30)	MADE GROUND light brown sandy gravelly CLAY with piece of plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.81	0.75	Soft to firm greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.25)			
1.50	B							
				54.56	2.00			
2.00	B				(0.30)	Stiff dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.26	2.30	Complete at 2.30m		

Plan

Remarks

Trial pit refused at 2.30m on obstruction from boulder. Possible bedrock.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP035

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP036
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.70m x 1.00m x 1.00m	**Ground Level (mOD)** 56.66	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707665 E 732959.5 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	Brown sandy gravelly TOPSOIL with fragments of pottery and roots. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.26	0.40			
					(0.30)	Soft to firm brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.96	0.70			
					(0.20)	Grey sandy gravelly CLAY wih low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.76	0.90			
1.00	B			55.66	(0.10) 1.00	Weathered Rock or boulder recovered as slightly clayey sub-angular to sub-rounded fine to coarse GRAVEL with high cobble content.		
						Complete at 1.00m		

Plan

Remarks

Trial pit refused at 1.00m on obstruction. Possible boulders or bedrock.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP036

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP037
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.00m x 1.00m x 2.10m	**Ground Level (mOD)** 56.13	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707648.6 E 732979.1 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	Brown sandy gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.73	0.40			
					(0.30)	Soft to firm light brown slightly sandy gravelly CLAY with some cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
0.60	B			55.43	0.70			
					(1.40)	Firm to stiff Greyish brown sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	B		Moderate (1) at 1.60m.					▽1
			Fast(2) at 2.10m.	54.03	2.10			▽2
						Complete at 2.10m		

Plan

Remarks

Trial pit refused at 2.10m on obstruction. Possible bedrock.
Ground water encountered at 1.60m and 2.10m BGL.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP037

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP038
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.80m x 1.00m x 2.00m	**Ground Level (mOD)** 56.17	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707695.5 E 732966.3 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL with fragments of metal, car parts and brick. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.87	0.30			
						Soft to firm light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	B				(0.50)			
				55.37	0.80			
						Firm to stiff grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.20)			
1.50	B		Moderate(1) at 1.60m.					▽1
				54.17	2.00			
						Complete at 2.00m		

Plan

Remarks

Trial pit refused at 2.00m on obstruction. Possible boulders.
Ground water encountered at 1.60m BGL.
Trial pit spalling.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP038

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP039
Machine : 3Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.17	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707695.5 E 732966.3 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.75)	MADE GROUND Brown slightly sandy slightly gravelly Clay with fragments of plastic and red brick.		
0.50 0.50	B ES			55.42	0.75			
1.10	B				(0.75)	Soft to firm light brown mottled grey slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.67	1.50			
					(0.25)	Soft to firm grey mottled brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.42	1.75			
			Moderate(1) at 1.80m.			Grey slightly sandy slightly clayey slightly gravelly fine to coarse sub angular to sub rounded Gravel with high cobble content		▽1
2.00	B				(0.45)			
				53.97	2.20			
2.40	B					Residual Soil dark bluish grey slightly sandy very gravelly CLAY with high cobbles and boulders content.		
					(1.30)			
				52.67	3.50			
						Complete at 3.50m		

Plan

Remarks

Trial pit refused at 3.50m on obstruction. Possible boulders or bedrock.
Ground water encountered at 1.80m BGL.
Ground collapsing
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP039

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP040
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.70m x 1.1m x 1.80m	**Ground Level (mOD)** 56.04	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707728.3 E 732968 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	MADE GROUND dark brown sandy gravelly Clay with organic material, rootlets and fragments of metal. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.74	0.30	Grey slightly clayey sub-angular fine to coarse GRAVEL.		
					(0.30)			
				55.44	0.60	Firm to stiff dark grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.20)			
				54.24	1.80	Complete at 1.80m		

Plan

Remarks

Trial pit refused at 1.80m on obstruction. Possible boulders or bedrock.
No groundwater encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP040

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP041
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.42	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707812.5 E 732959.3 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	MADE GROUND Reworked slightly sandy gravelly Clay with cobbles, rootlets, brick fragments and metal. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.02	0.40			
0.50	B				(0.60)	Possible Made Ground Light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.42	1.00			
					(1.60)	Firm to stiff greyish brown slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Slow(1) at 2.60m.	53.82	2.60	Complete at 2.60m		▽1

Plan

Remarks

Ground water encountered at 2.60m BGL.
Trial pit refused at 2.60m on obstruction. Possible boulders or bedrock.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP041

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP042
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.62	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707759.1 E 733007.1 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	TOPSOIL Brown slightly sandy gravelly Clay.		
				55.32	0.30			
					(0.35)	Stiff to firm light brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.97	0.65			
			Moderate(1) at 1.10m.		(0.95)	Grey slightly clayey very sandy sub-rounded to rounded fine to coarse GRAVEL with occasional sand lenses		▽1
				54.02	1.60			
					(0.20)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.82	1.80	Complete at 1.80m		

Plan

Remarks

Trial pit refused at 1.80m on obstruction. Possible boulders or bedrock.
Trial pit collapsing
Ground water encountered at 1.10m BGL.
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP042

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP043
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.71	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707745.9 E 733000.9 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.41	0.30			
0.50 0.50	B ES				(0.70)	Firm light brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.71	1.00			
			Fast(1) at 1.10m.		(0.40)	Firm grey mottled brown slightly sandy slightly gravelly CLAY with some fragments of organic material. Gravel is sub-angular to sub-rounded fine to coarse.		▽1
				54.31	1.40			
1.50	B				(0.50)	Grey very sandy sub-rounded to rounded fine to coarse GRAVEL		
				53.81	1.90			
						Complete at 1.90m		

Plan

Remarks

Ground water encountered at 1.10m BGL.
Trial pit collapsing
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP043

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP044
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.74	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707769.9 E 732976.5 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.69	0.05	TOPSOIL brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.25)			
				55.44	0.30	MADE GROUND brown slightly sandy gravelly CLAY with fragments of rebar and plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
0.30	ES				(0.40)	Firm light grey mottled brown slightly sandy gravelly CLAY with low cobbles content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.04	0.70	Firm greyish brown slightly sandy gravelly CLAY with high cobbles content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.30)			
				53.74	2.00	Residual Soil Dark grey slightly sandy very gravelly CLAY with high cobbles and boulders content. Gravel is sub-angular to sub-rounded fine to coarse.		
2.50	ES				(1.50)			
			Moderate(1) at 3.50m.	52.24	3.50			▽1
				52.14	(0.10) 3.60	Weathered rock recovered aas dark grey angular cobbles limestone and Mudstone		
						Complete at 3.60m		

Plan

Remarks

Ground water encountered at 3.50m BGL.
Trial pit terminated due to collapsing
Trial pit refused at 3.60m BGL due to obstruction. Possible boulders or bedrock.
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP044

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP045
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.85	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707780.6 E 732981.9 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.65	0.20	MADE GROUND light brownish grey slightly sandy gravelly CLAY with low cobbles and some fragments of plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.35)			
				55.30	0.55	Firm brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.00 1.00	B ES				(1.15)			
				54.15	1.70	Dark grey slightly sandy slightly clayey angular cobbles with boulders limestone.		
					(0.40)			
			Slow(1) at 2.10m.	53.75	2.10	Residual soil Dark Bluish grey slightly sandy very gravelly CLAY with high cobble content and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		▽1
2.40	B				(0.60)			
				53.15	2.70	Complete at 2.70m		

Plan

Remarks

Ground water encountered at 2.10m BGL.
Trial pit spalling
Trial pit refused at 2.70m BGL due to obstruction. Possible boulders or bedrock.
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP045

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP046
Machine : 3Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.85	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707755.4 E 732969.4 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.75	(0.10) 0.10	Brown sandy gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.30)	MADE GROUND Brown slightly sandy gravelly CLAY with some fragments of plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.45	0.40			
					(0.30)	Light brown mottled grey slightly sandy very gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.15	0.70			
1.00	B					Firm to stiff brown slightly sandy gravelly CLAY with high cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.20)			
			Slow(1) at 1.80m.	53.95	1.90			▽1
						Residual Soil Dark bluish grey slightly sandy very gravelly CLAY with high cobbles and boulders content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.20)			
2.70	B							
				52.75	3.10			
						Complete at 3.10m		

Plan

Remarks

Ground water encountered at 1.80m as slow seepage
Trial pit collapsing
Trial pit refused at 3.10m BGL due to obstruction. Possible boulders or bedrock.
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP046

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP047
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.03	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707798.3 E 732938.1 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.55)	MADE GROUND Greyish brown slightly sandy gravelly CLAY high cobble content and fragments of plastic		
0.30	ES							
0.50	B			55.48	0.55			
					(0.75)	Firm to stiff brown slightly sandy gravelly CLAY with high cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.10	B							
				54.73	1.30	Dark grey angular cobbles of LIMESTONE		
					(0.30)			
				54.43	1.60	Possible residual soil black slightly sandy gravelly CLAY with high cobble content of limestone. Gravel is sub-angular to sub-rounded fine to coarse.		
			Slow(1) at 2.00m.					▽1
					(1.20)			
2.50	B							
				53.23	2.80	Residual soil dark grey slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
3.00	B				(0.40)			
				52.83	3.20	Complete at 3.20m		

Plan

Remarks

Ground water encountered at 2.00m BGL as slow seepage
Trial pit spalling
Trial pit refused at 3.20m BGL due to obstruction. Possible boulders or bedrock.
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP047

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

B0.5
B2.40

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP048
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.71	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707772.4 E 732951.7 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.56	(0.15) 0.15	TOPSOIL Brown slightly sandy gravelly Clay. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.35)	MADE GROUND Light grey mottled brown slightly sandy gravelly CLAY with medium cobble content ... Gravel is sub-angular to sub-rounded fine to coarse.		
				55.21	0.50	Firm brown mottled grey slightly sandy gravelly CLAY with medium cobbles and boulders content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.20)			
			Slow(1) at 1.70m.	54.01	1.70	Firm to stiff dark grey slightly sandy very gravelly CLAY with medium cobbles and boulders content. Gravel is sub-angular to sub-rounded fine to coarse.		▽1
					(1.40)			
				52.61	3.10	Complete at 3.10m		

Plan

Remarks

Ground water encountered at 1.70m BGL as slow seepage
Trial pit spalling
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP048

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP049
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.89	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707791.5 E 732966 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.54	(0.35) 0.35	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
				55.39	(0.15) 0.50	Grey slightly sandy very clayey sub-angular to subrounded fine to course GRAVEL.		
					(1.35)	Soft greyish brown slightly sandy gravelly CLAY with medium cobble content. Cobbles are sub-angular to sub-rounded fine to coarse. Gravel is subangular to subrounded fine to coarse.		
			Slow(1) at 2.50m.	54.04	1.85	Residual soil firm to stiff bluish dark grey slightly sandy very gravelly CLAY with high cobble content and boulder content. Cobbles are sub-angular to sub-rounded fine to coarse. Gravel is subangular to subrounded fine to coarse.		▽1
					(1.65)			
				52.39	3.50	Complete at 3.50m		

Plan

Remarks

Ground water encountered at 2.50m BGL as slow seepage
Possible rock at 3.50m
Trial pit collapsing
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:50	GR	13687-03-24.TP049

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP050
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.0x1.0 x 2.80	**Ground Level (mOD)** 56.02	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707631.3 E 733158.6 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with fragments of ceramics. Gravel is subangular to subrounded fine to coarse.		
				55.82	0.20	Soft to firm Light brown slightly sandy gravelly CLAY with low cobble content.Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
0.50	B				(0.90)			
				54.92	1.10	Soft to firm Brown with grey mottling slightly sandy gravelly CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse.		
					(0.30)			
				54.62	1.40	Soft to firm Brown sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
1.50	B				(0.50)			
				54.12	1.90	Stiff Dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
					(0.90)			
2.50	B							
				53.22	2.80	Complete at 2.80m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit refused at 2.6m BGL on obstructiuon, possible boulder or bedrock.
Trial pit back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP050

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP051
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.60 x 1.0 x 2.50	**Ground Level (mOD)** 56.38	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707612 E 733136.9 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.18	(0.20) 0.20	Brown sandy gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
				55.88	(0.30) 0.50	MADE GROUND light brown sandy gravelly Clay with pieces of rubbish and tin cans. Gravel is subangular to subrounded fine to coarse.		
				55.58	(0.30) 0.80	Greyish brown sandy sub angular to sub rounded fine to coarse GRAVEL		
					(1.20)	Firm brown slightly sandy gravelly CLAY with medium cobble and boulder content. Gravel is subangular to subrounded fine to coarse.		
				54.38	2.00	Stiff Dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse. Gravel is subangular to subrounded fine to coarse.		
				53.88	(0.50) 2.50	Complete at 2.50m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit refused at 2.5m BGL on obstructiuon, possible boulder or bedrock.
Trial pit back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:50	PD	13687-03-24.TP051

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP052
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.53	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707594.9 E 733118.9 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.33	0.20			
					(0.45)	Firm light brown slightly sandy slightly gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.88	0.65			
1.00	ES				(1.35)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.53	2.00			
					(0.40)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.13	2.40			
						Complete at 2.40m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP052

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP053
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.80 x 1.0 x 2.9	**Ground Level (mOD)** 56.56	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707590.3 E 733109.2 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown slightly sandy gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
				56.26	0.30			
					(0.20)	POSSIBLE MADE GROUND light brown sandy gravelly Clay. Gravel is subangular to subrounded fine to coarse.		
				56.06	0.50			
					(0.20)	POSSIBLE MADE GROUND Dark brown sandy gravelly Clay. Gravel is subangular to subrounded fine to coarse.		
				55.86	0.70			
1.00	B					Firm to stiff greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is subangular to subrounded fine to coarse.		
					(1.30)			
2.00	B			54.56	2.00			
						Stiff dark grey slightly sandy gravelly CLAY with some cobbles and rare boulders. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
					(0.90)			
				53.66	2.90			
						Complete at 2.90m		

Plan

Remarks

Trial pit stable
No groundwater encountered during excavation.
Trial pit refused at 2.9m BGL on obstructiuon, possible boulder or bedrock.
Trial pit back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP053

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP054
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.43	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707563 E 733055.4 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.18	0.25			
					(0.30)	Firm light greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50 0.50	B ES			55.88	0.55			
					(1.40)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.40	B							
				54.48	1.95			
2.10	B				(0.65)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.83	2.60			
						Complete at 2.60m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP054

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP055
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.48	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707575.6 E 733066.5 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.23	0.25	Firm light greyish brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.30)			
				55.93	0.55	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.45)			
				54.48	2.00	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.20)			
				54.28	2.20	Complete at 2.20m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP055

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP056
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.46	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707584 E 733076.3 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.21	0.25			
					(0.15)	Firm light brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.06	0.40			
					(1.40)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.66	1.80			
					(0.50)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.16	2.30			
						Complete at 2.30m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP056

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP057
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.42	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707614.4 E 733089.5 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.17	0.25			
					(0.35)	Firm light greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.82	0.60			
1.50	B				(1.40)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.42	2.00			
2.20	B				(0.50)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.92	2.50			
						Complete at 2.50m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP057

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP058
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.60m x 1.00m x 2.50m	**Ground Level (mOD)** 56.38	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707629.6 E 733100.4 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Dark brown sandy gravelly TOPSOIL with roots, fragments of plastic and brick. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.08	0.30	Soft to firm brown slightly sandy gravelly CLAY with occasional bands of gravelly fine to coarse soil. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.00)			
				55.08	1.30	Firm to stiff greyish brown slightly sandy gravelly CLAY with cobbles and some boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.10)			
				53.98	2.40			
					(0.10)	Stiff dark grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.88	2.50	Complete at 2.50m		

Plan

Remarks

Trial pit refused at 2.50m on obstruction. Possible boulders.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP058

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP059
Machine : 3CX **Method :**	**Dimensions** 3.10 x 1.0 x 2.80	**Ground Level (mOD)** 56.21	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707641.3 E 733119.9 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
				55.91	0.30	Soft slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel sub angular to sub rounded fine to coarse.		
					(0.50)			
				55.41	0.80	Firm greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel sub angular to sub rounded fine to coarse.		
					(0.50)			
				54.91	1.30	Stiff Dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is subangular to subrounded fine to coarse.		
					(0.90)			
				54.01	2.20	Complete at 2.80m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit back filled upon completion.
Trial pit refused at 2.2m BGL on obstructiuon, possible boulder or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP059

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP060
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.80 X 1.0 X 2.70	**Ground Level (mOD)** 56.15	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707653.5 E 733132.7 N	**Dates** 08/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
				55.95	0.20			
0.50	B				(0.70)	Soft light Brown slightly sandy gravelly CLAY with medium cobble content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse		
				55.25	0.90			
					(0.50)	Soft to firm Greyish brown slightly sandy gravelly CLAY with medium cobble content.Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse		
				54.75	1.40			
1.50	B				(0.80)	Firm Greyish brown slightly sandy gravelly CLAY with medium cobble content.Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse		
				53.95	2.20			
2.50	B				(0.50)	Stiff Dark grey slightly sandy gravelly CLAY with medium cobble and boulder content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse		
				53.45	2.70			
						Complete at 2.70m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit back filled upon completion
Trial pit refused at 2.7m BGL on obstructiuon, possible boulder or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP060

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP061
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.0 1.0 2.50	**Ground Level (mOD)** 56.01	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707660.4 E 733141.4 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.15)	Brown sandy gravelly TOPSOIL with rootlets. Gravel is subangular to subrounded fine to coarse.		
				55.86	0.15	POSSIBLE MADE GROUND brown sandy gravelly CLAY with rootlets. Gravel is subangular to subrounded fine to coarse.		
					(0.55)			
				55.31	0.70	Grey gravelly Fine to coarse SAND.		
					(0.15)			
				55.16	0.85	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is subangular to subrounded fine to coarse.		
					(1.35)			
				53.81	2.20	Stiff grey slightly sandy gravelly CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
					(0.30)			
				53.51	2.50	Complete at 2.50m		

Plan

Remarks

Trial pit stable
No groundwater encountered during excavation.
Trial pit back filled upon completion.
Trial pit refused at 2.5m BGL on obstructiuon, possible boulder or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP061

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP062
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.50 x 1.0 x 2.60	**Ground Level (mOD)** 56.15	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707683.1 E 733115.8 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with red brick fragments. Gravel is subangular to subrounded fine to coarse.		
				55.95	0.20	Soft to firm lightly brown sandy gravelly CLAY with some cobbles.Gravel is sub angular to sub rounded fine to coarse.		
					(0.60)			
				55.35	0.80	Firm to stiff greyish brown slightly sandy gravelly CLAY with some cobbles.Gravel is sub angular to sub rounded fine to coarse.		
					(1.20)			
				54.15	2.00	Stiff Dark grey slightly sandy gravelly CLAY with cobbles and some boulders.Gravel is sub angular to sub rounded fine to coarse.		
					(0.60)			
				53.55	2.60	Complete at 2.60m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit back filled upon completion.
Trial pit refused at 2.6m BGL on obstructiuon, possible boulder or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP062

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP063
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.30 1.0 x2.60	**Ground Level (mOD)** 56.05	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707665.3 E 733103.1 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with rootlets and fragments of red brick. Gravel is subangular to subrounded fine to coarse.		
				55.85	0.20			
				55.85	0.20	Soft to firm sandy gravelly CLAY with cobbles. Gravel is sub angular to sub rounded fine to coarse.		
0.50	B				(0.60)	Firm greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
				55.25	0.80			
						Firm to Stiff greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
					(1.00)			
1.50	B							
				54.25	1.80			
						Stiff Dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
					(0.80)			
2.50	B							
				53.45	2.60			
						Complete at 2.60m		

Plan

Remarks

Trial pit stable
No groundwater encountered during excavation.
Trial pit back filled upon completion.
Trial pit refused at 2.6m BGL on obstructiuon, possible boulder or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP063

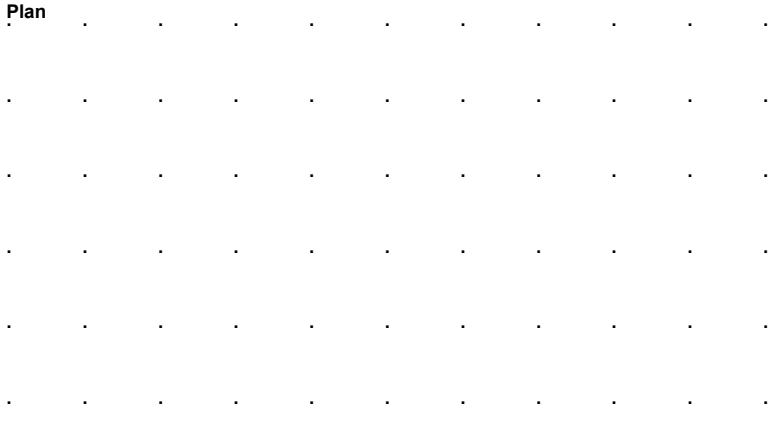
Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP064
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.11	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707653.2 E 733084.8 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.91	0.20			
					(0.35)	Firm light greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50 0.50	B ES			55.56	0.55			
					(1.95)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content and occasional sand and gravel lenses. Gravel is sub-angular to sub-rounded fine to coarse.		
1.70 1.70	B ES							
				53.61	2.50			
2.50	B				(0.10)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.51	2.60			
						Complete at 2.60m		

Plan



Remarks

No groundwater encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP064

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP065
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.21	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707646.4 E 733075.7 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.01	0.20			
					(0.25)	Firm light greyish brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.76	0.45			
					(1.65)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.11	2.10			
					(0.40)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.71	2.50			
						Complete at 2.50m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP065

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP066
Machine : 3T **Method :** Trial Pit	**Dimensions** 2.60 x 0.60 x 2.40	**Ground Level (mOD)** 56.27	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707638.3 E 733068.4 N	**Dates** 07/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with rootlets and fragments of tile. Gravel is subangular to subrounded fine to coarse.		
				56.07	0.20			
					(0.20)	Soft to firm light brown slightly sandy gravelly CLAY.Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
				55.87	0.40			
0.50	B				(0.30)	Grey slightly clayey gravelly fine to coarse SAND with low cobble content. Gravel is subangular to subrounded fine to coarse.		
				55.57	0.70			
						Firm to stiff brown slightly sandy gravelly CLAY with meidium cobble and low boulder content. Gravel is sub angular to sub rounded fine to coarse.		
1.50	B				(1.60)			
				53.97	2.30			
					(0.10)	Stiff dark grey slightly sandy gravelly Clay with medium cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
				53.87	2.40			
						Complete at 2.40m		

Plan

Remarks

Trial pit stable
No groundwater encountered during excavation.
Trial pit refused at 2.4m BGL on obstructiuon, possible boulder or bedrock.
Trial pit back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP066

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP067
Machine : 3T **Method :** Trial Pit	**Dimensions** 2.40 x 0.60 x 2.40	**Ground Level (mOD)** 56.52	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707622.7 E 733070.1 N	**Dates** 07/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown slightly sandy gravelly TOPSOIL with fragments of pottery. Gravel is subangular to subrounded fine to coarse.		
				56.22	0.30			
					(0.50)	Soft light brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
				55.72	0.80			
					(1.60)	Firm to stiff brown slightly sandy gravelly CLAY with medium cobble and some boulder content.Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
				54.12	2.40			
						Complete at 2.40m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit refused at 2.4m BGL on obstructiuon, possible boulder or bedrock.
Trial pit back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP067

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP068
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.35	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707598.6 E 733059.6 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.15	0.20			
					(0.40)	Firm light brownish grey slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	B							
0.50	ES			55.75	0.60			
					(1.30)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.30	B							
				54.45	1.90			
					(0.50)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
2.10	B							
				53.95	2.40			
						Complete at 2.40m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP068

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP069
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.41	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707608.9 E 733047.4 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.16	0.25	Firm light greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.35)			
				55.81	0.60	Firm brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.50)			
				54.31	2.10	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.30)			
				54.01	2.40	Complete at 2.40m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP069

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP070
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.10m x 1.00m x 2.30m	**Ground Level (mOD)** 56.67	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707573.7 E 733007.4 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.47	(0.20) 0.20	Brown sandy gravelly TOPSOIL with rootlets and fragments of plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.60)	Soft to firm light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.87	0.80	Firm to stiff greyish brown slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.50)			
				54.37	2.30	Complete at 2.30m		

Plan

Remarks

Trial pit refused at 2.3m BGL on obstructiuon, possible boulder or bedrock.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP070

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP071
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.00m x 1.00m x 2.40m	**Ground Level (mOD)** 56.34	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707586.2 E 733003.2 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.15)	Brown sandy gravelly TOPSOIL with rootlets and fragments of brick. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.19	0.15			
					(0.25)	Soft to firm brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.94	0.40			
0.50	B					Firm to stiff greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.70)			
1.50	B							
				54.24	2.10	Stiff dark grey slightly sandy CLAY with cobbles and boulders.		
					(0.30)			
2.40	B			53.94	2.40	Complete at 2.40m		

Plan

Remarks

Trial pit refused at 2.4m BGL on obstructiuon, possible boulder or bedrock.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP071

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP072
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.15m x 1.00m x 2.80m	**Ground Level (mOD)** 56.54	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707602.3 E 733015.7 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL with fragments of bricks, plastic and roots. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.24	0.30			
					(0.50)	Light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.74	0.80			
					(1.80)	Firm to stiff grey slightly sandy gravelly CLAY with medium cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.94	2.60			
					(0.20)	Stiff Dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.74	2.80	Complete at 2.80m		

Plan

Remarks

Trial pit refused at 2.8m BGL on obstructiuon, possible boulder or bedrock.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP072

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP073
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.06	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707629.9 E 733018.6 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	TOPSOIL Brown slightly sandy slightly gravelly Clay with rootlets. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.76	0.30			
					(0.20)	Light brown slightly sandy very gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.56	0.50			
					(0.40)	Grey sandy sub-angular to sub-rounded fine to coarse Gravel. Possible made ground.		
			Moderate(1) at 0.90m.	55.16	0.90			▽1
						Complete at 0.90m		

Plan

Remarks

Trial pit terminated due to material encountered.
Trial pit collapsing
Ground water encountered at 0.90m BGL as moderate ingress.
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP073

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP074
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.17	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707622 E 733038.9 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown slightly sandy slightly gravelly TOPSOIL with some fragments of plastic and ceramic. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.87	0.30			
					(0.20)	Firm light greyish brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.67	0.50			
					(1.50)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.17	2.00			
					(0.50)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.67	2.50			
						Complete at 2.50m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP074

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP075
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.22	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707631.9 E 733051.3 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Brown slightly sandy slightly gravelly TOPSOIL with some fragments of ceramic and plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.97	0.25			
					(0.25)	Firm light greyish brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	ES			55.72	0.50			
					(1.50)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	ES							
				54.22	2.00			
					(0.30)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.92	2.30			
						Complete at 2.30m		

Plan

Remarks

Trial pit refused at 2.3m BGL on obstructiuon, possible boulder or bedrock.
No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	GR	13687-03-24.TP075

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP076
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.20m x 1.00m x 2.30m	**Ground Level (mOD)** 55.96	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707687.6 E 733089.3 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with rootlets. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.76	0.20			
					(0.30)	Light brown slightly sandy gravelly CLAY with low cobble content and rootlets. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	B			55.46	0.50			
					(0.50)	Soft to firm brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.96	1.00			
					(1.00)	Form to stiff brown mottled grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.70	B							
				53.96	2.00			
					(0.30)	Stiff dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.66	2.30			
						Complete at 2.30m		

Plan

Remarks

Trial pit refused at 2.30m on obstruction. Possible cobbles and boulders.
No groundwater encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP076

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP077
Machine : 3cx **Method :** Trial Pit	**Dimensions** 3.10 x 1.0 x 2.90	**Ground Level (mOD)** 56.11	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707700.8 E 733087.1 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
				55.81	0.30			
					(0.60)	Soft light brown slightly sandy gravelly CLAY. Gravel is sub angular to sub rounded fine to coarse.		
				55.21	0.90			
					(1.30)	Firm to stiff brown mottled grey slightly sandy gravelly Clay with low cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
				53.91	2.20			
					(0.70)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
				53.21	2.90			
						Complete at 2.90m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit back filled upon completion.
Trial pit refused at 2.9m BGL on obstructiuon, possible boulder or bedrock.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP077

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP078
Machine : 3CX **Method :** Trial Pit	**Dimensions** .80 x 1.0 x 2.90	**Ground Level (mOD)** 56.11	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707707.3 E 733097 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL with fragments of pottery. Gravel is subangular to subrounded fine to coarse.		
				55.81	0.30			
0.50	B				(0.70)	Soft light brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
				55.11	1.00			
					(1.40)	Soft to firm greyish Brown slightly sandy gravelly CLAY with medium cobble and boulder content. Gravel is subangular to subrounded fine to coarse.		
				53.71	2.40			
2.50	B				(0.50)	Stiff Dark grey slightly sandy gravelly CLAY with medium cobble and boulder content. Gravel is subangular to subrounded fine to coarse.		
				53.21	2.90			
						Complete at 2.90m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit back filled upon completion.
Trial pit refused at 2.9m BGL on obstructiuon, possible boulder or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	pd	13687-03-24.TP78

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP079
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.20m x 1.00m x 2.70m	**Ground Level (mOD)** 55.45	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707730.1 E 733067.9 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.25	0.20	Soft to firm grey gravelly CLAY with cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.60)			
				54.65	0.80	Firm to stiff greyish brown slightly sandy gravelly CLAY with high cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.40)			
			Moderate(1) at 2.20m.	53.25	2.20	Stiff dark grey slightly sandy gravelly CLAY with medium cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		▽1
					(0.50)			
				52.75	2.70	Complete at 2.70m		

Plan

Remarks

Trial pit spalling from 1.30m below ground level.
Ground water encountered at 2.20m BGL as moderate ingress.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	GR	13687-03-24.TP079

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP080
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.69	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707722.2 E 733068.1 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.49	0.20			
					(0.40)	Soft to firm light brown sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	B			55.09	0.60			
					(0.10)	Greyish brown slightly clayey gravelly SAND. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.99	0.70			
					(1.10)	Stiff greyish brown sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	B							
				53.89	1.80			
					(0.90)	Dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
				52.99	2.70			
						Complete at 2.70m		

Plan

Remarks

Trial pit refused at 2.7m BGL on obstructiuon, possible boulder or bedrock.
No groundwater encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP080

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP081
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.70	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707711.4 E 733051.6 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.15)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.55	0.15			
					(0.30)	Firm light greyish brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
0.40	B			55.25	0.45			
					(0.50)	Grey very sandy sub-rounded to rounded fine to coarse Gravel with medium cobble content.		
				54.75	0.95			
					(0.75)	Firm to stiff greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.00	1.70			
1.90	B				(1.00)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.00	2.70			
						Complete at 2.70m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP081

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP082
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.03	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707702.4 E 733040 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.83	(0.20) 0.20	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.25)	Light greyish brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.58	0.45			
0.60	B				(0.35)	Grey very sandy sub-rounded to rounded fine to coarse Gravel.		
				55.23	0.80			
					(0.70)	Firm to stiff greyish brown slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	B			54.53	1.50			
2.00	B				(1.30)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.23	2.80			
						Complete at 2.80m		

Plan

Remarks

Trial pit refused at 2.8m BGL on obstructiuon, possible boulder or bedrock.
Trial pit stable
No groundwater encountered during excavation.
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP082

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP083
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.13	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707670 E 733034.7 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.88	0.25			
					(0.20)	Light greyish brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
0.40	B			55.68	0.45			
					(0.25)	Grey very sandy sub-rounded to rounded fine to coarse Gravel.		
				55.43	0.70			
					(0.70)	Firm brown mottle grey slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.73	1.40			
					(0.30)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content.Gravel is sub-angular to sub-rounded fine to coarse.		
1.70	B			54.43	1.70			
					(1.30)			
2.50	B							
				53.13	3.00			
						Complete at 3.00m		

Plan

Remarks

Trial pit refused at 3.0m BGL on obstructiuon, possible boulder or bedrock.
No ground water encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP083

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP084
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.14	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707694.3 E 733028.5 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY with some fragments of plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.84	0.30			
					(0.15)	Light greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.69	0.45			
						Grey slightly clayey very sandy sub-rounded to rounded fine to coarse Gravel.		
					(1.25)			
			Slow(1) at 1.20m.					▽1
				54.44	1.70			
					(0.20)	Firm to stiff greyish brown slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.24	1.90			
						Possible Residual Soil: Stiff dark grey slightly sandy gravelly CLAY with high cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
			Slow(2) at 2.50m.		(1.40)			▽2
				52.84	3.30			
						Complete at 3.30m		

Plan

Remarks

Trial pit refused at 3.3m BGL on obstructiuon, possible boulder or bedrock.
Ground water encountered at 1.20m and 2.50m BGL as slow seepage
Trial pit spalling
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP084

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP085
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.91	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707702.6 E 733019.1 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.66	0.25			
					(0.30)	Stiff light greyish brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.36	0.55			
0.60	B				(0.35)	Grey slightly clayey very sandy sub rounded to rounded fine to coarse Gravel.		
				55.01	0.90			
			Slow(1) at 1.00m.			Firm to stiff greyish brown slightly sandy gravelly CLAY with medium cobble content and some gravel of limestone. Gravel is sub-angular to sub-rounded fine to coarse.		▽1
					(0.90)			
1.60	B							
1.60	ES							
				54.11	1.80	Possible Residual Soil: Stiff dark grey slightly sandy gravelly CLAY with high cobbles and boulders content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.70)			
2.20	B							
			Slow(2) at 2.50m.	53.41	2.50			▽2
						Complete at 2.50m		

Plan

Remarks

Trial pit refused at 2.3m BGL on obstructiuon, possible boulder or bedrock.
Ground water encountered at 1.00m and 2.50m BGL as slow seepage
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	GR	13687-03-24.TP085

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP086
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.88	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707711.4 E 733008 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.58	0.30			
					(0.10)	Light brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.48	0.40			
					(0.30)	Brownish grey clayey sandy sub-rounded to rounded fine to coarse Gravel with low cobble content.		
				55.18	0.70	Firm to stiff Brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.00)			
			Slow(1) at 1.70m.	54.18	1.70	Firm to stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse. Possible residual soil.		▽1
1.90	B							
					(1.00)			
				53.18	2.70			
					(0.10)	Weathered rock: Dark grey clayey angular Gravel with cobbles of mudstone and limestone.		
				53.08	2.80			
						Complete at 2.80m		

Plan

Remarks

Trial pit refused at 2.8m BGL on obstructiuon, possible bedrock.
Groundwater encountered at 1.70m BGL as slow seepage.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP086

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP087
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.84	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707721 E 733015.3 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.54	0.30			
					(0.30)	Stiff to firm greyish brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50 0.50	B ES			55.24	0.60			
					(0.40)	Grey very sandy sub rounded to rounded fine to coarse GRAVEL.		
				54.84	1.00			
1.30	B				(0.65)	Fine to coarse brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.19	1.65			
			Slow(1) at 1.70m.	54.14	1.70	Reddish grey angular cobbles of limestone.		▽1
						Complete at 1.70m		

Plan

Remarks

Trial pit refused at 1.70m on obstruction. Possible rock.
Groundwater encountered at 1.70m BGL as slow seepage.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP087

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP088
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.80	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707732.7 E 733028.1 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.60	0.20			
					(0.30)	Firm light brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.30	0.50			
					(0.60)	Grey very sandy sub-rounded to rounded fine to coarse GRAVEL.		
				54.70	1.10			
					(0.30)	Firm greyish brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.40	1.40			
				54.30	(0.10) 1.50	Weathered rock Grey angular cobbles of limestone and mudstone.		
			Moderate(1) at 1.50m.			Complete at 1.50m		▽1

Plan

Remarks

Trial pit refused at 1.50m on obstruction. Possible rock.
Trial pit spalling
Groundwater encountered at 1.50m BGL as moderate ingress
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP088

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP089
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.64	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707742.8 E 733034.1 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	TOPSOIL Brown slightly sandy gravelly CLAY with some fragments of plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.34	0.30			
0.50	B					Grey slightly clayey very sandy sub-rounded to rounded fine to coarse GRAVEL with low cobble content..		
					(1.20)			
			Medium(1) at 1.40m.					▽1
1.50	B			54.14	1.50	Weathered Rock Brownish grey angular slightly clayey Gravel with cobbles of limestone and mudstone.		
					(0.30)			
				53.84	1.80	Complete at 1.80m		

Plan

Remarks

Trial pit refused at 1.80m on obstruction of bedrock
Groundwater encountered at 1.40m as medium ingress
Trial pit spalling
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP089

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP090
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.50m X 1.00m X 2.30m	**Ground Level (mOD)** 55.58	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707742.8 E 733054.4 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with rootlets. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.38	0.20	Soft to firm Brown mootled grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.20)			
				54.18	1.40	Soft and firm brown slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.50)			
				53.68	1.90	Stiff dark grey sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		▽1
			Moderate(1) at 2.00m.		(0.40)			
				53.28	2.30	Complete at 2.30m		

Plan

Remarks

Ground water encountered at 2.00m BGL as moderate ingress.
Trial pit refused at 2.3m BGL on obstructiuon, possible boulder or bedrock.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP090

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP091
Machine : 8T Tracked Excavator **Method :** Trial Pit	**Dimensions** 3.60 x 1.00 x 2.00m	**Ground Level (mOD)** 56.32	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707833.9 E 732942.4 N	**Dates** 30/04/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with rootlets. Gravel is subangular to subrounded fine to coarse		
				56.12	0.20	MADE GROUND: Brown slightly sandy gravelly Clay with occasional fragments of metal and rootlets. Gravel is subangular to subrounded fine to coarse		
					(0.80)			
				55.32	1.00	Soft to firm light brown sandy gravelly CLAY with occasional cobbles and boulders. Gravel is subangular to subrounded fine to coarse.		
					(0.40)			
				54.92	1.40	Soft to firm brownish grey gravelly CLAY. Gravel is subangular to subrounded fine to coarse		
					(0.40)			
				54.52	1.80	Grey gravelly fine to coarse SAND with angular cobbles and boulders. Gravel is subangular to subrounded fine to coarse		
					(0.20)			
			Very slow(1) at 2.00m.	54.32	2.00	Possible bedrock at 2.00m BGL Complete at 2.00m		▽1

Plan

Remarks

Groundwater encountered at 2.00m BGL. Very slow
Trial pit sidewalls stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP091

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP092
Machine : 8T Tracked Excavator **Method :** Trial Pit	**Dimensions** 4.00 x 1.00 x 3.40m	**Ground Level (mOD)** 57.68	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707858.1 E 732920.8 N	**Dates** 30/04/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse		
				57.48	0.20	MADE GROUND: Brown sandy gravelly Clay with occasional fragments of rubbish and tile. Gravel is subangular to subrounded fine to coarse		
					(0.70)			
				56.78	0.90	MADE GROUND: Grey slightly clayey sandy subangular to subrounded fine to coarse Gravel with occasional fragments of metal and backfill		
					(0.80)			
				55.98	1.70	Soft to firm brown sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse		
					(0.80)			
				55.18	2.50	Grey sandy slightly gravelly CLAY with cobbles and boulders. Gravel is subangular to subrounded fine to coarse.		
					(0.90)			
				54.28	3.40	Complete at 3.40m		

Plan

Remarks

No groundwater encountered during excavation
Trial pit sidewalls stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP091

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP093
Machine : 8T Tracked Excavator **Method :** Trial Pit	**Dimensions** 3.00 x 1.00 x 1.90m	**Ground Level (mOD)** 56.42	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707818.1 E 732927.6 N	**Dates** 30/04/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL with occasional rootlets. Gravel is subangular to subrounded fine to coarse		
				56.12	0.30	MADE GROUND: Brown sandy gravelly Clay. Gravel is subangular to subrounded fine to coarse		
					(0.50)			
				55.62	0.80	Soft to firm greyish brown slightly sandy very gravelly CLAY with occasional subangular cobbles and boulders. Gravel is subangular to subrounded fine to coarse		
1.00	B							
					(1.10)			
				54.52	1.90	Possible boulder or bedrock at 1.90m BGL		
						Complete at 1.90m		

Plan

Remarks

No groundwater encountered during excavation
Trial pit sidewalls stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP093

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP094
Machine : 8T Tracked Excavator **Method :** Trial Pit	**Dimensions** 3.00 x 1.00 x 2.70m	**Ground Level (mOD)** 56.70	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707807.9 E 732919.8 N	**Dates** 30/04/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with occasional rootlets. Gravel is subangular to subrounded fine to coarse		
				56.50	0.20	MADE GROUND: Brown sandy gravelly Clay with occasional cobbles and boulders and occasional bike and brick fragments. Gravel is subangular to subrounded fine to coarse		
					(0.60)			
				55.90	0.80	Soft to firm greyish brown sandy gravelly CLAY with occasional angular cobbles and boulders. Gravel is subangular to subrounded fine to coarse		
					(1.90)			
			Slow(1) at 2.60m.	54.00	2.70	Possible bedrock at 2.70m BGL Complete at 2.70m		▽1

Plan

Remarks

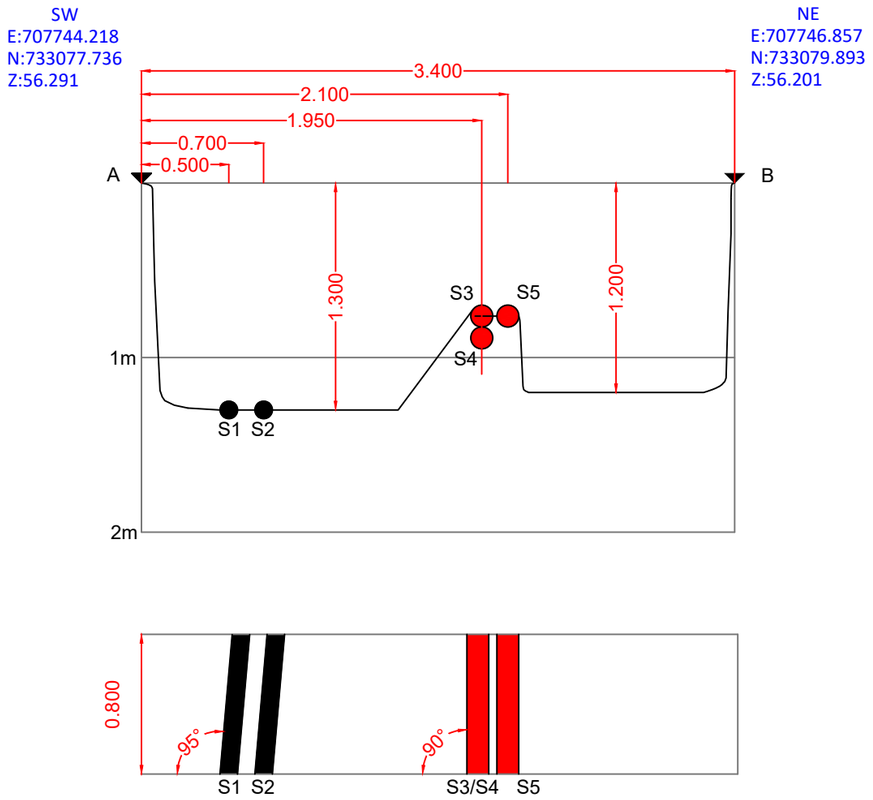
Groundwater encountered at 2.60m BGL. Slow
Trial pit sidewalls stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP094

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

APPENDIX 3 – Slit Tench Records

ST-01



Service No	ø (m)	Colour - Material	Utility	Angle to trench	Coordinates		Level
					East	North	
S1	0.100	Black	UN	95°	707744.681	733078.095	55.043
S2	0.100	Black	UN	95°	707744.843	733078.184	55.02
S3	0.125	Red	ESB	90°	707745.725	733078.984	55.66
S4	0.125	Red	ESB	90°	707745.873	733079.096	55.632
S5	0.125	Red	ESB	90°	707745.732	733078.907	55.465

From (m)	To (m)	Description
0.00	0.10	Concrete
0.10	0.20	Concrete Base
0.20	0.40	MADE GROUND: Dark grey subangular to rounded fine to coarse Gravel.
0.40	1.10	MADE GROUND : Brown sandy gravelly Clay with
1.10	1.30	MADE GROUND: Brown gravelly fine to coarse Sand.

Surface from/to (m)		Surface type
0.00	1.40	Concrete
1.40	3.40	Tarmacadam

Sample depth (m)	Sample type
0.50	B
1.00	B

Groundwater	Y/N	Depth	Notes
	N		

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

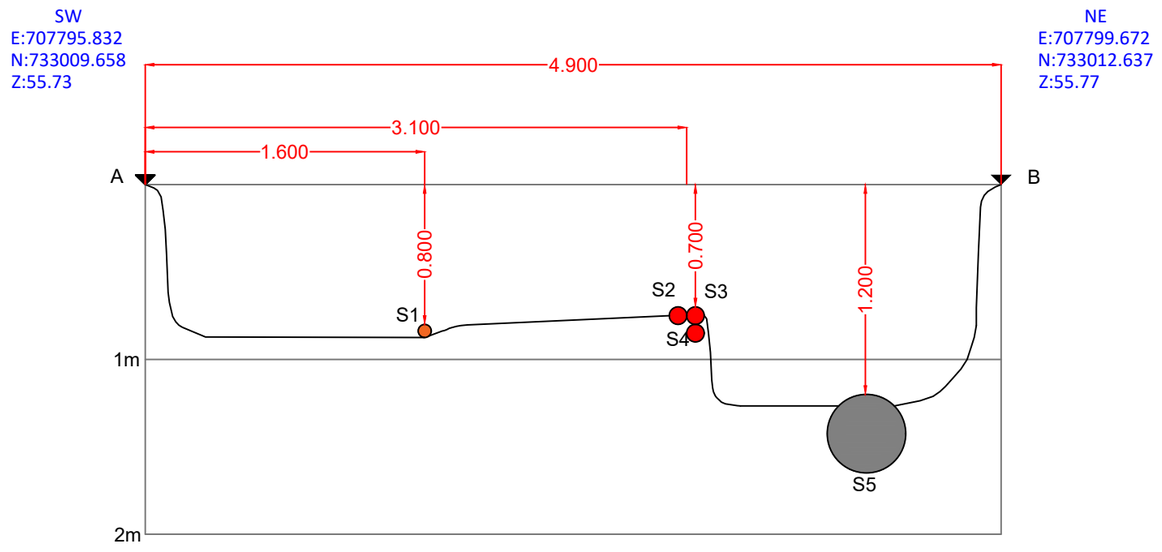
Ground Investigations Ireland Ltd.
Catherinestown House
Hazelhatch Road,
Newcastle,
County Dublin

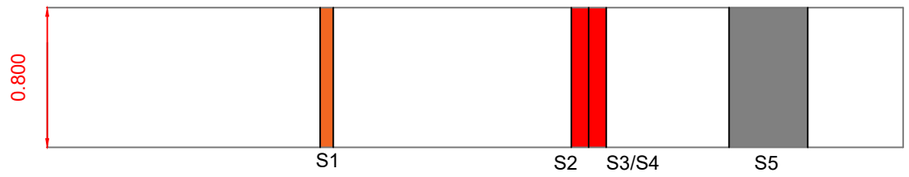
Tel: +353-(0)1 6015175/6 Fax: +353-(0)1 6015173
Email: info@gii.ie Web: www.gii.ie

PROJECT:	13687-03-24 - Cherry Orchard Sites 4&5 Phase 2
DRAWING No.:	ST-01
DATE:	20/05/2024
CLIENT:	Waterman Moylan
SCALE:	NTS

Version:	Date:	Drawn By:	Checked By:
1	04/06/2024	S.F.	R.H.

ST-02





Service No	ø (m)	Colour - Material	Utility	Angle to trench	Coordinates		Level
					East	North	
S1	0.075	Orange	PL	90°	707797.172	733010.707	54.969
S2	0.100	Red	ESB	90°	707798.226	733011.514	55.203
S3	0.100	Red	ESB	90°	707798.307	733011.599	55.214
S4	0.100	Red	ESB	90°	707798.409	733011.615	55.072
S5	0.250	Grey	S.W	90°	707798.942	733012.188	54.762

From (m)	To (m)	Description
0.00	0.10	Concrete
0.10	0.20	Concrete Base
0.20	0.30	MADE GROUND : Grey slightly clayey subangular to rounded fine to coarse Gravel.
0.30	1.20	MADE GROUND : Brown sandy gravelly Clay with fragments of plastic and cobbles.

Surface from/to (m)		Surface type
1.5m	Of	Verge
1.5m	Of	Concrete
2.0m	Of	Tarmacadam

Sample depth (m)	Sample type
0.50	B
1.00	B

Groundwater	Y/N	Depth	Notes
	N		

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

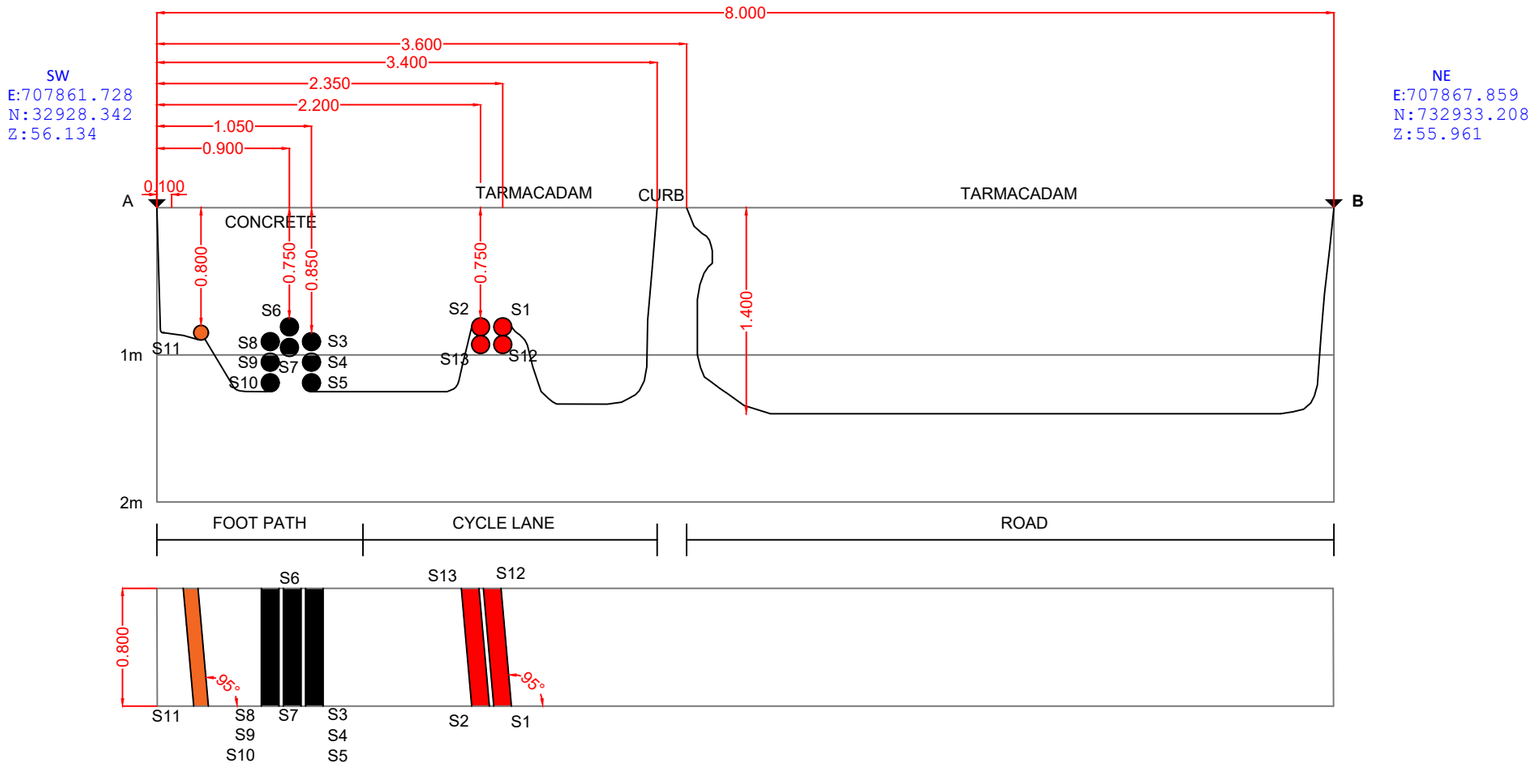
Ground Investigations Ireland Ltd.
Catherinestown House
Hazelhatch Road,
Newcastle,
County Dublin

Tel: +353-(0)1 6015175/6 Fax: +353-(0)1 6015173
Email: info@gii.ie Web: www.gii.ie

PROJECT:	13687-03-24 - Cherry Orchard Sites 4&5 Phase 2
DRAWING No.:	ST-02
DATE:	20/05/2024
CLIENT:	Waterman Moylan
SCALE:	NTS

Version:	Date:	Drawn By:	Checked By:
1	04/06/2024	S.F.	R.H.

ST-03SW



Service No	ø (m)	Colour - Material	Utility	Angle to trench	Coordinates		Level
					East	North	
S1	0.120	Red PE	ESB	95°	707863.778	732929.41	55.27
S2	0.120	Red PE	ESB	95°	707863.664	732929.306	55.278
S3	0.120	Black Ribbed PVC	Telecom	90°	707862.747	732928.597	55.291
S4	0.120	Black Ribbed PVC	Telecom	90°	N/A	N/A	N/A
S5	0.120	Black Ribbed PVC	Telecom	90°	N/A	N/A	N/A
S6	0.120	Black Ribbed PVC	Telecom	90°	707862.615	732928.493	55.4
S7	0.120	Black Ribbed PVC	Telecom	90°	707862.635	732928.502	55.26
S8	0.120	Black Ribbed PVC	Telecom	90°	707862.513	732928.465	55.272
S9	0.120	Black Ribbed PVC	Telecom	90°	N/A	N/A	N/A
S10	0.120	Black Ribbed PVC	Telecom	90°	N/A	N/A	N/A
S11	0.100	Orange PVC	Traffic lights	90°	707862.131	732928.119	55.35
S12	0.120	Red PE	ESB	95°	N/A	N/A	N/A
S13	0.120	Red PE	ESB	95°	707863.64	732929.271	55.171

From (m)	To (m)	Description
0.00	0.40	Black TARMACADAM.
0.40	0.50	MADE GROUND: Grey slightly sandy subangular to rounded fine to coarse Gravel FILL.
0.50	1.00	MADE GROUND: Yellowish Brown sandy subangular to rounded fine to coarse Gravel of schist with cobbles, boulders and tarp.
1.00	1.80	MADE GROUND: Brown sandy gravely Clay with rootlets red brick fragments and a piece of wood.

Surface from/to (m) G/H		Surface type
0.0m	1.40m	CONCRETE
1.40m	3.40m	TARMACADAM
3.40m	3.60m	CURB
3.60m	8.00m	CURB

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

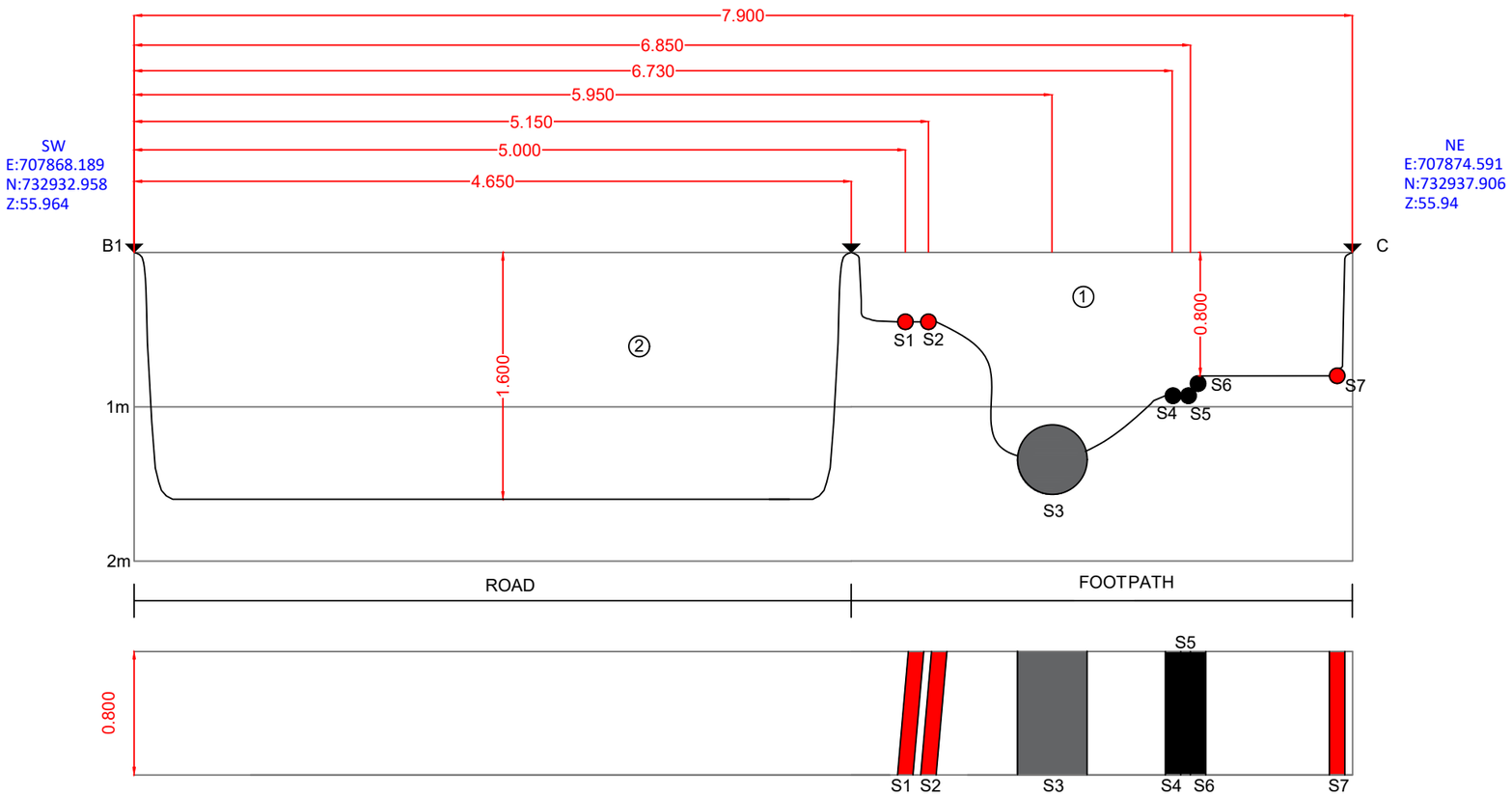
Ground Investigations Ireland Ltd.
Catherinestown House
Hazelhatch Road,
Newcastle,
County Dublin

Tel: +353-(0)1 6015175/6 Fax: +353-(0)1 6015173
Email: info@gii.ie Web: www.gii.ie

PROJECT:	13687-03-24 - Cherry Orchard Sites 4&5 Phase 2
DRAWING No.:	ST-03SW
DATE:	20/05/2024
CLIENT:	Waterman Moylan
SCALE:	NTS

Version:	Date:	Drawn By:	Checked By:
1	04/06/2024	S.F.	R.H.

ST-03-NE



Service No	ø (m)	Colour - Material	Utility	Angle to trench	Coordinates		Level
					East	North	
S1	0.1	Red Ribbed	PL	95°	707872.322	732936.293	55.684
S2	0.1	Red Ribbed	T.L	95°	707872.402	732936.382	55.683
S3	0.45	Grey plastic	Water	90°	707873.106	732936.821	54.826
S4	0.1	Black Ribbed	Comms?	90°	707873.626	732937.279	55.048
S5	0.1	Black Ribbed	Comms?	90°	707873.696	732937.36	55.037
S6	0.1	Black Ribbed	Comms?	90°	707873.788	732937.397	55.331
S7	0.1	Red PVC	PL	90°	707874.319	732937.785	55.331

Surface from/to (m) G/H		Surface type
0.0m	4.60m	TARMACADAM
4.60m	7.80m	CONCRETE

Sample depth (m)	Sample type
0.50	B
1.00	B
1.50	B

Groundwater	Y/N	Depth	Notes
	N		

From (m)	To (m)	Description 1
0.00	0.15	Grey CONCRETE.
0.15	0.40	Dark Grey slightly sandy subangular to rounded fine to coarse GRAVEL Fill.
0.40	1.35	MADE GROUND :Brown slightly sandy gravelly Clay with roots and fragments of Red Brick and rare Cobble.

From (m)	To (m)	Description 2
0.00	0.10	Black Road / Tarmacadam
0.10	0.50	Tarmacadam Base
0.50	1.20	MADE GROUND :Brown slightly clayey sandy subangular to rounded fine to coarse gravel with many cobbles. Cobbles are granite (Possible old road base)
1.20	1.60	Soft to firm Brown slightly sandy gravelly CLAY with some cobbles.

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

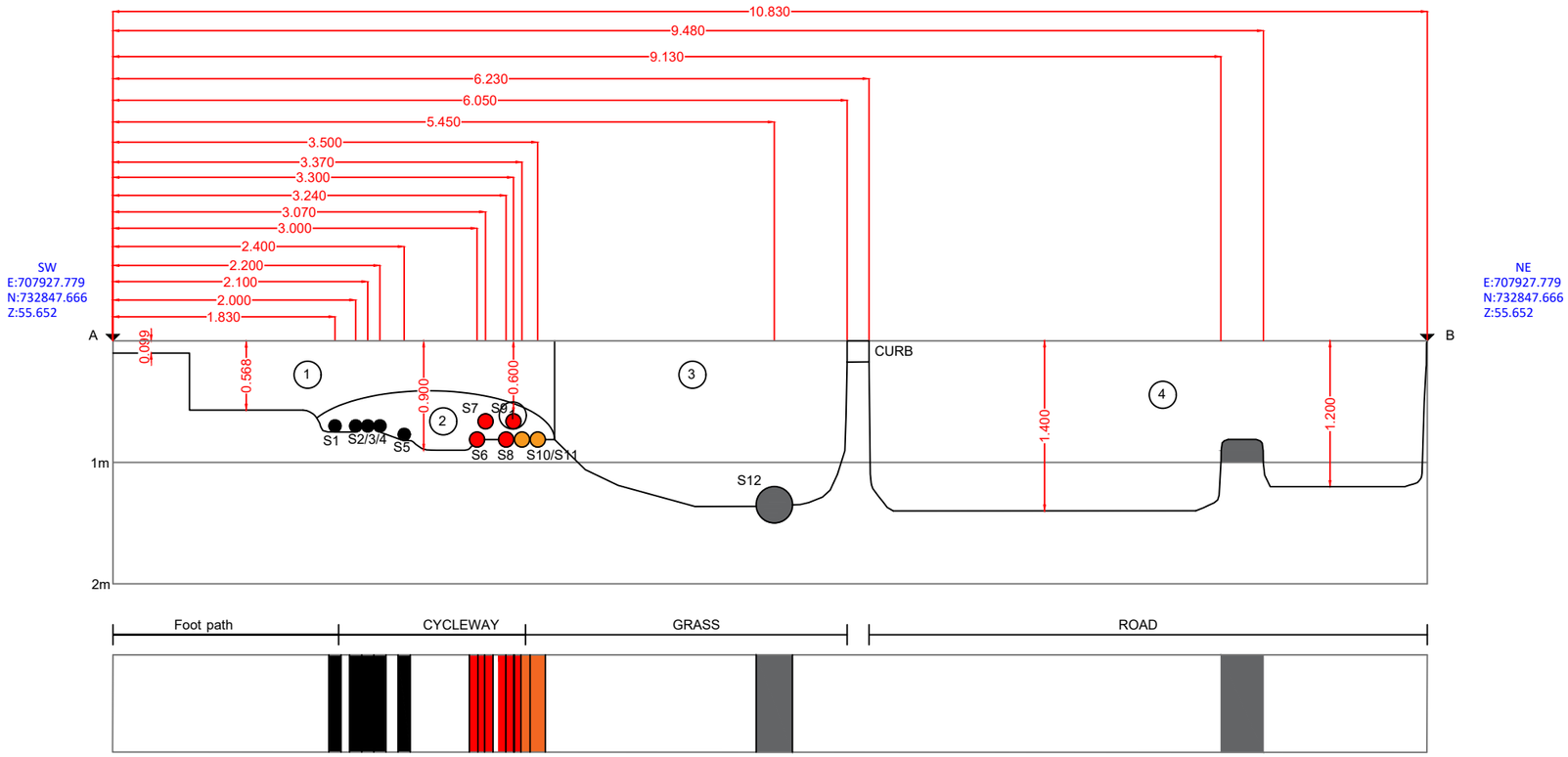
Ground Investigations Ireland Ltd.
Catherinestown House
Hazelhatch Road,
Newcastle,
County Dublin

Tel: +353-(0)1 6015175/6 Fax: +353-(0)1 6015173
Email: info@gii.ie Web: www.gii.ie

PROJECT:	13687-03-24 - Cherry Orchard Sites 4&5 Phase 2
DRAWING No.:	ST-03NE
DATE:	20/05/2024
CLIENT:	Waterman Moylan
SCALE:	NTS

Version:	Date:	Drawn By:	Checked By:
1	04/06/2024	S.F.	R.H.

ST-04
SW



Service No	ø (m)	Colour - Material	Utility	Angle to trench	Coordinates		Level
					East	North	
S1	0.100	Black Ribbed	Comms	90°	707929.186	732849.644	57.103
S2	0.100	Black Ribbed	Comms	90°	707929.294	732849.742	57.093
S3	0.100	Black Ribbed	Comms	90°	707929.401	732849.812	57.098
S4	0.100	Black Ribbed	Comms	90°	707929.478	732849.936	57.098
S5	0.100	Black Ribbed PVC	Comms	90°	707929.619	732850.049	57.002
S6	0.125	Red PVC	ESB	90°	707930.042	732850.468	57.015
S7	0.125	Red PVC	ESB	90°	707930.094	732850.524	57.131
S8	0.125	Red PVC	ESB	90°	707930.206	732850.623	57.008
S9	0.125	Red PVC	ESB	90°	707930.268	732850.678	57.125
S10	0.100	Orange PVC	?	90°	707930.338	732850.732	56.969
S11	0.100	Orange PVC	?	90°	707930.428	732850.824	56.984
S12	0.300	Concrete	SW	90°	707931.81	732852.008	56.651

Surface from/to		Surface type
0.00m	1.86m	VERGE
1.86m	3.40m	TARMACADAM
3.40m	6.05m	GRASS
6.05m	6.23m	CURB

From (m)	To (m)	Description 1
0.00	0.57	MADE GROUND: Grey sandy angular fine to coarse Gravel.

From (m)	To (m)	Description 2
0.30	0.90	MADE GROUND: Brown slightly gravelly fine to coarse Sand.

From (m)	To (m)	Description 3
0.00	0.03	Topsoil
0.03	0.70	MADE GROUND: Brown clayey sandy angular to subsngular fine to coarse Gravel.
0.70	1.00	Grey subangular fine to coarse GRAVEL.
1.00	1.20	Grey F-M GRAVEL.

From (m)	To (m)	Description 4
0.00	0.05	Tarmacadam
0.05	0.30	Tarmacadam base coarse.
0.30	0.60	MADE GROUND: Grey sandy angular fine to coarse Gravel.
0.60	1.10	MADE GROUND: Greyish yellow angular ...
1.10	-	Geotextile
-	-	MADE GROUND:

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

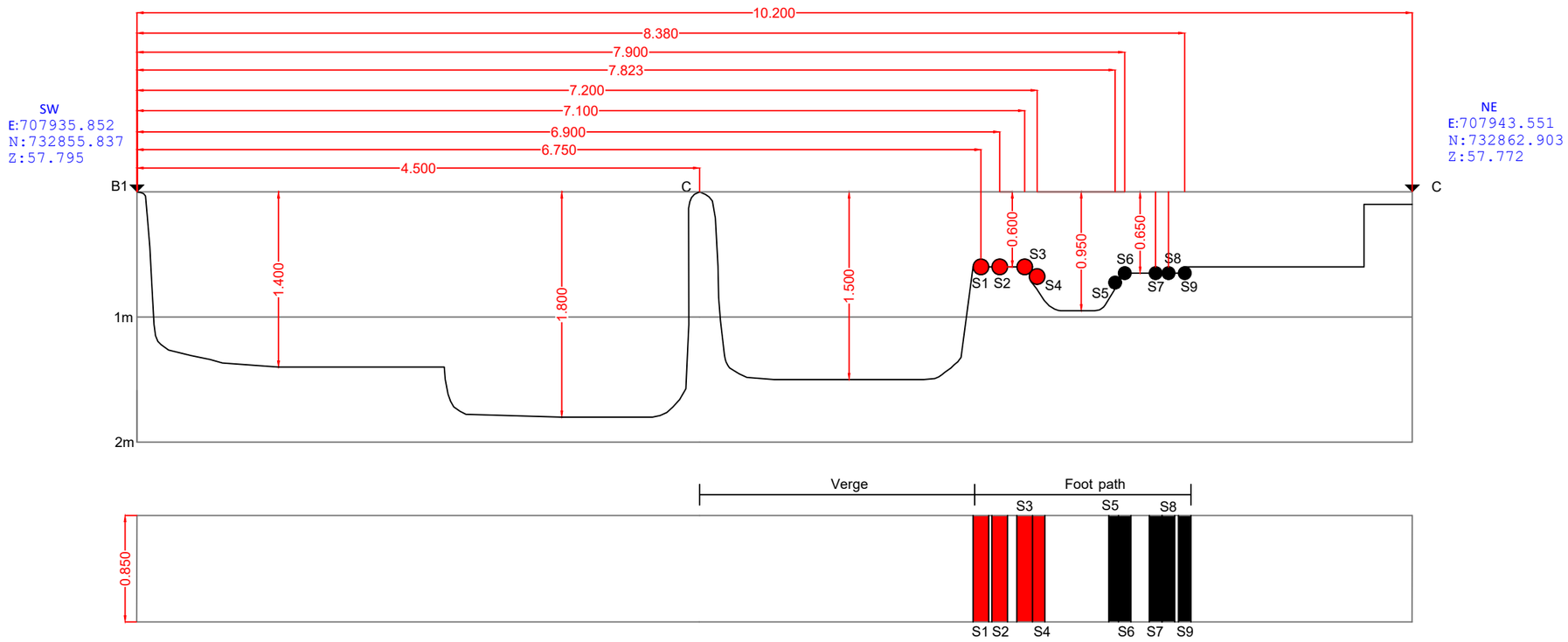
Ground Investigations Ireland Ltd.
Catherinestown House
Hazelhatch Road,
Newcastle,
County Dublin

Tel: +353-(0)1 6015175/6 Fax: +353-(0)1 6015173
Email: info@gii.ie Web: www.gii.ie

PROJECT:	13687-03-24 - Cherry Orchard Sites 4&5 Phase 2
DRAWING No.:	ST-04SW
DATE:	20/05/2024
CLIENT:	Waterman Moylan
SCALE:	NTS

Version:	Date:	Drawn By:	Checked By:
1	04/06/2024	S.F.	R.H.

ST-04NE



Service No	ø (m)	Colour - Material	Utility	Angle to trench	Coordinates		Level
					East	North	
S1	0.125	Red PVC	Electric	90°	707941.082	732860.56	57.175
S2	0.125	Red PVC	Electric	90°	707941.158	732860.635	57.309
S3	0.125	Red PVC	Electric	90°	707941.261	732860.743	57.308
S4	0.125	Red PVC	Electric	90°	707941.353	732860.822	57.181
S5	0.100	Black PVC	Telecom	90°	707941.857	732861.287	57.161
S6	0.100	Black PVC	Telecom	90°	707941.913	732861.378	57.245
S7	0.100	Black PVC	Telecom	90°	707942.11	732861.483	57.263
S8	0.100	Black PVC	Telecom	90°	707942.184	732861.57	57.241
S9	0.100	Black PVC	Telecom	90°	707942.266	732861.668	57.211

Surface from/to (m) G/H		Surface type
0.0m	2.20m	VERGE
2.20m	4.15m	TARMACADAM
4.15m	5.70m	COBBLE

Sample depth (m)	Sample type
0.50	B

From (m)	To (m)	Description
0.00	0.10	Black TARMACADAM.
0.10	0.20	MADE GROUND: Dark grey slightly sandy subangular to rounded fine to coarse Gravel FILL.
0.20	0.90	MADE GROUND :Brown slightly sandy sub angular to rounded fine coarse Gravel FILL.

From (m)	To (m)	Description Verge
0.00	0.10	TOPSOIL
0.10	0.80	MADE GROUND: Grey slightly sandy Gravel FILL.
0.80	1.50	MADE GROUND : Brown sandy Gravel FILL with many Cobbles.

From (m)	To (m)	Description B1-C
0.00	0.40	Black TARMACADAM.
0.40	0.50	MADE GROUND: Grey slightly sandy subangular to rounded fine to coarse Gravel FILL.
0.50	1.00	MADE GROUND: Yellowish Brown sandy subangular to rounded fine to coarse Gravel of schist with cobbles, boulders and tarp.
1.00	1.80	MADE GROUND: Brown sandy gravely Clay with rootlets red brick fragments and a piece of wood.

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

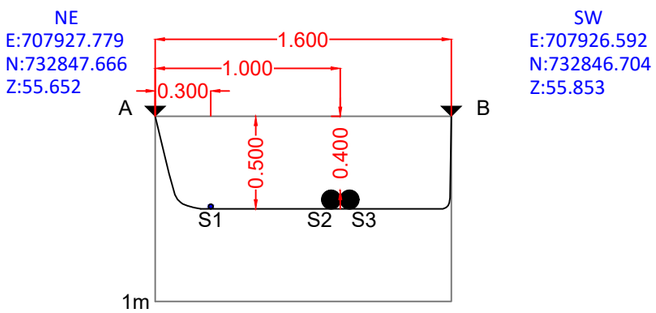
Ground Investigations Ireland Ltd.
Catherinestown House
Hazelhatch Road,
Newcastle,
County Dublin

Tel: +353-(0)1 6015175/6 Fax: +353-(0)1 6015173
Email: info@gii.ie Web: www.gii.ie

PROJECT:	13687-03-24 - Cherry Orchard Sites 4&5 Phase 2
DRAWING No.:	ST-04NE
DATE:	20/05/2024
CLIENT:	Waterman Moylan
SCALE:	NTS

Version:	Date:	Drawn By:	Checked By:
1	04/06/2024	S.F.	R.H.

ST-04.1





Service No	ø (m)	Colour - Material	Utility	Angle to trench	Coordinates		Level
					East	North	
S1	0.025	Blue PE	Water	90°	707926.982	732846.958	55.58
S2	0.100	Ribbed Black PVC	ESB	90°	707927.453	732847.363	55.599
S3	0.100	Ribbed Black PVC	ESB	90°	707927.567	732847.397	55.606

From (m)	To (m)	Description
0.00	0.10	MADE GROUND: Greyish brown organic slighlty sandy Gravel.
0.10	0.50	MADE GROUND: Slightly clayey sandy subangular to subrounded fine to coarse Gravel Fill

Surface from/to (m) G/H		Surface type
0.0m	1.30m	VERGE
1.30m	3.28m	CONCRETE

Groundwater	Y/N	Depth	Notes
	N		

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

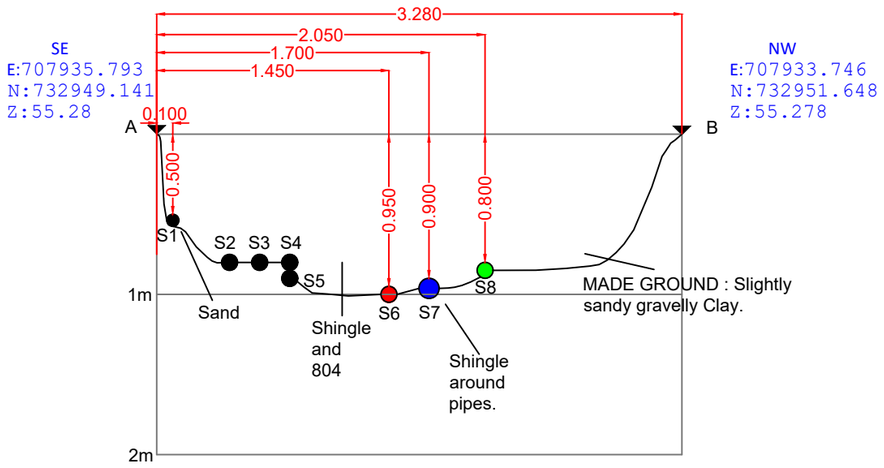
Ground Investigations Ireland Ltd.
Catherinestown House
Hazelhatch Road,
Newcastle,
County Dublin

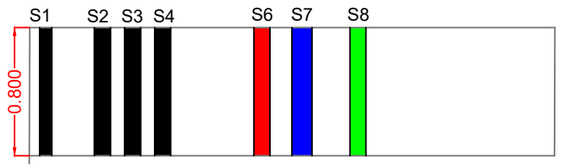
Tel: +353-(0)1 6015175/6 Fax: +353-(0)1 6015173
Email: info@gii.ie Web: www.gii.ie

PROJECT:	13687-03-24 - Cherry Orchard Sites 4&5 Phase 2
DRAWING No.:	ST-04.1
DATE:	20/05/2024
CLIENT:	Waterman Moylan
SCALE:	NTS

Version:	Date:	Drawn By:	Checked By:
1	21/06/2024	S.F.	R.H.

ST-05





Service No	ø (m)	Colour - Material	Utility	Angle to trench	Coordinates		Level
					East	North	
S1	0.100	Black Ribbed	Comms	90°	707935.642	732949.265	54.86
S2	0.100	Black Ribbed	Comms	90°	707935.147	732949.992	54.613
S3	0.100	Black Ribbed	Comms	90°	707935.056	732950.054	54.597
S4	0.100	Black Ribbed	Comms	90°	707935.003	732950.205	54.629
S5	0.100	Black PVC	?	90°	707934.981	732950.3	54.516
S6	0.100	Red PVC	?	90°	707934.794	732950.442	54.507
S7	0.125	Blue PVC	Water	90°	707934.643	732950.606	54.535
S8	0.100	Green PVC	NTL	90°	707934.434	732950.787	54.678

Surface from/to (m) G/H		Surface type
0.0m	1.30m	VERGE
1.30m	3.28m	CONCRETE

From (m)	To (m)	Description
0.00	0.20	CONCRETE
0.20	0.35	MADE GROUND: Grey slightly sandy subrounded to subangular fine to coarse Gravel.
0.35	0.95	MADE GROUND: Grey slightly sandy subrounded to subangular fine to coarse Gravel.

Groundwater	Y/N	Depth	Notes
	N		

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

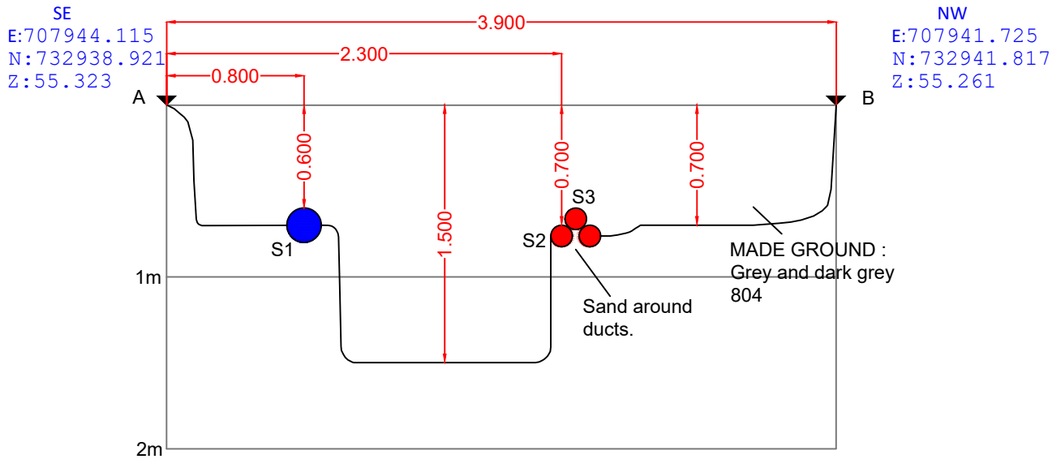
Ground Investigations Ireland Ltd.
Catherinestown House
Hazelhatch Road,
Newcastle,
County Dublin

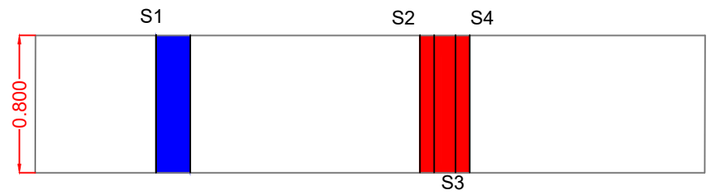
Tel: +353-(0)1 6015175/6 Fax: +353-(0)1 6015173
Email: info@gii.ie Web: www.gii.ie

PROJECT:	13687-03-24 - Cherry Orchard Sites 4&5 Phase 2
DRAWING No.:	ST-5
DATE:	22/06/2024
CLIENT:	Waterman Moylan
SCALE:	NTS

Version:	Date:	Drawn By:	Checked By:
1	25/06/2024	S.F.	R.H.

ST-06





Service No	ø (m)	Colour - Material	Utility	Angle to trench	Coordinates		Level
					East	North	
S1	0.200	Blue P.E	Water	90°	707943.686	732939.391	54.72
S2	0.125	Red	Electric	90°	707942.604	732940.894	54.654
S3	0.125	Red	Electric	90°	707942.5	732940.919	54.793
S4	0.125	Red	Electric	90°	707942.474	732940.98	54.663

Surface from/to (m) G/H		Surface type
0.0m	0.90m	VERGE
0.90m	3.90m	CONCRETE

From (m)	To (m)	Description
0.00	0.30	Grey CONCRETE.
0.30	0.60	MADE GROUND: Grey slightly sandy subangular to subrounded fine to coarse Gravel.
0.60	1.00	MADE GROUND: Brown slightly sandy gravelly Clay.
1.00	1.50	Brown slightly sandy gravelly CLAY.

Groundwater	Y/N	Depth	Notes
	N		

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Ground Investigations Ireland Ltd.
Catherinestown House
Hazelhatch Road,
Newcastle,
County Dublin

Tel: +353-(0)1 6015175/6 Fax: +353-(0)1 6015173
Email: info@gii.ie Web: www.gii.ie

PROJECT:	13687-03-24 - Cherry Orchard Sites 4&5 Phase 2
DRAWING No.:	ST-6
DATE:	22/06/2024
CLIENT:	Waterman Moylan
SCALE:	NTS

Version:	Date:	Drawn By:	Checked By:
1	25/06/2024	S.F.	R.H.

Cherry Orchard Slit Trench Photographs

ST01



ST01



Cherry Orchard Slit Trench Photographs

ST01



ST01



Cherry Orchard Slit Trench Photographs

ST01



ST01



Cherry Orchard Slit Trench Photographs

ST01

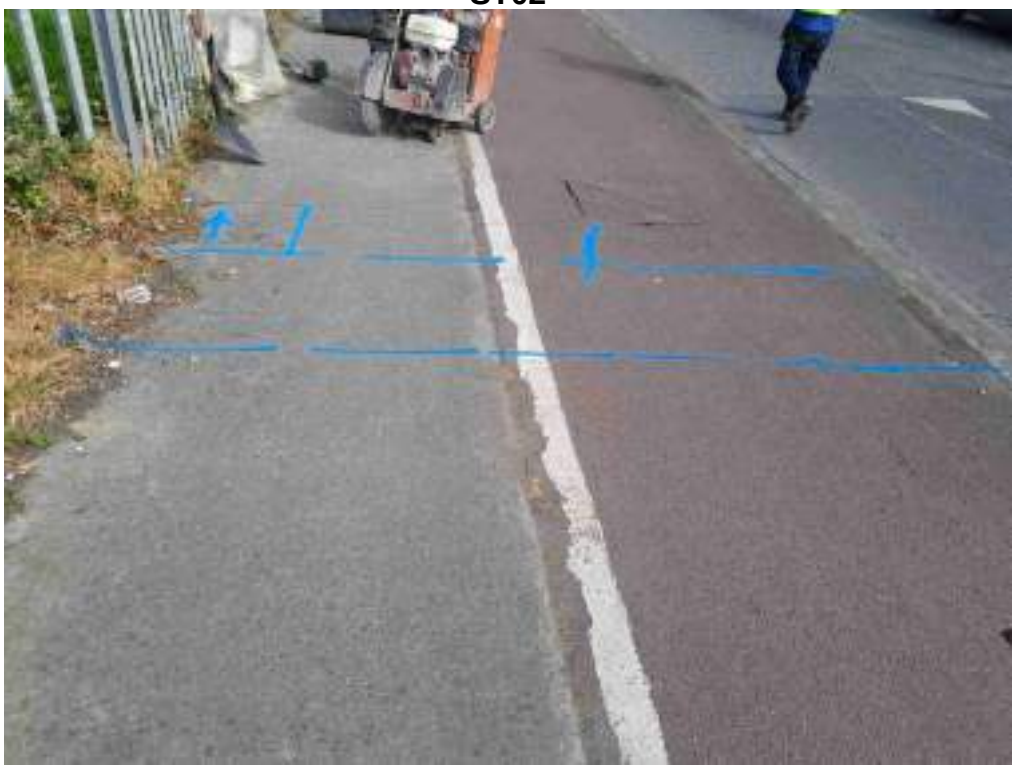


Cherry Orchard Slit Trench Photographs

ST02



ST02



Cherry Orchard Slit Trench Photographs

ST02



ST02



Cherry Orchard Slit Trench Photographs

ST02



ST02



Cherry Orchard Slit Trench Photographs

ST02



ST02



Cherry Orchard Slit Trench Photographs

ST02



ST02



Cherry Orchard Slit Trench Photographs

ST02



ST02



Cherry Orchard Slit Trench Photographs

ST03



ST03



Cherry Orchard Slit Trench Photographs

ST03



ST03



Cherry Orchard Slit Trench Photographs

ST03



ST03



Cherry Orchard Slit Trench Photographs

ST03



ST03



Cherry Orchard Slit Trench Photographs

ST03



ST03



Cherry Orchard Slit Trench Photographs

ST03



ST03

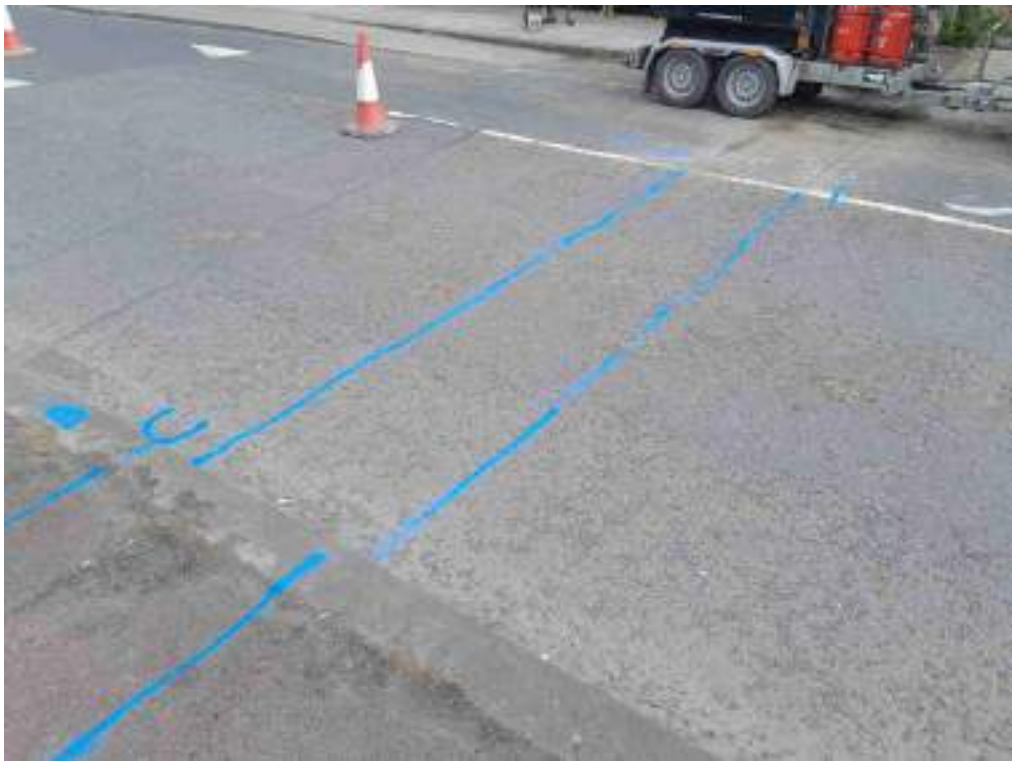


Cherry Orchard Slit Trench Photographs

ST03



ST03



Cherry Orchard Slit Trench Photographs

ST03



ST03



Cherry Orchard Slit Trench Photographs

ST03



ST03



Cherry Orchard Slit Trench Photographs

ST03



ST03



Cherry Orchard Slit Trench Photographs

ST03



Cherry Orchard Slit Trench Photographs

ST04



ST04



Cherry Orchard Slit Trench Photographs

ST04



ST04



Cherry Orchard Slit Trench Photographs

ST04



ST04



Cherry Orchard Slit Trench Photographs

ST04



ST04



Cherry Orchard Slit Trench Photographs

ST04



ST04



Cherry Orchard Slit Trench Photographs

ST04



ST04



Cherry Orchard Slit Trench Photographs

ST04



ST04



Cherry Orchard Slit Trench Photographs

ST04



ST04



Cherry Orchard Slit Trench Photographs

ST04



Cherry Orchard Slit Trench Photographs

Manhole near to ST04.1



ST04.1



Cherry Orchard Slit Trench Photographs

ST04.1



ST04.1



Cherry Orchard Slit Trench Photographs

ST04.1



Cherry Orchard Slit Trench Photographs

ST05



ST05



Cherry Orchard Slit Trench Photographs

ST05



ST05



Cherry Orchard Slit Trench Photographs

ST05



ST05



Cherry Orchard Slit Trench Photographs

ST06



ST06



Cherry Orchard Slit Trench Photographs

ST06



ST06



Cherry Orchard Slit Trench Photographs

ST06



ST06



APPENDIX 4 – Soakaway Records

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

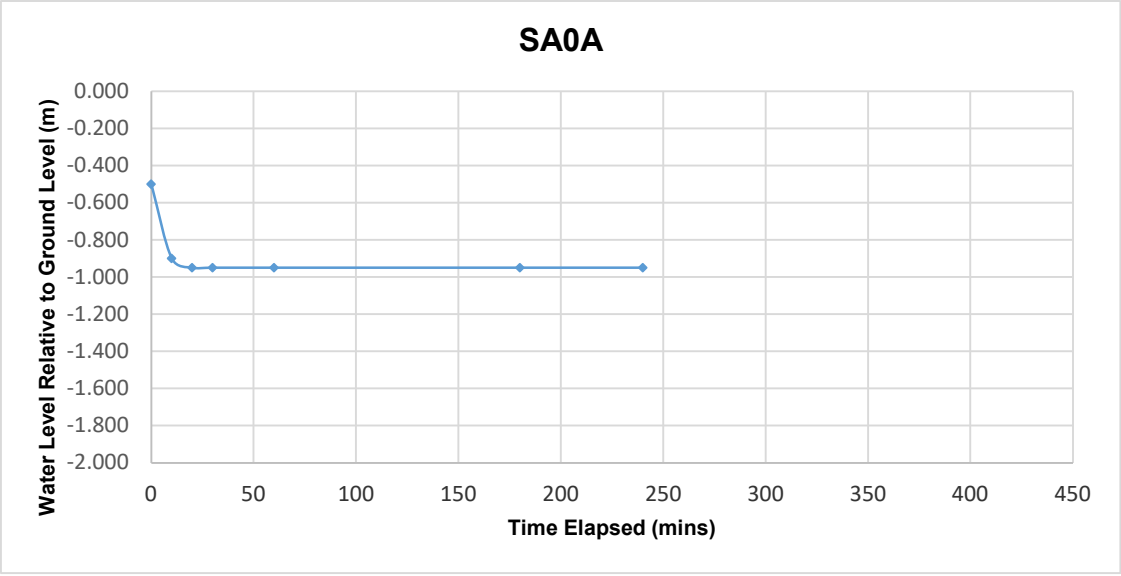
SA0A

Soakaway Test to BRE Digest 365
Trial Pit Dimension: 2.20 x 0.60 x 2.50 (L x W x D)

Date	Time	Water level (m bgl)
07/06/2024	0	-0.500
07/06/2024	10	-0.900
07/06/2024	20	-0.950
07/06/2024	30	-0.950
07/06/2024	60	-0.950
07/06/2024	180	-0.95
07/06/2024	240	-0.950

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.50	2.500	2.000	1	2



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

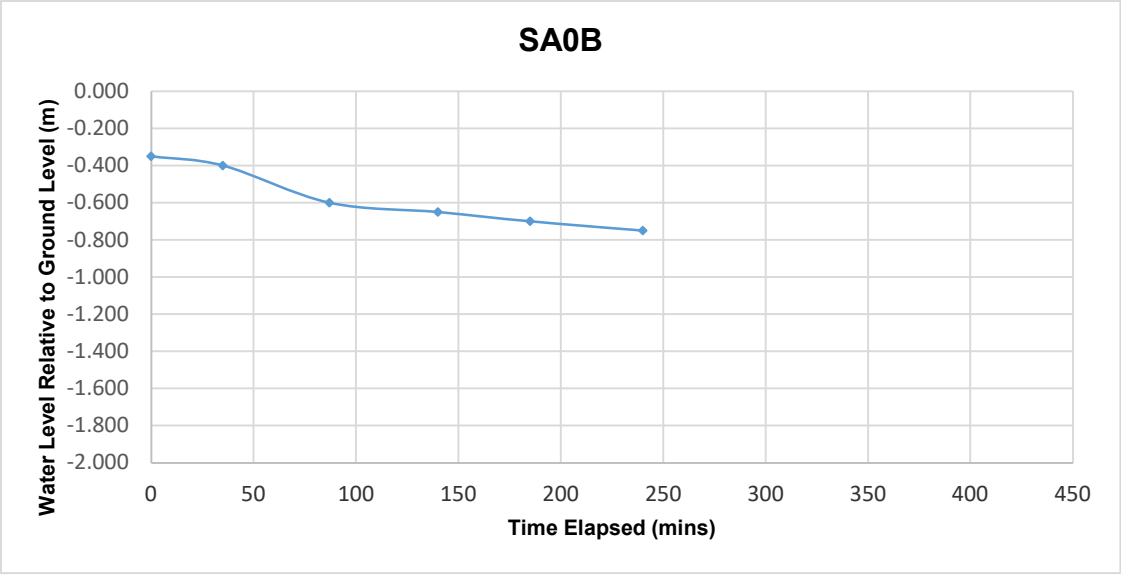
SA0B

Soakaway Test to BRE Digest 365
Trial Pit Dimension: 1.90 cx 0.60 x 2.40 (L x W x D)

Date	Time	Water level (m bgl)
07/06/2024	0	-0.350
07/06/2024	35	-0.400
07/06/2024	87	-0.600
07/06/2024	140	-0.650
07/06/2024	185	-0.700
07/06/2024	240	-0.75

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.35	2.400	2.050	0.8625	1.8875



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

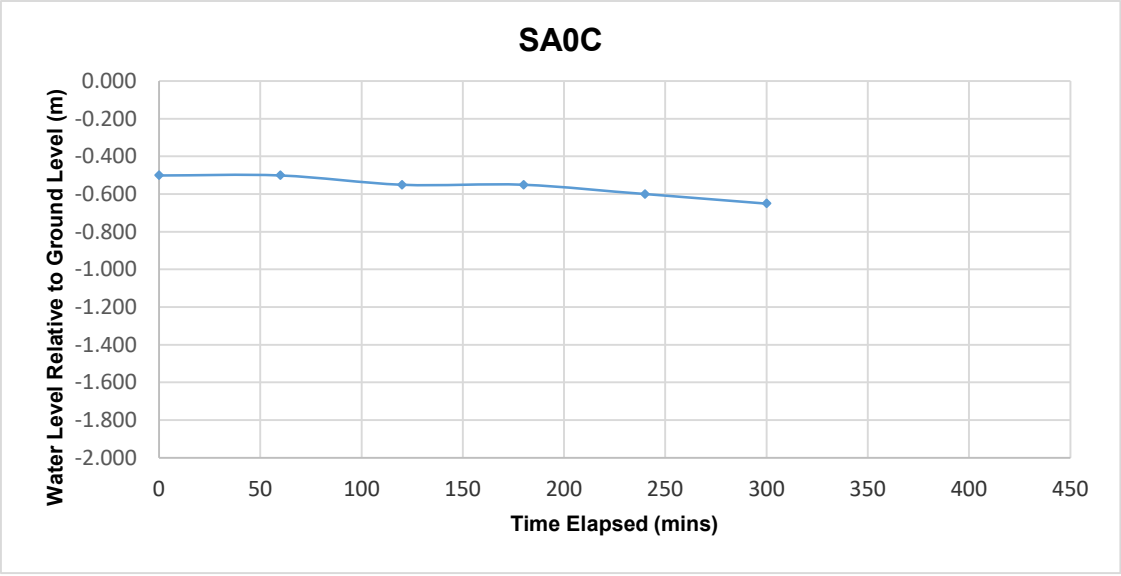
SA0C

Soakaway Test to BRE Digest 365
Trial Pit Dimension: 2.50x0.60x2.30 (L x W x D)

Date	Time	Water level (m bgl)
07/06/2024	0	-0.500
07/06/2024	60	-0.500
07/06/2024	120	-0.550
07/06/2024	180	-0.550
07/06/2024	240	-0.600
07/06/2024	300	-0.65

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.50	2.300	1.800	0.95	1.85



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

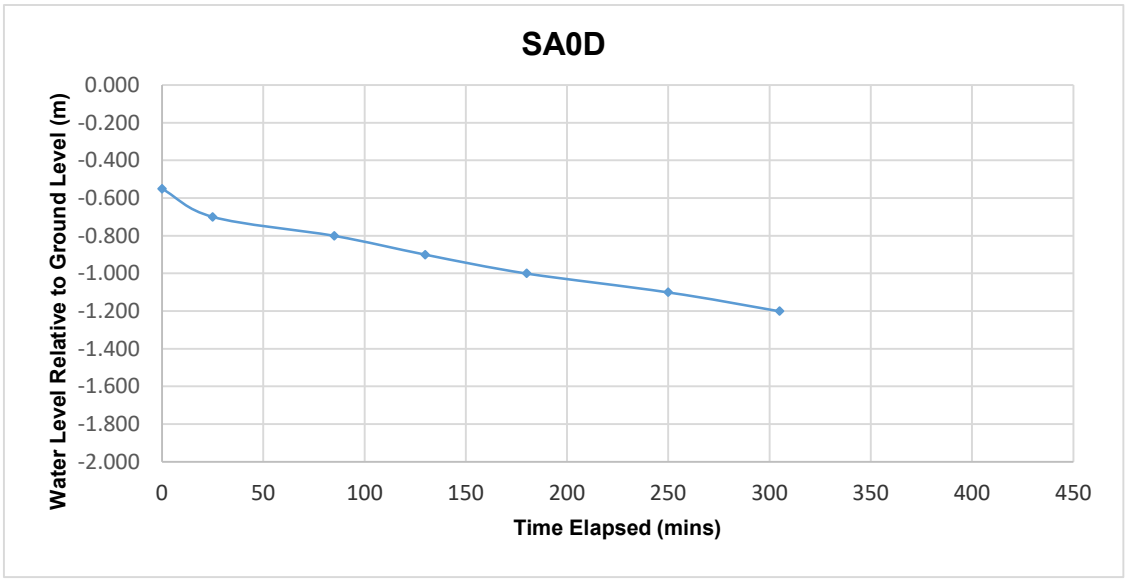
SA0D

Soakaway Test to BRE Digest 365
Trial Pit Dimension: 2.50x0.60x2.60(L x W x D)

Date	Time	Water level (m bgl)
07/06/2024	0	-0.550
07/06/2024	25	-0.700
07/06/2024	85	-0.800
07/06/2024	130	-0.900
07/06/2024	180	-1.000
07/06/2024	250	-1.1
07/06/2024	305	-1.200

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.55	2.600	2.050	1.0625	2.0875



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

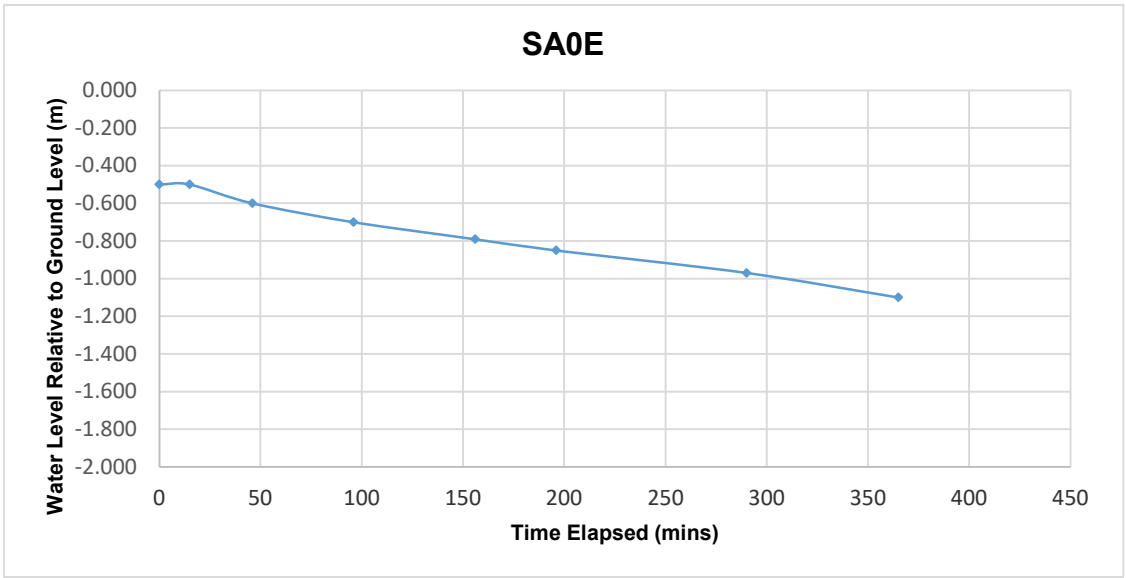
SA0E

Soakaway Test to BRE Digest 365
Trial Pit Dimension: 2.90x0.60x2.50 (L x W x D)

Date	Time	Water level (m bgl)
07/06/2024	0	-0.500
07/06/2024	15	-0.500
07/06/2024	46	-0.600
07/06/2024	96	-0.700
07/06/2024	156	-0.790
07/06/2024	196	-0.850
07/06/2024	290	-0.97
07/06/2024	365	-1.100

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.50	2.500	2.000	1	2



Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** SA A
Machine : 3T **Method :** Trial Pit	**Dimensions** 2.20 x 0.60 x 2.50	**Ground Level (mOD)** 56.54	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707599 E 707599 N	**Dates** 01/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.15)	Brown slightly sandy gravelly TOPSOIL with rootlets and occasional brick fragments		
				56.39	0.15			
					(0.35)	MADE GROUND brown slightly sandy gravelly Clay with high cobble content and red brick fragments.		
0.50	B			56.04	0.50	MADE GROUND Greyish brown slightly sandy gravelly Clay with medium cobble content and fragments of red brick		
					(0.60)			
				55.44	1.10	Firm to stiff greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
					(1.20)			
				54.24	2.30	Stiff Dark grey Slightly sandy gravelly CLAY with medium cobble and boulder content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
					(0.20)			
				54.04	2.50	Complete at 2.50m		

Plan

Remarks

Soak away pit stable.
No ground water encountered.
Soak away back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.SA A

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** SA B
Machine : 3T **Method :** Trial Pit	**Dimensions** 1.90 x 0.60 x 2.40	**Ground Level (mOD)** 55.98	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707672.8 E 733003.6 N	**Dates** 07/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with rootlets		
				55.78	0.20			
					(0.20)	Soft to firm Brown slightly sandy gravelly CLAY with low cobbles content		
				55.58	0.40			
0.50	B				(0.30)	Grey slightly clayey gravelly fine to coarse SAND with low cobbles content.		
				55.28	0.70			
					(1.30)	Firm to stiff slightly sandy gravelly CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
			slow(1) at 2.00m.	53.98	2.00			▽1
					(0.40)	Firm to stiff greyish brown slightly sandy gravelly CLAY with medium cobble and boulder content.Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
				53.58	2.40			
						Complete at 2.40m		

Plan

Remarks

Soak away pit stable.
Ground water encountered at 2.0m BGL.
Soak away back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.SA B

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** SA C
Machine : 3T **Method :** Trial Pit	**Dimensions** 2.50 x 0.60 x 2.30	**Ground Level (mOD)** 56.34	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707733.1 E 732933.6 N	**Dates** 07/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown slightly sandy gravelly TOPSOIL with rootlets.		
				56.14	0.20	Firm to stiff Brown slightly sandy gravelly CLAY with high cobble and medium boulder content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
					(1.20)			
				54.94	1.40	Firm to stiff Greyish brown slightly sandy gravelly CLAY with medium cobble and boulder content.Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
					(0.60)			
				54.34	2.00	Stiff dark grey slightly sandy gravelly CLAY with medium cobble and boulder content.Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
					(0.30)			
				54.04	2.30	Complete at 2.30m		

Plan

Remarks

Soak away pit stable
No ground water encountered.
Soak away back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.SA C

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** SA D
Machine : 3T **Method :**	**Dimensions** 2.50x 0.60 x 2.60	**Ground Level (mOD)** 56.38	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707702.3 E 732856.8 N	**Dates** 07/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Dark brown slightly sandy gravelly TOPSOIL with rare fragment of red brick.		
				56.08	0.30			
0.50	B				(1.50)	Firm to stiff brown slightly sandy gravelly CLAY with low cobble an boulder content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
			slow to mod(1) at 2.00m.	54.58	1.80	Firm to stiff greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		▽1
					(0.80)			
				53.78	2.60	Complete at 2.60m		

Plan

Remarks

Soak away pit stable
Ground water encountered at 2.0m BGL
Soak away back filled upon completion

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.SA D

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** SA E
Machine : 3T **Method :** Trial Pit	**Dimensions** 2.90 x 0.60 x 2.50	**Ground Level (mOD)** 57.22	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707807.6 E 732818.8 N	**Dates** 07/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				57.12	(0.10) 0.10	Dark brown organic clay with rootlets		
					(0.50)	MADE GROUND greyish brown slightly sandy clayey sub A to sub rounded fine to coarse gravel FILL with rootlets and metal		
0.50	B			56.62	0.60	Soft to firm greyish brown slightly sandy gravelly CLAY with medium cobble and boulder content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
					(0.70)			
				55.92	1.30	Firm greyish brown slightly sandy very gravelly CLAY with high cobble and boulder content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
					(1.20)			
				54.72	2.50	Complete at 2.50m		

Plan

Remarks

Soakaway pit stable.
No ground water encountered.
Soak away back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.SA E

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

APPENDIX 5 – Window Sample Records

www.gii.ie

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Number** WS01
Machine : Tec10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 66mm to 1.40m	**Ground Level (mOD)** 55.65	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 708007.9 E 732858.6 N	**Dates** 27/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy slightly gravelly TOPSOIL with occasional rootlets		
0.20-0.50	B			55.45	0.20	MADE GROUND: Brown sandy gravelly Clay with low cobble content		
0.50-0.90	B				(0.70)			
0.50-0.90	ES							
0.90-1.40	B			54.75	0.90	MADE GROUND: Brown slightly sandy gravelly Clay with low cobble content and rare ceramic fragments		
1.00-1.40	ES				(0.50)			
				54.25	1.40	Refused on obstruction. Possible rock or boulder		
						Complete at 1.40m		

Remarks
0.00 - 1.00m BGL 100% recovery
1.00 - 1.40m BGL 80% recovery
Refusal at 1.40m BGL

Scale (approx)	Logged By
1:25	AM

Figure No. 13687-03-24.WS01

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Number** WS02
Machine : Tec10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 2.00m 66mm to 2.40m	**Ground Level (mOD)** 58.08	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707980.4 E 732883 N	**Dates** 27/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with occasional rootlets		
0.20-0.80	B			57.88	0.20	MADE GROUND: Brown mottled grey sandy slightly gravelly Clay with low cobble content and occasional fragments of domestic refuse and plastic		
0.50-0.70	ES				(0.60)			
				57.28	0.80	No recovery		
					(0.20)			
1.00-1.40 1.00-1.50	ES B			57.08	1.00	MADE GROUND: Brown mottled grey sandy slightly gravelly Clay with low cobble content and occasional fragments of glass red brick and wood. Organic odour Laminated structure below 1.2m BGL		
					(0.50)			
				56.58	1.50	No recovery		
					(0.50)			
2.00-2.40 2.00-2.40	B ES			56.08	2.00	MADE GROUND: Brown mottled grey sandy gravelly Clay with low cobble content		
					(0.40)			
				55.68	2.40	Complete at 2.40m		

Remarks
0.00 - 1.00m BGL 70% recovery
1.00 - 2.00m BGL 60% recovery
2.00 - 2.40m BGL 80% recovery
Refusal at 2.40m BGL

Scale (approx)	Logged By
1:25	AM

Figure No. 13687-03-24.WS02

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Number** WS03
Machine : Tec10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.30m	**Ground Level (mOD)** 56.46	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 708031.8 E 732892.9 N	**Dates** 27/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL		
0.20-0.90	B			56.26	0.20	MADE GROUND: Brown sandy gravelly Clay with occasional fragments of red brick plastic ceramic and domestic refuse		
0.50-0.90	ES				(0.70)			
				55.56	0.90			
					(0.10)	No recovery		
1.00-1.30	B			55.46	1.00			
1.00-1.30	ES				(0.30)	MADE GROUND: Brown sandy gravelly Clay with occasional rootlets and fragments of organic material and metal		
				55.16	1.30			
						Complete at 1.30m		

Remarks
1.00 - 1.20m BGL 90% recovery
1.00 - 1.30m BGL 60% recovery
Refusal at 1.30m BGL

Scale (approx)	Logged By
1:25	AM

Figure No. 13687-03-24.WS03

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Number** WS04
Machine : Tec10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.15m	**Ground Level (mOD)** 57.88	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 708023.4 E 732912.6 N	**Dates** 27/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Brown sandy gravelly TOPSOIL with occasional rootlets		
0.25-1.00 0.25-1.00	B ES			57.63	0.25	MADE GROUND: Brown sandy gravelly Clay with low cobble content and rare fragments of glass and red brick		
					(0.75)			
1.00-1.15 1.00-1.15	B ES			56.88 56.73	1.00 (0.15) 1.15	Dark brown sandy gravelly CLAY with low cobble content and occasional rootlets		
						Complete at 1.15m		

Remarks
0.00 - 1.00m BGL 90% recovery
1.00 - 1.15m BGL 100% recovery
Refusal at 1.15m BGL

Scale (approx)	Logged By
1:25	AM

Figure No. 13687-03-24.WS04

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Number** WS05
Machine : Tec10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 2.00m 66mm to 2.60m	**Ground Level (mOD)** 57.87	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707998.4 E 732938.4 N	**Dates** 27/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sadny gravelly TOPSOIL with occasional rootlets		
0.20-0.60	ES			57.67	0.20			
0.20-1.00	B					MADE GROUND: Brown sandy gravelly Clay with low cobble content and occasional fragments of red brick		
					(1.30)			
1.00-1.50	B							
1.00-1.90	ES							
1.50-1.80	B			56.37	1.50			
					(0.30)	Dark brown mottled grey laminated sandy slightly gravelly organic CLAY (Possible old topsoil)		
1.80-2.20	B			56.07	1.80			
2.00-2.50	ES					Brown sandy slightly gravelly CLAY with low cobble content		
					(0.80)			
				55.27	2.60			
						Complete at 2.60m		

Remarks
0.00 - 1.00m BGL 60% recovery
1.00 - 2.00m BGL 90% recovery
2.00 - 2.60m BGL 100% recovery
Refusal at 2.20m BGL

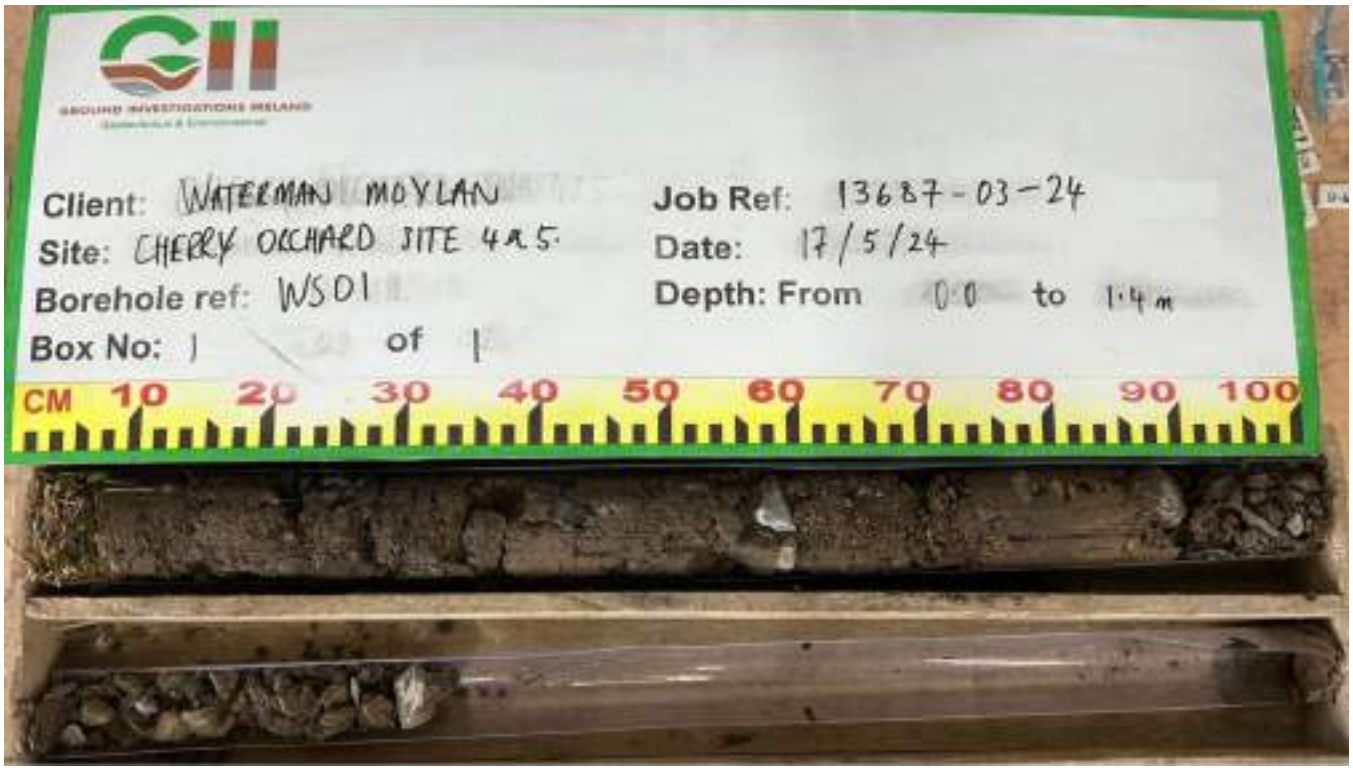
Scale (approx)	Logged By
1:25	AM

Figure No. 13687-03-24.WS05

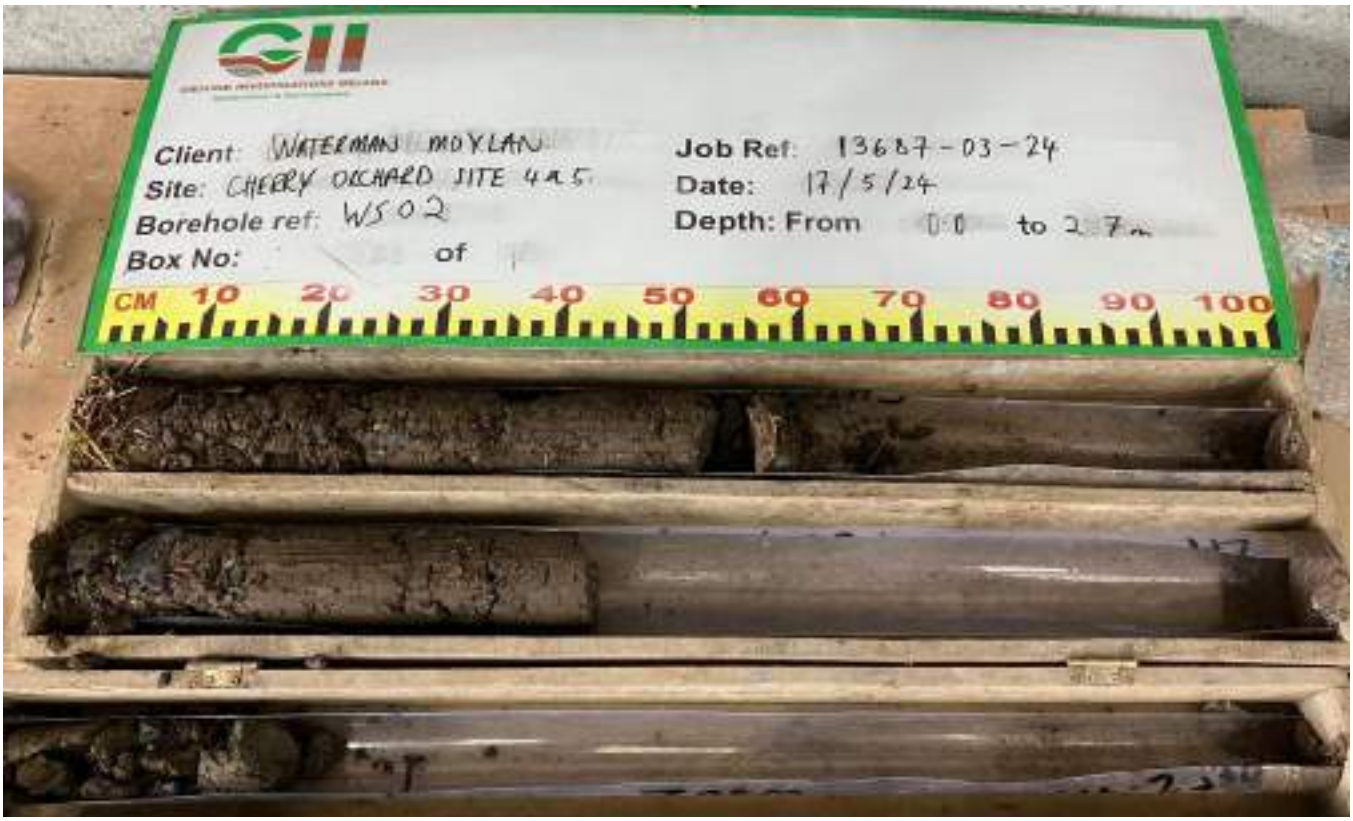
Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Cherry Orchard Sites 4&5 Phase 2 – Window Sample Photographs

WS01

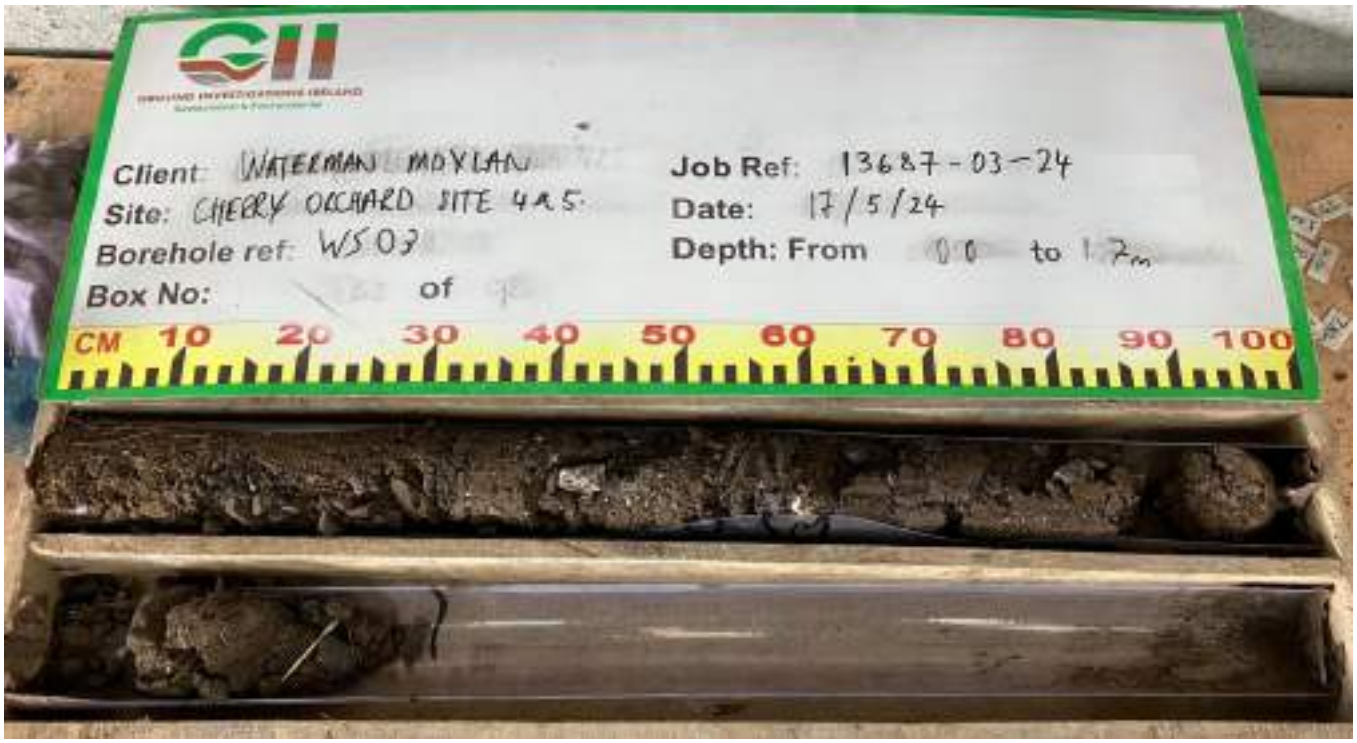


WS02

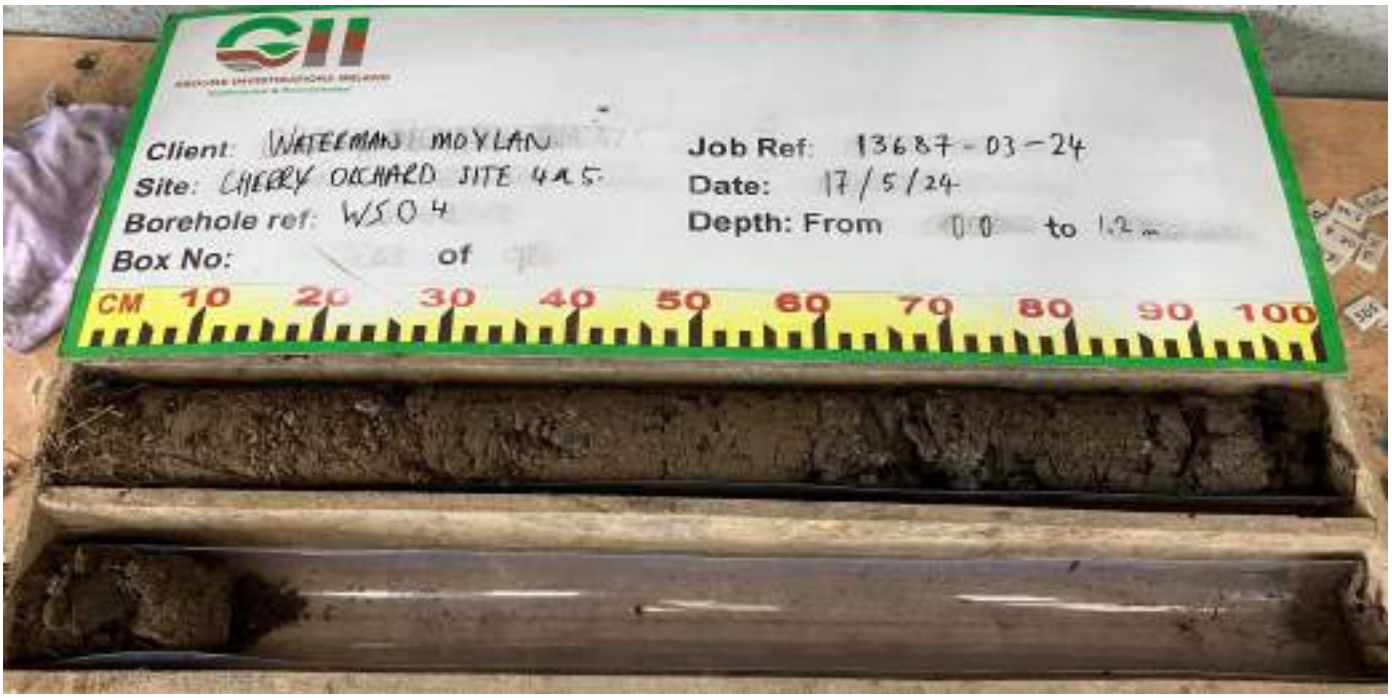


Cherry Orchard Sites 4&5 Phase 2 – Window Sample Photographs

WS03



WS04



Cherry Orchard Sites 4&5 Phase 2 – Window Sample Photographs

WS05



APPENDIX 6 – Cable Percussion Borehole Records

www.gii.ie

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH50
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 3.10m	**Ground Level (mOD)** 56.31	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707626.1 E 733128.7 N	**Dates** 08/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					56.11	(0.20) 0.20	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
0.50	B				55.61	(0.50) 0.70	Brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=18 B			3,3/3,5,4,6		(1.90)	Stiff greyish brown slightly sandy slightly gravelly CLAY with occasional sand lenses. Gravel is subangular to subrounded fine to coarse.		
2.00-2.45 2.00	SPT(C) N=25 B			3,4/4,4,7,10					
					53.71	2.60			
						(0.50)	Very stiff dark brownish grey slightly sandy slightly gravelly CLAY with medium cobble content. Gravel is subangular to subrounded fine to coarse.		
3.00-3.00 3.00	SPT(C) 25*/0 50/0 B			25/50	53.21	3.10	Complete at 3.10m		

Remarks
Cable percussion drilling refused at 3.10m BGL due to obstruction. Possible bedrock or boulder
No groundwater encountered during drilling
Borehole backfilled upon completion
Chiselling from 2.90m to 3.10m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH50

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH51
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.50m	**Ground Level (mOD)** 56.40	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location (dGPS) 707605.8 E 733105.5 N	**Dates** 07/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	Brown slightly sandy slightly gravelly TOPSOIL with frequent rootlets. Gravel is sub-angular to sub-rounded fine to coarse.		
					56.10	0.30			
0.50	B						Stiff brown sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=22 B			3,5/3,7,6,6		(1.60)			
					54.50	1.90	Very stiff greyish black slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
2.00-2.30 2.00	SPT(C) 50/150 B			3,7/14,17,19		(0.60)			
					53.90	2.50	Terminated at 2.50m		

Remarks
Cable percussion drilling refused at 2.50m BGL due to obstruction. Possible bedrock or boulder.
No ground water encountered during drilling.
Borehole backfilled upon completion
Chiselling from 2.30m to 2.50m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH51

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH52
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.50m	**Ground Level (mOD)** 56.32	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location (dGPS) 707642.6 E 707568.8 N	**Dates** 03/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	Brown slightly sandy slightly gravelly TOPSOIL with frequent rootlets. Gravel is sub-angular to sub-rounded fine to coarse.		
					56.02	0.30			
0.50	B						Stiff brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=17 B			2,4/3,4,5,5		(1.90)			
2.00-2.45 2.00	SPT(C) N=50 B			3,4/4,9,37	54.12	2.20			
						(0.30)	Very stiff derk grey slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
					53.82	2.50			
							Terminated at 2.50m		

Remarks
Cable percussion drilling refused at 2.50m BGL due to obstruction. Possible bedrock or boulder.
No groundwater encountered during drilling.
Borehole backfilled upon completion.
Chiselling from 2.30m to 2.50m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH52

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH53
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to	**Ground Level (mOD)** 56.32	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707568.8 E 733039.7 N	**Dates** 08/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
					56.02	0.30			
0.50	B					(0.70)	Greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=18 B			3,6/7,3,4,4	55.32	1.00	Stiff greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
						(0.90)			
					54.42	1.90			
2.00-2.15 2.00	SPT(C) 50/0 B			7,14/50		(0.40)	Very stiff dark grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
					54.02	2.30	Complete at 2.30m		

Remarks
Cable percussion drilling refused at 2.00m BGL due to obstruction. Possible bedrock or boulder
No groundwater encountered during drilling
Borehole backfilled upon completion
Chiselling from 2.20m to 2.30m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH53

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH54
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.80m	**Ground Level (mOD)** 56.15	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707665.6 E 733128.1 N	**Dates** 07/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					55.95	(0.20) 0.20	Brown slightly sandy slightly gravelly TOPSOIL with frequent rootlets and rare red brick and charcoal fragments.		
0.50	B						Firm to stiff brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=14 B			2,5/3,4,3,4		(1.90)			
2.00-2.45 2.00	SPT(C) N=23 B			3,4/4,6,5,8	54.05	2.10	Stiff greyish black slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
						(0.70)			
					53.35	2.80	Complete at 2.80m		

Remarks
Cable percussion drilling refused at 2.80m BGL due to obstruction. Possible bedrock or boulder.
No groundwater encountered during drilling.
Borehole backfilled upon completion.
Chiselling from 2.70m to 2.80m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH54

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH55
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 3.00m	**Ground Level (mOD)** 56.59	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707586.7 E 733019.4 N	**Dates** 02/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					56.29	(0.30) 0.30	Brown slightly sandy slightly gravelly TOPSOIL with frequent rootlets and occasional red brick fragments. Gravel is subangular to subrounded fine to coarse.		
0.50	B						Firm to stiff brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=13 B			2,3/3,3,3,4		(2.40)			
2.00-2.45 2.00	SPT(C) N=15 B			3,4/3,4,4,4					▼1
					53.89	2.70 (0.30)	Very stiff greyish black slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		▽1
3.00	B			Water strike(1) at 2.90m, rose to 2.50m in 20 mins.	53.59	3.00	Complete at 3.00m		
3.00-3.00	SPT(C) 25*/0 50/0			25/50					

Remarks
Cable percussion drilling refused at 3.00m BGL due to obstruction. Possible bedrock or boulder.
Groundwater encountered at 2.90m BGL
Borehole backfilled upon completion
Chiselling from 2.90m to 3.00m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH55

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH56
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.70m	**Ground Level (mOD)** 56.08	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707614.1 E 733029 N	**Dates** 07/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	Brown slightly sandy slightly gravelly TOPSOIL with frequent rootlets		
					55.78	0.30			
0.50	B						Firm to stiff brown slightly sandy slightly gravelly CLAY		
1.00-1.45 1.00	SPT(C) N=15 B			2,4/3,3,4,5		(2.10)			
2.00-2.45 2.00	SPT(C) N=29 B			4,4/5,5,9,10					
					53.68	2.40	Very stiff greyish black slightly sandy slightly gravelly CLAY		
					53.38	(0.30) 2.70	Complete at 2.70m		

Remarks
Cable percussion drilling refused at 2.70m BGL due to obstruction. Possible bedrock or boulder.
No ground water encountered during drilling.
Borehole backfilled upon completion.
Chiselling from 2.60m to 2.70m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH56

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH57
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 3.00m	**Ground Level (mOD)** 56.23	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707647.3 E 733050.3 N	**Dates** 03/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					56.03	(0.20) 0.20	Brown slightly sandy slightly gravelly TOPSOIL with frequent rootlets. Gravel is subangular to subrounded fine to coarse.		
0.50	B						Firm to stiff greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=16 B			2,3/6,4,3,3		(1.90)			
2.00-2.45 2.00	SPT(C) N=28 B			3,5/7,6,6,9	54.13	2.10	Stiff to very stiff greyish black slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
						(0.90)			
3.00-3.00 3.00	SPT(C) 25*/0 50/0 B			25/50	53.23	3.00	Complete at 3.00m		

Remarks
Cable percussion drilling refused at 3.00m BGL due to obstruction. Possible bedrock or boulder.
No groundwater encountered during drilling.
Borehole backfilled upon completion.
Chiselling from 2.90m to 3.00m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH57

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH58
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.60m	**Ground Level (mOD)** 55.57	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707736 E 733052.6 N	**Dates** 08/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.40)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
					55.17	0.40			
0.50	B					(0.60)	Greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=18 B			3,5/3,6,5,4	54.57	1.00			
						(1.00)	Stiff greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
2.00-2.38 2.00	SPT(C) 50/225 B			5,6/6,10,15,19	53.57	2.00			
						(0.60)	Very stiff dark grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
					52.97	2.60	Complete at 2.60m		

Remarks
Cable percussion drilling refused at 2.60m BGL due to obstruction. Possible bedrock or boulder
No groundwater encountered during drilling
Borehole backfilled upon completion
Chiselling from 2.40m to 2.60m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH58

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH59
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 1.50m	**Ground Level (mOD)** 55.90	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707709.6 E 733027.1 N	**Dates** 03/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					55.70	(0.20) 0.20	Brown slightly sandy slightly gravelly TOPSOIL with frequent rootlets and occasional red brick fragments		
0.50	B					(1.00)	Soft to firm greyish brown very sandy slightly gravelly CLAY with occasional pockets of light brown clay		
1.00-1.38 1.00	SPT(C) 50/225 B			1,1/2,2,2,44	54.70	1.20			
					54.40	(0.30) 1.50	Firm brown slightly sandy slightly gravelly CLAY with occasional pockets of light brown clay		
							Complete at 1.50m		

Remarks
Cable percussion drilling refused at 1.50m BGL due to obstruction. Possible bedrock or boulder.
No groundwater encountered during drilling.
Borehole backfilled upon completion.
Chiselling from 1.40m to 1.50m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH59

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH60
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.00m	**Ground Level (mOD)** 56.23	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707622.1 E 732983.4 N	**Dates** 02/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					56.03	(0.20) 0.20	Brown slightly sandy slightly gravelly TOPSOIL with frequent rootlets and occasional red brick fragments. Gravel is subangular to subrounded fine to coarse.		
0.50	B					(0.90)	Firm brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=9 B			1,2/2,2,3,2	55.13	1.10			
						(0.90)	Firm brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
2.00-2.00 2.00	SPT(C) 25*/0 50/0 B			25/50	54.23	2.00	Complete at 2.00m		

Remarks
Cable percussion drilling refused at 2.00m BGL due to obstruction. Possible bedrock or boulder.
No groundwater encountered during drilling.
Borehole backfilled upon completion.
Chiselling from 1.80m to 2.00m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH60

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH61
Machine : Dando 2000 **Method :** CP	**Casing Diameter** 200mm cased to 1.20m	**Ground Level (mOD)** 56.75	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707609.7 E 732952.9 N	**Dates** 02/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	Brown TOPSOIL.		
					56.45	0.30			
						(0.20)	Brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
0.50	B				56.25	0.50			
						(0.70)	Dark greyish brown slightly sandy very gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.00-1.15	SPT(C)			25/50					
1.00	B				55.55	1.20			
							Complete at 1.20m		

Remarks
No groundwater encountered during drilling.
Borehole backfilled upon completion
Chiselling from 1.00m to 1.10m for 1 hour.

Scale (approx)	Logged By
1:50	GR

Figure No. 13687-03-24.BH 61

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH62
Machine : Dando 2000 **Method :** CP	**Casing Diameter** 200mm cased to 2.10m	**Ground Level (mOD)** 56.26	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707632.4 E 732971.4 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	Brown TOPSOIL		
					55.96	0.30			
						(0.20)	Brown mottled grey gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
0.50	B				55.76	0.50			
						(0.50)	Brown mottled grey gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=18 B			2,3/5,4,3,6	55.26	1.00	Dark grey slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
						(1.10)			
2.00-2.45 2.00	SPT(C) N=50 B			25/50	54.16	2.10	Complete at 2.10m		

Remarks
No groundwater encountered during drilling.
Borehole backfilled upon completion
Chiselling from 2.00m to 2.10m for 1 hour.

Scale (approx)	Logged By
1:50	GR

Figure No. 13687-03-24.BH 62

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH63
Machine : Dando 2000 **Method :** CP	**Casing Diameter** 200mm cased to 1.40m	**Ground Level (mOD)** 56.27	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707657.6 E 732974.2 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					56.07	(0.20) 0.20	Brown TOPSOIL		
0.50	B				55.77	(0.30) 0.50	Brown slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse		
1.00-1.45 1.00	SPT(C) N=50 B			3,10/12,15,23		(0.90)	Dark brown sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse		
					54.87	1.40	Complete at 1.40m		

Remarks
Cable percussion drilling refused at 1.40m BGL due to obstruction. Possible bedrock or boulder.
No groundwater encountered
Borehole backfilled upon completion
Chiselling from 1.30m to 1.40m for 1 hour.

Scale (approx)	Logged By
1:50	GR

Figure No. 13687-03-24.BH 63

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH64
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter**	**Ground Level (mOD)** 56.98	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707652.9 E 732943.3 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					56.88	0.10	Brown TOPSOIL		
						(0.40)	Brown sandy gravelly with rootlets CLAY. Gravel is subangular to subrounded fine to coarse.		
0.50	B				56.48	0.50			
						(0.50)	Brown sandy gravelly CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=50 B			25/50	55.98	1.00	Complete at 1.00m		

Remarks
Cable percussion drilling refused at 1.00m BGL due to obstruction. Possible bedrock or boulder.
No water encountered during drilling.
Borehole backfilled upon completion
Chiselling from 1.00m to 1.00m for 1 hour.

Scale (approx)	Logged By
1:50	GR

Figure No. 13687-03-24.BH 64

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH64A
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 1.10m	**Ground Level (mOD)** 57.01	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707651.5 E 732943.9 N	**Dates** 13/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					56.81	(0.20) 0.20	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
0.50	B					(0.90)	Greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse.		
1.00-1.00	SPT(C) 25*/0 50/0			25/50	55.91	1.10			
1.00	B						Complete at 1.10m		

Remarks
Cable percussion drilling refused at 1.10m BGL due to obstruction. Possible bedrock or boulder
No groundwater encountered during drilling
Borehole backfilled upon completion
Chiselling from 1.00m to 1.10m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH64B

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH65
Machine : Dando 2000 **Method :**	**Casing Diameter** 200mm cased to 2.10m	**Ground Level (mOD)** 57.20	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707623.7 E 732933.6 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	Brown sandy TOPSOIL		
					56.90	0.30			
						(0.20)	Brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
0.50	B				56.70	0.50			
						(0.50)	Brown slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=23 B			1,3/4,6,9,4	56.20	1.00	Greyish brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
						(1.00)			
2.00-2.45 2.00	SPT(C) N=50 B			7,18/50	55.20	2.00	Complete at 2.10m		

Remarks
Cable percussion drilling refused at 2.00m BGL due to obstruction. Possible bedrock or boulder.
No ground water encountered.
Borehole filled upon completion.
Chiselling from 2.10m to 2.10m for 1 hour.

Scale (approx)	Logged By
1:50	GR

Figure No. 13687-03-24.BH 65

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH67
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.10m	**Ground Level (mOD)** 56.40	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707703.8 E 732913.8 N	**Dates** 02/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	Brown TOPSOIL		
					56.10	0.30			
0.50	B					(0.70)	Brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse		
1.00-1.45 1.00	SPT(C) N=17 B			3,3/3,3,3,8	55.40	1.00			
						(1.10)	Stiff brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse		
2.00-2.00 2.00	SPT(C) 25*/0 50/0 B			25/50	54.30	2.10	Complete at 2.10m		

Remarks
Cable percussion drilling refused at 2.00m BGL due to obstruction. Possible bedrock or boulder
No groundwater encountered during drilling
Borehole backfilled upon completion
Chiselling from 1.90m to 2.10m for 1 hour.

Scale (approx)	Logged By
1:50	GR

Figure No. 13687-03-24.BH 67

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH68
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 1.60m	**Ground Level (mOD)** 56.34	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707712.6 E 732871.9 N	**Dates** 10/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
					56.04	0.30			
0.50	B						Greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
						(1.10)			
1.00-1.38 1.00	SPT(C) 50/225 B			2,4/3,4,6,37					
					54.94	1.40			
						(0.20)	Greyish brown slightly sandy slightly gravelly CLAY with medium cobble content. Gravel is subangular to subrounded fine to coarse. Cobbles are of possible bedrock.		
					54.74	1.60			
							Complete at 1.60m		

Remarks
Cable percussion drilling refused at 1.60m BGL due to obstruction. Possible bedrock or boulder
No groundwater encountered during drilling
Borehole backfilled upon completion
Chiselling from 1.50m to 1.60m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH68

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH70
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 0.40m	**Ground Level (mOD)** 56.30	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707785.4 E 732927.1 N	**Dates** 13/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					55.90	(0.40) 0.40	MADE GROUND: Brown slightly sandy slightly gravelly Clay with medium cobble content. Gravel is subangular to subrounded fine to coarse.		
							Complete at 0.40m		

Remarks
Cable percussion drilling refused at 0.40m BGL due to obstruction. Possible bedrock or boulder
No groundwater encountered during drilling
Borehole backfilled upon completion
Chiselling from 0.40m to 0.40m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH70

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH70A
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 96mm cased to 2.80m	**Ground Level (mOD)** 56.30	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707785.4 E 732927.1 N	**Dates** 13/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.40)	MADE GROUND: Brown slightly sandy slightly gravelly Clay with medium cobble content. Gravel is subangular to subrounded fine to coarse.		
					55.90	0.40			
0.50	B					(0.60)	Greyish brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=15 B			2,4/3,3,4,5	55.30	1.00	Stiff greyish brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse.		
						(1.40)			
2.00-2.45 2.00	SPT(C) N=33 B			3,4/5,9,9,10					
					53.90	2.40			
						(0.40)	Very stiff dark brownish grey slightly sandy slightly gravelly CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse.		
					53.50	2.80	Complete at 2.80m		

Remarks
Cable percussion drilling refused at 2.80m BGL due to obstruction. Possible bedrock or boulder
No groundwater encountered during drilling
Borehole backfilled upon completion
Chiselling from 2.70m to 2.80m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH70A

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH71
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.20m	**Ground Level (mOD)** 55.61	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707773.4 E 732953.3 N	**Dates** 13/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	Brown slightly sandy slightly gravelly TOPSOIL with medium cobble content. Gravel is subangular to subrounded fine to coarse.		
					55.31	0.30			
0.50	B					(0.70)	Greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=18 B			2,3/5,4,5,4	54.61	1.00	Stiff greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
						(0.80)			
					53.81	1.80			1
2.00-2.00 2.00	SPT(C) 25*/0 50/0 B			25/50 Water strike(1) at 2.10m, rose to 1.70m in 20 mins.		(0.40)	Very stiff dark grey slightly sandy slightly gravelly CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse.		1
					53.41	2.20	Complete at 2.20m		

Remarks
Cable percussion drilling refused at 2.20m BGL due to obstruction. Possible bedrock or boulder
Groundwater encountered at 2.10m BGL
Borehole backfilled upon completion
Chiselling from 2.00m to 2.20m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH71

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH72
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 3.10m	**Ground Level (mOD)** 55.69	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707751 E 732971.1 N	**Dates** 30/04/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.50)	Brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
0.50	B				55.19	0.50			
						(0.50)	Brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=18 B			2,4/6,4,5,3	54.69	1.00			
						(1.00)	Stiff brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
2.00-2.45 2.00	SPT(C) N=33 B			3,5/8,7,9,9	53.69	2.00			
						(1.10)	Very stiff dark brownish grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
3.00-3.00 3.00	SPT(C) 25*/0 50/0 B			25/50	52.59	3.10	Complete at 3.10m		

Remarks
Cable percussion drilling refused at 3.10m BGL due to obstruction. Possible bedrock or boulder
No groundwater encountered during drilling
Borehole backfilled upon completion
Chiselling from 2.90m to 3.10m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH72

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH74
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 4.00m	**Ground Level (mOD)** 57.05	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707816.2 E 732965 N	**Dates** 09/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.40)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
					56.65	0.40			
0.50	B						MADE GROUND: Greyish brown slightly sandy slightly gravelly Clay with low cobble content and occasional fragments of rubbish metal and red brick		
1.00-1.45 1.00	SPT(C) N=20 B			3,3/4,7,5,4		(1.60)			
					55.05	2.00			
2.00-2.45 2.00	SPT(C) N=19 B			3,4/5,4,4,6			Stiff to very stiff greyish brown slightly sandy slightly gravelly CLAY with low cobble content		
						(1.00)			
					54.05	3.00			
3.00-3.38 3.00	SPT(C) 50/225 B			6,9/13,17,20			Very stiff dark grey slightly sandy slightly gravelly CLAY with low cobble content		▼1
						(1.00)			
				Water strike(1) at 3.80m, rose to 3.50m in 20 mins. 25/50					▽1
					53.05	4.00			
4.00 4.00-4.00	B SPT(C) 25*/0 50/0						Complete at 4.00m		

Remarks
Cable percussion drilling refused at 4.00m BGL due to obstruction. Possible bedrock or boulder
Groundwater encountered at 3.80m BGL
Borehole backfilled upon completion
Chiselling from 3.80m to 4.00m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH74

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH75
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 4.00m	**Ground Level (mOD)** 56.56	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707847.9 E 732916.8 N	**Dates** 29/04/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	MADE GROUND: Grey brown sandy fine to coarse angular Gravel (crushed rock fill)		
					56.26	0.30			
0.50	B					(0.70)	Firm to stiff brown sandy slightly gravelly CLAY with occasional cobbles		
1.00-1.45 1.00	SPT(C) N=15 B			2,4/5,4,3,3	55.56	1.00	Stiff brown sandy slightly gravelly CLAY with occasional cobbles		
2.00-2.45 2.00	SPT(C) N=16 B			3,5/3,6,4,3		(2.30)			
3.00-3.30 3.00	SPT(C) 50/150 B			5,7/9,12,29					
					53.26	3.30	Very stiff dark grey slightly sandy gravelly CLAY with occasional cobbles and rare boulder		
						(0.60)			
					52.66	3.90			
4.00-4.00	SPT(C) 25*/0			25/50	52.56	4.00	OBSTRUCTION: presumed rock or boulder.		
4.00	50/0 B						Complete at 4.00m		

Remarks
Cable percussion drilling refused at 4.00m BGL due to obstruction, possible bedrock of boulder.
Borehole backfilled upon completion
No groundwater encountered
Chiselling from 3.80m to 4.00m for 1 hour.

Scale (approx)	Logged By
1:50	AW

Figure No. 13687-03-24.BH75

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH79
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.20m	**Ground Level (mOD)** 56.94	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707826.9 E 732875.5 N	**Dates** 26/04/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					56.74	(0.20) 0.20	MADEGROUND: Grey sandy angular fine to coarse gravel.		
0.50	B				56.44	(0.30) 0.50	MADE GROUND:Greyish brown slightly sandy gravelly Clay with occasional cobbles and rare red brick fragments		
1.00-1.45 1.00	SPT(C) N=28 B			7,4/5,6,8,9		(1.70)	Stiff to very stiff brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse		
2.00-2.08 2.00	SPT(C) 25*/75 50/0 B			11,14/50	54.74	2.20	Complete at 2.20m		

Remarks
Cable percussion drilling completed at 2.20m BGL due to obstruction, possible bedrock of boulder.
Borehole backfilled upon completion
Chiselling from 2.10m to 2.20m for 1 hour.

Scale (approx)	Logged By
1:50	AW

Figure No. 13687-03-24.BH79

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH83
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 1.40m	**Ground Level (mOD)** 57.27	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707738.8 E 732812.6 N	**Dates** 10/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					57.07	(0.20) 0.20	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
0.50	B					(1.20)	Greyish brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse.		
1.00-1.23 1.00	SPT(C) 50/75 B			3,4/4,46					
					55.87	1.40	Complete at 1.40m		

Remarks
Cable percussion drilling refused at 1.40m BGL due to obstruction. Possible bedrock or boulder
No groundwater encountered during drilling
Borehole backfilled upon completion
Chiselling from 1.30m to 1.40m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH83

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH84
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.10m	**Ground Level (mOD)** 57.04	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707828.6 E 732841.1 N	**Dates** 26/04/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	MADEGROUND: Grey sandy angular fine to coarse gravel.		
					56.74	0.30	Stiff brown slightly sandy slightly gravelly CLAY with medium subangular cobble content. Gravel is angular to subrounded fine to coarse		
0.50	B								
1.00-1.45 1.00	SPT(C) N=19 B			3,4/5,4,4,6		(1.80)			
2.00-2.00 2.00	SPT(C) 25*/0 50/0 B			25/50	54.94	2.10	Complete at 2.10m		

Remarks
Cable percussion drilling refused at 2.00m BGL due to obstruction, possible bedrock of boulder.
Borehole backfilled upon completion
Chiselling from 2.00m to 2.10m for 1 hour.

Scale (approx)	Logged By
1:50	AW

Figure No. 13687-03-24.BH84

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH86
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 4.00m	**Ground Level (mOD)** 57.22	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707846.6 E 732788.9 N	**Dates** 01/04/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.70)	MADE GROUND: Grey sandy angular fine to coarse Gravel		
0.50	B				56.52	0.70			
						(0.30)	Dark reddish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to rounded fine to coarse		
1.00-1.45 1.00	SPT(C) N=16 B			2,1/2,3,6,5	56.22	1.00	Firm to stiff dark greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse		
2.00-2.45 2.00	SPT(C) N=12 B			3,3/3,2,4,3					
						(3.00)			
3.00-3.45 3.00	SPT(C) N=16 B			3,4/3,4,4,5					
4.00-4.00 4.00	SPT(C) 25*/0 50/0 B			25/50	53.22	4.00	Complete at 4.00m		

Remarks
Cable percussion drilling refused at 4.00m BGL due to obstruction. Possible boulder or bedrock
No groundwater encountered during drilling
Borehole backfilled upon completion
Chiselling from 3.70m to 4.00m for 1 hour.

Scale (approx)	Logged By
1:50	AW

Figure No. 13687-03-24.BH86

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH88
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.10m	**Ground Level (mOD)** 57.05	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707883.4 E 732795.4 N	**Dates** 09/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.40)	TOPSOIL		
					56.65	0.40			
0.50	B						Firm to stiff brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse		
1.00-1.45	SPT(C) N=12			2,2/2,3,3,4					
1.00	B					(1.70)			
2.00-2.00	SPT(C) 25*/0			25/50	54.95	2.10			
	50/0						Complete at 2.10m		
2.00	B								

Remarks
Cable percussion drilling refused at 2.10m BGL due to obstruction. Possible boulder or bedrock
No groundwater encountered during drilling
Borehole backfilled upon completion
Chiselling from 1.90m to 2.10m for 1 hour.

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH88

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH90
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.10m	**Ground Level (mOD)** 55.72	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707949.3 E 732787.8 N	**Dates** 30/04/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.30)	MADE GROUND: Grey sandy angular fine to coarse Gravel.		
					55.42	0.30			
						(0.30)	MADE GROUND: Brown sandy gravelly Clay with occasional plastic. Gravel is subangular to subrounded fine to coarse.		
0.50	B				55.12	0.60			
						(0.40)	Brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=30 B			2,6/10,5,9,6	54.72	1.00			
						(0.80)	Very stiff brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
					53.92	1.80			
						(0.30)	Very stiff grey mottled brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
2.00-2.08 2.00	SPT(C) 25*/75 50/0 B			20,5/50	53.62	2.10			
							Complete at 2.10m		

Remarks
Cable percussion drilling refused at 2.00m BGL on obstruction, possible boulder ot bedrock.
No groundwater encountered during drilling
Borehole backfilled upon completion
Chiselling from 2.10m to 2.10m for 1 hour.

Scale (approx)	Logged By
1:50	GR

Figure No. 13687-03-24.BH 90

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH91
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.30m	**Ground Level (mOD)** 55.94	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707942.6 E 732824.7 N	**Dates** 03/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.60)	MADE GROUND: Brown sandy subangular to subrounded fine to coarse Gravel		
0.50	B				55.34	0.60			
						(0.40)	Brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
1.00-1.45 1.00	SPT(C) N=18 B			3,3/4,4,4,6	54.94	1.00	Stiff brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
						(1.30)			
2.00-2.45 2.00	SPT(C) N=50 B			11,14/50					
					53.64	2.30	Complete at 2.30m		

Remarks
Cable percussion drilling refused at 2.30m BGL due to obstruction. Possible bedrock or boulder
No groundwater encountered during drilling
Borehole backfilled upon completion
Chiselling from 2.10m to 2.30m for 1 hour.

Scale (approx)	Logged By
1:50	GR

Figure No. 13687-03-24.BH 91

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

APPENDIX 7 – Rotary Borehole Records

www.gii.ie

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH66
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.50 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 8.30m	**Ground Level (mOD)** 56.44	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707682.1 E 732915.4 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						56.29	(0.15) 0.15	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse		
	35						(2.30)	Poor recovery. Recovery consists of greyish brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse		
2.30	93					53.99	2.45	Greyish black slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is subangular to subrounded fine to coarse. Possible weathered bedrock		
3.80							(1.55)			
4.00	100	67	50			52.44	4.00	Medium strong to strong thinly laminated dark grey very finely grained interbedded calcareous MUDSTONE and argillaceous LIMESTONE with occasional calcite veins and pyrite laminations. Partially weathered to unweathered with thin widely spaced desructured bands (4.00 - 8.30m BGL) 2 fracture sets. FS1: 10-30 degrees, very closely to closely spaced, planar, smooth to polished with occasional Clay staining. FS2: 80-90 degrees, undulating, rough with occasional Clay staining		
5.30	100	67	23	19			(4.30)			
6.80	100	67	27							
8.30						48.14	8.30	Complete at 8.30m		

Remarks
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH66

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH73
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.50 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 7.00m	**Ground Level (mOD)** 55.97	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707780.5 E 732984.2 N	**Dates** 29/04/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						55.87	0.10	TOPSOIL		
	17						(2.10)	Poor recovery. Recovery consists of grey subangular to subrounded fine to coarse GRAVEL		
2.30						53.77	2.20			
	63	27	14				(1.00)	Poor recovery. Recovery consists of dark grey COBBLES with some dark grey slightly sandy slightly gravelly CLAY. Possible bedrock		
3.20						52.77	3.20			
3.80	90	60	40	10			(2.40)	Medium strong to strong thinly laminated dark grey very finely grained interbedded argillaceous LIMESTONE and calcareous MUDSTONE with occasional calcite veins and pyrite laminations. Partially weathered to unweathered with occasional widely spaced thin distinctly to destructured bands (3.20 - 5.60m BGL) 1 fracture set. 40-50 degrees, closely spaced, planar to undulating, smooth to rough with occasional Clay staining		
5.30										
5.60	100	47	25	24		50.37	5.60	Moderately weak to strong thinly laminated dark grey very finely grained interbedded argillaceous LIMESTONE and calcareous MUDSTONE with occasional calcite veins and pyrite laminations. Partially weathered to unweathered (5.60 - 7.00m BGL) 1 fracture set. 40-50 degrees, extremely closely to closely spaced, planar to undulating, smooth to rough with occasional Clay staining		
							(1.40)			
7.00						48.97	7.00	Complete at 7.00m		

Remarks
Rotary drilling complete at 7.00m BGL
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH73

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH76
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.5 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 7.00m	**Ground Level (mOD)** 56.07	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707832.6 E 732927.4 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						56.02	0.05	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
	15						(2.25)	Poor recovery. Recovery consists of brown and grey clayey slightly sandy subangular to subrounded fine to coarse GRAVEL		
2.30	100	63	27	14		53.77	2.30	Strong thinly laminated grey very finely grained LIMESTONE with occasional calcite veins. Slightly weathered. (2.30 - 3.70m BGL) 3 fracture sets. Fracture set 1: 10-30 degrees, closely spaced, planar, smooth to rough with occasional Clay staining. Fracture set 2: 60-70 degrees, closely to medium spaced, planar to undulating, rough with occasional Clay staining. Fracture set 3: 80-90 degrees, undulating, rough with occasional Clay staining		
3.70 3.80	70	37	20			52.37	3.70	Medium strong to strong thinly laminated dark grey very finely grained interbedded argillaceous LIMESTONE and calcareous MUDSTONE with rare calcite veins. Partially weathered to unweathered with thin widely spaced distinctly weathered to destructured bands (3.70 - 7.00m BGL) 3 fracture sets. Fracture set 1: 10-30 degrees, very closely to medium spaced, planar, polished to smooth with occasional Clay staining. Fracture set 2: 60-70 degrees, medium to widely spaced, planar to undulating, rough with occasional Clay staining. Fracture set 3: 80-90 degrees, undulating, rough with occasional Clay staining		
5.30	100	65	42	18			(3.30)			
7.00						49.07	7.00	Complete at 7.00m		

Remarks
Rotary drilling complete at 7.00m BGL.
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH76

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH77
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.50 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 10.00m	**Ground Level (mOD)** 57.20	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707864.3 E 732870.5 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
	16						(3.80)	Poor recovery. Recovery consists of greyish brown slightly sandy gravelly CLAY with occasional cobbles		
3.80 3.80-3.85					25/50 SPT(C) 25*/25 50/25	53.40	3.80	Dark grey limestone boulder or possible raft.		
4.50	100					52.70	(0.70) 4.50	Firm to stiff to stiff dark gery to black slightly sandy gravelly CLAY. Gravel is angular fine to coarse of limestone and mudstone. Possible weatehered bedrock.		
5.30 5.30-5.35	87				25/50 SPT(C) 25*/25 50/25		(2.10)			
6.60 6.80	93	80	40	12		50.60	6.60	Medium strong to strong thinly laminated dark grey very finely grained interbedded argillaceous LIMESTONE and calcareous MUDSTONE with occasional calcite veins. Partially weathered to unweathered with occasional widely spaced thin destructured bands		
8.30	100	71	41				(3.40)	(6.60 - 10.00m BGL) 2 fracture sets. Fracture set 1: 20-50 degrees, very closely to closely spaced, planar, smooth to polished with occasional Clay staining. Fracture set 2: 60-70 degrees, widely spaced, undulating, rough with occasional Clay staining		
9.65 10.00				NI		47.20	10.00			

Remarks
Rotary drilling complete at 10.00m BGL.
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH77

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH78
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.50 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 10.00m	**Ground Level (mOD)** 56.86	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707838.1 E 732874.9 N	**Dates** 01/04/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
	24						(2.30)	Poor recovery. Recovery consists of dark grey slightly clayey angular to subrounded fine to coarse GRAVEL onto dark grey COBBLES with some greyish brown slightly sandy gravelly CLAY		
2.30	50					54.56	2.30 (1.50)	Poor recovery. Recovery consists of greyish brown slightly sandy gravelly CLAY onto greyish brown slightly clayey subangular to subrounded fine to coarse GRAVEL onto dark grey COBBLES with some greyish black slightly sandy slightly gravelly CLAY		
3.80 3.80-3.85	53				25/50 SPT(C) 25*/25 50/25	53.06	3.80 (2.30)	Poor recovery. Recovery consists of greyish black slightly sandy gravelly CLAY with many cobbles and boulders		
5.30 5.30-5.35	60			4	25/50 SPT(C) 25*/25 50/25	50.76	6.10 (0.70)	Medium strong to strong thinly laminated dark grey very fine grained interbedded argillaceous LIMESTONE.		
6.10 6.80				NI		50.06	6.80 (0.30)	Reisdual weathered MUDSTONE. Recovered as black gravelly clay. Gravel is angular fine to coarse.		
7.10	94	88	43			49.76	7.10	Medium strong to strong thinly laminated dark grey very fine grained interbedded argillaceous LIMESTONE and calcareous MUDSTONE with occasional calcite veins. Partially weathered to unweathered (7.20 - 1.00m BGL) 3 fracture sets. Fracture set 1: 0-20 degrees, very closely to closely spaced, planar, smooth to polished with occasional Clay staining. Fracture set 2: 40-50 degrees, medium to widely spaced, planar, smooth to polished with occasional Clay staining. Fracture set 3: 80-90 degrees, undulating, rough with occasional Clay staining		
8.30	100	70	47	12			(2.90)			
10.00						46.86	10.00			

Remarks
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH78

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH80
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.50 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 8.30m	**Ground Level (mOD)** 57.06	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707787.8 E 732902.9 N	**Dates** 01/04/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
	21	3	0			57.01	0.05	Greyish brown slightly sandy slightly gravelly TOPSOIL Poor recovery. Recovery consists of greyish brown slightly sandy slightly gravelly CLAY		
							(3.45)			
3.50						53.56	3.50			
3.80	100	90	53	8			(1.80)	Strong thinly laminated dark grey very finely grained argillaceous LIMESTONE with occasional calcite veins. Partially weathered to unweathered with occasional widely spaced thin destructured bands (3.50 - 5.30m BGL) 2 fracture sets. Fracture set 1: 0-10 degrees, very closely to closely spaced, planar, smooth to rough with occasional Clay staining. Fracture set 2: 80-90 degrees, undulating, rough with occasional Clay staining		
5.30	100	70	20	28		51.76	5.30	Medium strong to strong thinly lamiated dark grey very finely grained interbedded calcareous MUDSTONE and argillaceous LIMESTONE. Partially weathered to unweathered with 0.15m band of residual soil at top (5.30 - 7.70m BGL) 2 fracture sets. Fracture set 1: 0-10 degrees, extremely closely to closely spaced, planar, polished to rough with occasional Clay staining. Fracture set 2: 80-90 degrees, planar to undulating, smooth to rough with occasional Clay staining		
6.80							(2.40)			
	100	60	27			49.36	7.70			
7.70				8			(0.60)	Strong thinly laminated dark grey very finely grained LIMESTONE. Unweathered (7.70 - 8.30m BGL) 2 fracture sets. Fracture set 1: 0-10 degrees, closely, planar to undulating, rough with occasional Clay staining. Fracture set 2: 80-90 degrees, , undulating, rough with occasional Clay staining		
8.30						48.76	8.30	Complete at 8.30m		

Remarks
Rotary drilling complete at 8.30m BGL.
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH80

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH81
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.50 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 7.00m	**Ground Level (mOD)** 56.64	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707735.1 E 732862.1 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						56.54	0.10	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse		
	15						(2.60)	Poor recovery. Recovery consists of grey and brown slightly clayey slightly sandy subangular to subrounded fine to coarse GRAVEL with occasional cobbles		
2.30										
2.70	93	70	40	15		53.94	2.70	Strong thinly laminated grey very finely grained LIMESTONE with occasional calcite veins. Slightly weathered		
3.80							(1.30)	(2.70 - 4.00m BGL) 2 fracture sets. FS1: 0-20 degrees, very closely to closely, planar to undulating, smooth to rough with occasional Clay staining. FS2: 80-90 degrees, undulating, rough with occasional Clay staining		
4.00	90	63	27	22		52.64	4.00	Medium strong to strong thinly laminated dark grey very fine grained interbedded argillaceous LIMESTONE and calcareous MUDSTONE with occasional pyrite laminations. Partially weathered to unweathered		
5.30	100	82	43				(3.00)	(4.00 - 7.00m BGL) 2 fracture sets. FS1: 0-20 degrees, extremely closely to closely, planar to undulating, polished to rough with occasional Clay staining. FS2: 80-90 degrees, undulating, rough with occasional Clay staining		
7.00						49.64	7.00	Complete at 7.00m		

Remarks
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH81

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH82
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.50 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 7.00m	**Ground Level (mOD)** 57.41	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707755.9 E 732813.9 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
	20						(3.80)	Poor recovery. Recovery consists of greyish brown slightly sandy very clayey subangular to subrounded fine to coarse GRAVEL. Driller notes: Sandy gravelly clay		
2.30	20									
3.80	100	87	67	6		53.61	3.80 (1.00)	Strong thinly to medium bedded dark grey very finely grained argillaceous LIMESTONE with occasional calcite veins and mudstone laminations. Fresh to slightly weathered (3.80 - 4.80m BGL) 1 fracture set. 50-60 degrees, closely to medium spaced, planar to undulating, rough with occasional Clay staining		
4.80	100	65	18	25		52.61	4.80 (2.20)	Weak to medium strong thinly laminated dark grey very finely grained calcareous MUDSTONE with occasional pyrite laminations and occasionally interbedded with strong thinly bedded dark grey very finely grained argillaceous LIMESTONE. Slightly to medium weathered (4.80 - 7.00m BGL) 3 fracture sets. FS1: 20-30 degrees, medium to widely spaced, planar to undulating, smooth to rough. FS2: 50-60 degrees, extremely closely to closely spaced, planar, smooth with occasional Clay staining. FS3: 80-90 degrees, planar to undulating, rough with occasional Clay staining		
5.30										
7.00						50.41	7.00	Complete at 7.00m		

Remarks
Rotary drilling completed at 7.00m BGL
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH82

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH85
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.50 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 8.30m	**Ground Level (mOD)** 56.91	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707859.2 E 732830.9 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						56.81	0.10	Dark brown slightly sandy slightly gravelly TOPSOIL		
	17							Poor recovery. Recovery consists of greyish brown slightly sandy slightly gravelly CLAY with low cobble content		
							(3.70)			
2.30	27									
3.80						53.11	3.80	Dark grey slightly sandy slightly gravelly CLAY		
							(0.50)			
4.30	100	11	11	19		52.61	4.30	Very weak to medium strong thinly laminated dark grey very finely grained interbedded calcareous MUDSTONE and argillaceous LIMESTONE with rare calcite veins. Slightly weathered to highly weathered with occasional widely spaced thin destructured bands		
							(1.50)	(4.30 - 5.80m BGL) 3 fracture sets. Fracture set 1: 0-20 degrees, very closely to closely spaced, planar to undulating, smooth to rough with occasional Clay staining. Fracture set 2: 40-50 degrees, widely spaced, planar to undulating, smooth to rough with occasional Clay staining. Fracture set 3: 80-90 degrees, planar to undulating, rough with occasional Clay staining		
5.30										
5.80	100	75	27			51.11	5.80	Very weak to strong thinly laminated dark grey very finely grained interbedded calcareous MUDSTONE and argillaceous LIMESTONE with rare calcite veins. Slightly weathered to highly weathered with occasional widely spaced thin destructured bands		
6.80	100	77	46	13			(2.50)	(5.80 - 8.30m BGL) 3 fracture sets. Fracture set 1: 0-20 degrees, closely to medium spaced, planar to undulating, smooth to rough with occasional Clay staining. Fracture set 2: 30-50 degrees, widely to very widely spaced, planar, smooth with occasional Clay staining. Fracture set 3: 80-90 degrees, undulating, rough with occasional Clay staining		
8.30						48.61	8.30	Complete at 8.30m		

Remarks
Rotary drilling complete at 8.30m BGL
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	GR

Figure No. 13687-03-24.BH85

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH87
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.50 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 7.00m	**Ground Level (mOD)** 57.69	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707866.3 E 732778.9 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
	7						(2.30)	Poor recovery. Recovery consists of grey subangular to subrounded medium to coarse GRAVEL		
2.30	47					55.39	2.30 (1.50)	Poor recovery. Recovery consists of greyish brown slightly clayey subangular to subrounded fine to coarse GRAVEL onto brown slightly sandy slightly gravelly CLAY onto dark brownish grey slightly sandy gravelly CLAY (possible weathered bedrock)		
3.80	100	7	0	NI		53.89	3.80 (3.20)	Weak to medium strong thinly laminated dark grey very finely grained calcareous MUDSTONE occasionally interbedded with medium strong to strong medium to widely spaced thin to medium beds of LIMESTONE with occasional calcite veins. Moderately to highly weathered (3.80 - 7.00m BGL) 1 fracture set. Fracture set 1: 70-80 degrees, extremely closely to closely spaced, planar, smooth to rough with occasional Clay staining		
5.30 5.60				18						
6.10	100	15	0	NI						
7.00						50.69	7.00	Complete at 7.00m		

Remarks
Rotary drilling completed at 7.00m BGL
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH87

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** BH89
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.50 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 8.30m	**Ground Level (mOD)** 55.67	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707917.3 E 732772.4 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
	22						(2.30)	Poor recovery. Recovery consists of grey slightly clayey slightly sandy subangular to subrounded fine to coarse GRAVEL onto grey COBBLES with some greyish brown slightly sandy gravelly CLAY		
2.30	43	9	9			53.37	2.30 (1.35)	Poor recovery. Recovery consists of dark brownish grey sandy gravelly CLAY onto dark grey angular to subrounded fine to coarse GRAVEL		
3.65						52.02	3.65			
3.80	100	47	38	20			(1.05)	Strong thinly laminated grey very finely grained LIMESTONE with occasional calcite veins interbedded with very weak to medium strong thinly laminated dark grey very finely grained calcareous MUDSTONE. Moderately weathered to fresh (3.65 - 4.70m BGL) 2 fracture sets. Fracture set 1: 0-20 degrees, very closely to medium spaced, undulating, rough with occasional Clay staining. Fracture set 2: 80-90 degrees, undulating, rough with occasional Clay staining		
4.70				NI		50.97	4.70 (0.40)			
5.10						50.57	5.10	Destructured MUDSTONE recovered as dark grey slightly gravelly clay (4.70 - 5.10m BGL) Non intact		
5.30	100	53	15	29			(0.70)	Very weak to weak thinly laminated dark grey very finely grained calcareous MUDSTONE. Highly weathered (5.10 - 5.80m BGL) 2 fracture sets. Fracture set 1: 0-20 degrees, very closely spaced, planar to undulating, smooth to rough with occasional Clay staining. Fracture set 2: 70-90 degrees, undulating, rough with occasional Clay staining		
5.80						49.87	5.80			
6.80	100	37	20	16			(2.50)	Weak to strong thinly laminated dakr grey very finely grained calcareous MUDSTONE with rare calcite veins. Slightly weathered to moderately weathered with occasional widely spaced thin destructured bands (5.80 - 8.30m BGL) 2 fracture sets. Fracture set 1: 0-20 degrees, very closely to closely spaced, planar to undulating, smooth to rough with occasional Clay staining. Fracture set 2: 80-90 degrees, undulating, rough with occasional Clay staining		
8.30						47.37	8.30	Complete at 8.30m		

Remarks
Rotary drilling completed at 8.30m BGL
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.BH89

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** RC01
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.50 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 7.00m	**Ground Level (mOD)** 56.64	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707900.3 E 732855.7 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						56.54	0.10	Brown slightly sandy slightly gravelly TOPSOIL		
	22							Poor recovery. Recovery consists of brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
							(3.10)			
2.30										
	60	35	19							
3.20				10		53.44	3.20	Very weak to strong thinly laminated dark grey very finely grained interbedded calcareous MUDSTONE and argillaceous LIMESTONE with occasional calcite veins. Slightly weathered to highly weathered with occasional medium spaced thin destructured bands		
3.80										
	100	47	0	29			(2.10)	(3.20 - 5.30m BGL) 2 fracture sets. Fracture set 1: 0-10 degrees, extremely closely to closely spaced, planar to undulating, smooth to rough with occasional Clay staining. Fracture set 2: 80-90 degrees, undulating, rough with occasional Clay staining		
5.30						51.34	5.30			
				NI			(0.30)	Destructured MUDSTONE recovered as dark grey slightly gravelly CLAY		
5.60						51.04	5.60	(5.30 - 5.60m BGL) Non intact		
	100	53	30	23			(1.40)	Very weak to strong thinly laminated dark grey very finely grained interbedded calcareous MUDSTONE and argillaceous LIMESTONE with occasional calcite veins. Slightly weathered to highly weathered with occasional medium spaced thin destructured bands (5.60 - 7.00m BGL) 3 fracture sets. Fracture set 1: 0-20 degrees, extremely closely to closely spaced, planar, smooth to rough with occasional Clay staining. Fracture set 2: 30-50 degrees, medium spaced, planar to undulating, smooth to rough with occasional Clay staining. Fracture set 3: 80-90 degrees, planar to undulating, rough with occasional Clay staining		
7.00						49.64	7.00			
								Complete at 7.00m		

Remarks
Rotary drilling completed at 7.00m BGL
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.RC01

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** RC02
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.50 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 10.10m	**Ground Level (mOD)** 55.64	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707937 E 732809.9 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
	24						(2.30)	Poor recovery. Recovery consists of MADE GROUND: Greyish brown slightly sandy slightly gravelly Clay with occasional plastic and red brick fragments onto boulder clay (No recovery of boulder clay)		
2.30	100	83	53	11		53.34	2.30 (1.90)	Strong thinly bedded grey finely grained LIMESTONE with frequent calcite veins. Fresh to slightly weathered (2.30 - 4.20m BGL) 3 fracture sets. Fracture set 1: 0-30 degrees, closely to medium spaced, undulating, rough with occasional Clay staining. Fracture set 2: 40-50 degrees, closely to medium spaced, undulating, rough with occasional Clay staining. Fracture set 3: 60-80 degrees, closely to medium spaced, undulating, rough with occasional Clay staining		
3.80 4.20				NI		51.44	4.20	Medium strong to strong thinly bedded to thickly laminated grey to dark grey finely grained argillaceous LIMESTONE interbedded with very weak to medium strong thinly laminated dark grey very finely grained calcareous MUDSTONE with occasional calcite veins and pyrite blebs and laminations. Moderately weathered to fresh		
4.50	100	63	50	14			(2.60)	(4.20 - 6.80m BGL) 3 fracture sets. Fracture set 1: 20-30 degrees, medium to widely spaced, planar to undulating, smooth to rough with occasional Clay staining. Fracture set 2: 50-60 degrees, very closely to medium spaced, planar, smooth to rough with occasional Clay staining. Fracture set 3: 80-90 degrees, , undulating, rough with occasional Clay staining		
5.30 5.90				NI						
6.10	100	60	15	23						
6.80	100	58	45	7		48.84	6.80	Moderately weak to strong thinly bedded grey finely grained occasionally argillaceous LIMESTONE with frequent calcite veins and occasional pyrite laminations and blebs and occasional thick mudstone laminations. Fresh to slightly weathered (6.80 - 10.10m BGL) 3 fracture sets. Fracture set 1: 10-40 degrees, closely to medium spaced, undulating, rough. Fracture set 2: 50-60 degrees, medium to widely spaced, planar to undulating, rough with occasional Clay staining. Fracture set 3: 80-90 degrees, , planar to undulating, rough		
8.30	89	78	61				(3.30)			

Remarks
Rotary drilling completed at 10.10m BGL
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.RC02

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** RC02
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.50 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 10.10m	**Ground Level (mOD)** 55.64	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707937 E 732809.9 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 2/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.10						45.54	10.10	Complete at 10.10m		

Remarks

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.RC02

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Borehole Number** RC03
Machine : Comacchio 405 **Flush :** Water **Core Dia :** 63.50 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 7.00m	**Ground Level (mOD)** 55.85	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707914.3 E 732831.9 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
	39	0	0				(2.00)	Poor recovery. Recovery consists of beige slightly gravelly Clayey SILT onto brown slightly sandy slightly gravelly CLAY		
2.00				NI		53.85	2.00			
2.20						53.65	2.20	Weak to moderately weak thinly laminated grey very finely grained calcareous MUDSTONE recovered as angular fine to coarse Gravel. Moderately weathered (2.00 - 2.20m BGL) Non intact		
2.30	100	20	20	15			(1.30)	Moderately weak to strong thinly laminated grey very finely grained calcareous MUDSTONE with occasional calcite veins. Slightly weathered (2.20 - 3.50m BGL) 2 fracture sets. Fracture set 1: 0-30 degrees, closely to medium spaced, undulating, rough with occasional Clay staining. Fracture set 2: 80-90 degrees, planar to undulating, rough with occasional Clay staining		
3.50						52.35	3.50			
3.80				NI				Very weak to medium strong thinly laminated grey very finely grained calcareous MUDSTONE. Moderately weathered (3.50 - 4.40m BGL) Non intact		
4.40	100	27	27			51.45	4.40			
5.30				8			(2.60)	Moderately strong to strong thinly laminated grey very finely grained interbedded calcareous MUDSTONE and argillaceous LIMESTONE with occasional pyrite specks. Fresh to slightly weathered (4.40 - 7.00m BGL) 2 fracture sets. Fracture set 1: 10-40 degrees, closely to medium spaced, undulating, rough with occasional Clay staining. Fracture set 2: 70-90 degrees, planar to undulating, smooth to rough with occasional Clay staining		
	100	71	59							
7.00						48.85	7.00	Complete at 7.00m		

Remarks
Rotary drilling completed at 7.00m BGL
Borehole backfilled upon completion

Scale (approx)	Logged By
1:50	AM

Figure No. 13687-03-24.RC03

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

RC01





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

RC02





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

RC02





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

RC03





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

RC03



Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH66





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH66



Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH73





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH76





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH77





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH77



Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH78





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH78



Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH80





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH80



Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

B081





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH82





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH85





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH87





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH89





Cherry Orchard Sites 4 & 5 Phase 2 – Rotary Core Photographs

BH89



APPENDIX 8 – Laboratory Testing

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Tom McIntyre
Date :	13th June, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/8747 Batch 1
Location :	Cherry Orchard
Date samples received :	22nd May, 2024
Status :	Final Report
Issue :	202406130959

Five samples were received for analysis on 22nd May, 2024 of which five 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 - 26.571 kg of CO2

Scope 1&2&3 emissions - 62.794 kg of CO2

Authorised By:

D Bower

Darcey Bower MESci
Project Co-ordinator

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8747

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						LOD/LOR	Units	Method No.
Sample ID	TP118	TP120	TP121	TP123	TP123								
Depth	0.50	0.50	0.50	0.50	1.50								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	17/05/2024	17/05/2024	17/05/2024	17/05/2024	17/05/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024								
Antimony	2	2	2	4	2						<1	mg/kg	TM30/PM15
Arsenic #	11.3	9.4	8.9	17.5	9.7						<0.5	mg/kg	TM30/PM15
Barium #	87	79	47	118	53						<1	mg/kg	TM30/PM15
Cadmium #	1.9	1.5	1.5	2.3	1.8						<0.1	mg/kg	TM30/PM15
Chromium #	57.3	27.7	51.5	76.2	22.6						<0.5	mg/kg	TM30/PM15
Copper #	32	26	28	131	29						<1	mg/kg	TM30/PM15
Lead #	25	20	25	144	15						<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	0.1	0.5	<0.1						<0.1	mg/kg	TM30/PM15
Molybdenum #	4.8	3.4	5.5	8.3	3.0						<0.1	mg/kg	TM30/PM15
Nickel #	52.4	39.9	41.1	51.4	37.3						<0.7	mg/kg	TM30/PM15
Selenium #	2	1	2	3	1						<1	mg/kg	TM30/PM15
Zinc #	120	79	84	215	83						<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	0.06	<0.04						<0.04	mg/kg	TM4/PM8
Acenaphthylene	<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	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	0.10	<0.04						<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	0.03	1.09	<0.03						<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	0.15	<0.04						<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	0.06	0.07	1.11	<0.03						<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	0.06	0.07	0.97	<0.03						<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	0.46	<0.06						<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	0.56	<0.02						<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	0.68	<0.07						<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	0.45	<0.04						<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	0.22	<0.04						<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	0.07	<0.04						<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	0.22	<0.04						<0.04	mg/kg	TM4/PM8
Coronene	<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	2.68	<0.22						<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	6.14	<0.64						<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	0.49	<0.05						<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	0.19	<0.02						<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1						<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	94	95	101	100	96						<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30						<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8747

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						LOD/LOR	Units	Method No.
Sample ID	TP118	TP120	TP121	TP123	TP123								
Depth	0.50	0.50	0.50	0.50	1.50								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	17/05/2024	17/05/2024	17/05/2024	17/05/2024	17/05/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024								
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<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	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<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	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	<4	<4	<4	<4						<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<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	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<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	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<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	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<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	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7	<7	27	<7						<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26	27	<26						<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52						<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10	27	<10						<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
PCB 28#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 52#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 101#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 118#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 138#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 153#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 180#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35	<35	<35	<35						<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8747

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						LOD/LOR	Units	Method No.
Sample ID	TP118	TP120	TP121	TP123	TP123								
Depth	0.50	0.50	0.50	0.50	1.50								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	17/05/2024	17/05/2024	17/05/2024	17/05/2024	17/05/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024								
Natural Moisture Content	17.7	13.5	14.4	24.3	12.7						<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	15.0	11.9	12.6	18.3	11.3						<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3						<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	-	0.0082	-	-	0.0196						<0.0015	g/l	TM38/PM20
Chromium III	57.3	27.7	51.5	76.2	22.6						<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.64	0.45	0.75	3.36	0.33						<0.02	%	TM21/PM24
pH #	8.14	8.59	8.53	8.32	8.73						<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8747

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						LOD/LOR	Units	Method No.
Sample ID	TP118	TP120	TP121	TP123	TP123								
Depth	0.50	0.50	0.50	0.50	1.50								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	17/05/2024	17/05/2024	17/05/2024	17/05/2024	17/05/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024								
Dissolved Antimony #	<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	mg/kg	TM30/PM17
Dissolved Arsenic #	<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	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003	<0.003	<0.003	<0.003						<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03						<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<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	mg/kg	TM30/PM17
Dissolved Chromium #	<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	mg/kg	TM30/PM17
Dissolved Copper #	<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	mg/kg	TM30/PM17
Dissolved Lead #	<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	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.005	0.005	0.003	0.006	0.003						<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.05	0.05	0.03	0.06	0.03						<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<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	mg/kg	TM30/PM17
Dissolved Selenium #	<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	mg/kg	TM30/PM17
Dissolved Zinc #	<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	0.04	<0.03						<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001						<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<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	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	mg/kg	TM26/PM0
Fluoride	0.4	0.5	0.7	0.5	0.4						<0.3	mg/l	TM173/PM0
Fluoride	4	5	7	5	4						<3	mg/kg	TM173/PM0
Sulphate as SO4 #	8.8	0.5	1.0	0.7	2.7						<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	88	<5	10	7	27						<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1025	0.1069	0.1047	0.1131	0.1041							kg	NONE/PM17
Chloride #	<0.3	0.4	0.5	0.8	0.8						<0.3	mg/l	TM38/PM0
Chloride #	<3	4	5	8	8						<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09							kg	NONE/PM17
Dissolved Organic Carbon	2	<2	2	3	<2						<2	mg/l	TM60/PM0
Dissolved Organic Carbon	20	<20	20	30	<20						<20	mg/kg	TM60/PM0
pH	7.89	7.49	7.70	7.08	7.75						<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8747

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							
Sample ID	TP118	TP120	TP121	TP123	TP123							
Depth	0.50	0.50	0.50	0.50	1.50							
COC No / misc												
Containers	V J T	V J T	V J T	V J T	V J T							
Sample Date	17/05/2024	17/05/2024	17/05/2024	17/05/2024	17/05/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024							
Total Dissolved Solids #	80	59	72	83	50						<35	mg/l	TM20/PM0
Total Dissolved Solids #	800	590	720	830	500						<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8747

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8	9-12	13-16	17-20						Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	TP118	TP120	TP121	TP123	TP123											
Depth	0.50	0.50	0.50	0.50	1.50											
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T											
Sample Date	17/05/2024	17/05/2024	17/05/2024	17/05/2024	17/05/2024											
Sample Type	Soil	Soil	Soil	Soil	Soil											
Batch Number	1	1	1	1	1											
Date of Receipt	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024											
Solid Waste Analysis																
Total Organic Carbon #	0.64	0.45	0.75	3.36	0.33						3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025						6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035						1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30						500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	2.68	<0.22						-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	6.14	<0.64						100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025						0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	<0.03	<0.03	<0.03						20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<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						0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<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						0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.05	0.05	0.03	0.06	0.03						0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<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						0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<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						0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	0.04	<0.03						4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	800	590	720	830	500						4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	20	<20	20	30	<20						500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1025	0.1069	0.1047	0.1131	0.1041						-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	88.0	84.3	86.1	79.3	86.4						-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.888	0.883	0.886	0.876	0.886						-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	13.6	18.6	16.1	26.2	15.8						-	-	-	<0.1	%	PM4/PM0
pH #	8.14	8.59	8.53	8.32	8.73						-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1						1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	4	5	7	5	4						10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	88	<5	10	7	27						1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	4	5	8	8						800	15000	25000	<3	mg/kg	TM38/PM0

Please include all sections of this report if it is reproduced

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

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/8747	1	TP118	0.50	1-4	No interpretation possible
24/8747	1	TP120	0.50	5-8	No interpretation possible
24/8747	1	TP121	0.50	9-12	No interpretation possible
24/8747	1	TP123	0.50	13-16	trace of possible PAHs
24/8747	1	TP123	1.50	17-20	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/8747	1	TP118	0.50	4	Catherine Coles	04/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	04/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	04/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/06/2024	**Asbestos Type**	NAD
24/8747	1	TP120	0.50	8	Michael Reilly	04/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	04/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	04/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	04/06/2024	**Asbestos Type**	NAD
24/8747	1	TP121	0.50	12	Michael Reilly	04/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	04/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	04/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	04/06/2024	**Asbestos Type**	NAD
24/8747	1	TP123	0.50	16	Simon Postlewhite	04/06/2024	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	04/06/2024	**Asbestos Fibres**	NAD
					Simon Postlewhite	04/06/2024	**Asbestos ACM**	NAD
					Simon Postlewhite	04/06/2024	**Asbestos Type**	NAD
24/8747	1	TP123	1.50	20	Catherine Coles	04/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	04/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	04/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/06/2024	**Asbestos Type**	NAD

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/8747	1	TP118	0.50	1-4	EPH	Sample holding time exceeded
24/8747	1	TP120	0.50	5-8	EPH	Sample holding time exceeded
24/8747	1	TP123	0.50	13-16	EPH	Sample holding time exceeded
24/8747	1	TP123	1.50	17-20	EPH	Sample holding time exceeded

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.: 24/8747

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/8747

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/8747

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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

EMT Job No: 24/8747

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Tom McIntyre
Date :	17th June, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/8950 Batch 1
Location :	Cherry Orchard
Date samples received :	24th May, 2024
Status :	Final Report
Issue :	202406171449

Eight samples were received for analysis on 24th May, 2024 of which seven 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 - 37.793 kg of CO2

Scope 1&2&3 emissions - 89.314 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8950

Report : Solid

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

EMT Sample No.	1-4	5-8	9-12	17-20	21-24	25-28	29-32				LOD/LOR	Units	Method No.
Sample ID	TP24	TP29	TP39	TP44	TP45	TP47	TP48						
Depth	1.70	0.40	0.50	0.50	1.00	0.50	0.50						
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						
Sample Date	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024						
Antimony	2	3	3	2	2	3	2				<1	mg/kg	TM30/PM15
Arsenic #	8.0	12.7	10.3	7.9	9.3	9.7	10.2				<0.5	mg/kg	TM30/PM15
Barium #	36	63	71	29	55	81	49				<1	mg/kg	TM30/PM15
Cadmium #	0.7	1.4	1.0	0.8	2.0	1.9	1.9				<0.1	mg/kg	TM30/PM15
Chromium #	32.5	35.6	58.3	29.6	61.7	76.9	26.1				<0.5	mg/kg	TM30/PM15
Copper #	25	51	42	31	33	33	29				<1	mg/kg	TM30/PM15
Lead #	16	28	137	14	14	24	13				<5	mg/kg	TM30/PM15
Mercury #	<0.1	0.1	0.2	<0.1	0.2	<0.1	<0.1				<0.1	mg/kg	TM30/PM15
Molybdenum #	4.7	5.8	4.8	5.7	5.8	5.3	4.2				<0.1	mg/kg	TM30/PM15
Nickel #	39.6	72.4	33.9	42.2	39.5	49.5	39.0				<0.7	mg/kg	TM30/PM15
Selenium #	<1	2	<1	2	<1	1	<1				<1	mg/kg	TM30/PM15
Zinc #	48	122	121	52	88	102	98				<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	0.08	<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	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	0.29	<0.05	<0.05	<0.05	<0.05				<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	0.18	<0.04	<0.04	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	1.68	0.04	<0.03	<0.03	<0.03				<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	0.23	<0.04	<0.04	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	1.60	0.03	<0.03	<0.03	<0.03				<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	1.36	<0.03	<0.03	<0.03	<0.03				<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	0.57	<0.06	<0.06	<0.06	<0.06				<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	0.70	<0.02	<0.02	<0.02	<0.02				<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	0.89	<0.07	<0.07	<0.07	<0.07				<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	0.52	<0.04	<0.04	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	0.29	<0.04	<0.04	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	0.08	<0.04	<0.04	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	0.29	<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	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	3.59	<0.22	<0.22	<0.22	<0.22				<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	8.76	<0.64	<0.64	<0.64	<0.64				<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	0.64	<0.05	<0.05	<0.05	<0.05				<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	0.25	<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	mg/kg	TM4/PM8
PAH Surrogate % Recovery	97	97	98	103	91	98	99				<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30	<30	<30				<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8950

Report : Solid

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

EMT Sample No.	1-4	5-8	9-12	17-20	21-24	25-28	29-32				LOD/LOR	Units	Method No.
Sample ID	TP24	TP29	TP39	TP44	TP45	TP47	TP48						
Depth	1.70	0.40	0.50	0.50	1.00	0.50	0.50						
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						
Sample Date	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024						
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1				<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1				<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<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	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<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	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<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	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26	<26	<26	<26	<26				<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1				<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<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	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1				<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1				<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<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	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7	100	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	13	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	113	<26	<26	<26	<26				<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	113	<52	<52	<52	<52				<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1				<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	26	<10	<10	<10	<10				<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	81	<10	<10	<10	<10				<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5 SV	<5	<5 SV	<5	<5 SV	<5				<5	ug/kg	TM36/PM12
Benzene#	<5	<5 SV	<5	<5 SV	<5	<5 SV	<5				<5	ug/kg	TM36/PM12
Toluene#	<5	<5 SV	<5	<5 SV	<5	<5 SV	<5				<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5 SV	<5	<5 SV	<5	<5 SV	<5				<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5 SV	<5	<5 SV	<5	<5 SV	<5				<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5 SV	<5	<5 SV	<5	<5 SV	<5				<5	ug/kg	TM36/PM12
PCB 28#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 52#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 101#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 118#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 138#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 153#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 180#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35	<35	<35	<35	<35	<35				<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8950

Report : Solid

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

EMT Sample No.	1-4	5-8	9-12	17-20	21-24	25-28	29-32				LOD/LOR	Units	Method No.
Sample ID	TP24	TP29	TP39	TP44	TP45	TP47	TP48						
Depth	1.70	0.40	0.50	0.50	1.00	0.50	0.50						
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						
Sample Date	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024						
Natural Moisture Content	14.5	22.7	20.3	11.8	12.4	11.8	13.2				<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	12.7	18.5	16.9	10.6	11.1	10.6	11.6				<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3				<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	-	0.0484	-	-	-	-	0.0072				<0.0015	g/l	TM38/PM20
Chromium III	32.5	35.6	58.3	29.6	61.7	76.9	26.1				<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.30	0.93	1.42	0.82	0.36	0.52	0.22				<0.02	%	TM21/PM24
pH #	8.72	8.41	8.26	8.42	8.77	8.56	8.65				<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8950

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	17-20	21-24	25-28	29-32				LOD/LOR	Units	Method No.
Sample ID	TP24	TP29	TP39	TP44	TP45	TP47	TP48						
Depth	1.70	0.40	0.50	0.50	1.00	0.50	0.50						
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						
Sample Date	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024						
Dissolved Antimony #	<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	mg/kg	TM30/PM17
Dissolved Arsenic #	<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	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003	<0.003	0.008	<0.003	<0.003	<0.003				<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	0.08	<0.03	<0.03	<0.03				<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<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	mg/kg	TM30/PM17
Dissolved Chromium #	<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	mg/kg	TM30/PM17
Dissolved Copper #	<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	mg/kg	TM30/PM17
Dissolved Lead #	<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	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.009	0.003	0.005	0.013	0.012	0.011	0.008				<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.09	0.03	0.05	0.13	0.12	0.11	0.08				<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<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	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003	<0.003	0.015	<0.003	<0.003	<0.003				<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03	<0.03	0.15	<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	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<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	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<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	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	0.8	0.3	<0.3	<0.3	0.7	<0.3				<0.3	mg/l	TM173/PM0
Fluoride	<3	8	3	<3	<3	7	<3				<3	mg/kg	TM173/PM0
Sulphate as SO4 #	0.9	3.0	0.7	31.3	<0.5	6.3	0.5				<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	9	30	7	313	<5	63	<5				<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1068	0.1045	0.1145	0.1005	0.1035	0.1029	0.1014					kg	NONE/PM17
Chloride #	<0.3	<0.3	0.6	9.0	<0.3	0.4	<0.3				<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	6	90	<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					kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	<2	<2	<2	<2				<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20				<20	mg/kg	TM60/PM0
pH	8.15	8.21	8.15	8.00	7.95	7.81	7.90				<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8950

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	17-20	21-24	25-28	29-32				LOD/LOR	Units	Method No.
Sample ID	TP24	TP29	TP39	TP44	TP45	TP47	TP48						
Depth	1.70	0.40	0.50	0.50	1.00	0.50	0.50						
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						
Sample Date	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024						
Total Dissolved Solids #	44	72	<35	113	35	48	37				<35	mg/l	TM20/PM0
Total Dissolved Solids #	440	720	<350	1129	350	480	370				<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8950

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8	9-12	17-20	21-24	25-28	29-32								
Sample ID	TP24	TP29	TP39	TP44	TP45	TP47	TP48								
Depth	1.70	0.40	0.50	0.50	1.00	0.50	0.50								
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								
Sample Date	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1	1	1								
Date of Receipt	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024								
											Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	0.30	0.93	1.42	0.82	0.36	0.52	0.22				3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025 SV	<0.025	<0.025 SV	<0.025	<0.025 SV	<0.025				6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035				1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30				500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	3.59	<0.22	<0.22	<0.22	<0.22				-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	8.76	<0.64	<0.64	<0.64	<0.64				100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025				0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	<0.03	0.08	<0.03	<0.03	<0.03				20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<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	<0.015				0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<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	<0.0001	<0.0001				0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.09	0.03	0.05	0.13	0.12	0.11	0.08				0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<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	<0.05				0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02				0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	0.15	<0.03	<0.03	<0.03				0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	440	720	<350	1129	350	480	370				4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20				500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1068	0.1045	0.1145	0.1005	0.1035	0.1029	0.1014				-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	84.3	85.7	78.9	89.5	87.1	87.3	88.4				-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.883	0.885	0.876	0.889	0.887	0.887	0.888				-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	18.7	16.7	26.7	11.7	14.8	14.5	13.1				-	-	-	<0.1	%	PM4/PM0
pH #	8.72	8.41	8.26	8.42	8.77	8.56	8.65				-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	8	3	<3	<3	7	<3				10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	9	30	7	313	<5	63	<5				1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	6	90	<3	4	<3				800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/8950	1	TP24	1.70	1-4	No interpretation possible
24/8950	1	TP29	0.40	5-8	No interpretation possible
24/8950	1	TP39	0.50	9-12	PAHs
24/8950	1	TP44	0.50	17-20	No interpretation possible
24/8950	1	TP45	1.00	21-24	No interpretation possible
24/8950	1	TP47	0.50	25-28	No interpretation possible
24/8950	1	TP48	0.50	29-32	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/8950	1	TP24	1.70	4	Catherine Coles	04/06/2024	**General Description (Bulk Analysis)**	BROWN SOI;L,STOEN
					Catherine Coles	04/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	04/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/06/2024	**Asbestos Type**	NAD
24/8950	1	TP29	0.40	8	Catherine Coles	04/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	04/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	04/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/06/2024	**Asbestos Type**	NAD
24/8950	1	TP39	0.50	12	Catherine Coles	03/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	03/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	03/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	03/06/2024	**Asbestos Type**	NAD
24/8950	1	TP44	0.50	20	Catherine Coles	04/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	04/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	04/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/06/2024	**Asbestos Type**	NAD
24/8950	1	TP45	1.00	24	Catherine Coles	05/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	05/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	05/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	05/06/2024	**Asbestos Type**	NAD
24/8950	1	TP47	0.50	28	Simon Postlewhite	04/06/2024	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	04/06/2024	**Asbestos Fibres**	NAD
					Simon Postlewhite	04/06/2024	**Asbestos ACM**	NAD
					Simon Postlewhite	04/06/2024	**Asbestos Type**	NAD
24/8950	1	TP48	0.50	32	Catherine Coles	04/06/2024	**General Description (Bulk Analysis)**	BROWN SOILSTONE
					Catherine Coles	04/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	04/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/06/2024	**Asbestos Type**	NAD

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/8950	1	TP24	1.70	1-4	EPH	Sample holding time exceeded
24/8950	1	TP29	0.40	5-8	EPH	Sample holding time exceeded
24/8950	1	TP39	0.50	9-12	EPH	Sample holding time exceeded
24/8950	1	TP44	0.50	17-20	EPH	Sample holding time exceeded
24/8950	1	TP45	1.00	21-24	EPH	Sample holding time exceeded
24/8950	1	TP47	0.50	25-28	EPH	Sample holding time exceeded
24/8950	1	TP48	0.50	29-32	EPH	Sample holding time exceeded

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.: 24/8950

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/8950

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/8950

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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

EMT Job No: 24/8950

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Tom McIntyre
Date :	10th June, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/9106 Batch 1
Location :	Cherry Orchard
Date samples received :	28th May, 2024
Status :	Final Report
Issue :	202406101514

Twenty nine samples were received for analysis on 28th May, 2024 of which twenty seven 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 - 132.42 kg of CO2

Scope 1&2&3 emissions - 312.942 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	1-4	5-7	8-10,72	11-14	15-18	19-22	23-26	27-30	31-34	35-38	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS02	TP95	TP100	TP102	TP104	TP108	TP110	TP114			
Depth	0.50-0.90	0.90-1.40	1.00-1.40	2.00	2.50	1.50	1.50	2.50	2.00	1.50			
COC No / misc													
Containers	V J T	V J T	V T J	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/05/2024	22/05/2024	22/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
Antimony	2	<1	3	2	2	2	3	2	2	2	<1	mg/kg	TM30/PM15
Arsenic #	7.8	3.8	12.0	9.6	12.5	8.5	7.0	7.7	7.8	6.6	<0.5	mg/kg	TM30/PM15
Barium #	38	14	95	56	72	64	116	36	39	43	<1	mg/kg	TM30/PM15
Cadmium #	1.7	0.6	1.4	2.4	2.4	2.1	2.5	0.4	1.5	2.0	<0.1	mg/kg	TM30/PM15
Chromium #	33.7	15.1	77.1	23.6	25.5	43.7	36.0	24.1	25.8	40.8	<0.5	mg/kg	TM30/PM15
Copper #	20	6	42	34	36	30	28	22	32	30	<1	mg/kg	TM30/PM15
Lead #	12	<5	66	15	19	14	14	14	19	13	<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	1.3	0.3	0.2	0.3	<0.1	0.1	0.3	0.4	<0.1	mg/kg	TM30/PM15
Molybdenum #	3.4	1.5	6.3	3.9	4.8	5.0	7.8	3.3	4.4	4.1	<0.1	mg/kg	TM30/PM15
Nickel #	26.7	8.6	34.4	42.0	46.1	41.2	60.0	45.5	48.9	30.9	<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	1	1	1	1	2	1	<1	<1	<1	mg/kg	TM30/PM15
Zinc #	65	31	126	96	127	85	93	24	58	68	<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	0.11	<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 #	<0.03	<0.03	0.16	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	0.14	<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	0.09	<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	0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	0.14	<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	0.08	<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	0.38	<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	0.82	<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	0.10	<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	0.04	<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	97	96	99	84	97	96	92	102	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

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	1-4	5-7	8-10,72	11-14	15-18	19-22	23-26	27-30	31-34	35-38	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS02	TP95	TP100	TP102	TP104	TP108	TP110	TP114			
Depth	0.50-0.90	0.90-1.40	1.00-1.40	2.00	2.50	1.50	1.50	2.50	2.00	1.50			
COC No / misc													
Containers	V J T	V J T	V T J	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/05/2024	22/05/2024	22/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
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/TM36/PM8/PM12/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/TM36/PM8/PM12/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/TM36/PM8/PM12/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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	1-4	5-7	8-10,72	11-14	15-18	19-22	23-26	27-30	31-34	35-38	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS02	TP95	TP100	TP102	TP104	TP108	TP110	TP114			
Depth	0.50-0.90	0.90-1.40	1.00-1.40	2.00	2.50	1.50	1.50	2.50	2.00	1.50			
COC No / misc													
Containers	V J T	V J T	V T J	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/05/2024	22/05/2024	22/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
Natural Moisture Content	7.1	3.0	25.7	10.9	13.0	11.7	12.7	14.3	19.3	14.0	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	6.7	2.9	20.4	9.8	11.5	10.5	11.3	12.5	16.2	12.3	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	-	0.0062	-	0.0187	0.0071	-	-	-	-	-	<0.0015	g/l	TM38/PM20
Chromium III	33.7	15.1	77.1	23.6	25.5	43.7	36.0	24.1	25.8	40.8	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	2.21	0.15	1.84	0.32	0.38	0.30	0.35	0.40	0.42	0.26	<0.02	%	TM21/PM24
pH #	8.46	8.83	8.12	8.80	8.82	8.75	8.66	8.72	8.74	8.81	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	39-42	43-45	46-49	50-52	53-56	57-59	60-63	64-67	68-71	76-79	LOD/LOR	Units	Method No.
Sample ID	TP118	TP121	TP124	TP125	TP125	TP127	TP135	TP135	WS02	WS03			
Depth	1.50	2.80	1.50	0.50	1.50	0.50	0.80	2.00	0.20-0.60	0.20-0.90			
COC No / misc													
Containers	V J T	V T	V J T	V T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	22/05/2024	22/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
Antimony	2	2	1	2	2	2	2	2	3	2	<1	mg/kg	TM30/PM15
Arsenic #	10.8	11.5	4.7	10.6	6.8	9.9	10.2	10.3	10.7	9.4	<0.5	mg/kg	TM30/PM15
Barium #	59	66	42	59	43	61	59	61	66	80	<1	mg/kg	TM30/PM15
Cadmium #	2.8	2.1	0.9	2.1	1.6	3.1	3.2	2.5	2.4	1.5	<0.1	mg/kg	TM30/PM15
Chromium #	25.8	43.1	24.3	26.6	30.5	35.2	41.9	21.9	54.4	39.1	<0.5	mg/kg	TM30/PM15
Copper #	37	34	17	34	22	33	33	33	38	129	<1	mg/kg	TM30/PM15
Lead #	20	19	9	13	11	15	15	15	30	32	<5	mg/kg	TM30/PM15
Mercury #	0.1	<0.1	0.4	<0.1	0.4	0.3	0.3	0.4	0.1	0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	3.8	5.4	3.6	3.7	3.6	3.3	4.4	3.9	5.9	3.9	<0.1	mg/kg	TM30/PM15
Nickel #	45.9	47.2	32.0	41.8	37.4	41.1	45.4	40.7	43.0	32.7	<0.7	mg/kg	TM30/PM15
Selenium #	1	1	<1	<1	1	<1	1	1	2	<1	<1	mg/kg	TM30/PM15
Zinc #	108	114	38	93	62	82	99	99	115	104	<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	0.06	<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	0.05	0.12	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.05	0.12	<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	0.09	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.09	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.14	<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	0.09	<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	0.06	<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	0.06	<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	0.47	<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	0.83	<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	0.10	<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	0.04	<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	104	103	101	101	90	100	100	98	97	99	<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

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	39-42	43-45	46-49	50-52	53-56	57-59	60-63	64-67	68-71	76-79	LOD/LOR	Units	Method No.
Sample ID	TP118	TP121	TP124	TP125	TP125	TP127	TP135	TP135	WS02	WS03			
Depth	1.50	2.80	1.50	0.50	1.50	0.50	0.80	2.00	0.20-0.60	0.20-0.90			
COC No / misc													
Containers	V J T	V T	V J T	V T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	22/05/2024	22/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
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/TM36/PM8/PM12/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/TM36/PM8/PM12/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/TM36/PM8/PM12/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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	39-42	43-45	46-49	50-52	53-56	57-59	60-63	64-67	68-71	76-79	LOD/LOR	Units	Method No.
Sample ID	TP118	TP121	TP124	TP125	TP125	TP127	TP135	TP135	WS02	WS03			
Depth	1.50	2.80	1.50	0.50	1.50	0.50	0.80	2.00	0.20-0.60	0.20-0.90			
COC No / misc													
Containers	V J T	V T	V J T	V T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	22/05/2024	22/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
Natural Moisture Content	11.7	11.1	14.4	9.4	16.7	10.6	12.3	12.7	14.0	10.6	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	10.5	10.0	12.6	8.6	14.3	9.6	10.9	11.2	12.3	9.6	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0351	-	-	0.0252	-	-	-	0.0195	-	0.0749	<0.0015	g/l	TM38/PM20
Chromium III	25.8	43.1	24.3	26.6	30.5	35.2	41.9	21.9	54.4	39.1	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.34	0.39	0.25	0.28	0.21	0.37	0.32	0.31	0.70	0.58	<0.02	%	TM21/PM24
pH #	8.63	8.63	8.81	8.76	8.81	8.69	8.64	8.64	8.32	8.20	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	80-82	83-86	87-89	90-93	94-97	101-103	104-107				LOD/LOR	Units	Method No.
Sample ID	WS03	WS04	WS04	WS05	WS05	TP131	TP131						
Depth	1.00-1.30	0.25-1.00	1.00-1.15	0.20-0.60	1.00-1.90	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						
Sample Date	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024	24/05/2024	24/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024						
Antimony	2	<1	2	3	4	4	2				<1	mg/kg	TM30/PM15
Arsenic #	9.4	5.3	8.6	14.9	14.1	16.1	11.4				<0.5	mg/kg	TM30/PM15
Barium #	82	32	62	79	128	100	52				<1	mg/kg	TM30/PM15
Cadmium #	1.6	0.7	1.4	2.2	1.1	1.7	2.0				<0.1	mg/kg	TM30/PM15
Chromium #	50.6	53.3	48.7	86.4	51.5	42.1	31.4				<0.5	mg/kg	TM30/PM15
Copper #	41	16	37	56	126	257 AA	33				<1	mg/kg	TM30/PM15
Lead #	31	11	15	75	120	143	14				<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	0.3	<0.1	0.5	<0.1				<0.1	mg/kg	TM30/PM15
Molybdenum #	5.2	5.2	4.7	9.9	3.4	4.8	4.1				<0.1	mg/kg	TM30/PM15
Nickel #	34.3	15.8	34.2	45.7	41.4	42.7	41.6				<0.7	mg/kg	TM30/PM15
Selenium #	1	<1	1	2	2	1	2				<1	mg/kg	TM30/PM15
Zinc #	102	48	93	187	202	266	89				<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<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	mg/kg	TM4/PM8
Acenaphthene #	<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	mg/kg	TM4/PM8
Phenanthrene #	<0.03	0.04	<0.03	0.11	0.09	0.24	<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	mg/kg	TM4/PM8
Fluoranthene #	0.04	0.05	0.04	0.15	0.15	0.30	<0.03				<0.03	mg/kg	TM4/PM8
Pyrene #	0.03	0.05	0.04	0.14	0.14	0.26	<0.03				<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	0.10	0.10	0.17	<0.06				<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	0.04	0.04	0.09	0.10	0.17	<0.02				<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	0.10	0.13	0.15	0.26	<0.07				<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	0.06	0.08	0.09	0.15	<0.04				<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	0.06	0.05	0.05	0.11	<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	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	0.06	0.05	0.06	0.13	<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	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	0.32	0.46	0.50	0.95	<0.22				<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	0.90	0.93	1.79	<0.64				<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	0.07	0.09	0.11	0.19	<0.05				<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	0.03	0.04	0.04	0.07	<0.02				<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1				<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	95	96	93	95	99	97	96				<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	31	<30	<30	<30	<30	<30	<30				<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	80-82	83-86	87-89	90-93	94-97	101-103	104-107				LOD/LOR	Units	Method No.
Sample ID	WS03	WS04	WS04	WS05	WS05	TP131	TP131						
Depth	1.00-1.30	0.25-1.00	1.00-1.15	0.20-0.60	1.00-1.90	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						
Sample Date	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024	24/05/2024	24/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024						
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	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	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	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2	<0.2	<0.2 SV	<0.2	<0.2	<0.2	<0.2				<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	<4	<4 SV	<4	<4	<4	<4				<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7	<7 SV	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	31	<7	<7 SV	<7	15	<7	<7				<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7 SV	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	31	<26	<26	<26	<26	<26	<26				<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1 SV	<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	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	31	<10	<10	<10	15	<10	<10				<10	mg/kg	TM5/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	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	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	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<0.2	<0.2	<0.2 SV	<0.2	<0.2	<0.2	<0.2				<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4	<4	<4 SV	<4	<4	<4	<4				<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7	<7 SV	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	85	<7	<7 SV	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	25	<7	<7 SV	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	110	<26	<26	<26	<26	<26	<26				<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	141	<52	<52	<52	<52	<52	<52				<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1 SV	<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 SV	<10	<10	<10	<10				<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	85	<10	<10 SV	<10	<10	<10	<10				<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5 SV	<5 SV	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
Benzene#	<5	<5 SV	<5 SV	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
Toluene#	<5	<5 SV	<5 SV	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5 SV	<5 SV	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5 SV	<5 SV	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5 SV	<5 SV	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
PCB 28#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 52#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 101#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 118#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 138#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 153#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 180#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35	<35	<35	<35	<35	<35				<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	80-82	83-86	87-89	90-93	94-97	101-103	104-107				LOD/LOR	Units	Method No.
Sample ID	WS03	WS04	WS04	WS05	WS05	TP131	TP131						
Depth	1.00-1.30	0.25-1.00	1.00-1.15	0.20-0.60	1.00-1.90	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						
Sample Date	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024	24/05/2024	24/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024						
Natural Moisture Content	10.6	4.4	10.4	13.8	28.1	18.9	11.6				<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	9.6	4.2	9.4	12.1	22.0	15.9	10.4				<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3				<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	-	-	-	-	0.1619	-	0.0276				<0.0015	g/l	TM38/PM20
Chromium III	50.6	53.3	48.7	86.4	51.5	42.1	31.4				<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.74	0.33	0.56	1.75	2.20	2.80	0.31				<0.02	%	TM21/PM24
pH #	8.58	8.49	8.51	8.29	7.92	7.88	8.70				<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : CEN 10:1 1 Batch

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

EMT Sample No.	1-4	5-7	8-10,72	11-14	15-18	19-22	23-26	27-30	31-34	35-38	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS02	TP95	TP100	TP102	TP104	TP108	TP110	TP114			
Depth	0.50-0.90	0.90-1.40	1.00-1.40	2.00	2.50	1.50	1.50	2.50	2.00	1.50			
COC No / misc													
Containers	V J T	V J T	V T J	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/05/2024	22/05/2024	22/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
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	0.0031	<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	0.031	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003	0.018	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	0.18	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<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 #	0.009	0.005	0.009	0.010	0.018	0.016	0.012	0.006	0.004	0.006	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.09	0.05	0.09	0.10	0.18	0.16	0.12	0.06	0.04	0.06	<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	0.004	<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	0.04	<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	0.4	0.3	0.5	<0.3	0.3	0.3	0.3	0.5	0.3	0.8	<0.3	mg/l	TM173/PM0
Fluoride	4	<3	5	<3	3	<3	3	5	3	8	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	0.7	1.0	24.5	3.0	1.2	1.4	0.5	0.6	0.5	2.7	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	7	10	245	30	12	14	5	6	5	27	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.0993	0.1001	0.1135	0.0966	0.1004	0.0966	0.0991	0.1043	0.1067	0.1025		kg	NONE/PM17
Chloride #	0.7	1.0	1.1	0.4	0.5	2.0	0.3	<0.3	0.4	0.3	<0.3	mg/l	TM38/PM0
Chloride #	7	10	11	4	5	20	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	<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	8.10	8.05	8.19	8.08	8.07	8.06	7.85	7.76	7.81	7.84	<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : CEN 10:1 1 Batch

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

EMT Sample No.	1-4	5-7	8-10,72	11-14	15-18	19-22	23-26	27-30	31-34	35-38	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS02	TP95	TP100	TP102	TP104	TP108	TP110	TP114			
Depth	0.50-0.90	0.90-1.40	1.00-1.40	2.00	2.50	1.50	1.50	2.50	2.00	1.50			
COC No / misc													
Containers	V J T	V J T	V T J	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/05/2024	22/05/2024	22/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
Total Dissolved Solids #	49	<35	135	42	36	43	37	41	44	39	<35	mg/l	TM20/PM0
Total Dissolved Solids #	490	<350	1350	420	360	430	370	410	440	390	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : CEN 10:1 1 Batch

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

EMT Sample No.	39-42	43-45	46-49	50-52	53-56	57-59	60-63	64-67	68-71	76-79	LOD/LOR	Units	Method No.
Sample ID	TP118	TP121	TP124	TP125	TP125	TP127	TP135	TP135	WS02	WS03			
Depth	1.50	2.80	1.50	0.50	1.50	0.50	0.80	2.00	0.20-0.60	0.20-0.90			
COC No / misc													
Containers	V J T	V T	V J T	V T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	22/05/2024	22/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
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	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.003	0.006	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	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 #	0.004	0.006	0.015	0.005	0.010	<0.002	0.004	0.010	0.011	0.010	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.04	0.06	0.15	0.05	0.10	<0.02	0.04	0.10	0.11	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	<0.003	<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	0.4	0.3	0.3	0.4	<0.3	0.5	0.4	<0.3	0.7	0.7	<0.3	mg/l	TM173/PM0
Fluoride	4	3	3	4	<3	5	4	<3	7	7	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	6.1	4.6	5.7	3.6	4.0	4.9	5.9	3.6	2.1	13.1	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	61	46	57	36	40	49	59	36	21	131	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1011	0.1005	0.1078	0.1006	0.1125	0.0975	0.102	0.1022	0.1041	0.1037		kg	NONE/PM17
Chloride #	<0.3	4.5	<0.3	<0.3	0.3	0.5	0.5	<0.3	0.8	1.0	<0.3	mg/l	TM38/PM0
Chloride #	<3	45	<3	<3	3	5	5	<3	8	10	<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	7.92	8.42	8.17	8.10	7.99	7.93	7.74	8.11	8.29	8.18	<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : CEN 10:1 1 Batch

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

EMT Sample No.	39-42	43-45	46-49	50-52	53-56	57-59	60-63	64-67	68-71	76-79	LOD/LOR	Units	Method No.
Sample ID	TP118	TP121	TP124	TP125	TP125	TP127	TP135	TP135	WS02	WS03			
Depth	1.50	2.80	1.50	0.50	1.50	0.50	0.80	2.00	0.20-0.60	0.20-0.90			
COC No / misc													
Containers	V J T	V T	V J T	V T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	22/05/2024	22/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
Total Dissolved Solids #	58	47	46	42	39	52	48	46	62	79	<35	mg/l	TM20/PM0
Total Dissolved Solids #	580	470	460	420	390	520	480	460	620	790	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : CEN 10:1 1 Batch

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

EMT Sample No.	80-82	83-86	87-89	90-93	94-97	101-103	104-107				LOD/LOR	Units	Method No.
Sample ID	WS03	WS04	WS04	WS05	WS05	TP131	TP131						
Depth	1.00-1.30	0.25-1.00	1.00-1.15	0.20-0.60	1.00-1.90	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						
Sample Date	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024	24/05/2024	24/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024						
Dissolved Antimony #	<0.002	<0.002	<0.002	<0.002	<0.002	0.003	<0.002				<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<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	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025				<0.025	mg/kg	TM30/PM17
Dissolved Barium #	0.005	<0.003	0.004	0.005	0.013	0.007	<0.003				<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	0.05	<0.03	0.04	0.05	0.13	0.07	<0.03				<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<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	mg/kg	TM30/PM17
Dissolved Chromium #	<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	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007	<0.007	<0.007	<0.007	0.015	<0.007				<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07	<0.07	<0.07	<0.07	0.15	<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	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05				<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.010	0.012	0.019	0.007	0.008	0.004	0.011				<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.10	0.12	0.19	0.07	0.08	0.04	0.11				<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<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	mg/kg	TM30/PM17
Dissolved Selenium #	<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	mg/kg	TM30/PM17
Dissolved Zinc #	<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	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<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	mg/kg	TM61/PM0
Phenol	<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	mg/kg	TM26/PM0
Fluoride	0.5	1.0	0.8	0.8	0.4	0.5	0.3				<0.3	mg/l	TM173/PM0
Fluoride	5	10	8	8	4	5	<3				<3	mg/kg	TM173/PM0
Sulphate as SO4 #	10.1	9.0	6.6	0.8	13.9	9.3	5.2				<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	101	90	66	8	139	93	52				<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1009	0.1014	0.1006	0.1083	0.1127	0.1135	0.1015					kg	NONE/PM17
Chloride #	1.0	0.6	1.0	0.8	<0.3	0.3	<0.3				<0.3	mg/l	TM38/PM0
Chloride #	10	6	10	8	<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					kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	3	<2	5	<2				<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	30	<20	50	<20				<20	mg/kg	TM60/PM0
pH	8.19	8.06	8.17	8.23	8.23	8.18	8.18				<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : CEN 10:1 1 Batch

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

EMT Sample No.	80-82	83-86	87-89	90-93	94-97	101-103	104-107				LOD/LOR	Units	Method No.
Sample ID	WS03	WS04	WS04	WS05	WS05	TP131	TP131						
Depth	1.00-1.30	0.25-1.00	1.00-1.15	0.20-0.60	1.00-1.90	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						
Sample Date	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024	24/05/2024	24/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024						
Total Dissolved Solids #	69	66	59	80	115	71	55				<35	mg/l	TM20/PM0
Total Dissolved Solids #	690	660	590	800	1150	710	550				<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-7	8-10,72	11-14	15-18	19-22	23-26	27-30	31-34	35-38						
Sample ID	WS01	WS01	WS02	TP95	TP100	TP102	TP104	TP108	TP110	TP114						
Depth	0.50-0.90	0.90-1.40	1.00-1.40	2.00	2.50	1.50	1.50	2.50	2.00	1.50						
COC No / misc																
Containers	V J T	V J T	V T J	V J T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	22/05/2024	22/05/2024	22/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024						
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	2.21	0.15	1.84	0.32	0.38	0.30	0.35	0.40	0.42	0.26	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	0.38	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	0.82	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	0.031	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	0.18	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005	<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	<0.015	<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	<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	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.09	0.05	0.09	0.10	0.18	0.16	0.12	0.06	0.04	0.06	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	<0.02	<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	<0.05	<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	<0.02	<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	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	490	<350	1350	420	360	430	370	410	440	390	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	30	<20	<20	<20	<20	<20	<20	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.0993	0.1001	0.1135	0.0966	0.1004	0.0966	0.0991	0.1043	0.1067	0.1025	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	90.6	89.5	79.1	93.1	89.8	92.8	90.7	86.6	84.1	87.6	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.891	0.889	0.876	0.893	0.89	0.893	0.891	0.886	0.883	0.887	-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	10.4	11.7	26.4	7.5	11.3	7.7	10.3	15.4	18.9	14.2	-	-	-	<0.1	%	PM4/PM0
pH #	8.46	8.83	8.12	8.80	8.82	8.75	8.66	8.72	8.74	8.81	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	4	<3	5	<3	3	<3	3	5	3	8	10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	7	10	245	30	12	14	5	6	5	27	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	7	10	11	4	5	20	3	<3	4	<3	800	15000	25000	<3	mg/kg	TM38/PM0

Please include all sections of this report if it is reproduced

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

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	39-42	43-45	46-49	50-52	53-56	57-59	60-63	64-67	68-71	76-79						
Sample ID	TP118	TP121	TP124	TP125	TP125	TP127	TP135	TP135	WS02	WS03						
Depth	1.50	2.80	1.50	0.50	1.50	0.50	0.80	2.00	0.20-0.60	0.20-0.90						
COC No / misc																
Containers	V J T	V T	V J T	V T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	22/05/2024	22/05/2024						
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	0.34	0.39	0.25	0.28	0.21	0.37	0.32	0.31	0.70	0.58	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	0.47	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	0.83	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	0.06	20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005	<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	<0.015	<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	<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	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.04	0.06	0.15	0.05	0.10	<0.02	0.04	0.10	0.11	0.10	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	<0.02	<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	<0.05	<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	<0.02	<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	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	<0.03	<0.03	<0.03	0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	580	470	460	420	390	520	480	460	620	790	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1011	0.1005	0.1078	0.1006	0.1125	0.0975	0.102	0.1022	0.1041	0.1037	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	88.7	89.1	83.3	89.2	80.1	92.4	88.3	87.9	86.2	86.4	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.889	0.889	0.882	0.889	0.878	0.893	0.888	0.888	0.886	0.886	-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	12.7	12.3	20.0	12.1	24.8	8.2	13.3	13.7	16.0	15.8	-	-	-	<0.1	%	PM4/PM0
pH #	8.63	8.63	8.81	8.76	8.81	8.69	8.64	8.64	8.32	8.20	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	4	3	3	4	<3	5	4	<3	7	7	10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	61	46	57	36	40	49	59	36	21	131	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	45	<3	<3	3	5	5	<3	8	10	800	15000	25000	<3	mg/kg	TM38/PM0

Please include all sections of this report if it is reproduced

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

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	80-82	83-86	87-89	90-93	94-97	101-103	104-107									
Sample ID	WS03	WS04	WS04	WS05	WS05	TP131	TP131									
Depth	1.00-1.30	0.25-1.00	1.00-1.15	0.20-0.60	1.00-1.90	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									
Sample Date	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024	24/05/2024	24/05/2024									
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1	1	1	1									
Date of Receipt	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024									
Solid Waste Analysis																
Total Organic Carbon #	0.74	0.33	0.56	1.75	2.20	2.80	0.31				3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025 SV	<0.025 SV	<0.025	<0.025	<0.025	<0.025				6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035				1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	31	<30	<30	<30	<30	<30	<30				500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	0.32	0.46	0.50	0.95	<0.22				-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	0.90	0.93	1.79	<0.64				100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025				0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	0.05	<0.03	0.04	0.05	0.13	0.07	<0.03				20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<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	<0.015				0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	0.15	<0.07				2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001				0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.10	0.12	0.19	0.07	0.08	0.04	0.11				0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<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	<0.05				0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02				0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	<0.03				4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	690	660	590	800	1150	710	550				4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	30	<20	50	<20				500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1009	0.1014	0.1006	0.1083	0.1127	0.1135	0.1015				-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	89.1	88.7	89.3	83.4	79.5	79.6	88.6				-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.889	0.889	0.889	0.882	0.877	0.877	0.888				-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	12.2	12.7	12.0	20.0	25.7	25.6	12.9				-	-	-	<0.1	%	PM4/PM0
pH #	8.58	8.49	8.51	8.29	7.92	7.88	8.70				-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	5	10	8	8	4	5	<3				10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	101	90	66	8	139	93	52				1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	10	6	10	8	<3	3	<3				800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/9106	1	WS01	0.50-0.90	1-4	No interpretation possible
24/9106	1	WS01	0.90-1.40	5-7	No interpretation possible
24/9106	1	WS02	1.00-1.40	8-10,72	No interpretation possible
24/9106	1	TP95	2.00	11-14	No interpretation possible
24/9106	1	TP100	2.50	15-18	No interpretation possible
24/9106	1	TP102	1.50	19-22	No interpretation possible
24/9106	1	TP104	1.50	23-26	No interpretation possible
24/9106	1	TP108	2.50	27-30	No interpretation possible
24/9106	1	TP110	2.00	31-34	No interpretation possible
24/9106	1	TP114	1.50	35-38	No interpretation possible
24/9106	1	TP118	1.50	39-42	No interpretation possible
24/9106	1	TP121	2.80	43-45	No interpretation possible
24/9106	1	TP124	1.50	46-49	No interpretation possible
24/9106	1	TP125	0.50	50-52	No interpretation possible
24/9106	1	TP125	1.50	53-56	No interpretation possible
24/9106	1	TP127	0.50	57-59	No interpretation possible
24/9106	1	TP135	0.80	60-63	No interpretation possible
24/9106	1	TP135	2.00	64-67	No interpretation possible
24/9106	1	WS02	0.20-0.60	68-71	No interpretation possible
24/9106	1	WS03	0.20-0.90	76-79	No interpretation possible
24/9106	1	WS03	1.00-1.30	80-82	Possible trace lubricating oil, possible Naturally occurring compounds
24/9106	1	WS04	0.25-1.00	83-86	No interpretation possible
24/9106	1	WS04	1.00-1.15	87-89	No interpretation possible
24/9106	1	WS05	0.20-0.60	90-93	No interpretation possible
24/9106	1	WS05	1.00-1.90	94-97	No interpretation possible
24/9106	1	TP131	0.50	101-103	No interpretation possible
24/9106	1	TP131	1.50	104-107	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/9106	1	WS01	0.50-0.90	4	Charlotte Taylor	05/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	05/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS01	0.90-1.40	6	Charlotte Taylor	05/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	05/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS02	1.00-1.40	10	Anthony Carman	05/06/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	05/06/2024	**Asbestos Fibres**	NAD
					Anthony Carman	05/06/2024	**Asbestos ACM**	NAD
					Anthony Carman	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP95	2.00	14	Michael Reilly	04/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	04/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	04/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	04/06/2024	**Asbestos Type**	NAD
24/9106	1	TP100	2.50	18	Michael Reilly	04/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	04/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	04/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	04/06/2024	**Asbestos Type**	NAD
24/9106	1	TP102	1.50	22	Anthony Carman	05/06/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	05/06/2024	**Asbestos Fibres**	NAD
					Anthony Carman	05/06/2024	**Asbestos ACM**	NAD
					Anthony Carman	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP104	1.50	26	Anthony Carman	05/06/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	05/06/2024	**Asbestos Fibres**	NAD
					Anthony Carman	05/06/2024	**Asbestos ACM**	NAD
					Anthony Carman	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP108	2.50	30	Remigiusz Blichowski	05/06/2024	**General Description (Bulk Analysis)**	Brown pale clay with some rock
					Remigiusz Blichowski	05/06/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos Type**	NAD

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/9106	1	TP110	2.00	34	Remigiusz Blichowski	05/06/2024	**General Description (Bulk Analysis)**	Brown pale clay with stone
					Remigiusz Blichowski	05/06/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP114	1.50	38	Michael Reilly	04/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	04/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	04/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	04/06/2024	**Asbestos Type**	NAD
24/9106	1	TP118	1.50	42	Remigiusz Blichowski	05/06/2024	**General Description (Bulk Analysis)**	Brown clay with pale sand
					Remigiusz Blichowski	05/06/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP121	2.80	45	Anthony Carman	05/06/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	05/06/2024	**Asbestos Fibres**	NAD
					Anthony Carman	05/06/2024	**Asbestos ACM**	NAD
					Anthony Carman	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP124	1.50	49	Remigiusz Blichowski	05/06/2024	**General Description (Bulk Analysis)**	Grey clay with roots and rock
					Remigiusz Blichowski	05/06/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP125	0.50	52	Catherine Coles	05/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	05/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	05/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP125	1.50	56	Catherine Coles	05/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	05/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	05/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP127	0.50	59	Michael Reilly	04/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	04/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	04/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	04/06/2024	**Asbestos Type**	NAD
24/9106	1	TP135	0.80	63	Remigiusz Blichowski	05/06/2024	**General Description (Bulk Analysis)**	Brown sand with clay
					Remigiusz Blichowski	05/06/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP135	2.00	67	Remigiusz Blichowski	05/06/2024	**General Description (Bulk Analysis)**	Brown claywith some rock and roots
					Remigiusz Blichowski	05/06/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS02	0.20-0.60	71	Charlotte Taylor	05/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	05/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos ACM**	NAD

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/9106	1	WS02	0.20-0.60	71	Charlotte Taylor	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS03	0.20-0.90	79	Michael Reilly	05/06/2024	**General Description (Bulk Analysis)**	Brown/grey soil, stones
					Michael Reilly	05/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	05/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS03	1.00-1.30	81	Charlotte Taylor	05/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	05/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS04	0.25-1.00	86	Charlotte Taylor	05/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	05/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS04	1.00-1.15	88	Michael Reilly	05/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	05/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	05/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS05	0.20-0.60	93	Charlotte Taylor	05/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	05/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS05	1.00-1.90	97	Anthony Carman	05/06/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	05/06/2024	**Asbestos Fibres**	NAD
					Anthony Carman	05/06/2024	**Asbestos ACM**	NAD
					Anthony Carman	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP131	0.50	102	Michael Reilly	05/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	05/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	05/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP131	1.50	107	Anthony Carman	05/06/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	05/06/2024	**Asbestos Fibres**	NAD
					Anthony Carman	05/06/2024	**Asbestos ACM**	NAD
					Anthony Carman	05/06/2024	**Asbestos Type**	NAD

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/9106	1	TP125	0.50	50-52	EPH	Sample received in inappropriate container
24/9106	1	WS03	1.00-1.30	80-82	PAH	Sample holding time exceeded
24/9106	1	WS04	1.00-1.15	87-89	PAH	Sample holding time exceeded

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.

Please include all sections of this report if it is reproduced

EMT Job No.: 24/9106

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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
AA	x5 Dilution

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: 24/9106

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/9106

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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

EMT Job No: 24/9106

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Tom McIntyre
Date :	19th June, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/9113 Batch 1
Location :	Cherry Orchard
Date samples received :	28th May, 2024
Status :	Final Report
Issue :	202406191152

Five samples were received for analysis on 28th May, 2024 of which one was 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 - 4.706 kg of CO2

Scope 1&2&3 emissions - 11.122 kg of CO2

Authorised By:

Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9113

Report : Solid

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

EMT Sample No.	5-8										Please see attached notes for all abbreviations and acronyms		
Sample ID	TP85												
Depth	0.60												
COC No / misc													
Containers	V J T												
Sample Date	21/05/2024												
Sample Type	Soil												
Batch Number	1										LOD/LOR	Units	Method No.
Date of Receipt	28/05/2024												
Antimony	1										<1	mg/kg	TM30/PM15
Arsenic #	8.0										<0.5	mg/kg	TM30/PM15
Barium #	39										<1	mg/kg	TM30/PM15
Cadmium #	1.4										<0.1	mg/kg	TM30/PM15
Chromium #	71.5										<0.5	mg/kg	TM30/PM15
Copper #	15										<1	mg/kg	TM30/PM15
Lead #	12										<5	mg/kg	TM30/PM15
Mercury #	<0.1										<0.1	mg/kg	TM30/PM15
Molybdenum #	16.8										<0.1	mg/kg	TM30/PM15
Nickel #	23.4										<0.7	mg/kg	TM30/PM15
Selenium #	<1										<1	mg/kg	TM30/PM15
Zinc #	65										<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04										<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03										<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05										<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04										<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03										<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04										<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03										<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03										<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06										<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02										<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07										<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04										<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04										<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04										<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04										<0.04	mg/kg	TM4/PM8
Coronene	<0.04										<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22										<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64										<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05										<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02										<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1										<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	93										<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30										<30	mg/kg	TM5/PM8/PM16

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9113

Report : Solid

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

EMT Sample No.	5-8										LOD/LOR	Units	Method No.
Sample ID	TP85												
Depth	0.60												
COC No / misc													
Containers	V J T												
Sample Date	21/05/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	28/05/2024												
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1										<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1										<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1										<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2										<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4										<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7										<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7										<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7										<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26										<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1										<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10										<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10										<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<0.2										<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4										<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7										<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7										<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7										<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26										<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52										<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10										<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10										<10	mg/kg	TM5/PM8/PM16
MTBE#	<5										<5	ug/kg	TM36/PM12
Benzene#	<5										<5	ug/kg	TM36/PM12
Toluene#	<5										<5	ug/kg	TM36/PM12
Ethylbenzene#	<5										<5	ug/kg	TM36/PM12
m/p-Xylene#	<5										<5	ug/kg	TM36/PM12
o-Xylene#	<5										<5	ug/kg	TM36/PM12
PCB 28#	<5										<5	ug/kg	TM17/PM8
PCB 52#	<5										<5	ug/kg	TM17/PM8
PCB 101#	<5										<5	ug/kg	TM17/PM8
PCB 118#	<5										<5	ug/kg	TM17/PM8
PCB 138#	<5										<5	ug/kg	TM17/PM8
PCB 153#	<5										<5	ug/kg	TM17/PM8
PCB 180#	<5										<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35										<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9113

Report : Solid

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

EMT Sample No.	5-8										LOD/LOR	Units	Method No.
Sample ID	TP85												
Depth	0.60												
COC No / misc													
Containers	V J T												
Sample Date	21/05/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	28/05/2024												
Natural Moisture Content	8.1										<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	7.5										<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3										<0.3	mg/kg	TM38/PM20
Chromium III	71.5										<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.25										<0.02	%	TM21/PM24
pH #	8.67										<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9113

Report : CEN 10:1 1 Batch

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

EMT Sample No.	5-8										LOD/LOR	Units	Method No.
Sample ID	TP85												
Depth	0.60												
COC No / misc													
Containers	V J T												
Sample Date	21/05/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	28/05/2024												
Dissolved Antimony #	<0.002										<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02										<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025										<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025										<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003										<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03										<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005										<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005										<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015										<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015										<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007										<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07										<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005										<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05										<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	<0.002										<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	<0.02										<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002										<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02										<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003										<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03										<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003										<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03										<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001										<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001										<0.0001	mg/kg	TM61/PM0
Phenol	<0.01										<0.01	mg/l	TM26/PM0
Phenol	<0.1										<0.1	mg/kg	TM26/PM0
Fluoride	<0.3										<0.3	mg/l	TM173/PM0
Fluoride	<3										<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5										<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5										<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1013											kg	NONE/PM17
Chloride #	<0.3										<0.3	mg/l	TM38/PM0
Chloride #	<3										<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09											kg	NONE/PM17
Dissolved Organic Carbon	<2										<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20										<20	mg/kg	TM60/PM0
pH	8.30										<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9113

Report : CEN 10:1 1 Batch

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

EMT Sample No.	5-8												
Sample ID	TP85												
Depth	0.60												
COC No / misc													
Containers	V J T												
Sample Date	21/05/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	28/05/2024												
Total Dissolved Solids #	43											<35	mg/l	TM20/PM0
Total Dissolved Solids #	430											<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9113

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

											Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
EMT Sample No.	5-8															
Sample ID	TP85															
Depth	0.60															
COC No / misc																
Containers	V J T															
Sample Date	21/05/2024															
Sample Type	Soil															
Batch Number	1															
Date of Receipt	28/05/2024															
Solid Waste Analysis																
Total Organic Carbon #	0.25										3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025										6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035										1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30										500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22										-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64										100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025										0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03										20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005										0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015										0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07										2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001										0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	<0.02										0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02										0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05										0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02										0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03										0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03										4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	430										4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20										500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1013										-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	88.5										-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.888										-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	13.0										-	-	-	<0.1	%	PM4/PM0
pH #	8.67										-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1										1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3										10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5										1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3										800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/9113	1	TP85	0.60	5-8	No Interpretation Possible

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/9113	1	TP85	0.60	8	Catherine Coles	11/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	11/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	11/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	11/06/2024	**Asbestos Type**	NAD

Element Materials Technology

Notification of Deviating Samples

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/9113	1	TP85	0.60	5-8	EPH, GRO, PAH, PCB	Sample holding time exceeded

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.: 24/9113

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/9113

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/9113

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	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: 24/9113

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Tom McIntyre
Date :	19th June, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/9361 Batch 1
Location :	Cherry Orchard
Date samples received :	31st May, 2024
Status :	Final Report
Issue :	202406190815

Seven samples were received for analysis on 31st May, 2024 of which two were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

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

Scope 1&2 emissions - 9.774 kg of CO2

Scope 1&2&3 emissions - 23.099 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9361

Report : Solid

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

EMT Sample No.	5-8	21-24									LOD/LOR	Units	Method No.
Sample ID	TP54	TP75											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	24/05/2024	24/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	31/05/2024	31/05/2024											
Antimony	3	2									<1	mg/kg	TM30/PM15
Arsenic #	14.6	11.1									<0.5	mg/kg	TM30/PM15
Barium #	59	80									<1	mg/kg	TM30/PM15
Cadmium #	2.5	1.7									<0.1	mg/kg	TM30/PM15
Chromium #	25.2	61.2									<0.5	mg/kg	TM30/PM15
Copper #	35	23									<1	mg/kg	TM30/PM15
Lead #	17	20									<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1									<0.1	mg/kg	TM30/PM15
Molybdenum #	4.2	4.5									<0.1	mg/kg	TM30/PM15
Nickel #	43.6	35.0									<0.7	mg/kg	TM30/PM15
Selenium #	1	1									<1	mg/kg	TM30/PM15
Zinc #	97	106									<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03									<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05									<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03									<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03									<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03									<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06									<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02									<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07									<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22									<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64									<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05									<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02									<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1									<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	95	95									<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30									<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9361

Report : Solid

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

EMT Sample No.	5-8	21-24									LOD/LOR	Units	Method No.
Sample ID	TP54	TP75											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	24/05/2024	24/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	31/05/2024	31/05/2024											
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2	<0.2									<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	<4									<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7									<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	<7									<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7									<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26									<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10									<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10									<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<0.2	<0.2									<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4	<4									<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7									<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7									<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7									<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26									<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52									<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10									<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10									<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5									<5	ug/kg	TM36/PM12
Benzene#	<5	<5									<5	ug/kg	TM36/PM12
Toluene#	<5	<5									<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5									<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5									<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5									<5	ug/kg	TM36/PM12
PCB 28#	<5	<5									<5	ug/kg	TM17/PM8
PCB 52#	<5	<5									<5	ug/kg	TM17/PM8
PCB 101#	<5	<5									<5	ug/kg	TM17/PM8
PCB 118#	<5	<5									<5	ug/kg	TM17/PM8
PCB 138#	<5	<5									<5	ug/kg	TM17/PM8
PCB 153#	<5	<5									<5	ug/kg	TM17/PM8
PCB 180#	<5	<5									<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35									<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9361

Report : Solid

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

EMT Sample No.	5-8	21-24									LOD/LOR	Units	Method No.
Sample ID	TP54	TP75											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	24/05/2024	24/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	31/05/2024	31/05/2024											
Natural Moisture Content	9.7	21.6									<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	8.8	17.8									<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3									<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0086	-									<0.0015	g/l	TM38/PM20
Chromium III	25.2	61.2									<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.38	0.58									<0.02	%	TM21/PM24
pH #	8.71	8.56									<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9361

Report : CEN 10:1 1 Batch

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

EMT Sample No.	5-8	21-24									LOD/LOR	Units	Method No.
Sample ID	TP54	TP75											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	24/05/2024	24/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	31/05/2024	31/05/2024											
Dissolved Antimony #	<0.002	<0.002									<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02									<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025	<0.0025									<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025									<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005	<0.0005									<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005	<0.005									<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015									<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015	<0.015									<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007									<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07									<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	<0.005									<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05									<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.005	<0.002									<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.05	<0.02									<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002									<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02	<0.02									<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003	0.003									<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	0.03									<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001									<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001									<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01									<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1									<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	<0.3									<0.3	mg/l	TM173/PM0
Fluoride	<3	<3									<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5	0.7									<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5	7									<5	mg/kg	TM38/PM0
Mass of raw test portion	0.101	0.1046										kg	NONE/PM17
Chloride #	<0.3	0.3									<0.3	mg/l	TM38/PM0
Chloride #	<3	3									<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09										kg	NONE/PM17
Dissolved Organic Carbon	<2	2									<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	20									<20	mg/kg	TM60/PM0
pH	8.17	8.28									<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9361

Report : CEN 10:1 1 Batch

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

EMT Sample No.	5-8	21-24											
Sample ID	TP54	TP75											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	24/05/2024	24/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	31/05/2024	31/05/2024											
Total Dissolved Solids #	42	63										<35	mg/l	TM20/PM0
Total Dissolved Solids #	420	630										<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9361

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	5-8	21-24														
Sample ID	TP54	TP75														
Depth	0.50	0.50														
COC No / misc																
Containers	V J T	V J T														
Sample Date	24/05/2024	24/05/2024														
Sample Type	Soil	Soil														
Batch Number	1	1														
Date of Receipt	31/05/2024	31/05/2024														
											Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	0.38	0.58									3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025									6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035									1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30									500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22									-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64									100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025									0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03									20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005									0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015									0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07									2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001									0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.05	<0.02									0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02									0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05									0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02									0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03									0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	0.03									4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	420	630									4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	20									500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.101	0.1046									-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	89.2	86.2									-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.889	0.886									-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	12.1	16.0									-	-	-	<0.1	%	PM4/PM0
pH #	8.71	8.56									-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1									1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	<3									10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5	7									1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	3									800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/9361	1	TP54	0.50	5-8	No Interpretation Possible
24/9361	1	TP75	0.50	21-24	No Interpretation Possible

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/9361	1	TP54	0.50	8	Catherine Coles	11/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	11/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	11/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	11/06/2024	**Asbestos Type**	NAD
24/9361	1	TP75	0.50	24	Remigiusz Blichowski	11/06/2024	**General Description (Bulk Analysis)**	Grey brown sand with roots
					Remigiusz Blichowski	11/06/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	11/06/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	11/06/2024	**Asbestos Type**	NAD

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/9361	1	TP54	0.50	5-8	EPH, PAH, PCB	Sample holding time exceeded
24/9361	1	TP75	0.50	21-24	EPH, PAH, PCB	Sample holding time exceeded

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.

Please include all sections of this report if it is reproduced

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/9361

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/9361

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/9361

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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

EMT Job No: 24/9361

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Tom McIntyre
Date :	20th June, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/9666 Batch 1
Location :	Cherry Orchard
Date samples received :	6th June, 2024
Status :	Final Report
Issue :	202406201024

Seventeen samples were received for analysis on 6th June, 2024 of which five 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 - 25.774 kg of CO2

Scope 1&2&3 emissions - 60.912 kg of CO2

Authorised By:

Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9666

Report : Solid

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

EMT Sample No.	1-4	5-8	17-20	21-24	53-56							
Sample ID	TP33	TP33	TP50	TP50	TP78							
Depth	0.50	1.50	0.50	1.50	0.50							
COC No / misc												
Containers	V J T	V J T	V J T	V J T	V J T							
Sample Date	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024							

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Antimony	2	1	2	2	1						<1	mg/kg	TM30/PM15
Arsenic #	8.2	7.1	9.4	10.1	6.7						<0.5	mg/kg	TM30/PM15
Barium #	41	49	52	71	35						<1	mg/kg	TM30/PM15
Cadmium #	2.0	1.8	2.0	2.5	1.8						<0.1	mg/kg	TM30/PM15
Chromium #	70.5	21.5	28.6	44.0	21.7						<0.5	mg/kg	TM30/PM15
Copper #	28	22	27	35	24						<1	mg/kg	TM30/PM15
Lead #	13	12	12	13	10						<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	mg/kg	TM30/PM15
Molybdenum #	6.8	3.4	3.4	5.0	2.2						<0.1	mg/kg	TM30/PM15
Nickel #	31.4	28.8	33.5	43.7	30.1						<0.7	mg/kg	TM30/PM15
Selenium #	1	<1	<1	1	<1						<1	mg/kg	TM30/PM15
Zinc #	79	68	81	96	57						<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<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	mg/kg	TM4/PM8
Acenaphthene #	<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	mg/kg	TM4/PM8
Phenanthrene #	<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	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<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						<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<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	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<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	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<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	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<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	mg/kg	TM4/PM8
PAH 6 Total #	<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	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<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	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1						<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	90	85	93	86	92						<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30						<30	mg/kg	TM5/PM8/PM16

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9666

Report : Solid

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

EMT Sample No.	1-4	5-8	17-20	21-24	53-56							
Sample ID	TP33	TP33	TP50	TP50	TP78							
Depth	0.50	1.50	0.50	1.50	0.50							
COC No / misc												
Containers	V J T	V J T	V J T	V J T	V J T							
Sample Date	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024							

Please see attached notes for all abbreviations and acronyms

											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	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<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	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<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	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<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	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<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	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<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	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<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	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<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	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52						<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10	<10	<10						<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
PCB 28#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 52#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 101#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 118#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 138#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 153#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 180#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35	<35	<35	<35						<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9666

Report : Solid

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

EMT Sample No.	1-4	5-8	17-20	21-24	53-56						LOD/LOR	Units	Method No.
Sample ID	TP33	TP33	TP50	TP50	TP78								
Depth	0.50	1.50	0.50	1.50	0.50								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024								
Natural Moisture Content	8.8	8.4	13.7	16.4	8.8						<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	8.1	7.7	12.1	14.1	8.0						<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3						<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	-	0.0100	0.0193	-	0.0054						<0.0015	g/l	TM38/PM20
Chromium III	70.5	21.5	28.6	44.0	21.7						<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.54	0.33	0.34	0.37	0.27						<0.02	%	TM21/PM24
pH #	8.39	8.66	8.76	8.84	8.69						<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9666

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	17-20	21-24	53-56						LOD/LOR	Units	Method No.
Sample ID	TP33	TP33	TP50	TP50	TP78								
Depth	0.50	1.50	0.50	1.50	0.50								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024								
Dissolved Antimony #	<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	mg/kg	TM30/PM17
Dissolved Arsenic #	<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	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003	0.004	<0.003	<0.003						<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	0.04	<0.03	<0.03						<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<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	mg/kg	TM30/PM17
Dissolved Chromium #	<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	mg/kg	TM30/PM17
Dissolved Copper #	<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	mg/kg	TM30/PM17
Dissolved Lead #	<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	mg/kg	TM30/PM17
Dissolved Molybdenum #	<0.002	0.006	0.009	0.014	0.004						<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	<0.02	0.06	0.09	0.14	0.04						<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<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	mg/kg	TM30/PM17
Dissolved Selenium #	<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	mg/kg	TM30/PM17
Dissolved Zinc #	0.003	<0.003	0.005	0.004	<0.003						<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	<0.03	0.05	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	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<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	mg/l	TM26/PM0
Phenol	<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	0.4						<0.3	mg/l	TM173/PM0
Fluoride	5	<3	4	<3	4						<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5	<0.5	1.2	<0.5	<0.5						<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5	<5	12	<5	<5						<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1002	0.1	0.1026	0.1042	0.0999							kg	NONE/PM17
Chloride #	<0.3	0.3	0.6	<0.3	<0.3						<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	6	<3	<3						<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09							kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	<2	<2						<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20						<20	mg/kg	TM60/PM0
pH	8.12	7.96	8.05	8.09	8.10						<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9666

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	17-20	21-24	53-56							
Sample ID	TP33	TP33	TP50	TP50	TP78							
Depth	0.50	1.50	0.50	1.50	0.50							
COC No / misc												
Containers	V J T	V J T	V J T	V J T	V J T							
Sample Date	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024							
Total Dissolved Solids #	38	<35	61	35	43						<35	mg/l	TM20/PM0
Total Dissolved Solids #	380	<350	610	<350	430						<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9666

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8	17-20	21-24	53-56						Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	TP33	TP33	TP50	TP50	TP78											
Depth	0.50	1.50	0.50	1.50	0.50											
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T											
Sample Date	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024											
Sample Type	Soil	Soil	Soil	Soil	Soil											
Batch Number	1	1	1	1	1											
Date of Receipt	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024											
Solid Waste Analysis																
Total Organic Carbon #	0.54	0.33	0.34	0.37	0.27						3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025						6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035						1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30						500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	<0.22	<0.22						-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	<0.64						100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025						0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	0.04	<0.03	<0.03						20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<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						0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<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						0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	<0.02	0.06	0.09	0.14	0.04						0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<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						0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<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						0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	0.05	0.04	<0.03						4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	380	<350	610	<350	430						4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20						500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1002	0.1	0.1026	0.1042	0.0999						-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	89.4	90.0	87.9	86.8	90.2						-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.889	0.89	0.888	0.886	0.89						-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	11.8	11.1	13.8	15.3	10.9						-	-	-	<0.1	%	PM4/PM0
pH #	8.39	8.66	8.76	8.84	8.69						-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1						1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	5	<3	4	<3	4						10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5	<5	12	<5	<5						1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	6	<3	<3						800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/9666	1	TP33	0.50	1-4	No interpretation possible
24/9666	1	TP33	1.50	5-8	No interpretation possible
24/9666	1	TP50	0.50	17-20	No interpretation possible
24/9666	1	TP50	1.50	21-24	No interpretation possible
24/9666	1	TP78	0.50	53-56	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/9666	1	TP33	0.50	4	Catherine Coles	12/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	12/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	12/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	12/06/2024	**Asbestos Type**	NAD
24/9666	1	TP33	1.50	8	Emily Anderton	12/06/2024	**General Description (Bulk Analysis)**	Brown soil with stones and clay
					Emily Anderton	12/06/2024	**Asbestos Fibres**	NAD
					Emily Anderton	12/06/2024	**Asbestos ACM**	NAD
					Emily Anderton	12/06/2024	**Asbestos Type**	NAD
24/9666	1	TP50	0.50	20	Catherine Coles	12/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE.
					Catherine Coles	12/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	12/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	12/06/2024	**Asbestos Type**	NAD
24/9666	1	TP50	1.50	24	Catherine Coles	12/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	12/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	12/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	12/06/2024	**Asbestos Type**	NAD
24/9666	1	TP78	0.50	56	Emily Anderton	12/06/2024	**General Description (Bulk Analysis)**	Brown soil with stones
					Emily Anderton	12/06/2024	**Asbestos Fibres**	NAD
					Emily Anderton	12/06/2024	**Asbestos ACM**	NAD
					Emily Anderton	12/06/2024	**Asbestos Type**	NAD

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/9666	1	TP33	1.50	5-8	PCB	Sample holding time exceeded
24/9666	1	TP50	1.50	21-24	PCB	Sample holding time exceeded

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.: 24/9666

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/9666

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/9666

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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

EMT Job No: 24/9666

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Please include all sections of this report if it is reproduced

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Mike Sutton
Date :	26th June, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/10030 Batch 1
Location :	Cherry Orchard
Date samples received :	12th June, 2024
Status :	Final Report
Issue :	202406261413

Two samples were received for analysis on 12th June, 2024 of which two were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

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

Scope 1&2 emissions - 9.846 kg of CO2

Scope 1&2&3 emissions - 23.27 kg of CO2

Authorised By:

Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 24/10030

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8									LOD/LOR	Units	Method No.
Sample ID	Spoil Heap A	Spoil Heap B											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	07/06/2024	07/06/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	12/06/2024	12/06/2024											
Antimony	2	2									<1	mg/kg	TM30/PM15
Arsenic #	11.7	9.8									<0.5	mg/kg	TM30/PM15
Barium #	79	46									<1	mg/kg	TM30/PM15
Cadmium #	1.4	1.8									<0.1	mg/kg	TM30/PM15
Chromium #	54.3	39.6									<0.5	mg/kg	TM30/PM15
Copper #	42	49									<1	mg/kg	TM30/PM15
Lead #	39	48									<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1									<0.1	mg/kg	TM30/PM15
Molybdenum #	5.0	4.0									<0.1	mg/kg	TM30/PM15
Nickel #	35.5	31.8									<0.7	mg/kg	TM30/PM15
Selenium #	2	2									<1	mg/kg	TM30/PM15
Zinc #	112	103									<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	0.04									<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05									<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.04	0.07									<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	0.08									<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.09	0.15									<0.03	mg/kg	TM4/PM8
Pyrene #	0.09	0.17									<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.09	0.13									<0.06	mg/kg	TM4/PM8
Chrysene #	0.08	0.14									<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	0.12	0.23									<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.07	0.14									<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.04	0.09									<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.05	0.10									<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
PAH 6 Total #	0.37	0.71									<0.22	mg/kg	TM4/PM8
PAH 17 Total	0.67	1.34									<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.09	0.17									<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.03	0.06									<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1									<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	87	92									<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	34	<30									<30	mg/kg	TM5/PM8/PM16

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 24/10030

Report : Solid

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

EMT Sample No.	1-4	5-8											
Sample ID	Spoil Heap A	Spoil Heap B											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	07/06/2024	07/06/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	12/06/2024	12/06/2024											

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2	<0.2									<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	<4									<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7									<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	34	<7									<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7									<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	34	<26									<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10									<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	25	<10									<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<0.2	<0.2									<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4	<4									<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7									<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	40	27									<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	10	<7									<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	50	27									<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	84	<52									<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10									<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	40	27									<10	mg/kg	TM5/PM8/PM16
MTBE#	<5 SV	<5									<5	ug/kg	TM36/PM12
Benzene#	<5 SV	<5									<5	ug/kg	TM36/PM12
Toluene#	<5 SV	<5									<5	ug/kg	TM36/PM12
Ethylbenzene#	<5 SV	<5									<5	ug/kg	TM36/PM12
m/p-Xylene#	<5 SV	<5									<5	ug/kg	TM36/PM12
o-Xylene#	<5 SV	<5									<5	ug/kg	TM36/PM12
PCB 28#	<5	<5									<5	ug/kg	TM17/PM8
PCB 52#	<5	<5									<5	ug/kg	TM17/PM8
PCB 101#	<5	<5									<5	ug/kg	TM17/PM8
PCB 118#	<5	<5									<5	ug/kg	TM17/PM8
PCB 138#	<5	<5									<5	ug/kg	TM17/PM8
PCB 153#	<5	<5									<5	ug/kg	TM17/PM8
PCB 180#	<5	<5									<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35									<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 24/10030

Report : Solid

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

EMT Sample No.	1-4	5-8										
Sample ID	Spoil Heap A	Spoil Heap B										
Depth	0.50	0.50										
COC No / misc												
Containers	V J T	V J T										
Sample Date	07/06/2024	07/06/2024										
Sample Type	Soil	Soil										
Batch Number	1	1										
Date of Receipt	12/06/2024	12/06/2024										

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Natural Moisture Content	9.2	9.3									<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	8.5	8.5									<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3									<0.3	mg/kg	TM38/PM20
Chromium III	54.3	39.6									<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.93	1.18									<0.02	%	TM21/PM24
pH #	8.57	8.37									<0.01	pH units	TM73/PM11

Please include all sections of this report if it is reproduced

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

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 24/10030

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											
Sample ID	Spoil Heap A	Spoil Heap B											
Depth	0.50	0.50									Please see attached notes for all abbreviations and acronyms		
COC No / misc													
Containers	V J T	V J T											
Sample Date	07/06/2024	07/06/2024											
Sample Type	Soil	Soil											
Batch Number	1	1									LOD/LOR	Units	Method No.
Date of Receipt	12/06/2024	12/06/2024											
Dissolved Antimony #	<0.002	<0.002									<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02									<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025	<0.0025									<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025									<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005	<0.0005									<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005	<0.005									<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015									<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015	<0.015									<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007									<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07									<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	<0.005									<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05									<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.007	0.004									<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.07	0.04									<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002									<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02	<0.02									<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001									<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001									<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01									<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1									<0.1	mg/kg	TM26/PM0
Fluoride	0.5	0.4									<0.3	mg/l	TM173/PM0
Fluoride	5	4									<3	mg/kg	TM173/PM0
Sulphate as SO4 #	3.0	0.5									<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	30	<5									<5	mg/kg	TM38/PM0
Mass of raw test portion	0.0955	0.0968										kg	NONE/PM17
Chloride #	0.5	<0.3									<0.3	mg/l	TM38/PM0
Chloride #	5	<3									<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09										kg	NONE/PM17
Dissolved Organic Carbon	2	<2									<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20									<20	mg/kg	TM60/PM0
pH	8.37	8.33									<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 24/10030

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											
Sample ID	Spoil Heap A	Spoil Heap B											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	07/06/2024	07/06/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	12/06/2024	12/06/2024											
Total Dissolved Solids #	70	57										<35	mg/l	TM20/PM0
Total Dissolved Solids #	700	570										<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 24/10030

Report : **EN12457_2**

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8														
Sample ID	Spoil Heap A	Spoil Heap B														
Depth	0.50	0.50														
COC No / misc																
Containers	V J T	V J T														
Sample Date	07/06/2024	07/06/2024														
Sample Type	Soil	Soil														
Batch Number	1	1														
Date of Receipt	12/06/2024	12/06/2024														
											Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	0.93	1.18									3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025 sv	<0.025									6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035									1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	34	<30									500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	0.37	0.71									-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	0.67	1.34									100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025									0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03									20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005									0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015									0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07									2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001									0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.07	0.04									0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02									0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05									0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02									0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03									0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03									4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	700	570									4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20									500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.0955	0.0968									-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	93.8	93.1									-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.894	0.893									-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	6.6	7.4									-	-	-	<0.1	%	PM4/PM0
pH #	8.57	8.37									-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1									1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	5	4									10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	30	<5									1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	5	<3									800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/10030	1	Spoil Heap A	0.50	1-4	trace of possible Lubricating Oil, trace of possible Naturally Occurring Compounds
24/10030	1	Spoil Heap B	0.50	5-8	trace of possible Naturally Occurring Compounds

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/10030	1	Spoil Heap A	0.50	4	Charlotte Taylor	19/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	19/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	19/06/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	19/06/2024	**Asbestos Type**	NAD
24/10030	1	Spoil Heap B	0.50	8	Charlotte Taylor	19/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	19/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	19/06/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	19/06/2024	**Asbestos Type**	NAD

Element Materials Technology

Notification of Deviating Samples

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 24/10030						

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.

EMT Job No.: 24/10030

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/10030

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/10030

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	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: 24/10030

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Conor Finnerty
Date :	22nd July, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/11729 Batch 1
Location :	CHERRY ORCHARD SITE 4&5
Date samples received :	8th July, 2024
Status :	Final Report
Issue :	202407221458

Five samples were received for analysis on 8th July, 2024 of which five 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 - 26.716 kg of CO2

Scope 1&2&3 emissions - 63.136 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: CHERRY ORCHARD SITE 4&5
Contact: Conor Finnerty
EMT Job No: 24/11729

Report : Solid

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

EMT Sample No.	1-2	3-5	6-7	8-9	10-13							
Sample ID	TP23	TP23	TP99	TP116	TP116							
Depth	0.5	1.5	0.50	0.50	1.5							
COC No / misc												
Containers	T	J T	J T	T	V J T							
Sample Date	03/07/2024	03/07/2024	02/07/2024	02/07/2024	03/07/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	08/07/2024	08/07/2024	08/07/2024	08/07/2024	08/07/2024							

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Antimony	1	2	3	2	2						<1	mg/kg	TM30/PM15
Arsenic #	9.3	7.3	12.4	11.3	8.8						<0.5	mg/kg	TM30/PM15
Barium #	49	109	95	51	44						<1	mg/kg	TM30/PM15
Cadmium #	1.1	1.6	1.8	2.0	2.6						<0.1	mg/kg	TM30/PM15
Chromium #	29.2	19.1	42.6	29.1	22.5						<0.5	mg/kg	TM30/PM15
Copper #	23	28	55	35	29						<1	mg/kg	TM30/PM15
Lead #	16	14	49	20	13						<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	mg/kg	TM30/PM15
Molybdenum #	3.3	3.3	4.6	3.8	3.7						<0.1	mg/kg	TM30/PM15
Nickel #	35.8	36.5	44.1	46.1	37.1						<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	1	2	1						<1	mg/kg	TM30/PM15
Zinc #	100	75	169	98	95						<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<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	mg/kg	TM4/PM8
Acenaphthene #	<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	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	0.10	<0.03	<0.03						<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	0.14	<0.03	<0.03						<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	0.13	<0.03	<0.03						<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	0.11	<0.06	<0.06						<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	0.11	<0.02	<0.02						<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	0.16	<0.07	<0.07						<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	0.08	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	0.06	<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	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	0.06	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	0.50	<0.22	<0.22						<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	0.95	<0.64	<0.64						<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	0.12	<0.05	<0.05						<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	0.04	<0.02	<0.02						<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1						<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	91	88	90	83	105						<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30						<30	mg/kg	TM5/PM8/PM16

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: CHERRY ORCHARD SITE 4&5
Contact: Conor Finnerty
EMT Job No: 24/11729

Report : Solid

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

EMT Sample No.	1-2	3-5	6-7	8-9	10-13							
Sample ID	TP23	TP23	TP99	TP116	TP116							
Depth	0.5	1.5	0.50	0.50	1.5							
COC No / misc												
Containers	T	J T	J T	T	V J T							
Sample Date	03/07/2024	03/07/2024	02/07/2024	02/07/2024	03/07/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	08/07/2024	08/07/2024	08/07/2024	08/07/2024	08/07/2024							

Please see attached notes for all abbreviations and acronyms

											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	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<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	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<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	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<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	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<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	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<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	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<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	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7	34	<7	<7						<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	8	<7	<7						<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	42	<26	<26						<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52						<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	34	<10	<10						<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
PCB 28#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 52#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 101#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 118#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 138#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 153#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 180#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35	<35	<35	<35						<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: CHERRY ORCHARD SITE 4&5
Contact: Conor Finnerty
EMT Job No: 24/11729

Report : Solid

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

EMT Sample No.	1-2	3-5	6-7	8-9	10-13							
Sample ID	TP23	TP23	TP99	TP116	TP116							
Depth	0.5	1.5	0.50	0.50	1.5							
COC No / misc												
Containers	T	J T	J T	T	V J T							
Sample Date	03/07/2024	03/07/2024	02/07/2024	02/07/2024	03/07/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	08/07/2024	08/07/2024	08/07/2024	08/07/2024	08/07/2024							

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Natural Moisture Content	19.0	14.8	19.7	16.1	10.5						<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	16.0	12.9	16.5	13.9	9.5						<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3						<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0093	0.0114	0.0170	0.0820	0.0144						<0.0015	g/l	TM38/PM20
Chromium III	29.2	19.1	42.6	29.1	22.5						<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.32	0.34	1.35	0.71	0.35						<0.02	%	TM21/PM24
pH #	8.69	8.73	8.70	8.44	8.79						<0.01	pH units	TM73/PM11

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: CHERRY ORCHARD SITE 4&5
Contact: Conor Finnerty
EMT Job No: 24/11729

Report : CEN 10:1 1 Batch

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-2	3-5	6-7	8-9	10-13						LOD/LOR	Units	Method No.
Sample ID	TP23	TP23	TP99	TP116	TP116								
Depth	0.5	1.5	0.50	0.50	1.5								
COC No / misc													
Containers	T	J T	J T	T	V J T								
Sample Date	03/07/2024	03/07/2024	02/07/2024	02/07/2024	03/07/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	08/07/2024	08/07/2024	08/07/2024	08/07/2024	08/07/2024								
Dissolved Antimony #	<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	mg/kg	TM30/PM17
Dissolved Arsenic #	<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	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003	<0.003	<0.003	<0.003						<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03						<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<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	mg/kg	TM30/PM17
Dissolved Chromium #	<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	mg/kg	TM30/PM17
Dissolved Copper #	<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	mg/kg	TM30/PM17
Dissolved Lead #	<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	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.007	0.015	0.008	0.003	0.004						<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.07	0.15	0.08	0.03	0.04						<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<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	mg/kg	TM30/PM17
Dissolved Selenium #	<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	mg/kg	TM30/PM17
Dissolved Zinc #	0.004	<0.003	0.005	0.005	0.004						<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	0.04	<0.03	0.05	0.05	0.04						<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<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	mg/kg	TM61/PM0
Phenol	<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	mg/kg	TM26/PM0
Fluoride	<0.3	0.3	0.3	0.5	<0.3						<0.3	mg/l	TM173/PM0
Fluoride	<3	<3	3	5	<3						<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5	<0.5	1.0	16.4	2.4						<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5	<5	10	164	24						<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1055	0.1047	0.104	0.1059	0.0996							kg	NONE/PM17
Chloride #	<0.3	<0.3	<0.3	<0.3	<0.3						<0.3	mg/l	TM38/PM0
Chloride #	<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							kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	<2	<2						<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20						<20	mg/kg	TM60/PM0
pH	8.05	8.26	8.11	8.06	8.11						<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: CHERRY ORCHARD SITE 4&5
Contact: Conor Finnerty
EMT Job No: 24/11729

Report : CEN 10:1 1 Batch

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

EMT Sample No.	1-2	3-5	6-7	8-9	10-13						LOD/LOR	Units	Method No.
Sample ID	TP23	TP23	TP99	TP116	TP116								
Depth	0.5	1.5	0.50	0.50	1.5								
COC No / misc													
Containers	T	J T	J T	T	V J T								
Sample Date	03/07/2024	03/07/2024	02/07/2024	02/07/2024	03/07/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	08/07/2024	08/07/2024	08/07/2024	08/07/2024	08/07/2024								
Total Dissolved Solids #	40	<35	51	65	<35						<35	mg/l	TM20/PM0
Total Dissolved Solids #	400	<350	510	650	<350						<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: CHERRY ORCHARD SITE 4&5
Contact: Conor Finnerty
EMT Job No: 24/11729

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-2	3-5	6-7	8-9	10-13						Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	TP23	TP23	TP99	TP116	TP116											
Depth	0.5	1.5	0.50	0.50	1.5											
COC No / misc																
Containers	T	J T	J T	T	V J T											
Sample Date	03/07/2024	03/07/2024	02/07/2024	02/07/2024	03/07/2024											
Sample Type	Soil	Soil	Soil	Soil	Soil											
Batch Number	1	1	1	1	1											
Date of Receipt	08/07/2024	08/07/2024	08/07/2024	08/07/2024	08/07/2024											
Solid Waste Analysis																
Total Organic Carbon #	0.32	0.34	1.35	0.71	0.35						3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025						6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035						1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30						500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	0.50	<0.22	<0.22						-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	0.95	<0.64	<0.64						100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025						0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	<0.03	<0.03	<0.03						20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<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						0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<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						0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.07	0.15	0.08	0.03	0.04						0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<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						0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<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						0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	0.04	<0.03	0.05	0.05	0.04						4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	400	<350	510	650	<350						4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20						500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1055	0.1047	0.104	0.1059	0.0996						-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	85.6	85.9	86.5	85.0	89.9						-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.885	0.885	0.886	0.884	0.89						-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	16.8	16.5	15.6	17.7	11.2						-	-	-	<0.1	%	PM4/PM0
pH #	8.69	8.73	8.70	8.44	8.79						-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1						1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	<3	3	5	<3						10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5	<5	10	164	24						1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	<3	<3	<3						800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: CHERRY ORCHARD SITE 4&5

Contact: Conor Finnerty

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/11729	1	TP23	0.5	1-2	No interpretation Possible
24/11729	1	TP23	1.5	3-5	No interpretation Possible
24/11729	1	TP99	0.50	6-7	No interpretation Possible
24/11729	1	TP116	0.50	8-9	No interpretation Possible
24/11729	1	TP116	1.5	10-13	No interpretation Possible

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: CHERRY ORCHARD SITE 4&5
Contact: Conor Finnerty

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/11729	1	TP23	0.5	1	Remigiusz Blichowski	12/07/2024	**General Description (Bulk Analysis)**	Brown sand with rock and root
					Remigiusz Blichowski	12/07/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	12/07/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	12/07/2024	**Asbestos Type**	NAD
24/11729	1	TP23	1.5	5	Simon Postlewhite	12/07/2024	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	12/07/2024	**Asbestos Fibres**	NAD
					Simon Postlewhite	12/07/2024	**Asbestos ACM**	NAD
					Simon Postlewhite	12/07/2024	**Asbestos Type**	NAD
24/11729	1	TP99	0.50	6	Remigiusz Blichowski	12/07/2024	**General Description (Bulk Analysis)**	Brown sand with rock and root
					Remigiusz Blichowski	12/07/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	12/07/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	12/07/2024	**Asbestos Type**	NAD
24/11729	1	TP116	0.50	8	Remigiusz Blichowski	12/07/2024	**General Description (Bulk Analysis)**	Brown sand with rock and root
					Remigiusz Blichowski	12/07/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	12/07/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	12/07/2024	**Asbestos Type**	NAD
24/11729	1	TP116	1.5	13	Simon Postlewhite	12/07/2024	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	12/07/2024	**Asbestos Fibres**	NAD
					Simon Postlewhite	12/07/2024	**Asbestos ACM**	NAD
					Simon Postlewhite	12/07/2024	**Asbestos Type**	NAD

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: CHERRY ORCHARD SITE 4&5

Contact: Conor Finnerty

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/11729	1	TP23	0.5	1-2	EPH	Sample received in inappropriate container
24/11729	1	TP116	0.50	8-9	EPH	Sample received in inappropriate container

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.

Please include all sections of this report if it is reproduced

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/11729

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/11729

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/11729

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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

EMT Job No: 24/11729

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Please include all sections of this report if it is reproduced

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Conor Finnerty
Date :	19th July, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/11778 Batch 1
Location :	Cherry Orchard Site 4&5
Date samples received :	8th July, 2024
Status :	Final Report
Issue :	202407191220

Six samples were received for analysis on 8th July, 2024 of which one was 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 - 4.851 kg of CO2

Scope 1&2&3 emissions - 11.464 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard Site 4&5
Contact: Conor Finnerty
EMT Job No: 24/11778

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	4-7										LOD/LOR	Units	Method No.
Sample ID	TP24												
Depth	0.50												
COC No / misc													
Containers	V J T												
Sample Date	21/06/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	08/07/2024												
Antimony	2										<1	mg/kg	TM30/PM15
Arsenic #	11.1										<0.5	mg/kg	TM30/PM15
Barium #	62										<1	mg/kg	TM30/PM15
Cadmium #	2.7										<0.1	mg/kg	TM30/PM15
Chromium #	29.4										<0.5	mg/kg	TM30/PM15
Copper #	36										<1	mg/kg	TM30/PM15
Lead #	17										<5	mg/kg	TM30/PM15
Mercury #	<0.1										<0.1	mg/kg	TM30/PM15
Molybdenum #	3.7										<0.1	mg/kg	TM30/PM15
Nickel #	56.3										<0.7	mg/kg	TM30/PM15
Selenium #	1										<1	mg/kg	TM30/PM15
Zinc #	97										<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04										<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03										<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05										<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04										<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03										<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04										<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03										<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03										<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06										<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02										<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07										<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04										<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04										<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04										<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04										<0.04	mg/kg	TM4/PM8
Coronene	<0.04										<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22										<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64										<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05										<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02										<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1										<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	91										<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30										<30	mg/kg	TM5/PM8/PM16

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard Site 4&5
Contact: Conor Finnerty
EMT Job No: 24/11778

Report : Solid

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

EMT Sample No.	4-7										LOD/LOR	Units	Method No.
Sample ID	TP24												
Depth	0.50												
COC No / misc													
Containers	V J T												
Sample Date	21/06/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	08/07/2024												
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1										<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1										<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1										<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2										<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4										<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7										<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7										<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7										<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26										<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1										<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10										<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10										<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<0.2										<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4										<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7										<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7										<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7										<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26										<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52										<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10										<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10										<10	mg/kg	TM5/PM8/PM16
MTBE#	<5										<5	ug/kg	TM36/PM12
Benzene#	<5										<5	ug/kg	TM36/PM12
Toluene#	<5										<5	ug/kg	TM36/PM12
Ethylbenzene#	<5										<5	ug/kg	TM36/PM12
m/p-Xylene#	<5										<5	ug/kg	TM36/PM12
o-Xylene#	<5										<5	ug/kg	TM36/PM12
PCB 28#	<5										<5	ug/kg	TM17/PM8
PCB 52#	<5										<5	ug/kg	TM17/PM8
PCB 101#	<5										<5	ug/kg	TM17/PM8
PCB 118#	<5										<5	ug/kg	TM17/PM8
PCB 138#	<5										<5	ug/kg	TM17/PM8
PCB 153#	<5										<5	ug/kg	TM17/PM8
PCB 180#	<5										<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35										<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard Site 4&5
Contact: Conor Finnerty
EMT Job No: 24/11778

Report : Solid

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

EMT Sample No.	4-7										LOD/LOR	Units	Method No.
Sample ID	TP24												
Depth	0.50												
COC No / misc													
Containers	V J T												
Sample Date	21/06/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	08/07/2024												
Natural Moisture Content	16.4										<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	14.1										<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3										<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0234										<0.0015	g/l	TM38/PM20
Chromium III	29.4										<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.64										<0.02	%	TM21/PM24
pH #	8.87										<0.01	pH units	TM73/PM11
Asbestos Type*	NAD											None	Subcontracted

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard Site 4&5
Contact: Conor Finnerty
EMT Job No: 24/11778

Report : CEN 10:1 1 Batch

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	4-7										LOD/LOR	Units	Method No.
Sample ID	TP24												
Depth	0.50												
COC No / misc													
Containers	V J T												
Sample Date	21/06/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	08/07/2024												
Dissolved Antimony #	<0.002										<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02										<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025										<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025										<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003										<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03										<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005										<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005										<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015										<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015										<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007										<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07										<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005										<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05										<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.003										<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.03										<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002										<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02										<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003										<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03										<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	0.004										<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	0.04										<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001										<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001										<0.0001	mg/kg	TM61/PM0
Phenol	<0.01										<0.01	mg/l	TM26/PM0
Phenol	<0.1										<0.1	mg/kg	TM26/PM0
Fluoride	0.5										<0.3	mg/l	TM173/PM0
Fluoride	5										<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5										<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5										<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1064											kg	NONE/PM17
Chloride #	<0.3										<0.3	mg/l	TM38/PM0
Chloride #	<3										<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09											kg	NONE/PM17
Dissolved Organic Carbon	<2										<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20										<20	mg/kg	TM60/PM0
pH	8.17										<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard Site 4&5
Contact: Conor Finnerty
EMT Job No: 24/11778

Report : CEN 10:1 1 Batch

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

EMT Sample No.	4-7												
Sample ID	TP24												
Depth	0.50												
COC No / misc													
Containers	V J T												
Sample Date	21/06/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	08/07/2024												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Total Dissolved Solids #	48										<35	mg/l	TM20/PM0
Total Dissolved Solids #	480										<350	mg/kg	TM20/PM0

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard Site 4&5
Contact: Conor Finnerty
EMT Job No: 24/11778

Report : **EN12457_2**

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	4-7																
Sample ID	TP24																
Depth	0.50																
COC No / misc																	
Containers	V J T																
Sample Date	21/06/2024																
Sample Type	Soil																
Batch Number	1																
Date of Receipt	08/07/2024																
												Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																	
Total Organic Carbon #	0.64											3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025											6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035											1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30											500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22											-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64											100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																	
Arsenic #	<0.025											0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03											20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005											0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015											0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07											2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001											0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.03											0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02											0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05											0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02											0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03											0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	0.04											4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	480											4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20											500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1064											-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	84.9											-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.884											-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	17.8											-	-	-	<0.1	%	PM4/PM0
pH #	8.87											-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1											1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	5											10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5											1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3											800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard Site 4&5
Contact: Conor Finnerty

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/11778	1	TP24	0.50	4-7	No Interpretation Possible

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: Cherry Orchard Site 4&5

Contact: Conor Finnerty

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/11778	1	TP24	0.50	4-7	EPH, GRO, PAH, PCB	Sample holding time exceeded prior to receipt

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.: 24/11778

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/11778

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/11778

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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

EMT Job No: 24/11778

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	
Subcontracted	See attached subcontractor report for accreditation status and provider.					AR	

Please include all sections of this report if it is reproduced

LABORATORY REPORT

Contract Number: PSL24/4323

Report Date: 18 July 2024

Client's Reference: 13687-03-24

Client Name: Ground Investigations Ireland Ltd
Catherinestown House
Hazelhatch Road
Newcastle
Co Dublin
D22 YD52

For the attention of: Mike Sutton

Contract Title: Cherry Orchard Sites 4&5 Phase 2

Date Received: 19/6/2024
Date Commenced: 19/6/2024
Date Completed: 18/7/2024

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins (Managing Director)
R Berriman (Associate Director)
S Royle (Laboratory Manager)

L Knight (Assistant Laboratory Manager)
S Eyre (Senior Technical Coordinator)
T Watkins (Senior Technician)

5 – 7 Hexthorpe Road,
Hexthorpe,
Doncaster,
DN4 0AR
Tel: 01302 768098
Email: rberriman@prosoils.co.uk
awatkins@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
TP25		B	0.50		Brown TOPSOIL.
TP39		B	0.50		Brown slightly sandy slightly gravelly CLAY.
TP43		B	0.50		Brown slightly sandy slightly gravelly CLAY.
TP45		B	1.00		Brown slightly sandy slightly gravelly CLAY with many cobbles.
TP47		B	0.50		Brown slightly sandy gravelly CLAY.
TP48		B	0.50		Brown slightly sandy slightly gravelly CLAY.
TP54		B	0.50		Brown TOPSOIL.
TP68		B	0.50		Brown slightly sandy gravelly CLAY.
TP75		B	0.50		Brown slightly sandy slightly gravelly CLAY.
TP85		B	1.60		Brown slightly sandy slightly gravelly CLAY with some cobbles.
TP87		B	0.50		Brown slightly sandy slightly gravelly CLAY.
TP89		B	1.60		Brown clayey sandy GRAVEL with many cobbles.
TP93		B	1.00		Brown slightly sandy slightly gravelly CLAY.
TP95		B	2.00		Brown slightly sandy slightly gravelly CLAY with cobbles.
TP100		B	2.50		Brown slightly sandy slightly gravelly CLAY with cobbles.
TP100		B	0.50		Brown slightly sandy slightly gravelly CLAY.
TP102		B	1.50		Brown slightly sandy gravelly CLAY.
TP102		B	0.50		Brown slightly sandy gravelly CLAY.
TP104		B	1.50		Brown slightly sandy gravelly CLAY.

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
TP104		B	0.50		Brown slightly sandy gravelly CLAY.
TP106		B	0.50		Brown slightly sandy gravelly CLAY with cobbles.
TP108		B	2.50		Brown slightly sandy gravelly CLAY with cobbles.
TP108		B	0.50		Brown slightly sandy slightly gravelly CLAY.
TP110		B	2.00		Brown slightly sandy slightly gravelly CLAY with cobbles.
TP110		B	0.50		Brown slightly sandy slightly gravelly CLAY with many cobbles.
TP114		B	1.50		Brown slightly sandy gravelly CLAY.
TP114		B	0.50		Brown TOPSOIL.
TP118		B	0.50		Brown slightly sandy slightly gravelly CLAY.
TP118		B	1.50		Brown slightly sandy slightly gravelly CLAY.
TP120		B	0.50		Brown slightly sandy slightly gravelly CLAY with cobbles.
TP121		B	0.50		Brown slightly sandy gravelly CLAY.
TP121		B	2.80		Brown slightly sandy slightly gravelly CLAY with cobbles.
TP123		B	0.50		Brown TOPSOIL.
TP123		B	1.50		Brown slightly sandy slightly gravelly CLAY with cobbles.
TP125		B	0.50		Brown slightly sandy gravelly CLAY.
TP125		B	1.50		Brown slightly sandy slightly gravelly CLAY with cobbles.
TP127		B	0.50		Brown slightly sandy gravelly CLAY.
TP131		B	0.50		Brown TOPSOIL.

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
TP135		B	0.80		Brown slightly sandy slightly gravelly CLAY.
TP135		B	2.00		Brown slightly sandy slightly gravelly CLAY with cobbles.
WS01		B	0.50	0.90	Brown slightly sandy gravelly CLAY.
WS01		B	0.90	1.40	Brown slightly sandy gravelly CLAY.
WS02		B	0.20	0.60	Brown TOPSOIL.
WS02		B	1.00	1.40	Brown slightly sandy slightly gravelly CLAY with many cobbles.
WS04		B	0.25	1.00	Brown slightly sandy gravelly CLAY.
TP64		B	0.50		Brown TOPSOIL.
WS05		B	0.20	0.60	Brown slightly sandy gravelly CLAY with many cobbles.
WS05		B	1.00	1.90	Brown slightly sandy gravelly CLAY.

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
TP25		B	0.50		29			60	29	31	62	High Plasticity CH
TP39		B	0.50		15			55	24	31	75	High Plasticity CH
TP43		B	0.50		22			44	21	23	85	Intermediate Plasticity CI
TP45		B	1.00		15			29	20	9	41	Low Plasticity CL
TP47		B	0.50		13			26	14	12	36	Low Plasticity CL
TP48		B	0.50		12			27	15	12	56	Low Plasticity CL
TP54		B	0.50		17			41	22	19	57	Intermediate Plasticity CI
TP68		B	0.50		13			31	19	12	43	Low Plasticity CL
TP75		B	0.50		24			49	25	24	68	Intermediate Plasticity CI
TP85		B	1.60		15			26	13	13	48	Low Plasticity CL
TP87		B	0.50		16			35	19	16	63	Intermediate Plasticity CI
TP89		B	1.60		5.5			23	13	10	15	Low Plasticity CL
TP93		B	1.00		11			31	17	14	60	Low Plasticity CL
TP95		B	2.00		8.9			31	18	13	43	Low Plasticity CL
TP100		B	2.50		11			29	17	12	50	Low Plasticity CL
TP100		B	0.50		22			41	21	20	68	Intermediate Plasticity CI
TP102		B	1.50		7.0			29	19	10	39	Low Plasticity CL
TP102		B	0.50		11			25	15	10	40	Low Plasticity CL
TP104		B	1.50		13			36	19	17	48	Intermediate Plasticity CI

SYMBOLS : NP : Non Plastic *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PREMIA GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

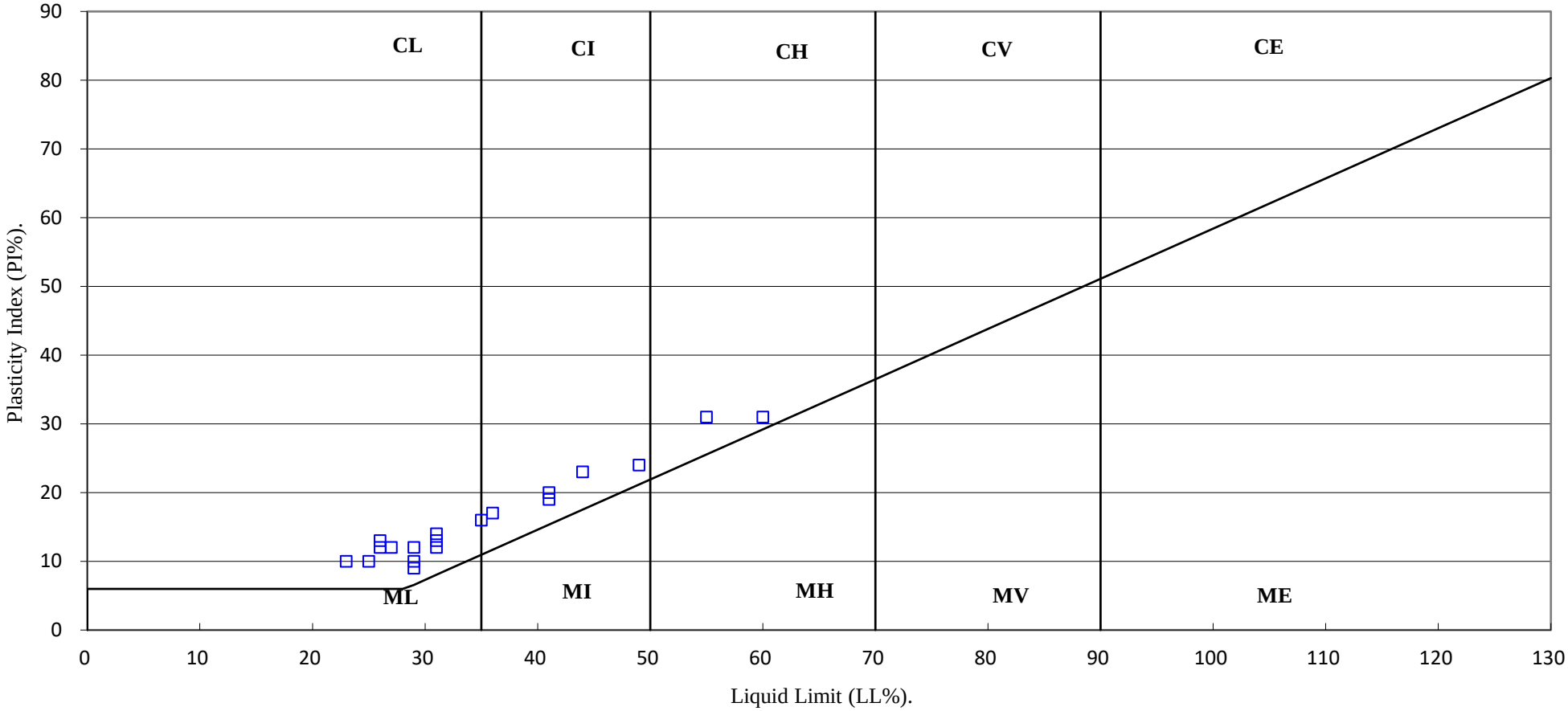
Contract No:

PSL24/4323

Client Ref:

13687-03-24

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043	PSL PROFESSIONAL SOILS LABORATORY A PREMIER GROUP COMPANY	**Cherry Orchard Sites 4&5 Phase 2**

Contract No:
PSL24/4323
Client Ref:
13687-03-24

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
TP104		B	0.50		16			43	21	22	45	Intermediate Plasticity CI
TP106		B	0.50		8.2			28	18	10	38	Low Plasticity CL
TP108		B	2.50		15			42	21	21	24	Intermediate Plasticity CI
TP108		B	0.50		21			51	24	27	71	High Plasticity CH
TP110		B	2.00		16			41	20	21	45	Intermediate Plasticity CI
TP110		B	0.50		12			39	20	19	44	Intermediate Plasticity CI
TP114		B	1.50		13			34	19	15	50	Low Plasticity CL
TP114		B	0.50		14			41	21	20	48	Intermediate Plasticity CI
TP118		B	0.50		16			44	20	24	69	Intermediate Plasticity CI
TP118		B	1.50		8.5			32	17	15	59	Low Plasticity CL
TP120		B	0.50		19			45	22	23	51	Intermediate Plasticity CI
TP121		B	0.50		12			35	20	15	50	Intermediate Plasticity CI
TP121		B	2.80		3.2			29	17	12	48	Low Plasticity CL
TP123		B	0.50		26			51	21	30	74	High Plasticity CH
TP123		B	1.50		15			32	19	13	45	Low Plasticity CL
TP125		B	0.50		11			30	18	12	50	Low Plasticity CL
TP125		B	1.50		23			46	23	23	67	Intermediate Plasticity CI
TP127		B	0.50		13			35	17	18	41	Intermediate Plasticity CI
TP131		B	0.50		28			54	24	30	70	High Plasticity CH

SYMBOLS : NP : Non Plastic *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PREMIA GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

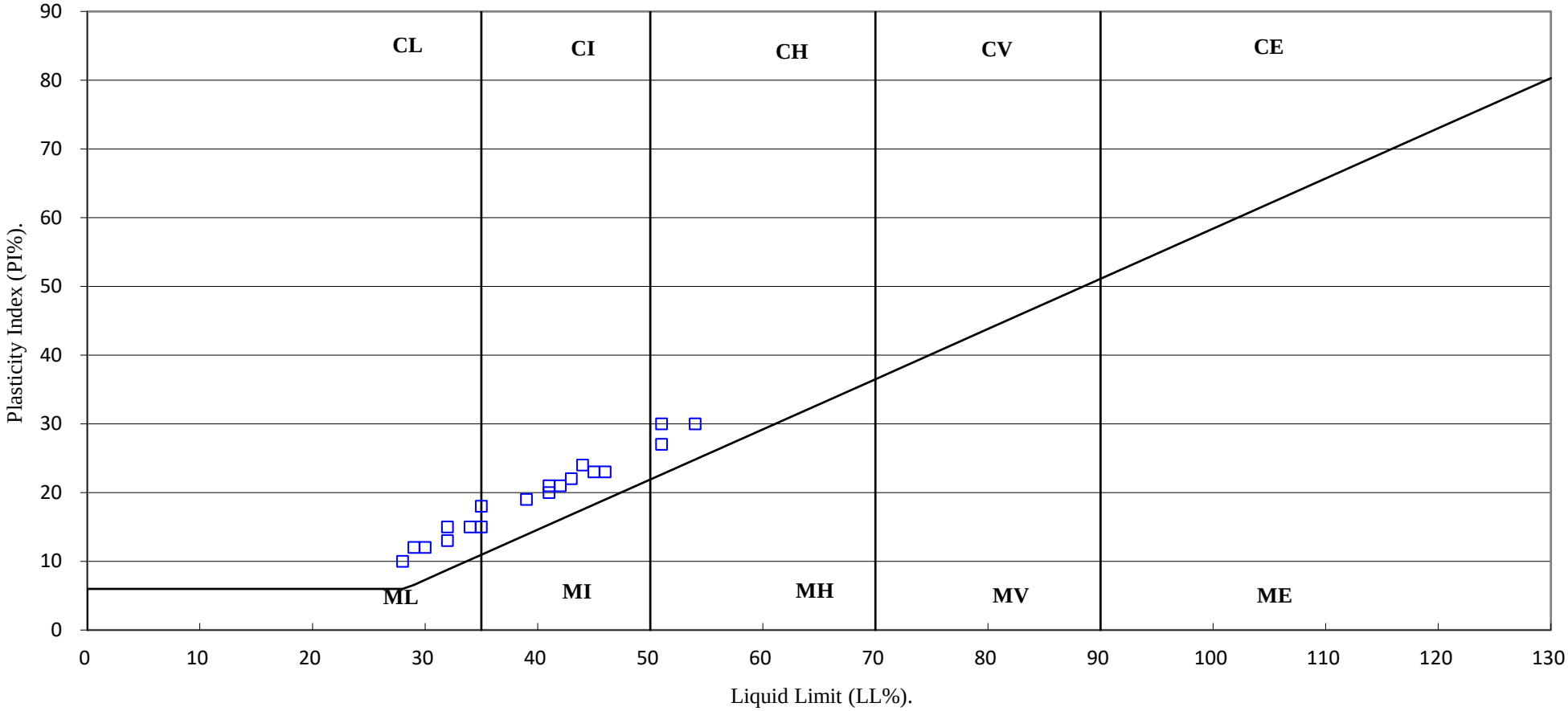
Contract No:

PSL24/4323

Client Ref:

13687-03-24

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043	PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Cherry Orchard Sites 4&5 Phase 2**

Contract No:
PSL24/4323
Client Ref:
13687-03-24

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
TP135		B	0.80		8.7			30	17	13	57	Low Plasticity CL
TP135		B	2.00		10			29	19	10	48	Low Plasticity CL
WS01		B	0.50	0.90	13			42	20	22	31	Intermediate Plasticity CI
WS01		B	0.90	1.40	6.2			26	15	11	34	Low Plasticity CL
WS02		B	0.20	0.60	14			36	20	16	52	Intermediate Plasticity CI
WS02		B	1.00	1.40	17			45	26	19	33	Intermediate Plasticity CI
WS04		B	0.25	1.00	5.9			34	19	15	52	Low Plasticity CL
TP64		B	0.50		9.4			23	12	11	60	Low Plasticity CL
WS05		B	0.20	0.60	6.6			42	20	22	20	Intermediate Plasticity CI
WS05		B	1.00	1.90	16			50	22	28	51	High Plasticity CH

SYMBOLS : NP : Non Plastic *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PREMIA GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

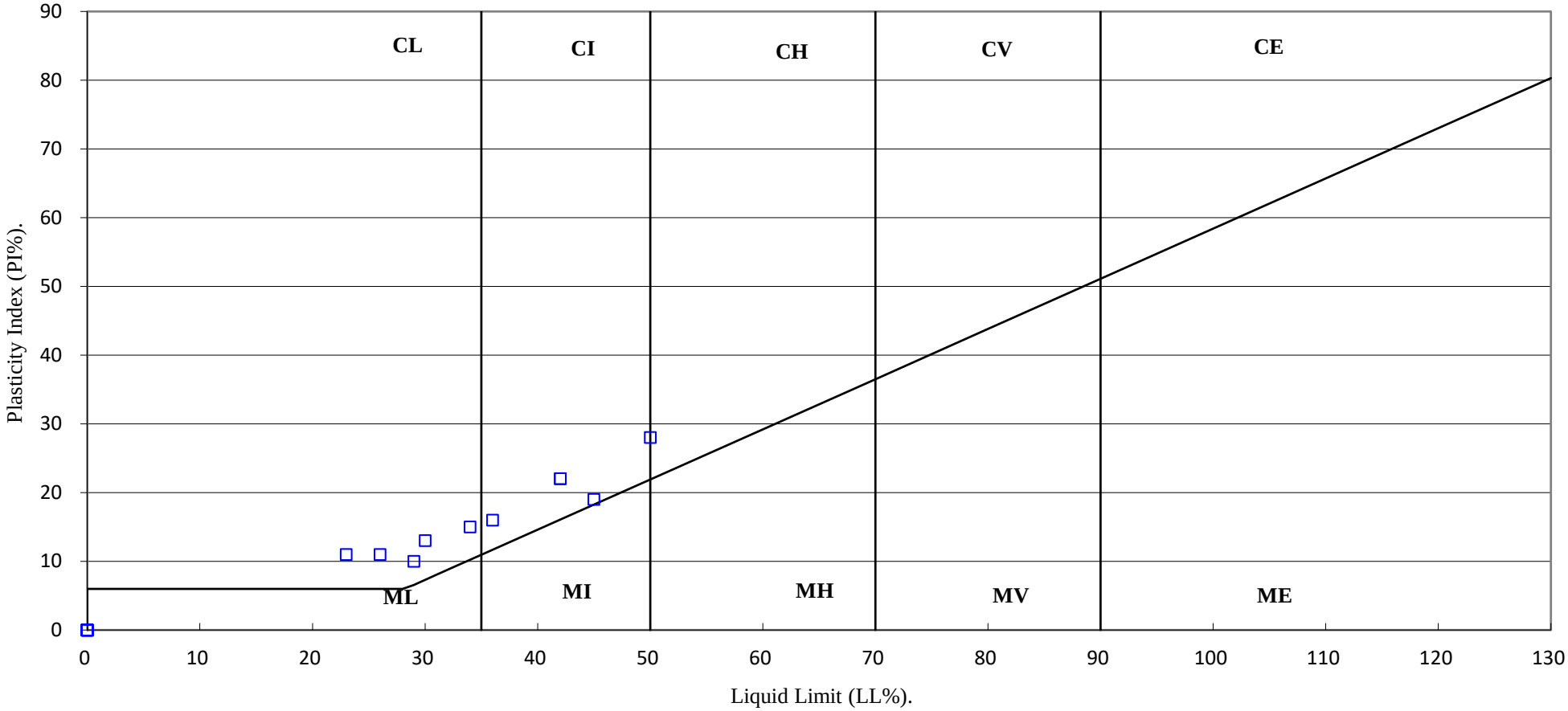
Contract No:

PSL24/4323

Client Ref:

13687-03-24

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043	PSL PROFESSIONAL SOILS LABORATORY A PREMIER GROUP COMPANY	**Cherry Orchard Sites 4&5 Phase 2**

Contract No:
PSL24/4323
Client Ref:
13687-03-24

PARTICLE SIZE DISTRIBUTION TEST

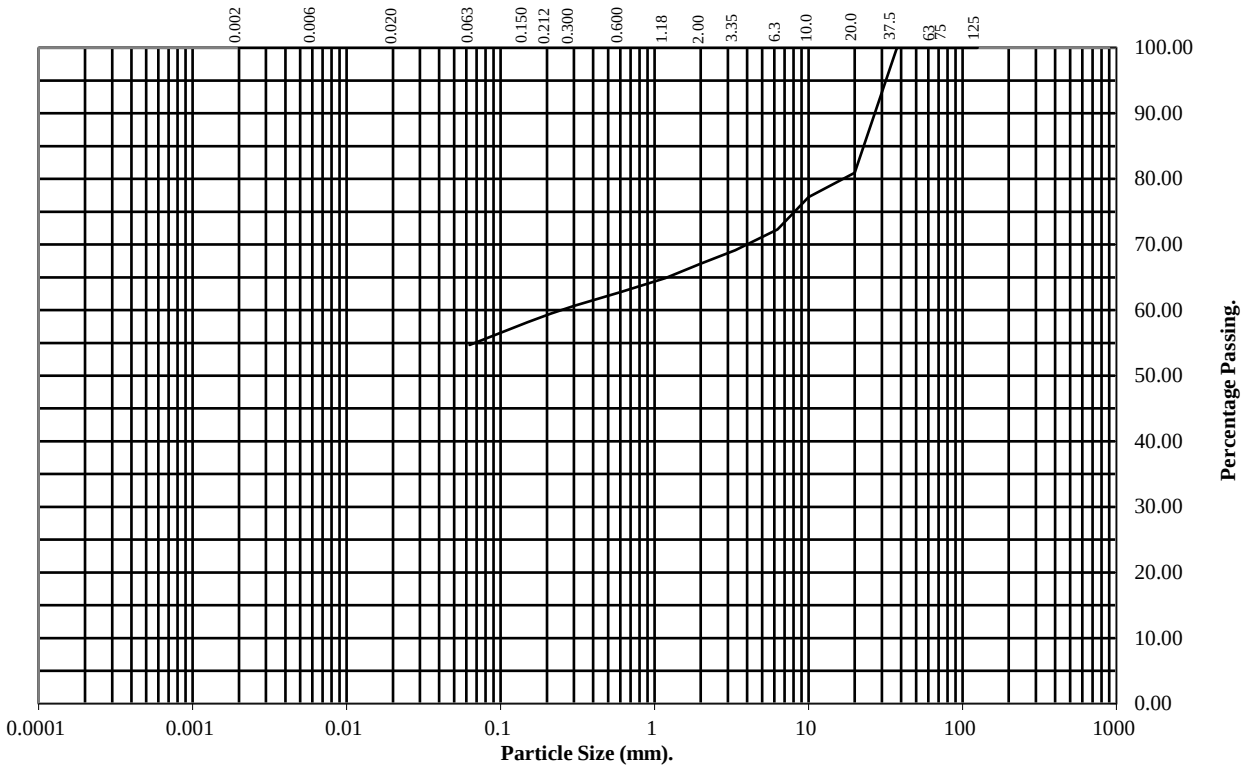
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP25** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	81
10	77
6.3	72
3.35	69
2	67
1.18	65
0.6	63
0.3	61
0.212	59
0.15	58
0.063	55

Soil Fraction	Total Percentage
Cobbles	0
Gravel	33
Sand	12
Silt/Clay	55

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

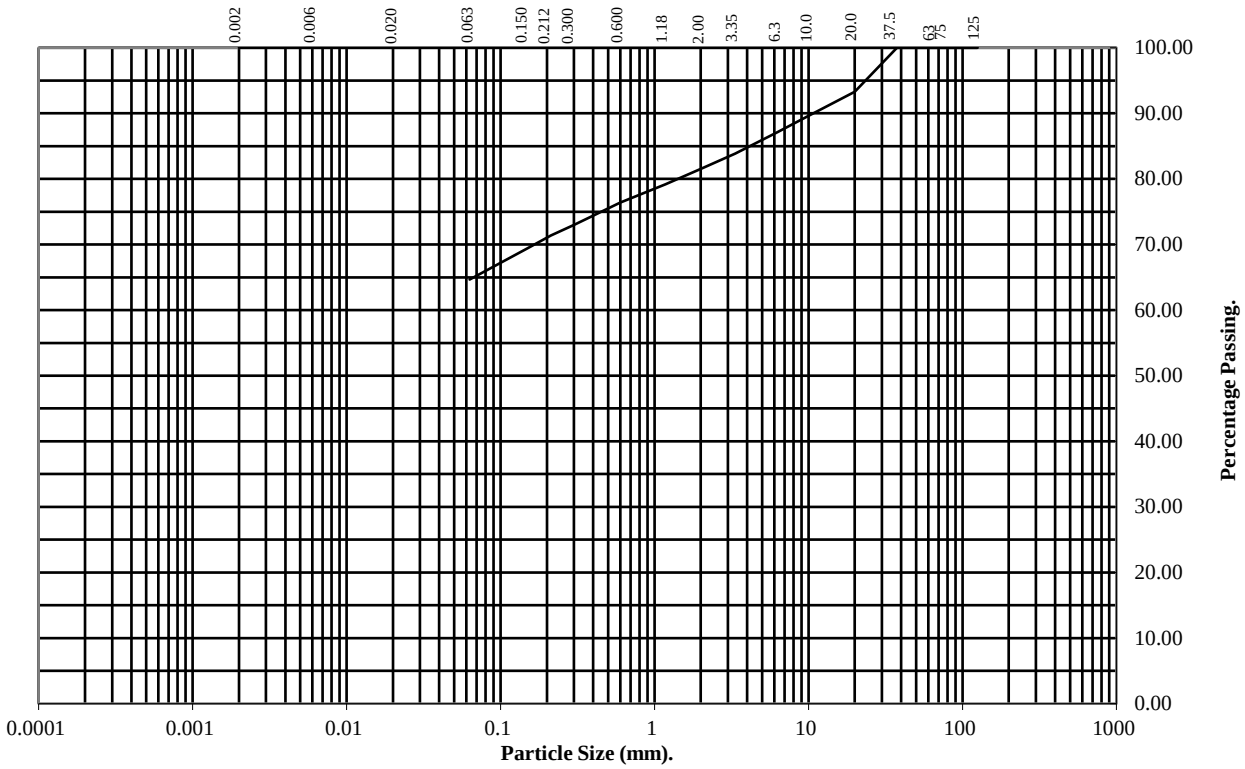
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP39** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	93
10	90
6.3	87
3.35	84
2	82
1.18	79
0.6	76
0.3	73
0.212	71
0.15	69
0.063	65

Soil Fraction	Total Percentage
Cobbles	0
Gravel	18
Sand	17
Silt/Clay	65

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

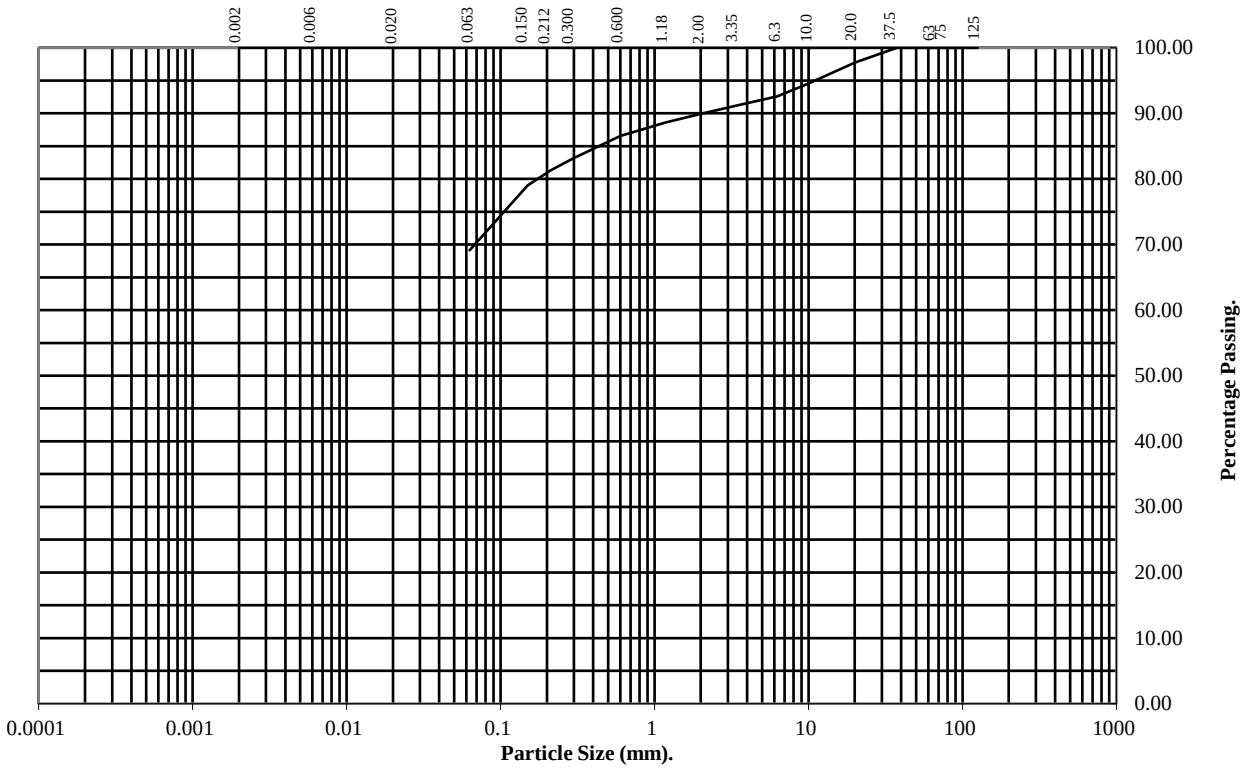
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP43** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	98
10	95
6.3	93
3.35	91
2	90
1.18	89
0.6	87
0.3	83
0.212	81
0.15	79
0.063	69

Soil Fraction	Total Percentage
Cobbles	0
Gravel	10
Sand	21
Silt/Clay	69

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

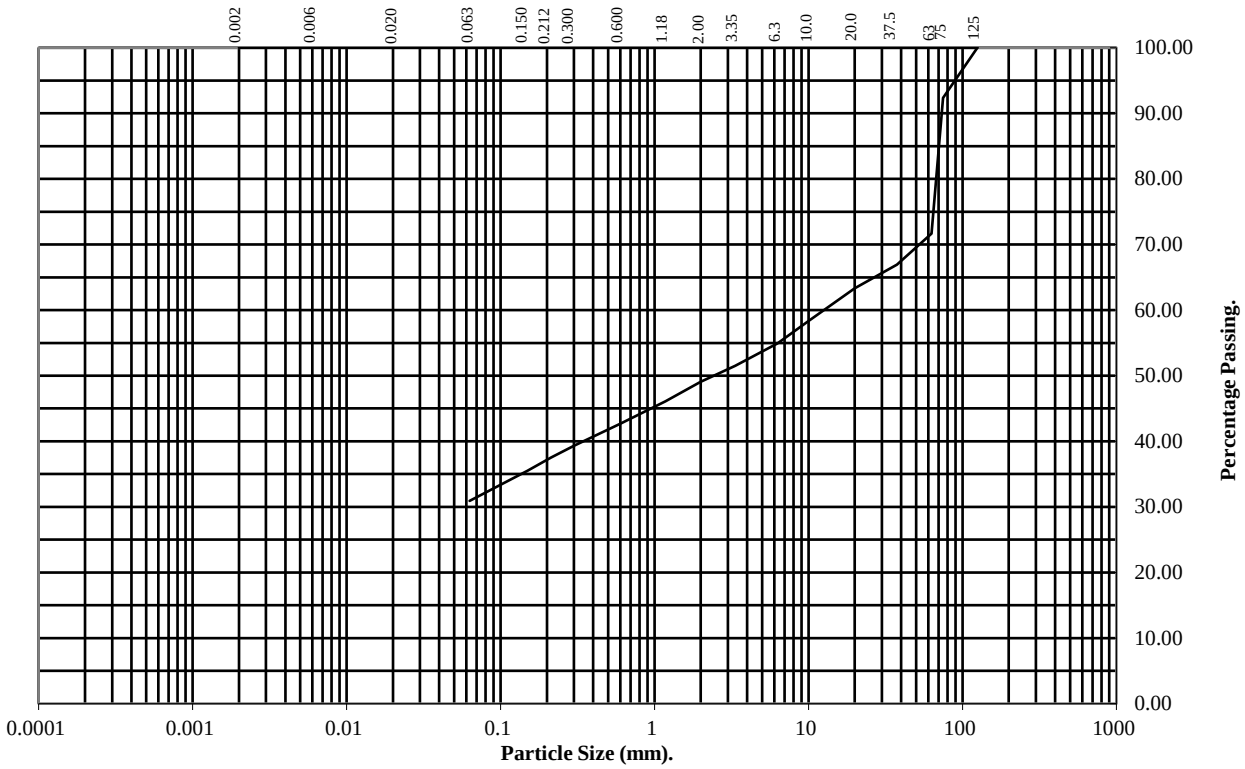
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP45** **Top Depth (m):** **1.00**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	92
63	72
37.5	67
20	63
10	58
6.3	55
3.35	52
2	49
1.18	46
0.6	43
0.3	39
0.212	38
0.15	35
0.063	31

Soil Fraction	Total Percentage
Cobbles	28
Gravel	23
Sand	18
Silt/Clay	31

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

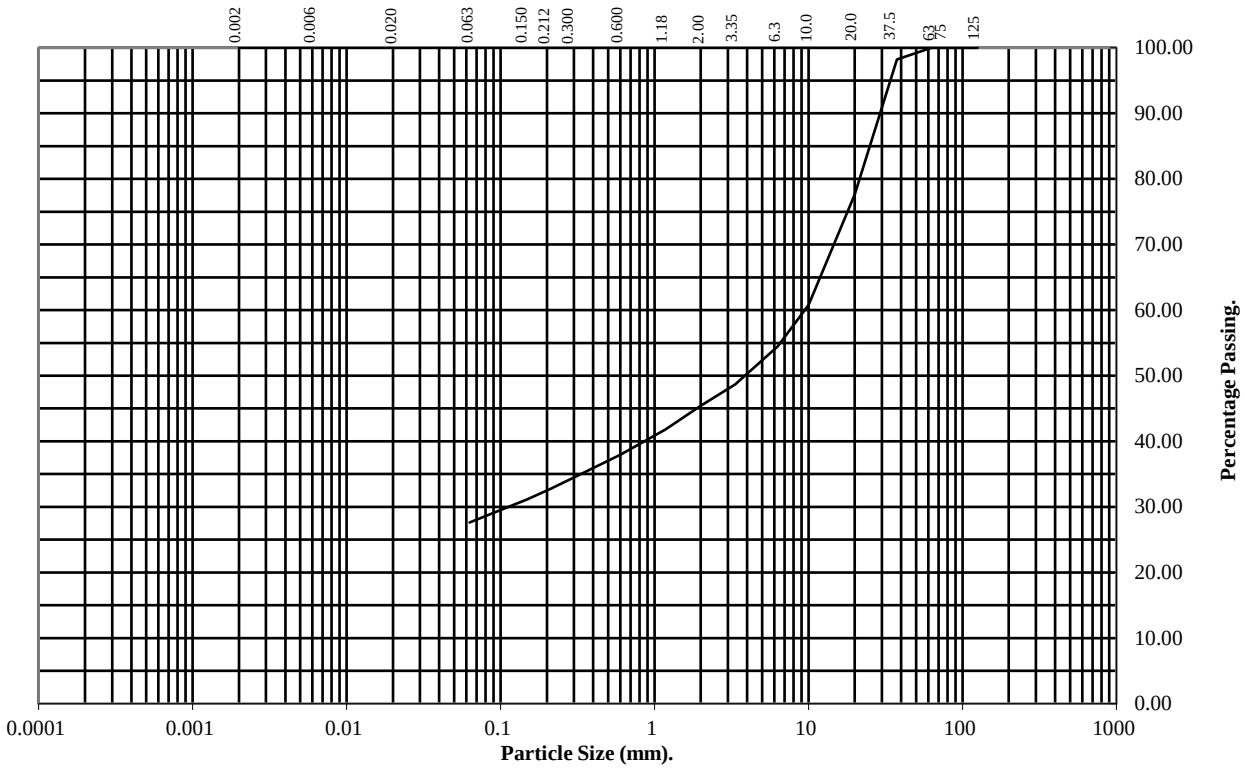
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP47** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	98
20	78
10	61
6.3	54
3.35	49
2	45
1.18	42
0.6	38
0.3	35
0.212	33
0.15	31
0.063	28

Soil Fraction	Total Percentage
Cobbles	0
Gravel	55
Sand	17
Silt/Clay	28

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

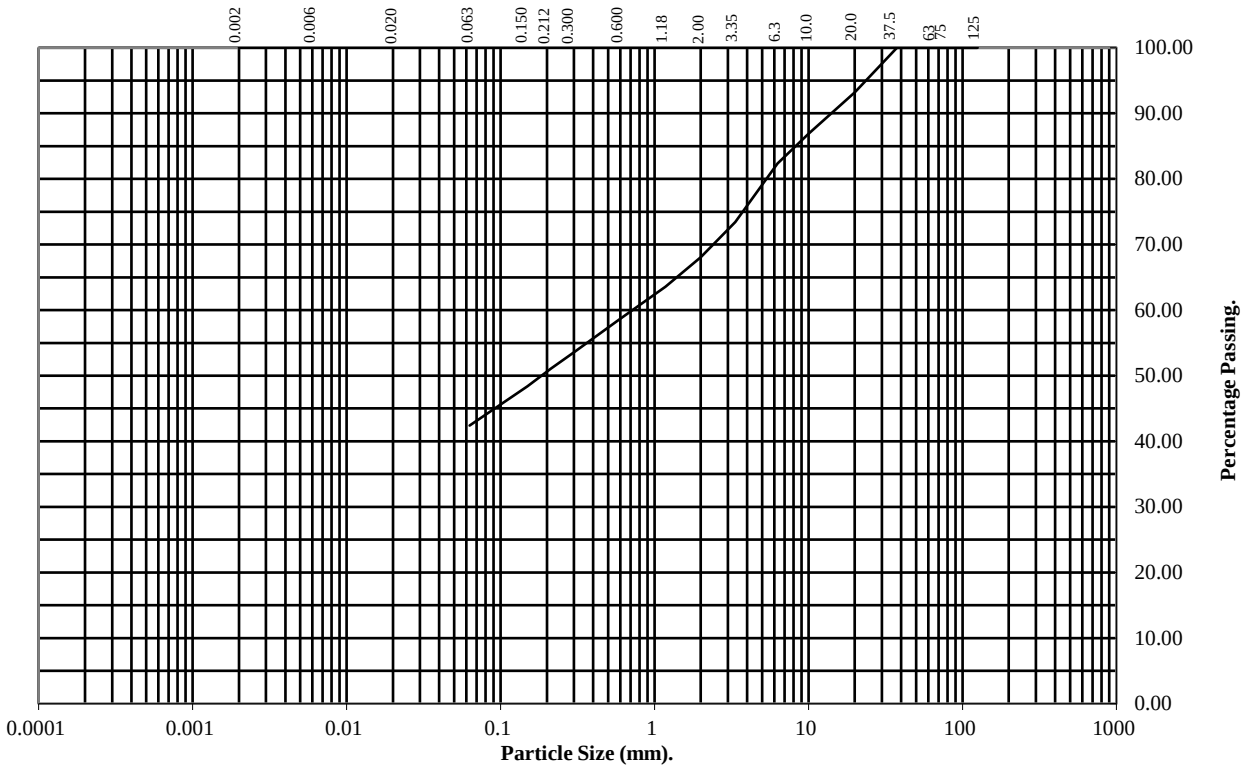
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP48** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	93
10	87
6.3	82
3.35	73
2	68
1.18	64
0.6	59
0.3	54
0.212	51
0.15	48
0.063	42

Soil Fraction	Total Percentage
Cobbles	0
Gravel	32
Sand	26
Silt/Clay	42

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

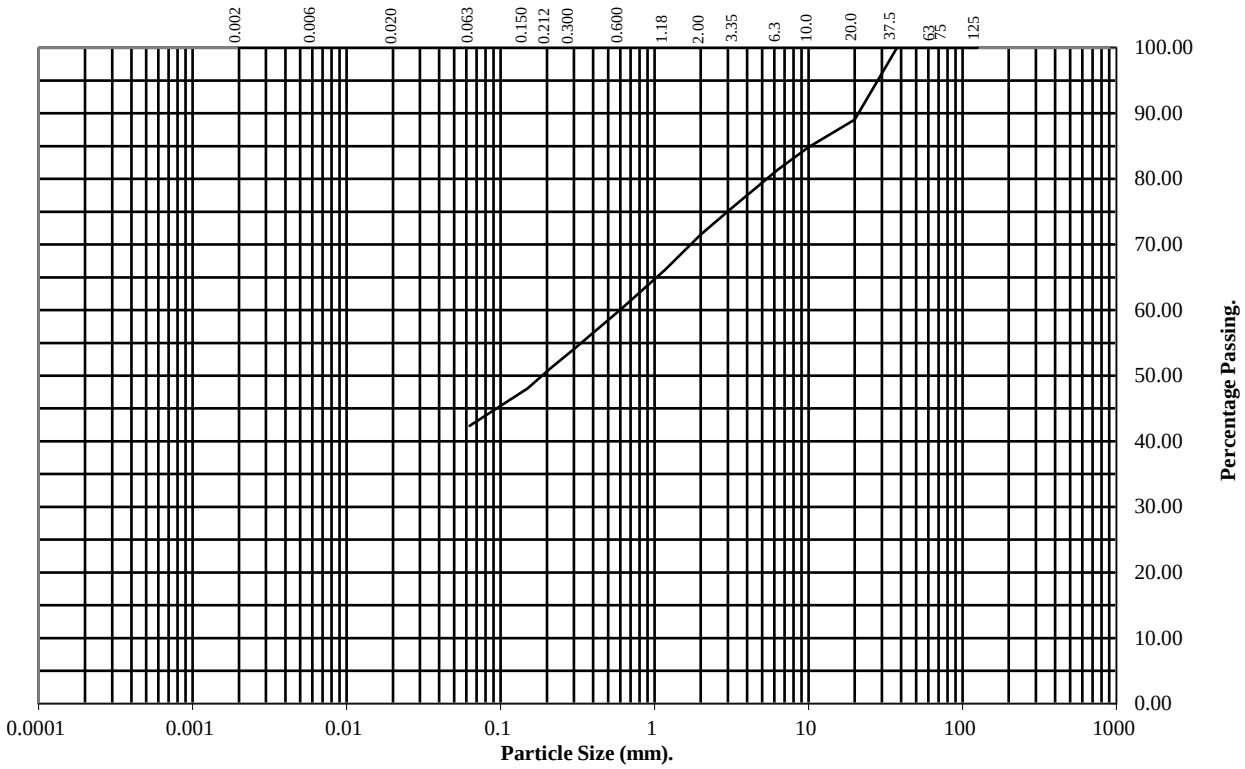
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP54** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	89
10	85
6.3	81
3.35	76
2	72
1.18	66
0.6	60
0.3	54
0.212	51
0.15	48
0.063	42

Soil Fraction	Total Percentage
Cobbles	0
Gravel	28
Sand	30
Silt/Clay	42

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

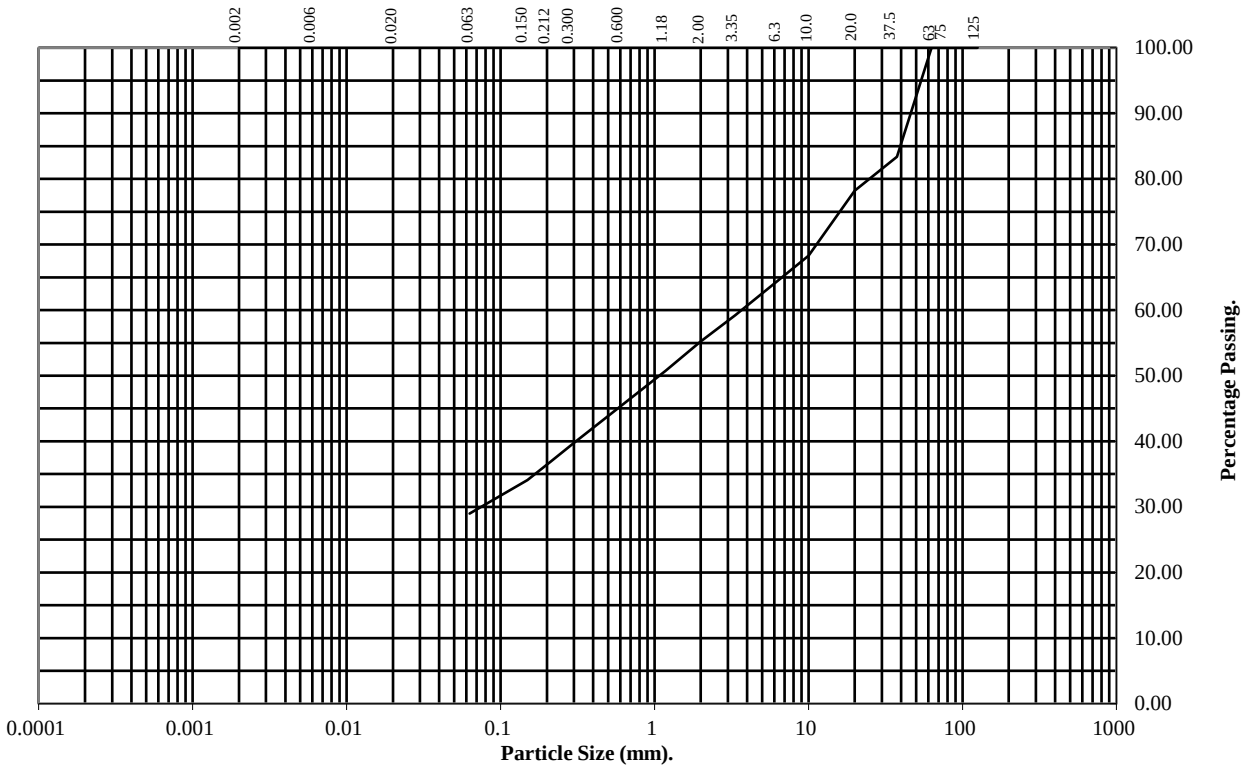
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP68** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	83
20	78
10	68
6.3	64
3.35	59
2	55
1.18	51
0.6	45
0.3	40
0.212	37
0.15	34
0.063	29

Soil Fraction	Total Percentage
Cobbles	0
Gravel	45
Sand	26
Silt/Clay	29

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

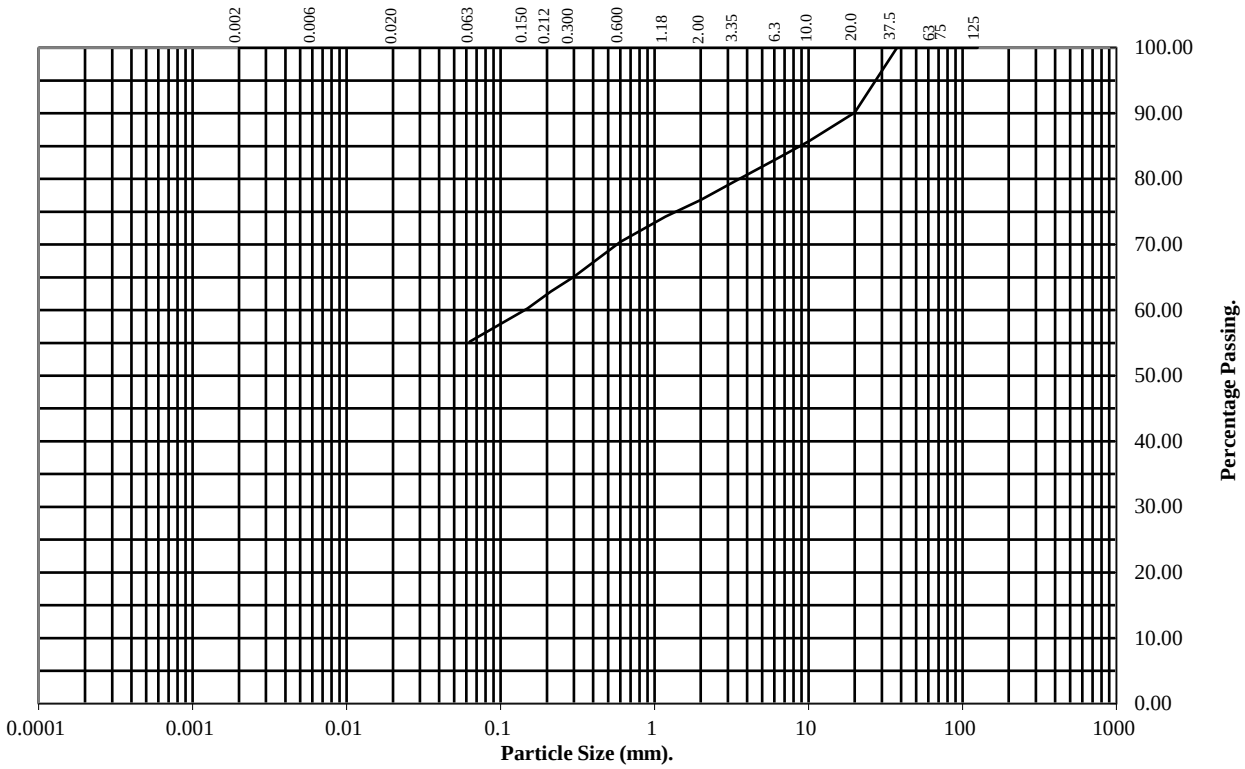
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP75** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	90
10	86
6.3	83
3.35	80
2	77
1.18	74
0.6	70
0.3	65
0.212	63
0.15	60
0.063	55

Soil Fraction	Total Percentage
Cobbles	0
Gravel	23
Sand	22
Silt/Clay	55

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

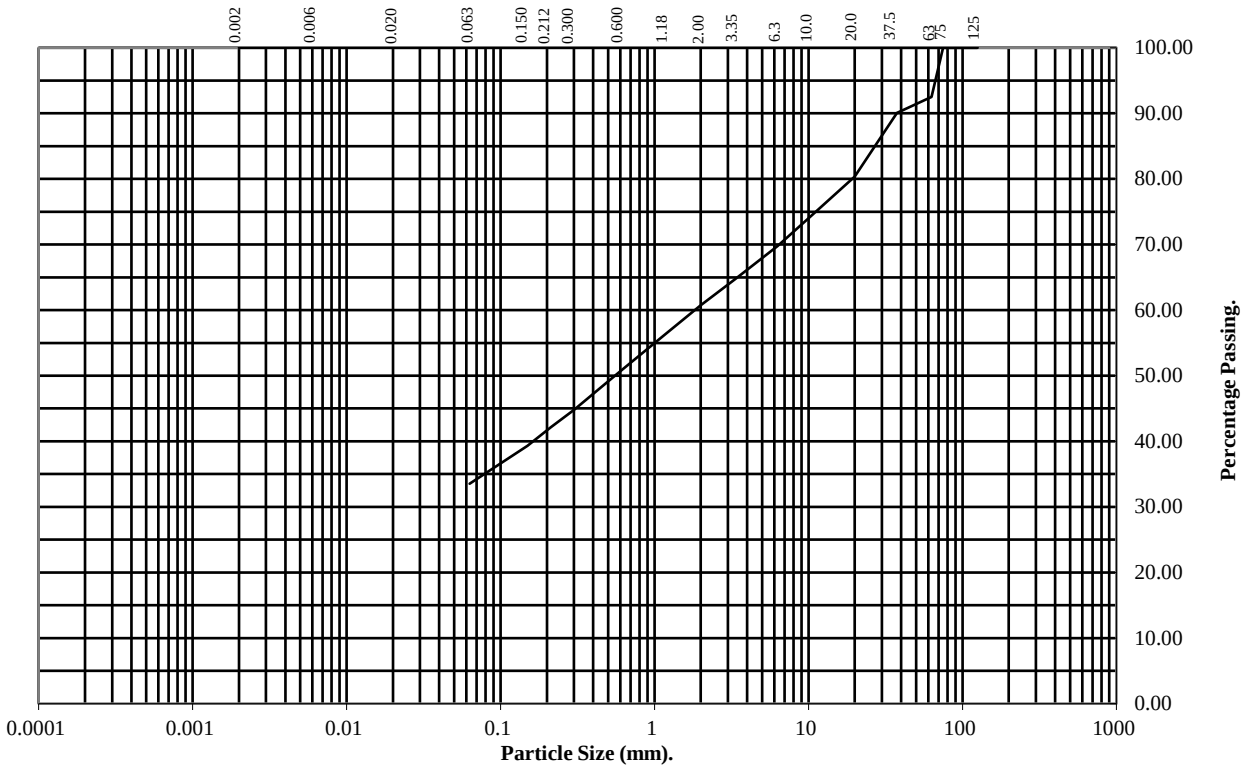
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP85** **Top Depth (m):** **1.60**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	92
37.5	90
20	80
10	74
6.3	70
3.35	65
2	61
1.18	56
0.6	51
0.3	45
0.212	42
0.15	39
0.063	34

Soil Fraction	Total Percentage
Cobbles	8
Gravel	31
Sand	27
Silt/Clay	34

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

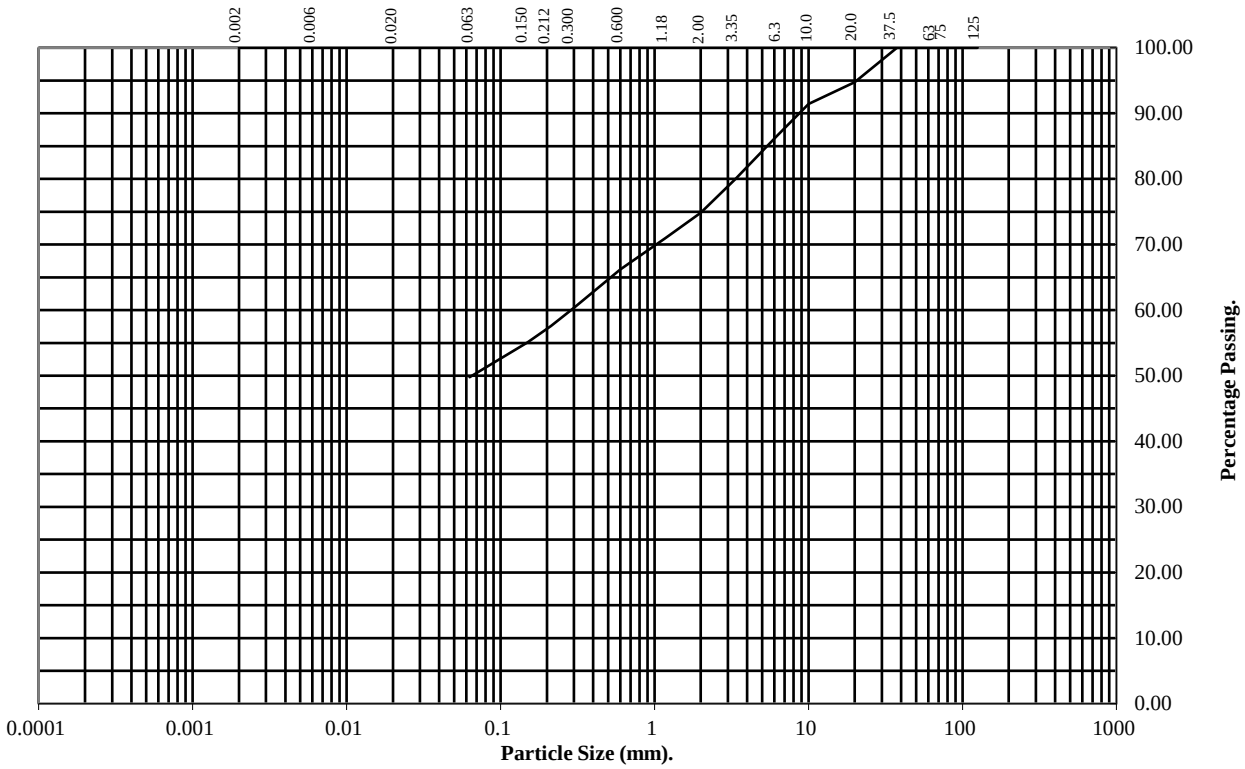
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP87** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	95
10	91
6.3	87
3.35	80
2	75
1.18	71
0.6	66
0.3	60
0.212	58
0.15	55
0.063	50

Soil Fraction	Total Percentage
Cobbles	0
Gravel	25
Sand	25
Silt/Clay	50

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

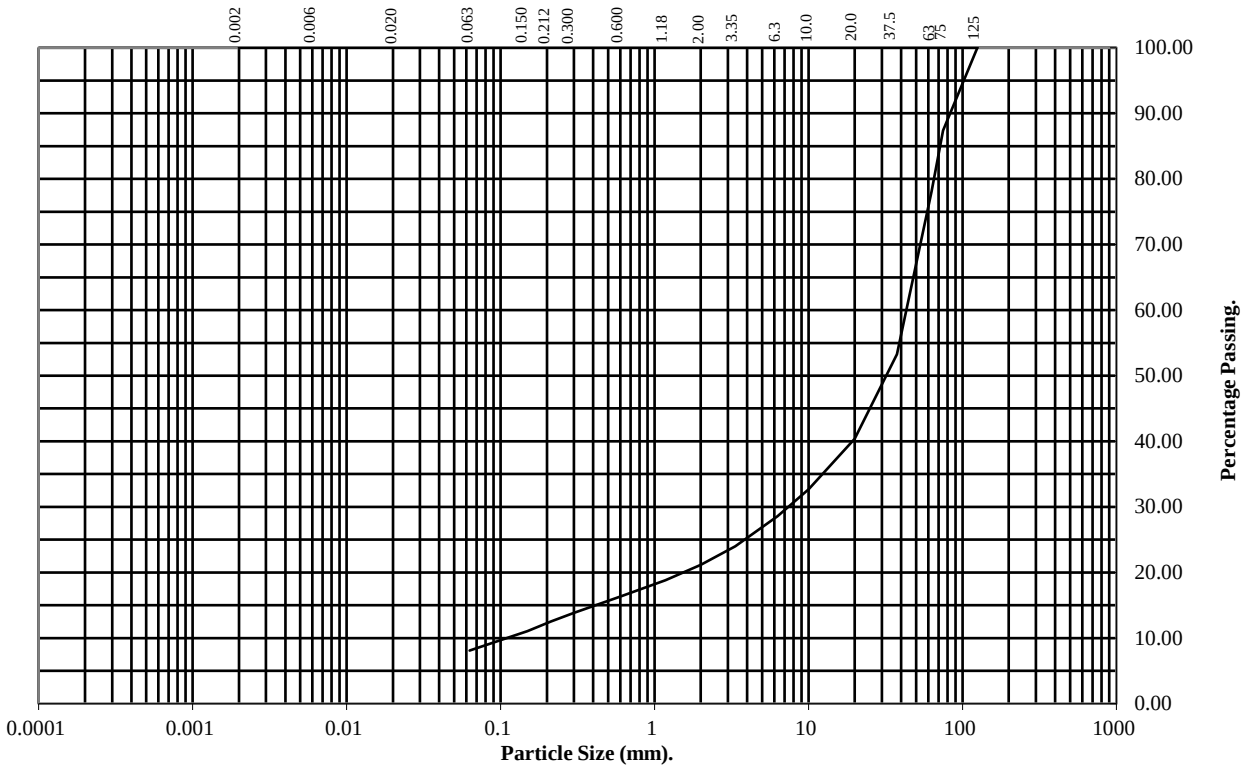
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP89** **Top Depth (m):** **1.60**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	87
63	78
37.5	53
20	40
10	33
6.3	29
3.35	24
2	21
1.18	19
0.6	16
0.3	14
0.212	13
0.15	11
0.063	8

Soil Fraction	Total Percentage
Cobbles	22
Gravel	57
Sand	13
Silt/Clay	8

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

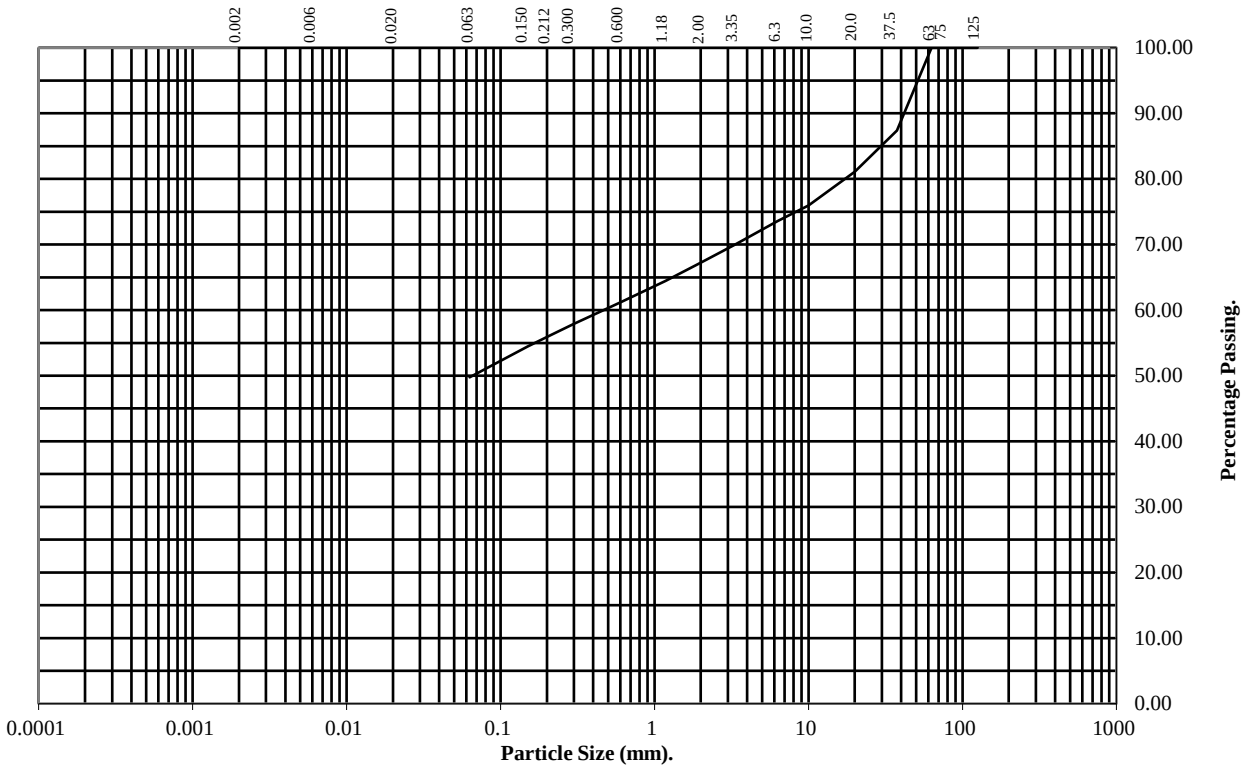
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP93** **Top Depth (m):** **1.00**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	87
20	81
10	76
6.3	74
3.35	70
2	67
1.18	64
0.6	61
0.3	58
0.212	56
0.15	54
0.063	50

Soil Fraction	Total Percentage
Cobbles	0
Gravel	33
Sand	17
Silt/Clay	50

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

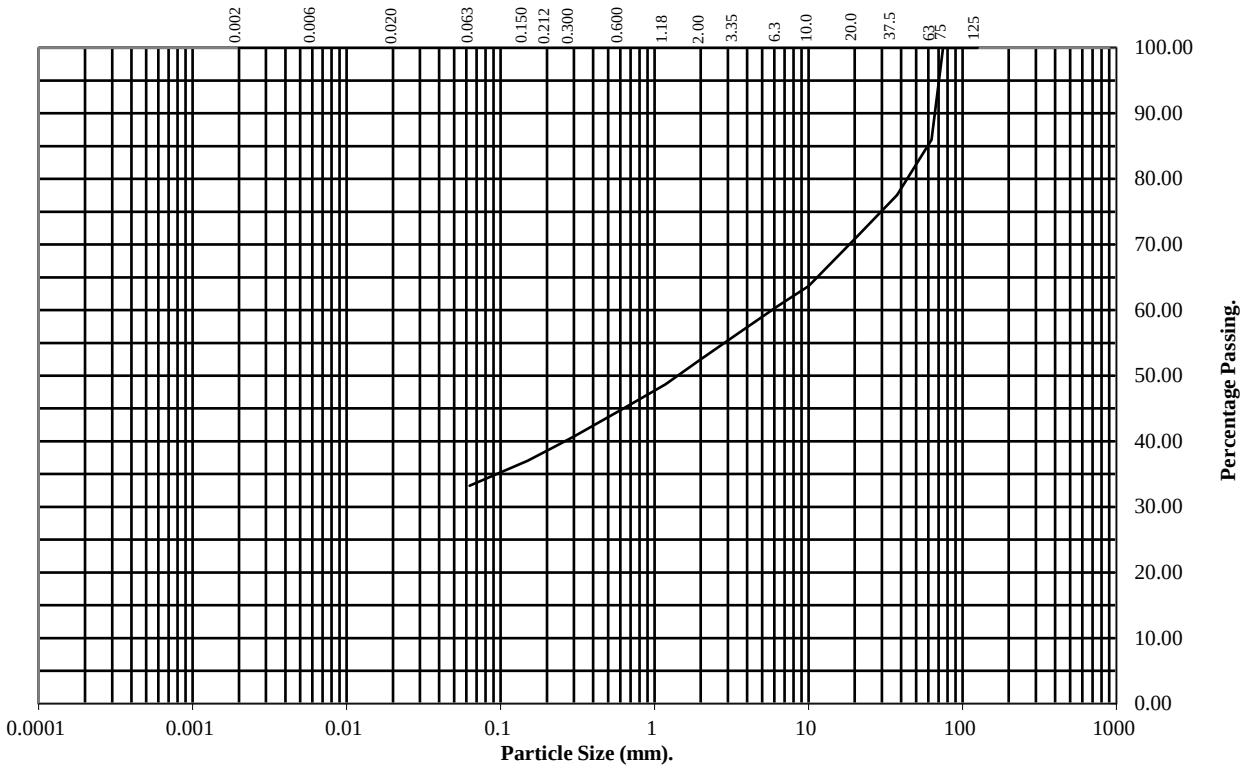
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP95** **Top Depth (m):** **2.00**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	86
37.5	78
20	71
10	64
6.3	61
3.35	56
2	52
1.18	49
0.6	45
0.3	41
0.212	39
0.15	37
0.063	33

Soil Fraction	Total Percentage
Cobbles	14
Gravel	34
Sand	19
Silt/Clay	33

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

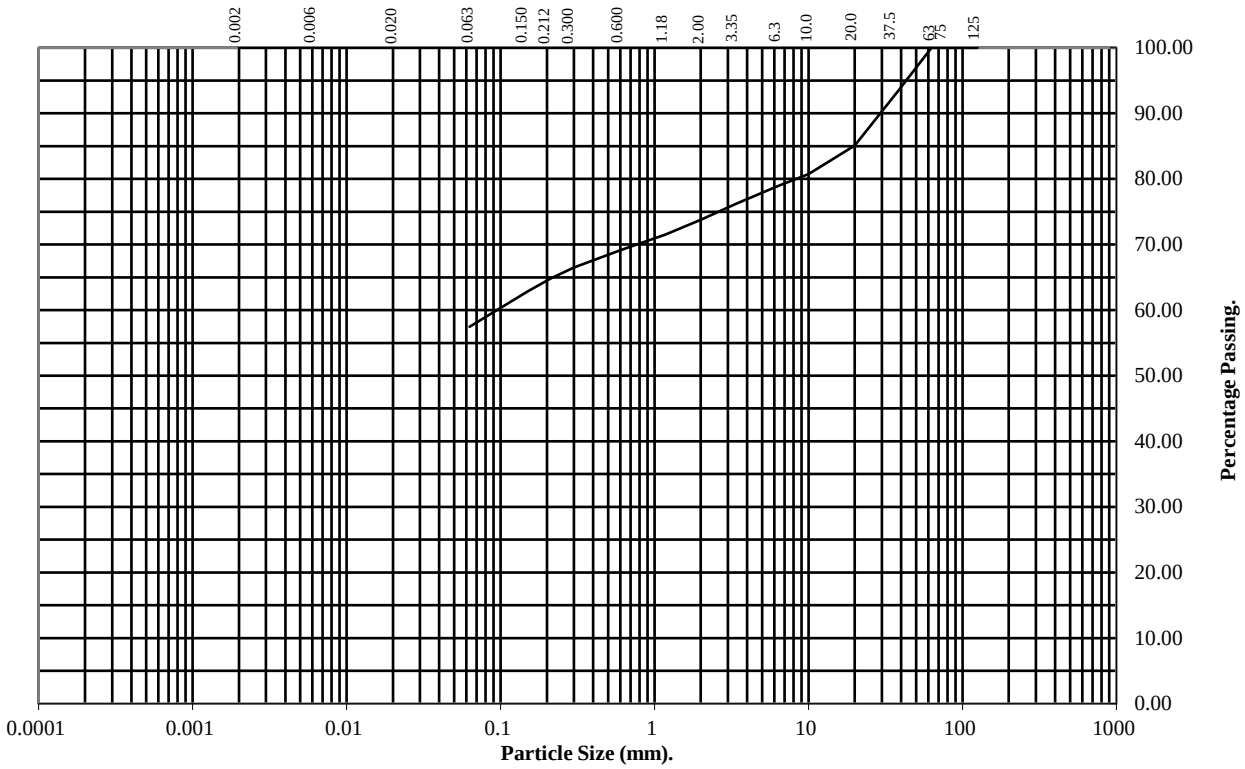
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP100** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	93
20	85
10	81
6.3	79
3.35	76
2	74
1.18	72
0.6	69
0.3	67
0.212	65
0.15	63
0.063	57

Soil Fraction	Total Percentage
Cobbles	0
Gravel	26
Sand	17
Silt/Clay	57

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

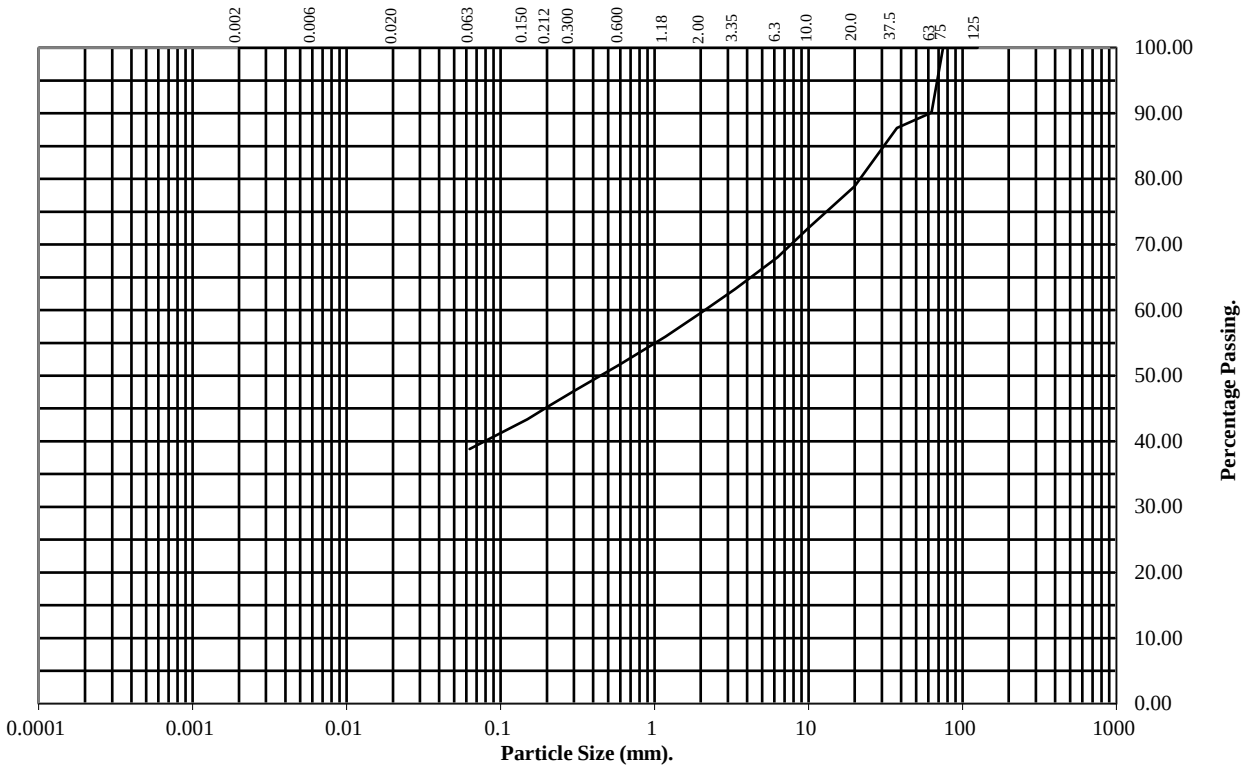
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP100** **Top Depth (m):** **2.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	90
37.5	88
20	79
10	73
6.3	68
3.35	63
2	60
1.18	56
0.6	52
0.3	48
0.212	46
0.15	43
0.063	39

Soil Fraction	Total Percentage
Cobbles	10
Gravel	30
Sand	21
Silt/Clay	39

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

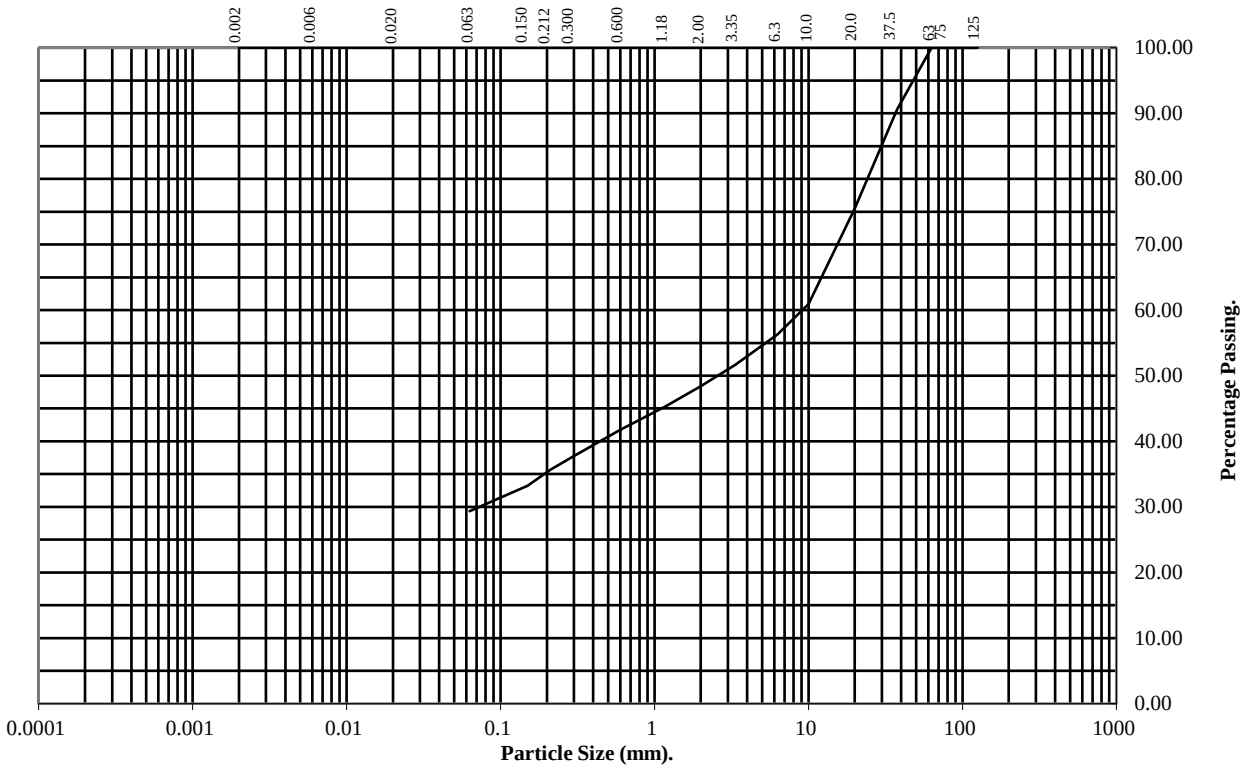
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP102** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	91
20	75
10	61
6.3	56
3.35	52
2	48
1.18	45
0.6	42
0.3	38
0.212	36
0.15	33
0.063	29

Soil Fraction	Total Percentage
Cobbles	0
Gravel	52
Sand	19
Silt/Clay	29

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

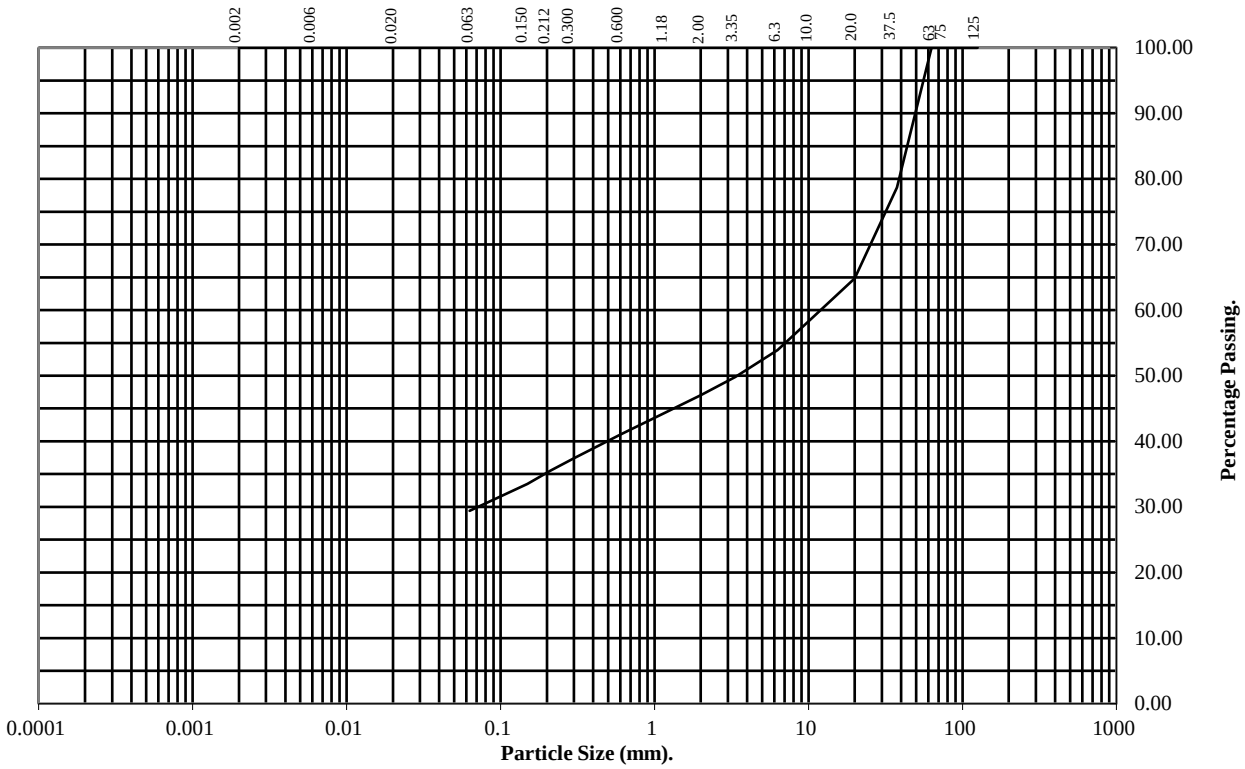
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP102** **Top Depth (m):** **1.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	79
20	65
10	58
6.3	54
3.35	50
2	47
1.18	44
0.6	41
0.3	37
0.212	36
0.15	33
0.063	29

Soil Fraction	Total Percentage
Cobbles	0
Gravel	53
Sand	18
Silt/Clay	29

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

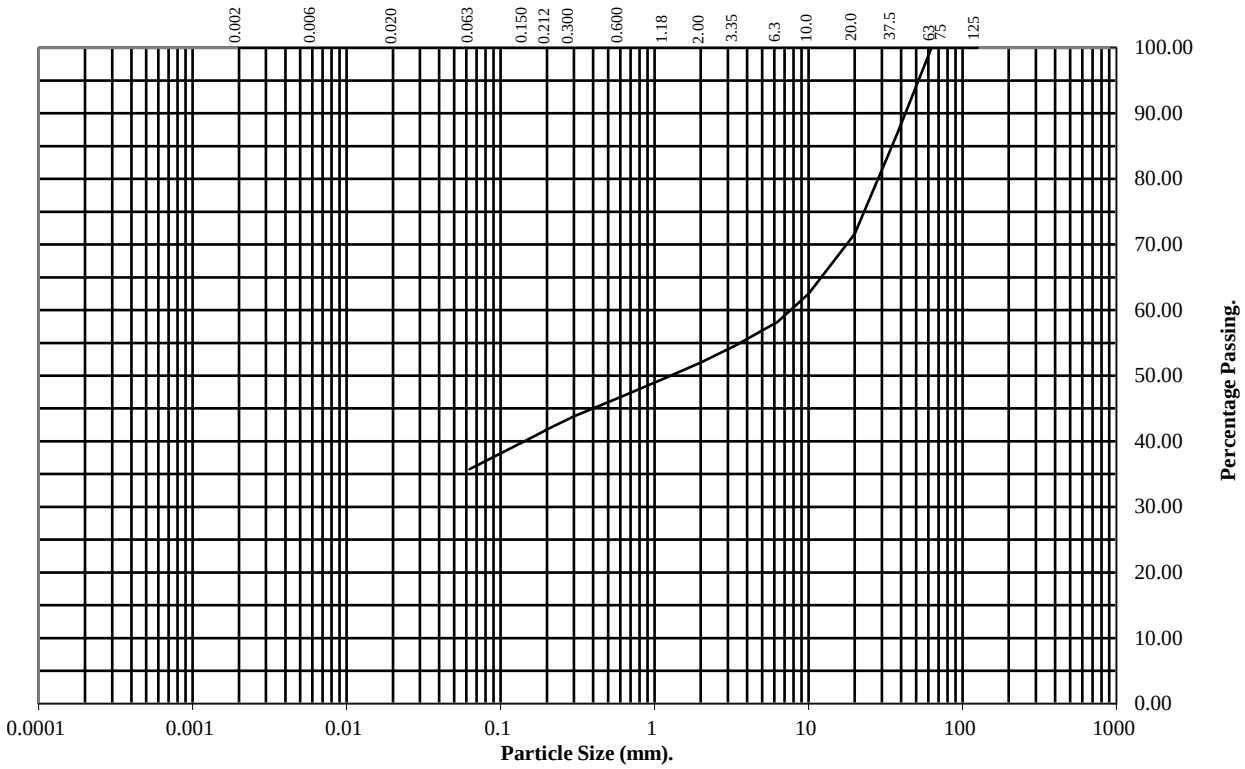
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP104** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	87
20	72
10	63
6.3	58
3.35	55
2	52
1.18	50
0.6	47
0.3	44
0.212	42
0.15	40
0.063	36

Soil Fraction	Total Percentage
Cobbles	0
Gravel	48
Sand	16
Silt/Clay	36

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

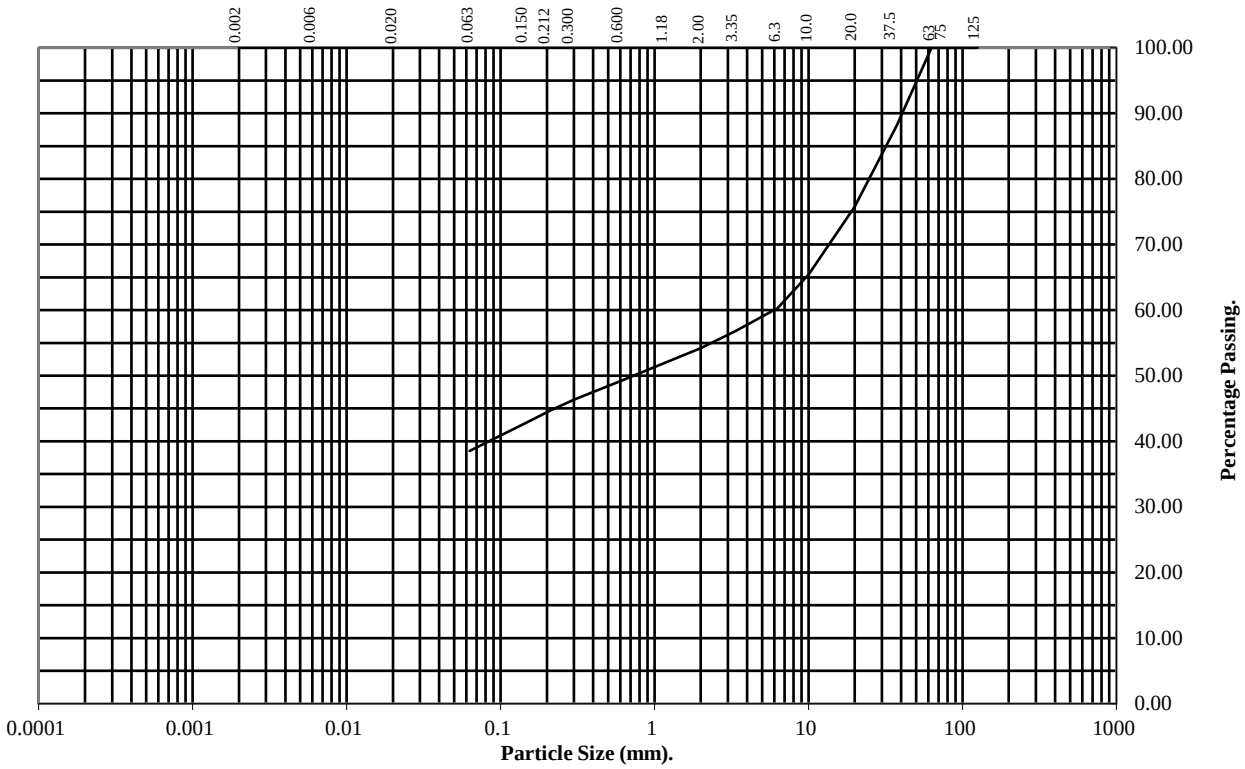
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP104** **Top Depth (m):** **1.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	88
20	76
10	65
6.3	60
3.35	57
2	54
1.18	52
0.6	49
0.3	46
0.212	45
0.15	43
0.063	39

Soil Fraction	Total Percentage
Cobbles	0
Gravel	46
Sand	15
Silt/Clay	39

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

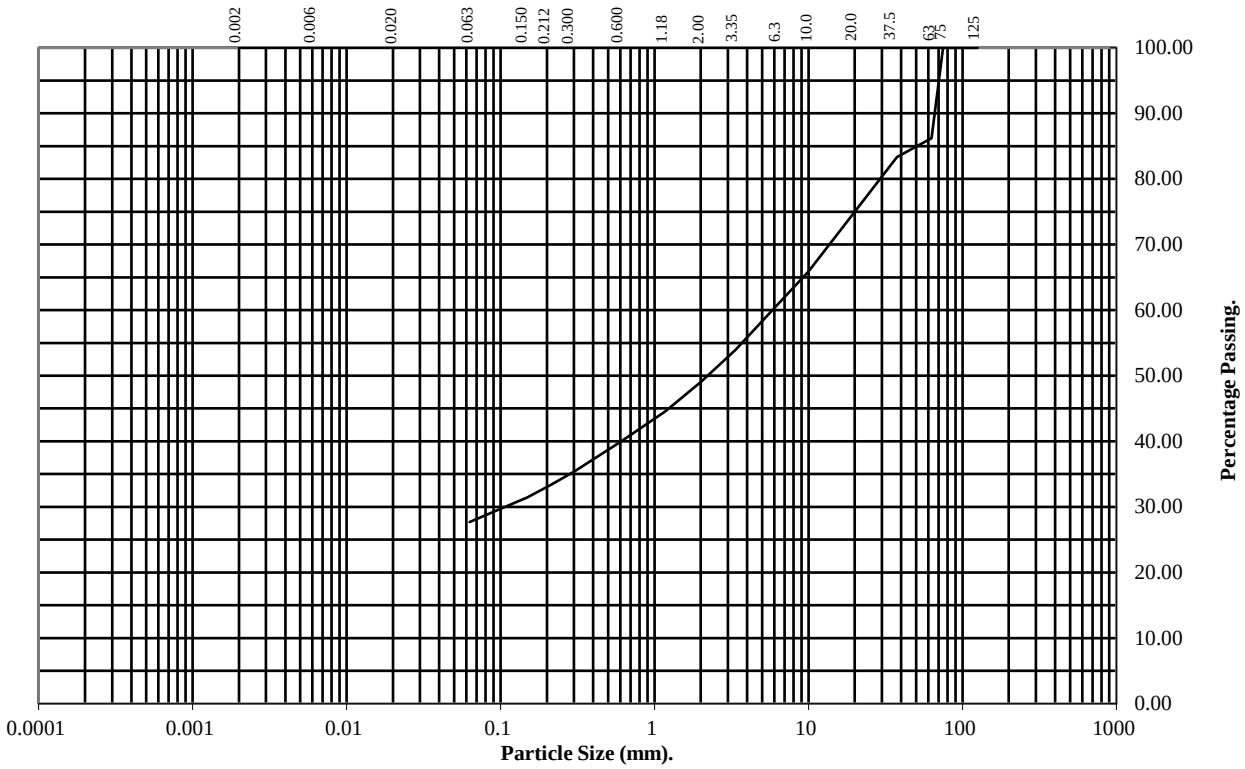
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP106** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	86
37.5	83
20	75
10	66
6.3	61
3.35	54
2	49
1.18	45
0.6	40
0.3	35
0.212	33
0.15	31
0.063	28

Soil Fraction	Total Percentage
Cobbles	14
Gravel	37
Sand	21
Silt/Clay	28

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

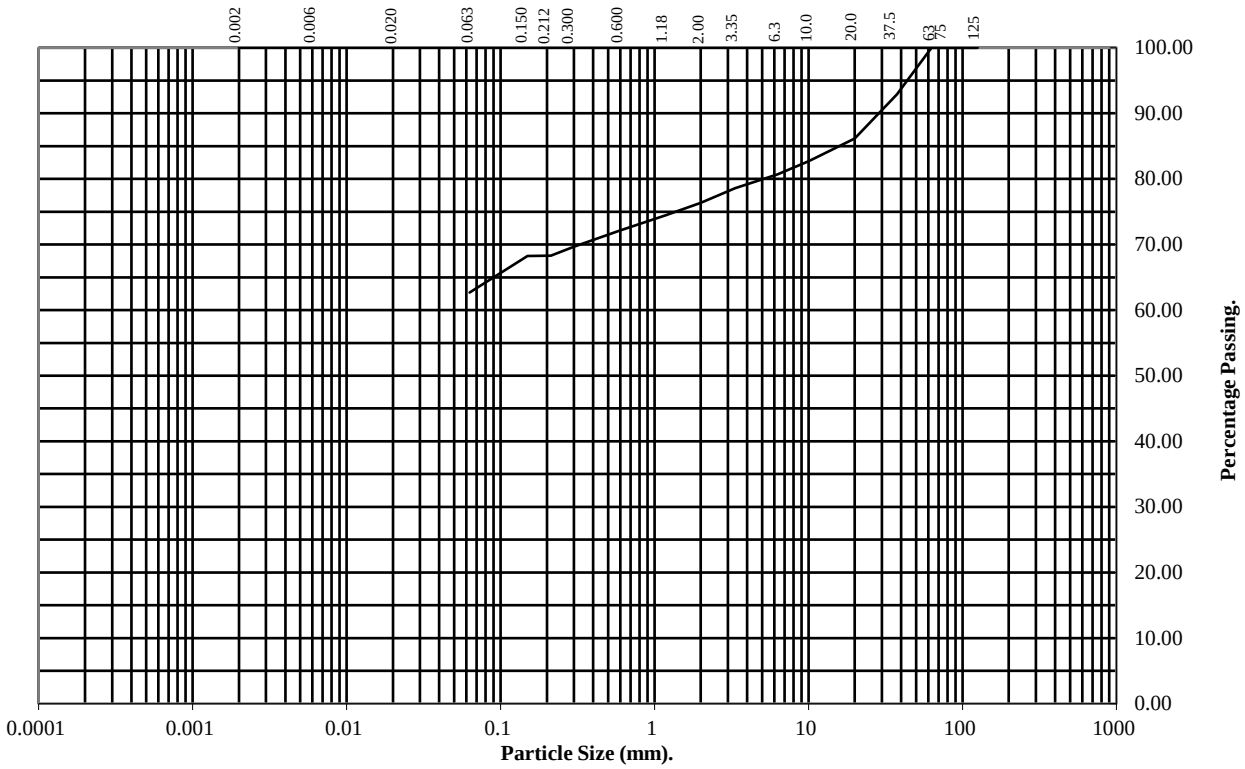
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP108** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	93
20	86
10	83
6.3	81
3.35	79
2	76
1.18	74
0.6	72
0.3	70
0.212	68
0.15	68
0.063	63

Soil Fraction	Total Percentage
Cobbles	0
Gravel	24
Sand	13
Silt/Clay	63

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

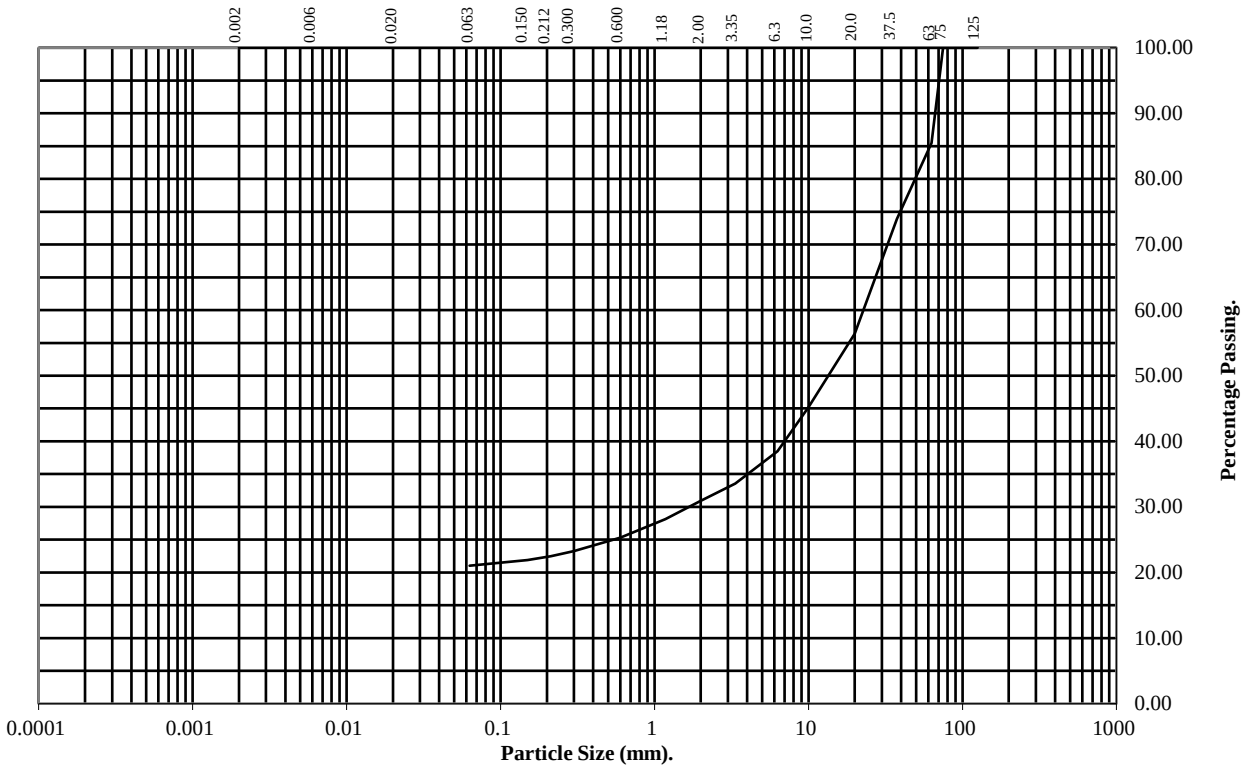
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP108** **Top Depth (m):** **2.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	85
37.5	74
20	56
10	45
6.3	38
3.35	34
2	31
1.18	28
0.6	25
0.3	23
0.212	22
0.15	22
0.063	21

Soil Fraction	Total Percentage
Cobbles	15
Gravel	54
Sand	10
Silt/Clay	21

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

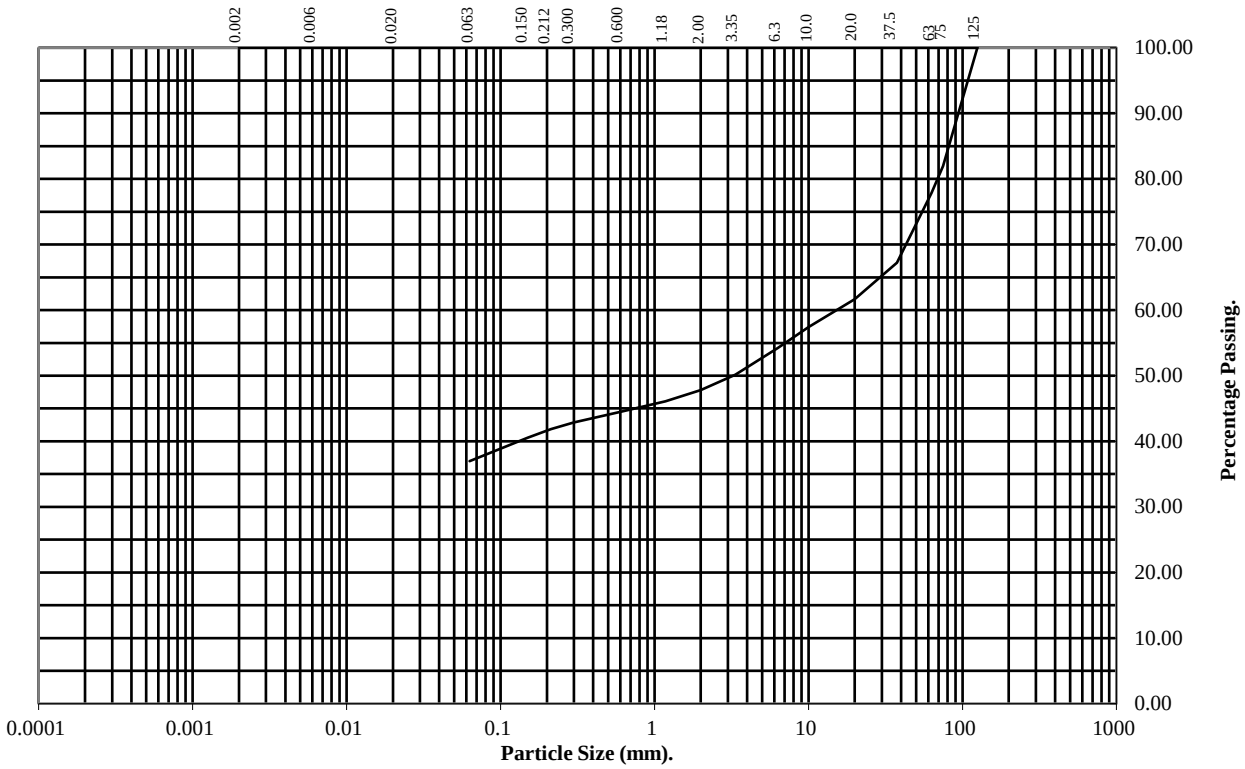
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP110** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	82
63	78
37.5	67
20	62
10	57
6.3	54
3.35	50
2	48
1.18	46
0.6	44
0.3	43
0.212	42
0.15	41
0.063	37

Soil Fraction	Total Percentage
Cobbles	22
Gravel	30
Sand	11
Silt/Clay	37

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

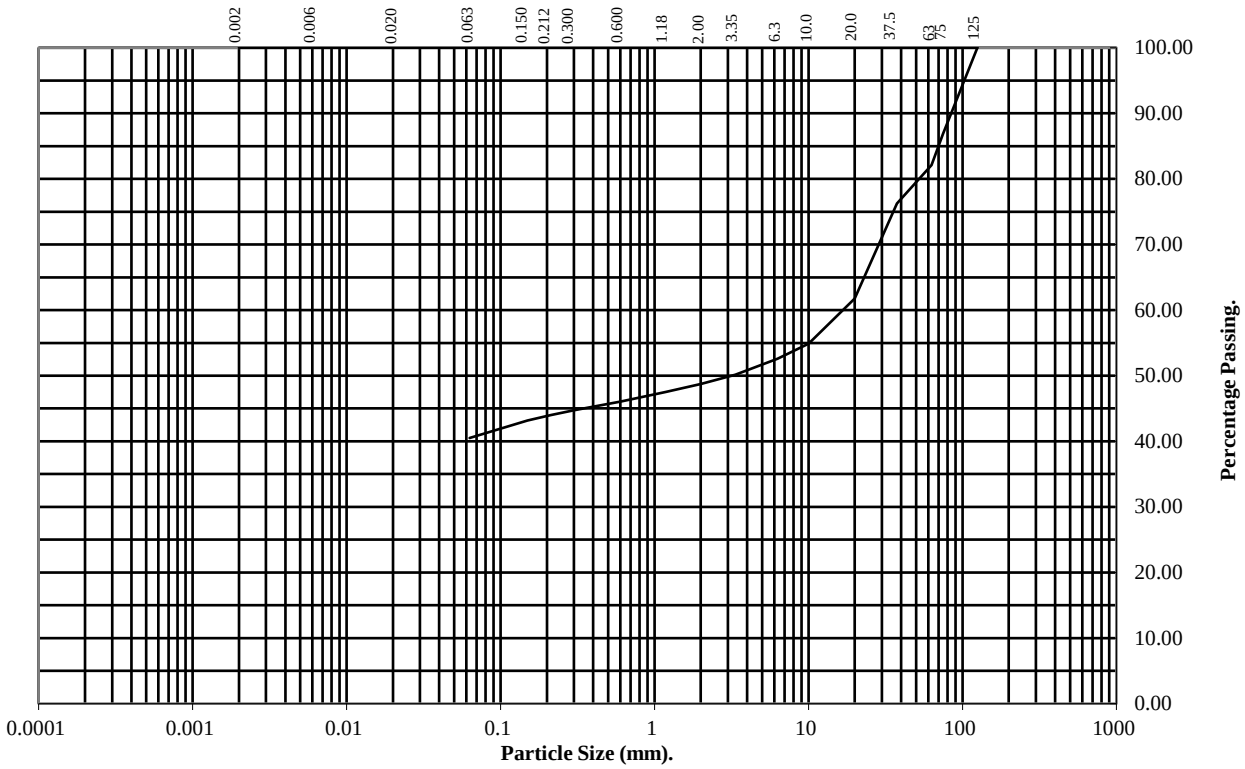
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP110** **Top Depth (m):** **2.00**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	87
63	82
37.5	76
20	62
10	55
6.3	53
3.35	50
2	49
1.18	47
0.6	46
0.3	45
0.212	44
0.15	43
0.063	41

Soil Fraction	Total Percentage
Cobbles	18
Gravel	33
Sand	8
Silt/Clay	41

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

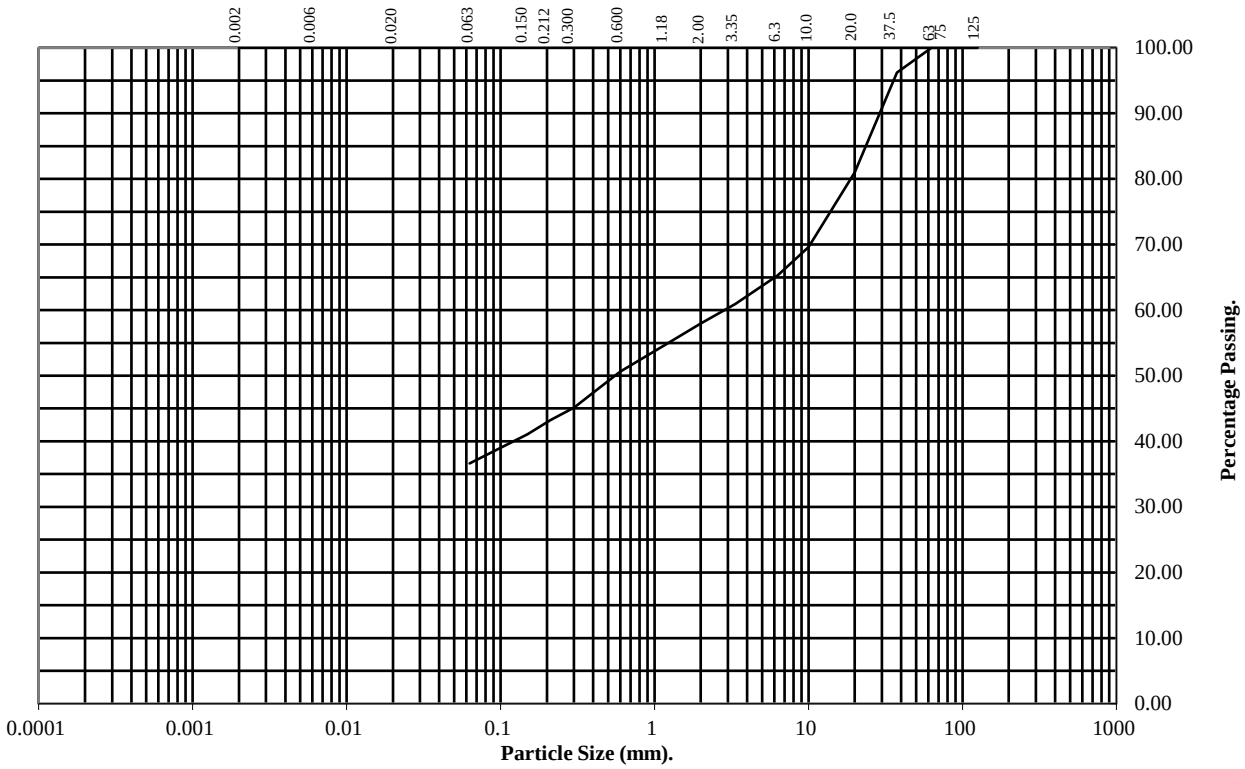
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP114** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	96
20	81
10	70
6.3	65
3.35	61
2	58
1.18	55
0.6	51
0.3	45
0.212	43
0.15	41
0.063	37

Soil Fraction	Total Percentage
Cobbles	0
Gravel	42
Sand	21
Silt/Clay	37

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

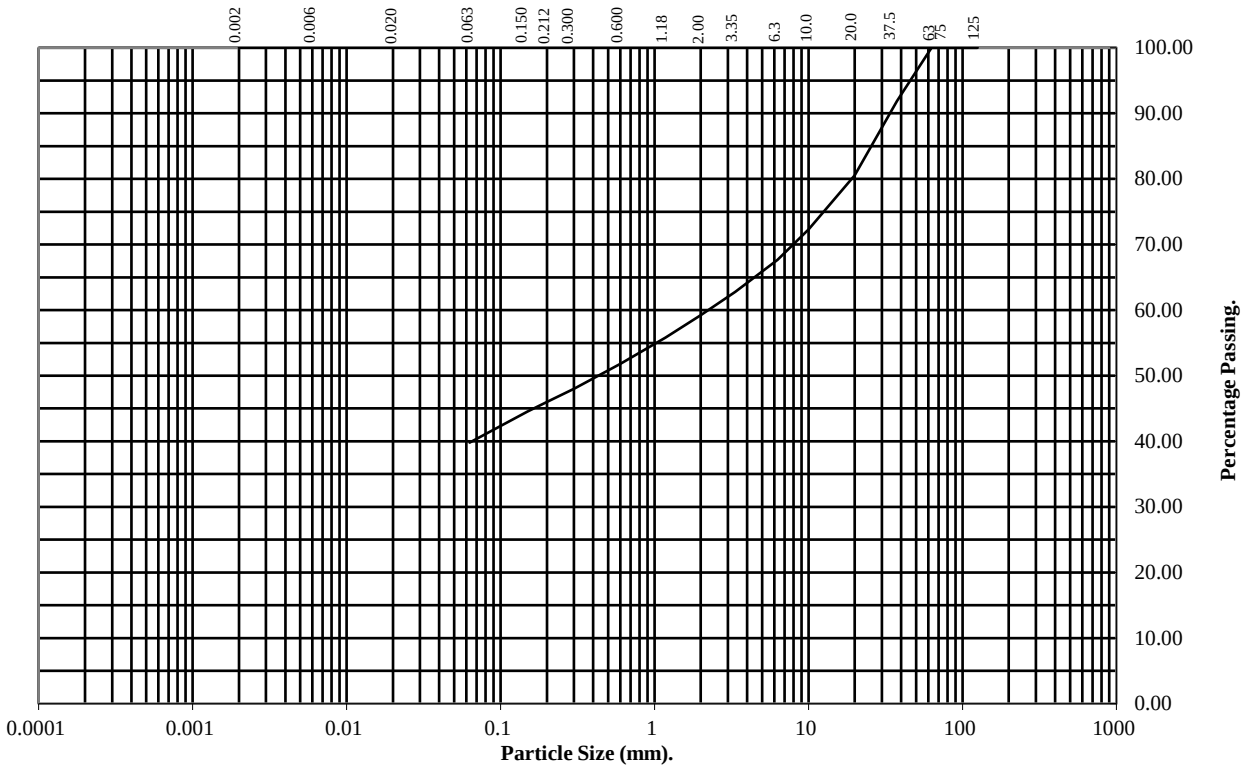
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP114** **Top Depth (m):** **1.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	92
20	81
10	72
6.3	68
3.35	63
2	59
1.18	56
0.6	52
0.3	48
0.212	46
0.15	45
0.063	40

Soil Fraction	Total Percentage
Cobbles	0
Gravel	41
Sand	19
Silt/Clay	40

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

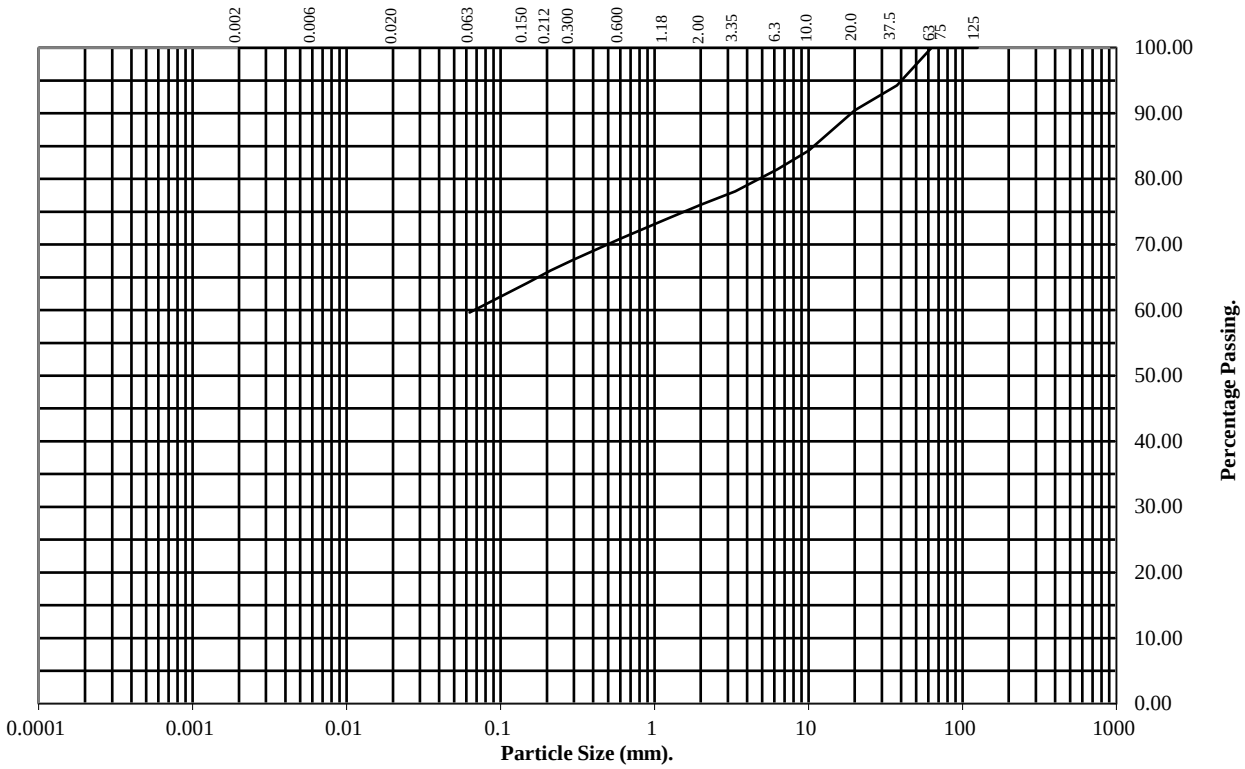
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP118** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	94
20	90
10	84
6.3	81
3.35	78
2	76
1.18	74
0.6	71
0.3	68
0.212	66
0.15	64
0.063	60

Soil Fraction	Total Percentage
Cobbles	0
Gravel	24
Sand	16
Silt/Clay	60

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

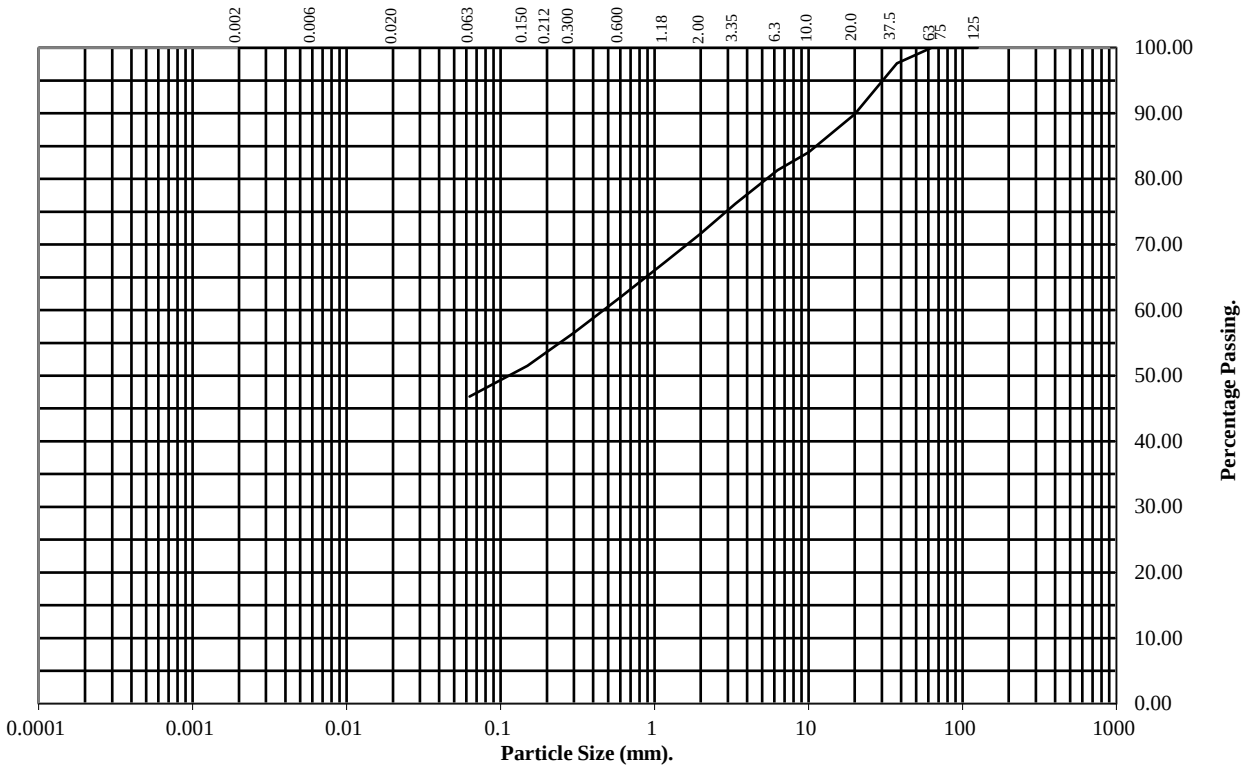
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP118** **Top Depth (m):** **1.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	98
20	90
10	84
6.3	81
3.35	76
2	72
1.18	67
0.6	62
0.3	57
0.212	54
0.15	51
0.063	47

Soil Fraction	Total Percentage
Cobbles	0
Gravel	28
Sand	25
Silt/Clay	47

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

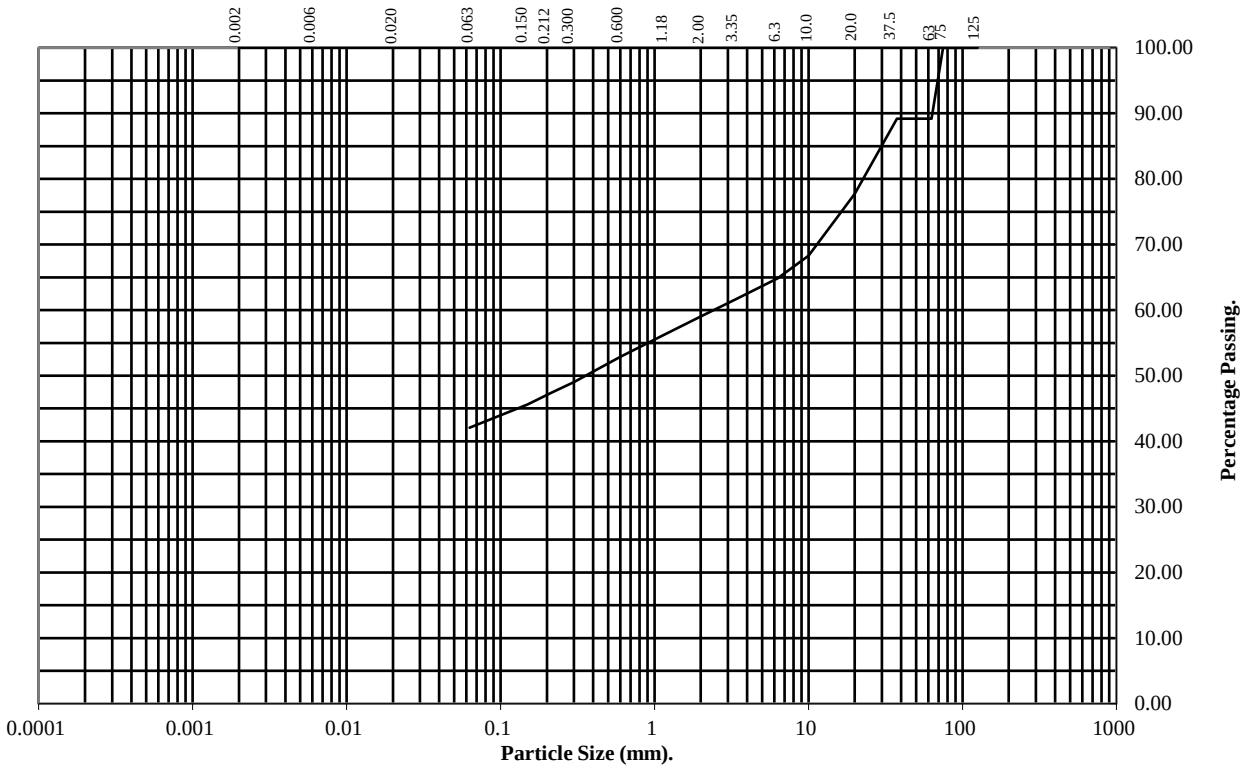
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP120** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	89
37.5	89
20	78
10	68
6.3	65
3.35	62
2	59
1.18	56
0.6	53
0.3	49
0.212	47
0.15	46
0.063	42

Soil Fraction	Total Percentage
Cobbles	11
Gravel	30
Sand	17
Silt/Clay	42

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

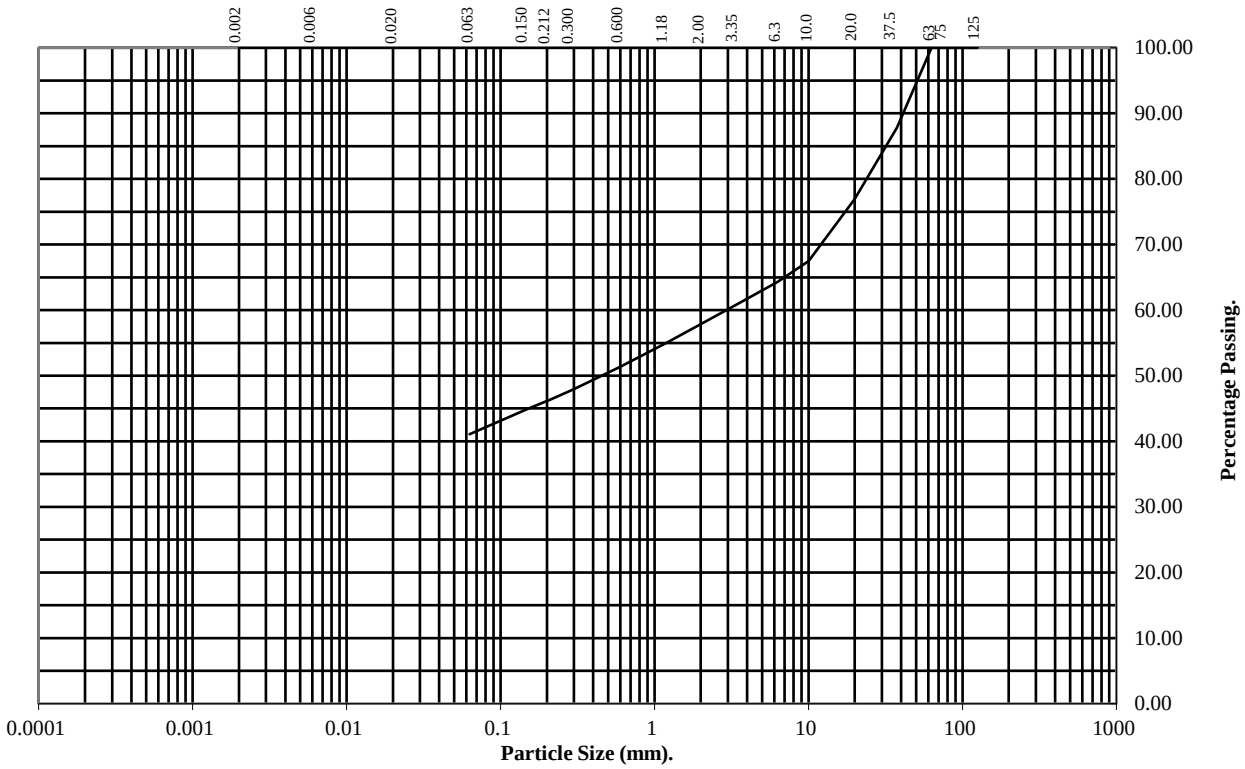
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP121** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	88
20	77
10	67
6.3	64
3.35	61
2	58
1.18	55
0.6	51
0.3	48
0.212	46
0.15	45
0.063	41

Soil Fraction	Total Percentage
Cobbles	0
Gravel	42
Sand	17
Silt/Clay	41

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

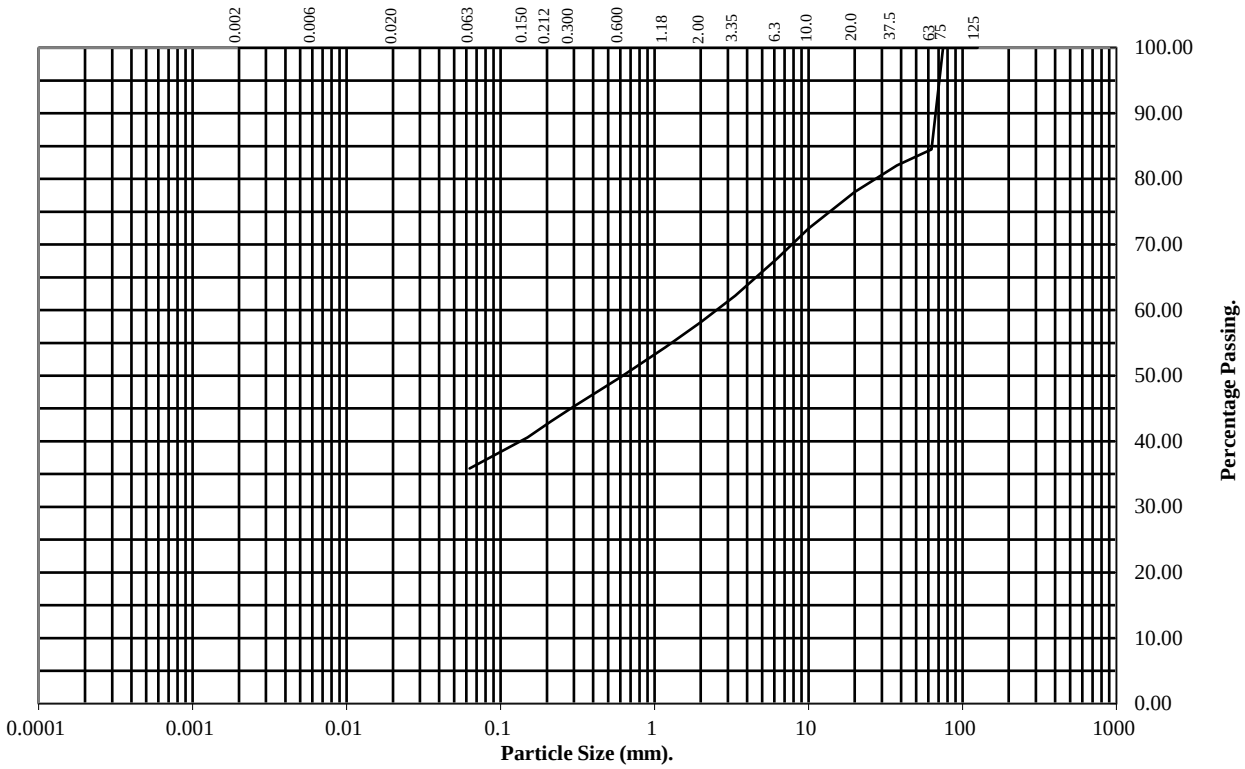
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP121** **Top Depth (m):** **2.80**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	85
37.5	82
20	78
10	72
6.3	68
3.35	62
2	58
1.18	54
0.6	50
0.3	45
0.212	43
0.15	41
0.063	36

Soil Fraction	Total Percentage
Cobbles	15
Gravel	27
Sand	22
Silt/Clay	36

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

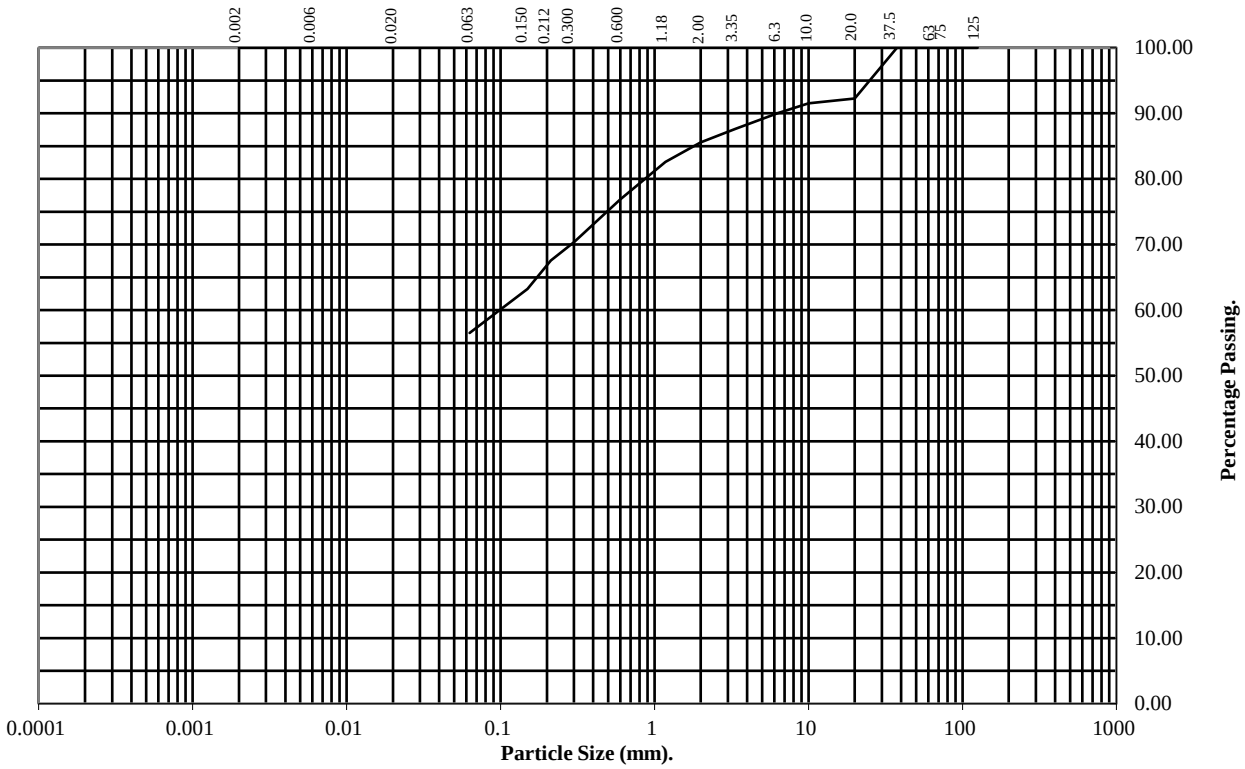
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP123** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	92
10	92
6.3	90
3.35	88
2	86
1.18	83
0.6	77
0.3	70
0.212	68
0.15	63
0.063	57

Soil Fraction	Total Percentage
Cobbles	0
Gravel	14
Sand	29
Silt/Clay	57

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

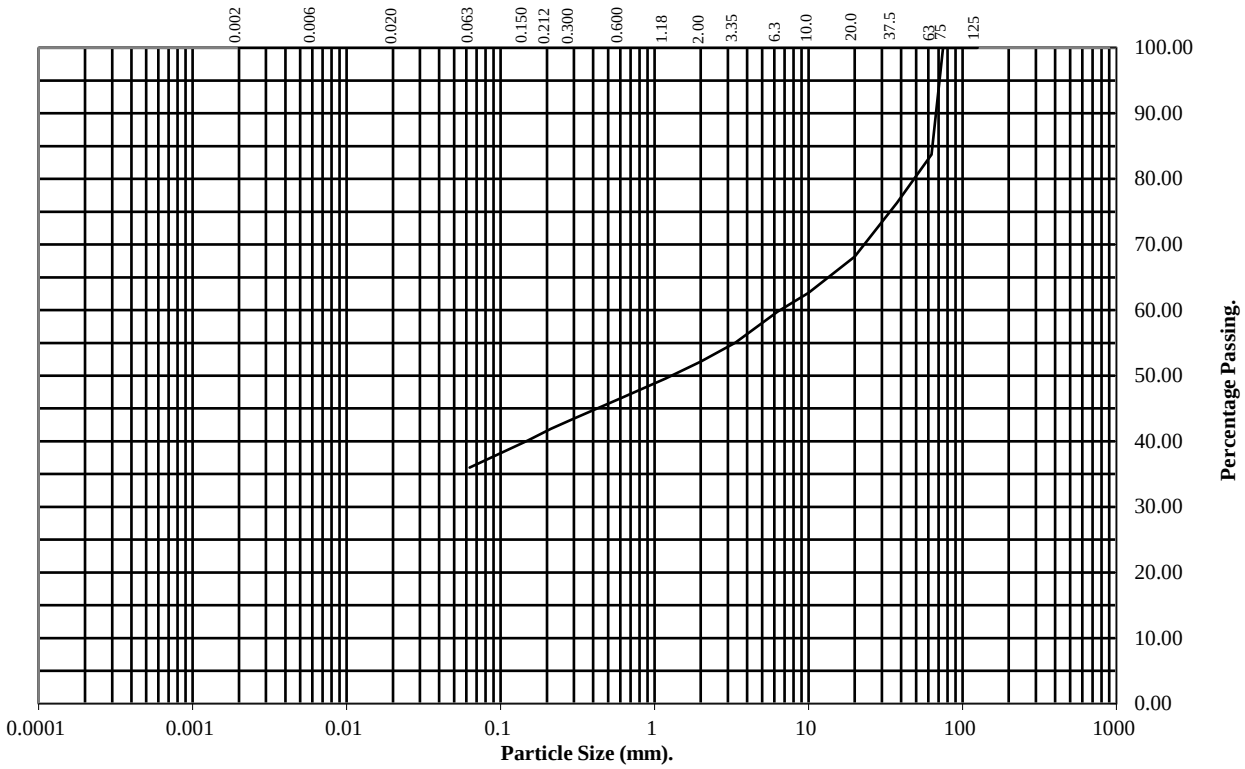
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP123** **Top Depth (m):** **1.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	84
37.5	76
20	68
10	63
6.3	60
3.35	55
2	52
1.18	50
0.6	47
0.3	43
0.212	42
0.15	40
0.063	36

Soil Fraction	Total Percentage
Cobbles	16
Gravel	32
Sand	16
Silt/Clay	36

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

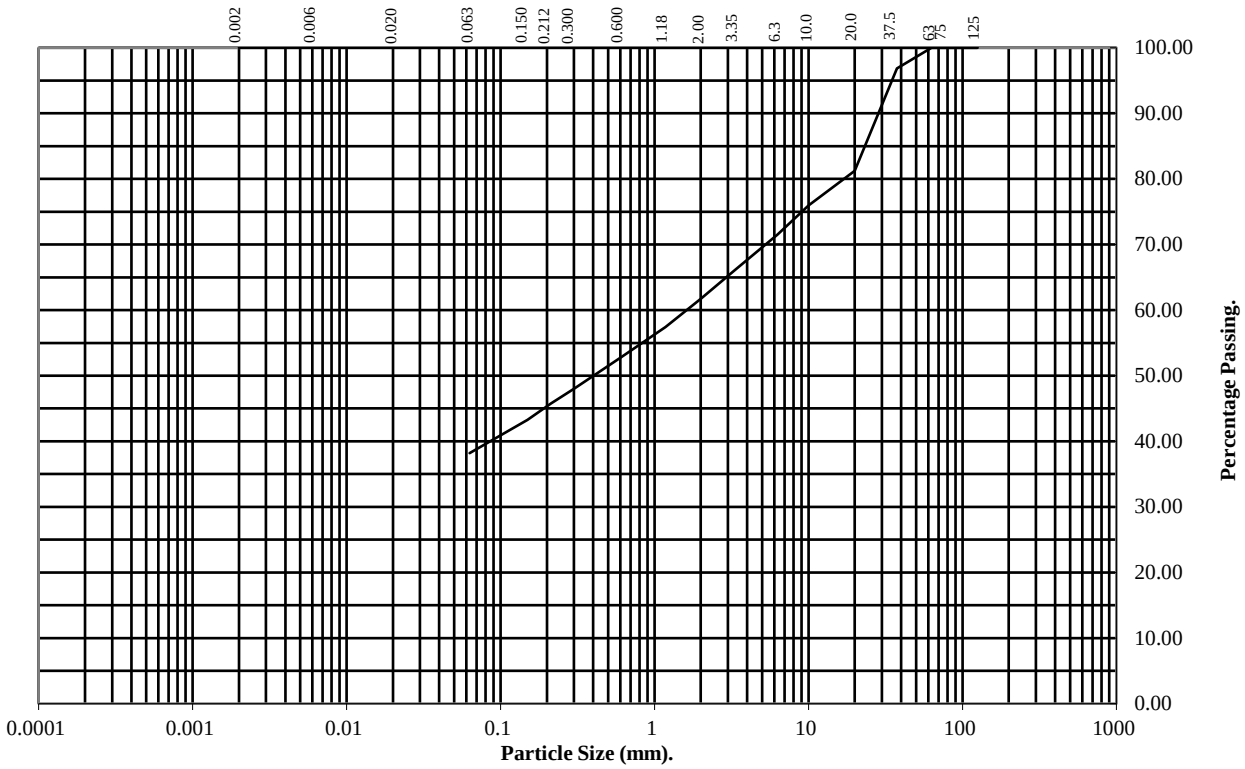
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP125** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	97
20	81
10	76
6.3	72
3.35	66
2	62
1.18	57
0.6	53
0.3	48
0.212	46
0.15	43
0.063	38

Soil Fraction	Total Percentage
Cobbles	0
Gravel	38
Sand	24
Silt/Clay	38

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

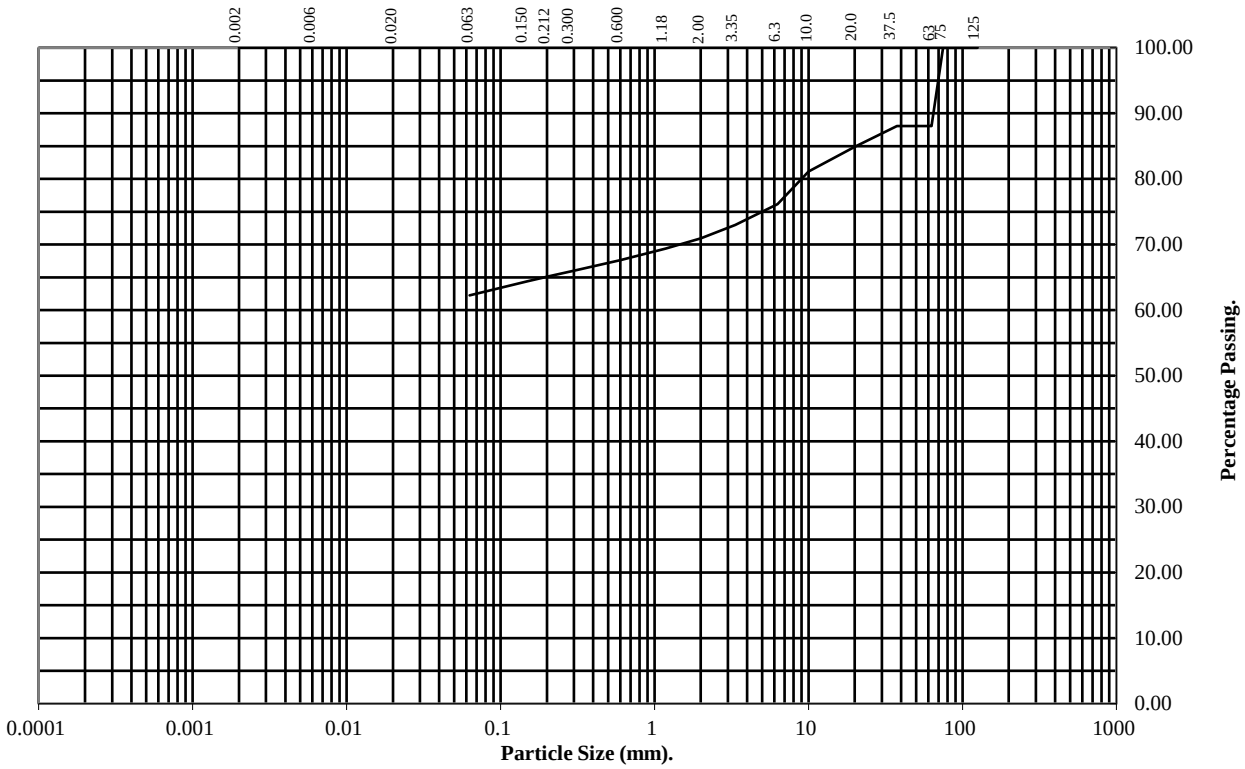
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP125** **Top Depth (m):** **1.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	88
37.5	88
20	85
10	81
6.3	76
3.35	73
2	71
1.18	69
0.6	68
0.3	66
0.212	65
0.15	64
0.063	62

Soil Fraction	Total Percentage
Cobbles	12
Gravel	17
Sand	9
Silt/Clay	62

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

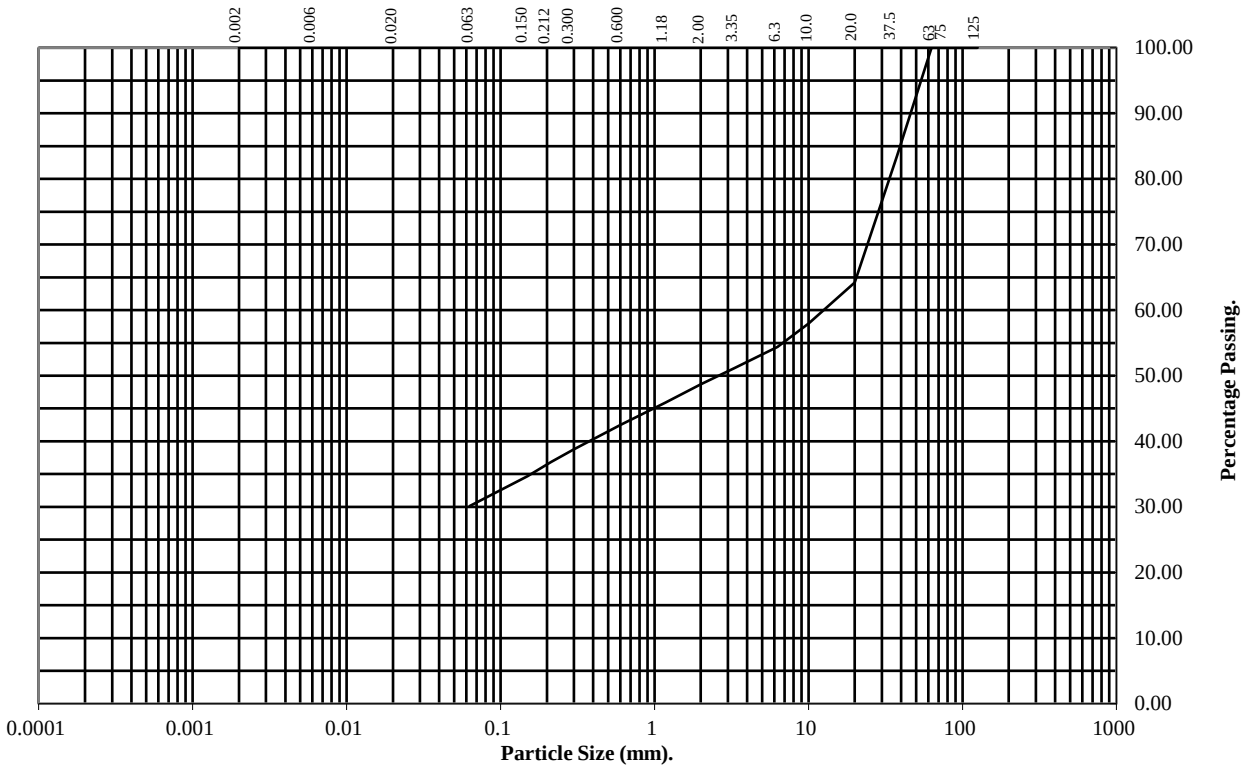
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP127** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	83
20	64
10	58
6.3	54
3.35	51
2	49
1.18	46
0.6	42
0.3	39
0.212	37
0.15	35
0.063	30

Soil Fraction	Total Percentage
Cobbles	0
Gravel	51
Sand	19
Silt/Clay	30

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

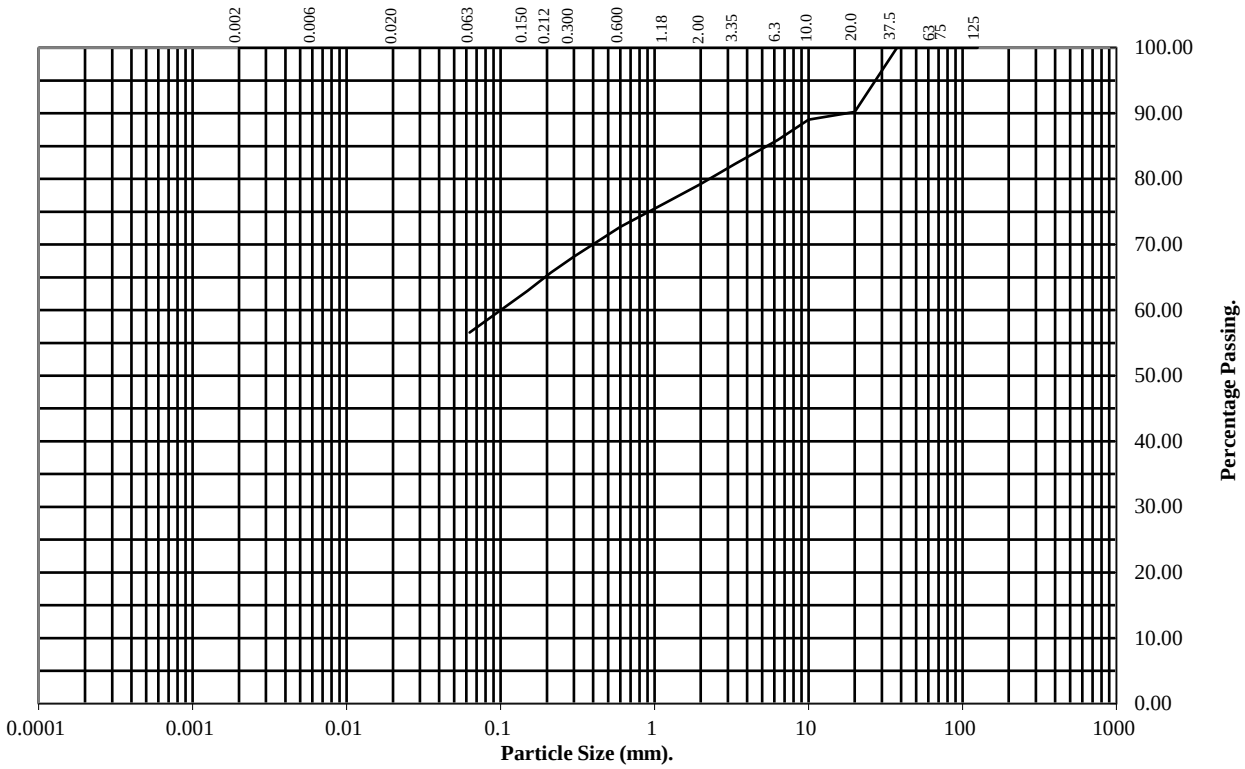
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP131** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	90
10	89
6.3	86
3.35	82
2	79
1.18	76
0.6	73
0.3	68
0.212	66
0.15	63
0.063	57

Soil Fraction	Total Percentage
Cobbles	0
Gravel	21
Sand	22
Silt/Clay	57

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

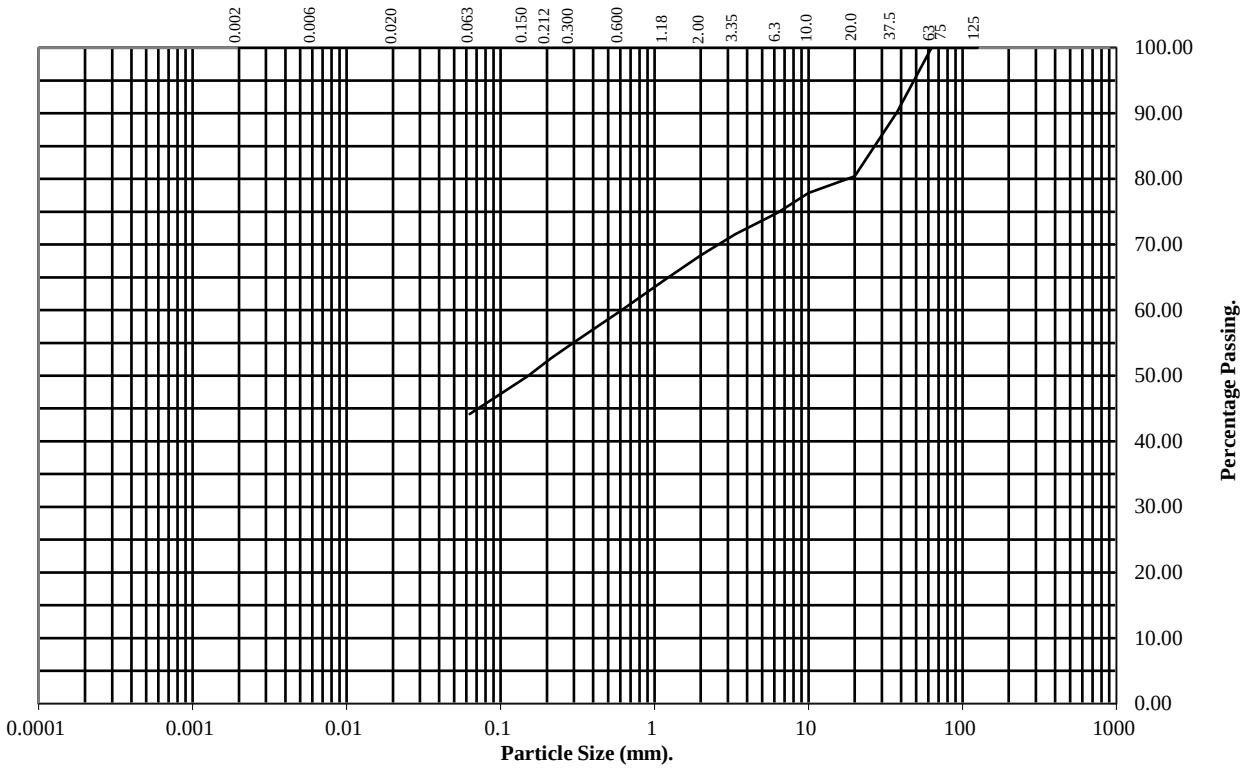
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP135** **Top Depth (m):** **0.80**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	90
20	80
10	78
6.3	75
3.35	72
2	68
1.18	65
0.6	60
0.3	55
0.212	53
0.15	50
0.063	44

Soil Fraction	Total Percentage
Cobbles	0
Gravel	32
Sand	24
Silt/Clay	44

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

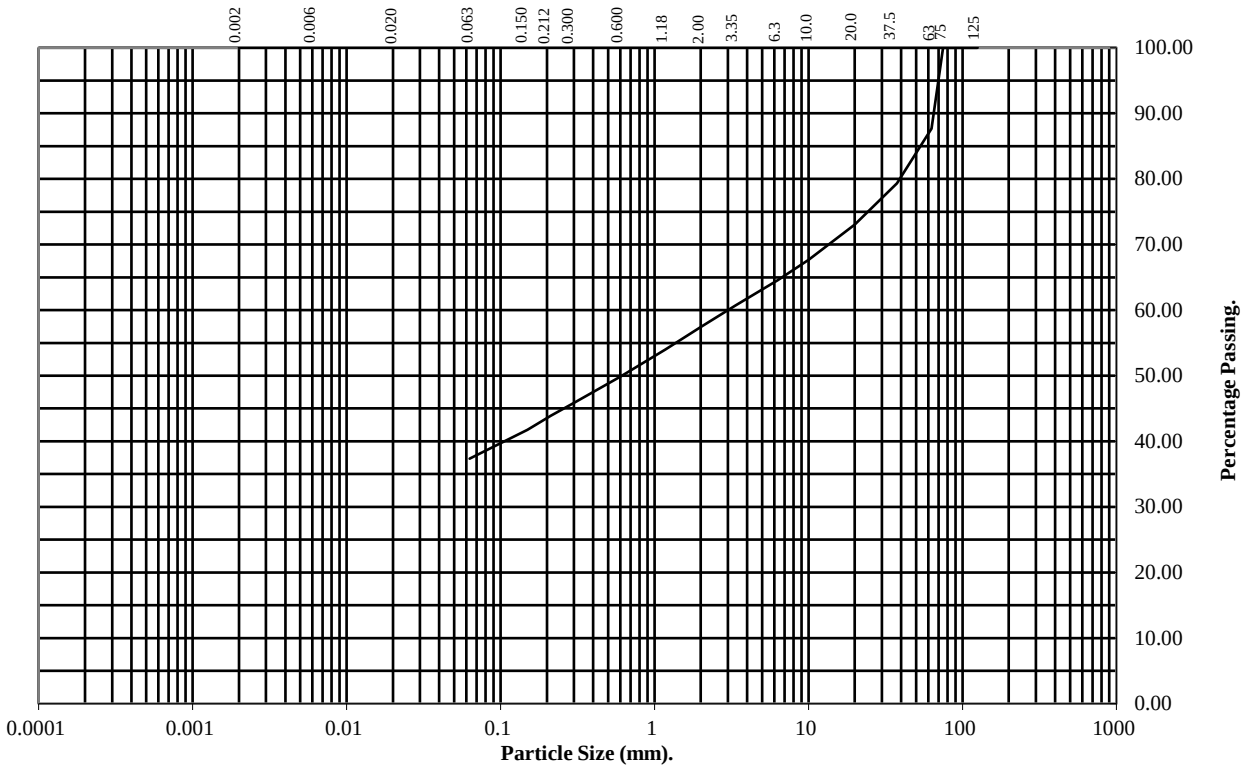
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP135** **Top Depth (m):** **2.00**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	88
37.5	79
20	73
10	68
6.3	65
3.35	61
2	57
1.18	54
0.6	50
0.3	46
0.212	44
0.15	42
0.063	37

Soil Fraction	Total Percentage
Cobbles	12
Gravel	31
Sand	20
Silt/Clay	37

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

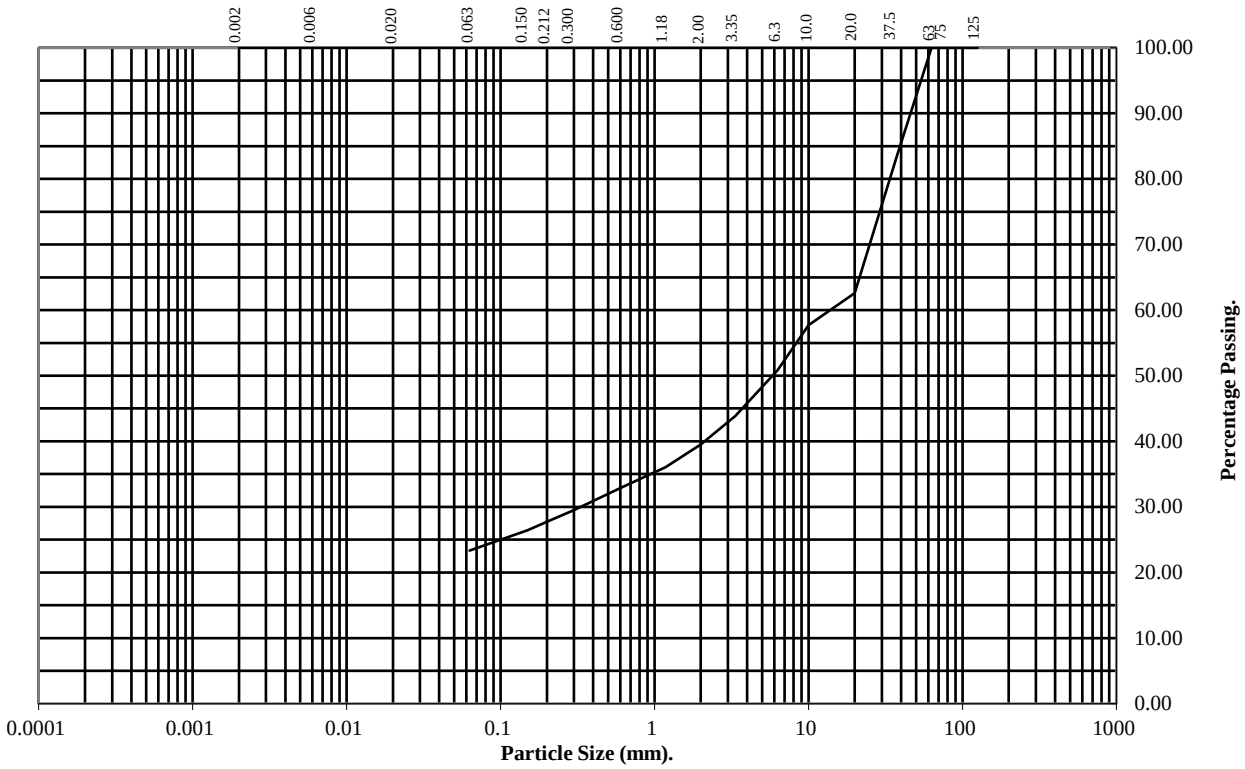
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **WS01** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):** **0.90**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	84
20	63
10	58
6.3	51
3.35	44
2	40
1.18	36
0.6	33
0.3	30
0.212	28
0.15	26
0.063	23

Soil Fraction	Total Percentage
Cobbles	0
Gravel	60
Sand	17
Silt/Clay	23

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

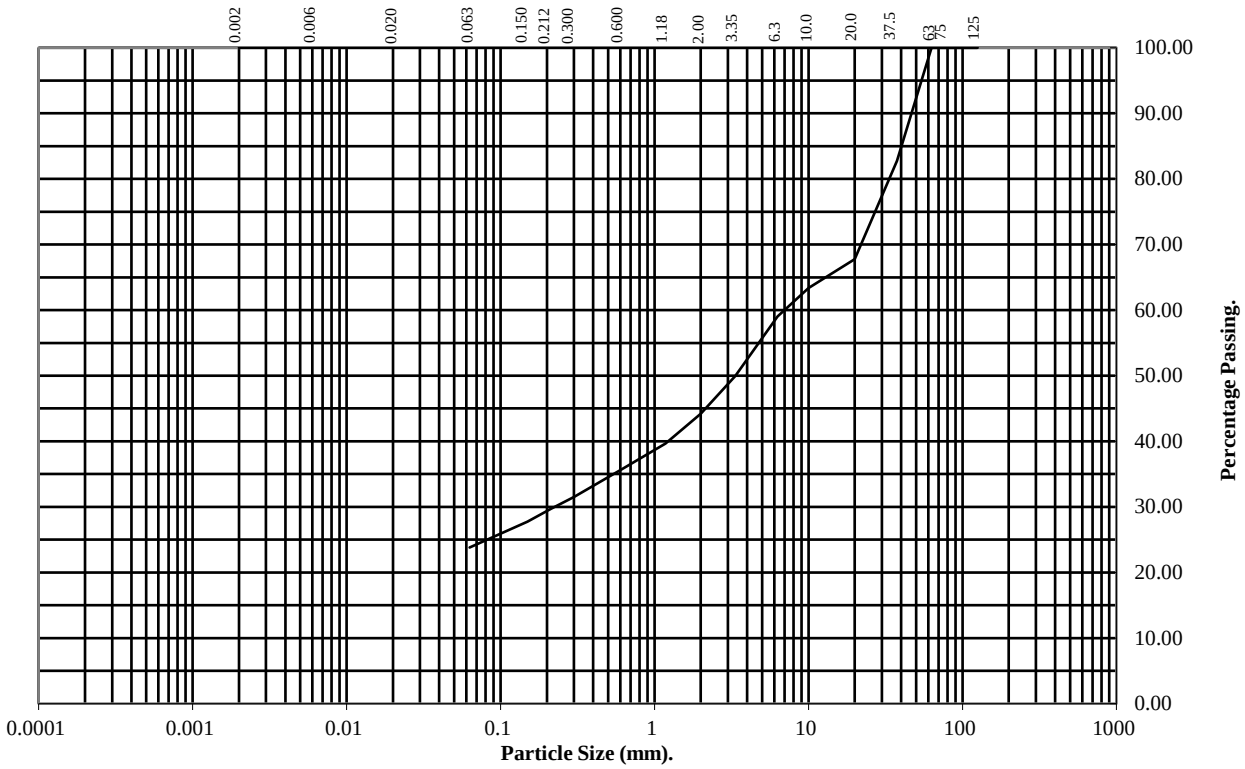
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **WS01** **Top Depth (m):** **0.90**

Sample Number: **Base Depth(m):** **1.40**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	83
20	68
10	63
6.3	59
3.35	50
2	44
1.18	40
0.6	36
0.3	31
0.212	30
0.15	28
0.063	24

Soil Fraction	Total Percentage
Cobbles	0
Gravel	56
Sand	20
Silt/Clay	24

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

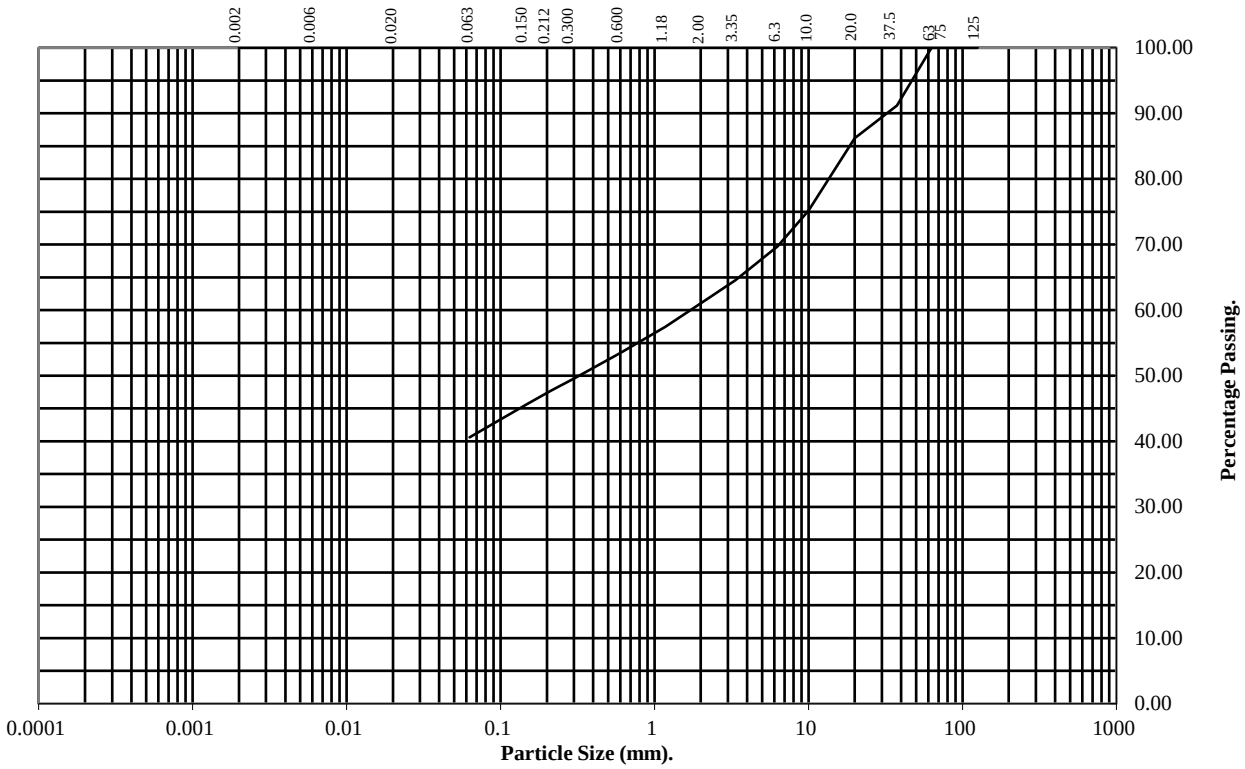
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **WS02** **Top Depth (m):** **0.20**

Sample Number: **Base Depth(m):** **0.60**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	91
20	86
10	75
6.3	70
3.35	65
2	61
1.18	57
0.6	53
0.3	50
0.212	48
0.15	46
0.063	41

Soil Fraction	Total Percentage
Cobbles	0
Gravel	39
Sand	20
Silt/Clay	41

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

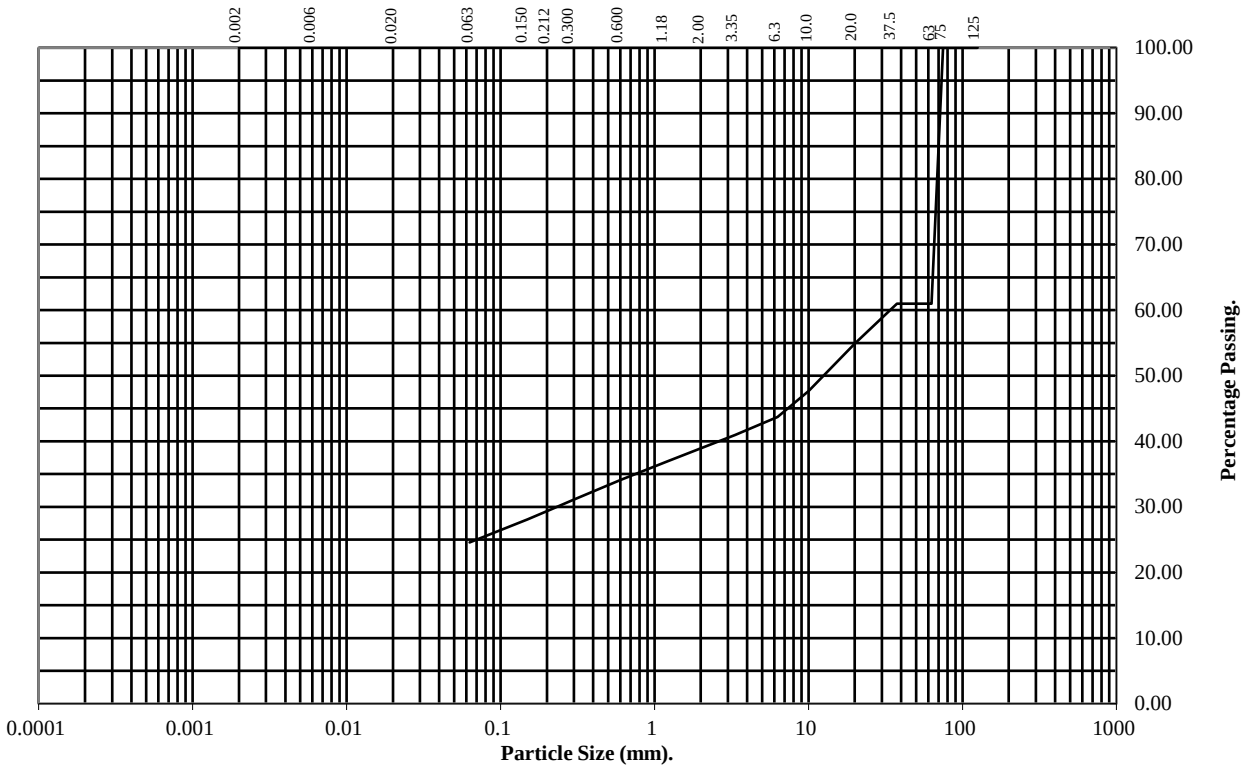
Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number:	**WS02**	**Top Depth (m):**	**1.00**
Sample Number:		**Base Depth(m):**	**1.40**
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	61
37.5	61
20	55
10	48
6.3	44
3.35	41
2	39
1.18	37
0.6	34
0.3	31
0.212	30
0.15	28
0.063	25

Soil Fraction	Total Percentage
Cobbles	39
Gravel	22
Sand	14
Silt/Clay	25

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No:
PSL24/4323
Client Ref:
13687-03-24

PARTICLE SIZE DISTRIBUTION TEST

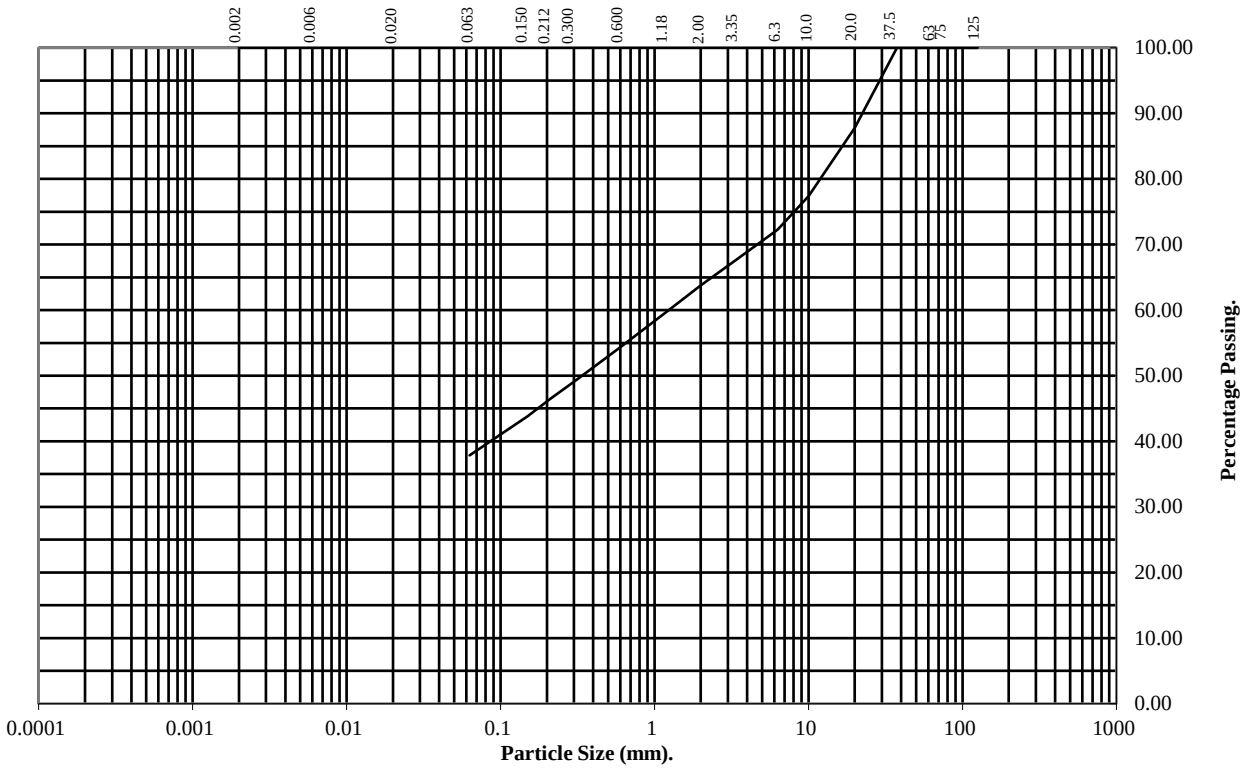
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **WS04** **Top Depth (m):** **0.25**

Sample Number: **Base Depth(m):** **1.00**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	88
10	77
6.3	72
3.35	68
2	64
1.18	60
0.6	54
0.3	49
0.212	47
0.15	44
0.063	38

Soil Fraction	Total Percentage
Cobbles	0
Gravel	36
Sand	26
Silt/Clay	38

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

PARTICLE SIZE DISTRIBUTION TEST

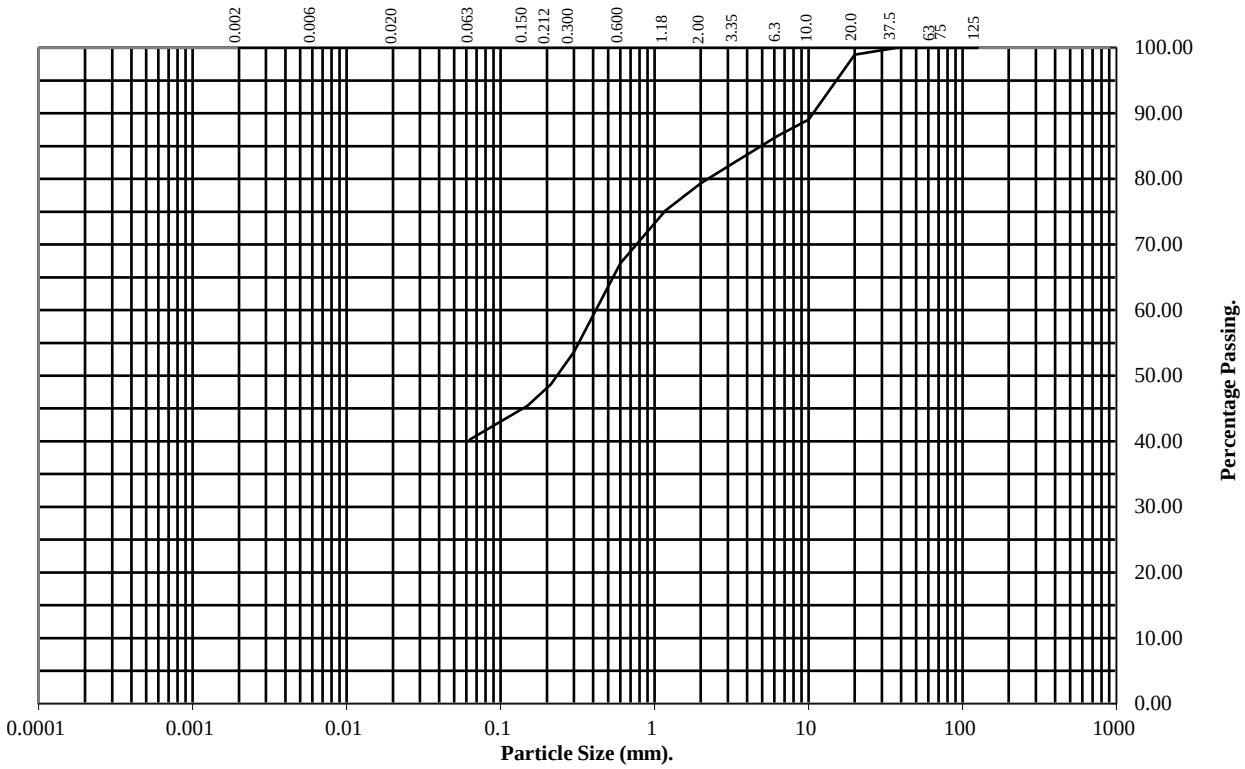
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP64** **Top Depth (m):** **0.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	99
10	89
6.3	87
3.35	83
2	79
1.18	75
0.6	67
0.3	54
0.212	49
0.15	45
0.063	40

Soil Fraction	Total Percentage
Cobbles	0
Gravel	21
Sand	39
Silt/Clay	40

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

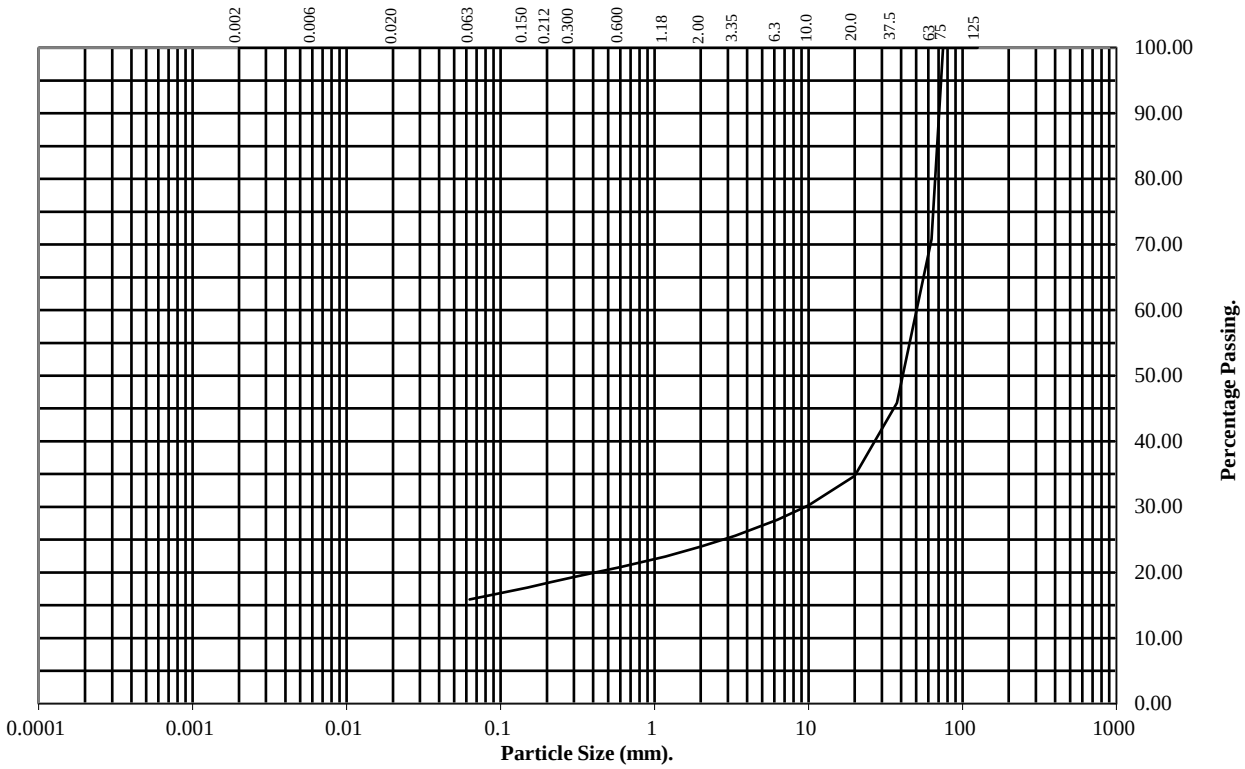
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **WS05** **Top Depth (m):** **0.20**

Sample Number: **Base Depth(m):** **0.60**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	71
37.5	46
20	35
10	30
6.3	28
3.35	26
2	24
1.18	22
0.6	21
0.3	19
0.212	19
0.15	18
0.063	16

Soil Fraction	Total Percentage
Cobbles	29
Gravel	47
Sand	8
Silt/Clay	16

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

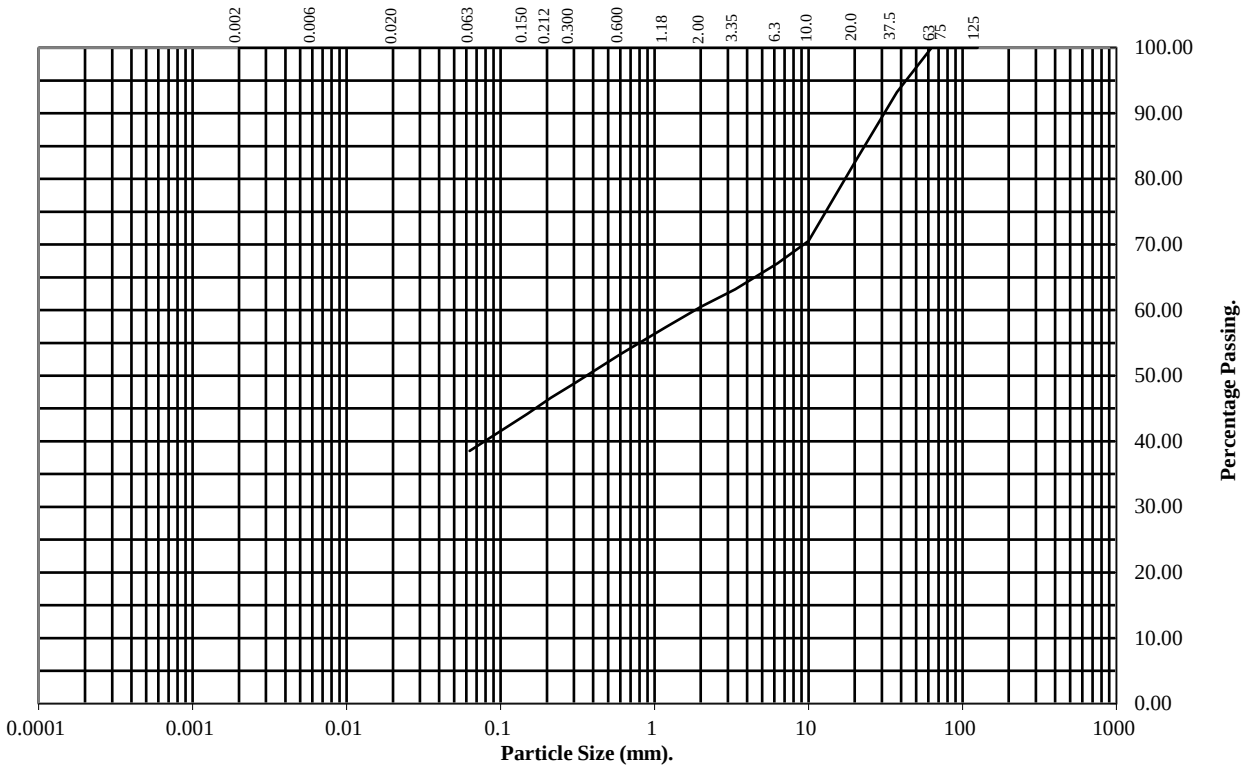
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **WS05** **Top Depth (m):** **1.00**

Sample Number: **Base Depth(m):** **1.90**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	93
20	83
10	71
6.3	67
3.35	63
2	60
1.18	57
0.6	53
0.3	49
0.212	47
0.15	44
0.063	39

Soil Fraction	Total Percentage
Cobbles	0
Gravel	40
Sand	21
Silt/Clay	39

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

Cherry Orchard Sites 4&5 Phase 2

Contract No: **PSL24/4323**

Client Ref: **13687-03-24**

CMTL Ireland Limited
Unit D, Zone 5, Clonminam Business Park
Portlaoise, Co. Laois R32 W30Y
Tel: 057 8664885

Laboratory Test Report
Uniaxial Compressive Strength

Project:	Cherry Orchard Sites 4 & 5 Phase 2	**Job Number**	13687-03-24
Client:	Ground Investigations Ireland	**Lab Ref No**	ST 28874
	Catherinestown House, Hazelhatch Road	**Date Received**	20/06/2024
	Newcastle. Co. Dublin	**Date Tested**	26/06/2024
Originator:	Mike Sutton	**Date Reported**	01/07/2024

Sample Reference	Moisture Content	Density (Mg/m^3)	Uniaxial Compressive Strength (N/mm^2)
BH66 5.14-5.30	0.7	2688	70.4
BH73 5.30-5.46	0.5	2659	60.8
BH76 3.64-3.80	0.9	2670	88.5
BH77 4.00-4.14	1.3	2653	64.6
BH80 5.15-5.30	1.1	2670	41.6
BH81 3.80-3.96	0.9	2668	91.9
BH85 5.80-6.08	0.8	2727	72.4
BH-RC01 3.53-3.68	2.7	2682	143.2
BH-RC02 2.83-3.00	0.8	2683	83.9
BH-RC03 6.00-6.20	0.4	2730	144.0

Remarks: None

JR Ward

Approved Signature
James Ward, Operations Manager
CMTL Ireland Limited

CMTL Ireland Limited
Unit D, Zone 5, Clonminam Business Park
Portlaoise, Co. Laois R32 W30Y
Tel: 057 8664885

Laboratory Test Report
Point Load Strength Index

Project :	Cherry Orchard Sites 4 & 5 Phase 2	**Job Number**	13687-03-24
Client :	Ground Investigations Ireland	**Lab Ref No**	ST 28875
	Catherinestown House, Hazelhatch Road	**Date Received**	20/06/2024
	Newcastle, Co. Dublin	**Date Tested**	26/06/2024
Originator :	Mike Sutton	**Date Reported**	01/07/2024

Point Load Strength Index

Sample No:-	Depth (m)	Description	Type	Orientation	W (mm)	D (mm)	P (kN)	A	De (mm)	I_s	F	$I_{s(50)}$MN/m²
BH66	3.65-3.75	1	D	⊥	63.0	64.0	9.00	4032	64.0	2.197	1.12	2.46
BH66	6.17-6.27	1	D	⊥	63.0	63.0	13.00	3969	63.0	3.275	1.11	3.63
BH73	6.75-6.85	1	D	⊥	63.0	63.0	20.00	3969	63.0	5.039	1.11	5.59
BH76	3.89-3.99	1,2	D	⊥	63.0	64.0	17.00	4032	64.0	4.150	1.12	4.64
BH76	5.95-6.04	1	D	⊥	63.0	65.0	9.00	4095	65.0	2.130	1.13	2.40
BH77	4.30-4.40	1,2	D	⊥	63.0	63.0	24.00	3969	63.0	6.047	1.11	6.71
BH77	7.00-7.13	1	D	⊥	63.0	64.0	13.00	4032	64.0	3.174	1.12	3.55
BH78	6.63-6.80	1	D	⊥	63.0	64.0	18.00	4032	64.0	4.395	1.12	4.91
BH80	6.00-6.10	1	D	⊥	63.0	63.0	3.70	3969	63.0	0.932	1.11	1.03
BH81	5.90-6.00	1	D	⊥	63.0	64.0	7.00	4032	64.0	1.709	1.12	1.91
BH81	3.30-3.40	1	D	⊥	63.0	63.0	22.00	3969	63.0	5.543	1.11	6.15
BH82	5.18-5.27	1	D	⊥	63.0	64.0	16.00	4032	64.0	3.906	1.12	4.37
BH85	4.88-5.02	1,2,3	D	⊥	63.0	65.0	8.00	4095	65.0	1.893	1.13	2.13
BH85	7.20-7.33	1,2	D	⊥	63.0	63.0	18.00	3969	63.0	4.535	1.11	5.03
BH89	6.41-6.50	1,2	D	⊥	63.0	64.0	11.00	4032	64.0	2.686	1.12	3.00
BH-RC01	6.44-6.55	1	D	⊥	63.0	63.0	5.00	3969	63.0	1.260	1.11	1.40
BH-RC01	3.68-3.80	1,2	D	⊥	63.0	64.0	20.00	4032	64.0	4.883	1.12	5.46
BH-RC02	3.73-3.80	1,2	D	⊥	63.0	63.0	22.00	3969	63.0	5.543	1.11	6.15
BH-RC02	5.03-5.10	1	D	⊥	63.0	65.0	6.00	4095	65.0	1.420	1.13	1.60
BH-RC03	5.72-5.85	1,2	D	⊥	63.0	64.0	22.00	4032	64.0	5.371	1.12	6.00

Description 1 : Blue/ Grey
Description 2 : White Veins
Description 2 : Cracks

$I_{s(50)}$MN/m² for	Description 1,2,3	
Min	1.03	
Mean	4.00	
Max	6.71	

Test
A = axial
D = diametrical

Relationship to planes of weakness
IL = irregular lump
Il = parallel
⊥ = perpendicular

Mean Value

	$I_{s(50)}$MN/m²	U.C.S. MN/m²
Extremely Weak	<0.05	0.6-1.0
Very Weak	0.05-0.20	1.0-5.0
Weak	0.20-0.50	5.0-25.0
Medium Strong	0.50-2.00	25-50
Strong	2.00-4.50	50-100
Very Strong	4.50-9.00	100-250
Extremely Strong	9.00 +	>250

JR Ward
Approved Signature
James Ward, Operations Manager
CMTL Ireland Limited

C. GII Site Investigation Report – Cherry Orchard Site 5 Phase 3 Site Investigation undertaken in August 2026

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

Ground Investigations Ireland

Cherry Orchard Phase 3 Site 5B

The Land Development Agency

Ground Investigation Report

August 2026

Directors:
Fergal McNamarra, Conor Finnerty, Barry Sexton, Stephen Kealy and Micheal Sutton
Ground Investigations Ireland Limited | Registered in Ireland Company Regsitration No.: 405726

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

DOCUMENT CONTROL SHEET

Project Title	Cherry Orchard Phase 3 Site 5B
Engineer	Waterman Moylan
Client	The Land Development Agency
Project No	15401-03-26
Document Title	Ground Investigation Report

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
A	Draft	J Cashen	C Finnerty	B Sexton	Dublin	24 July 2026
B	Final	J Cashen	C Finnerty	B Sexton	Dublin	19 August 2026

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

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

CONTENTS

1.0 Preamble 1
2.0 Overview 1
2.1. Background 1
2.2. Purpose and Scope 1
3.0 Subsurface Exploration 2
3.1. General 2
3.2. Trial Pits 2
3.3. Slit Trenching 2
3.4. Soakaway Testing 2
3.5. Window Sampling 3
3.6. Cable Percussion Boreholes 3
3.7. Rotary Boreholes 4
3.8. Surveying 4
3.9. Groundwater Monitoring Installations 4
3.10. Laboratory Testing 4
4.0 Ground Conditions 5
4.1. General 5
4.2. Groundwater 6
4.3. Laboratory Testing 6
4.3.1. Geotechnical Laboratory Testing 6
4.3.2. Chemical Laboratory Testing 6
4.3.3. Environmental Laboratory Testing 6
5.0 Recommendations & Conclusions 8
5.1. General 8
5.2. Foundations 8
5.3. Excavations 9
5.4. Soakaway Design 9

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

APPENDICES

Appendix 1	**Figures**
Appendix 2	**Trial Pit Records**
Appendix 3	**Slit Trench Records**
Appendix 3	**Soakaway Testing Records**
Appendix 4	**Window Sample Records**
Appendix 5	**Borehole Records**
Appendix 6	**Laboratory Testing**
Appendix 7	**Groundwater Monitoring**

1.0 Preamble

On the instructions of Van Dijk Architects and Waterman Moylan, on behalf of The Land Development Agency, a site investigation was carried out by Ground Investigations Ireland Ltd. (GII) between June and July 2026 at the site of the proposed residential development in Cherry Orchard, Dublin 10.

2.0 Overview

2.1. Background

The proposed development will consist of the construction of a residential scheme containing c. 250 no. residential units. The proposed development will include a new access road connecting the entrance point at Barnville Park, new internal streets, landscaped public and communal open space, a new pedestrian connection to all associated site and development works. The site is bound by Barnville Park to the north-east, and Park West Avenue to the south-west. At the time of the site investigation the site consisted of a grassed green area in an existing residential estate, and an enclosed overgrown area of land which was gated and barricaded with Kelly blocks. A high voltage (HV) pylon is present on the site, with both HV overhead cables and underground cables traversing the site.

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 5 No. Trial Pits to a maximum depth of 2.70m BGL
- Carry out 5 No. Slit Trenches to locate existing services
- Carry out 4 No. Soakaway tests to determine a soil infiltration value to BRE Digest 365
- Carry out 15 No. Window Sample Boreholes to recover soil sample
- Carry out 7 No. Cable Percussion boreholes to a maximum depth of 3.70m BGL
- Carry out 4 No. Rotary Core Boreholes to a maximum depth of 8.50m BGL
- Installation of 4 No. Groundwater monitoring wells
- Geotechnical & 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. Slit Trenching

The slit trenches 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 soil was slowly stripped using a spotter on the trench to alert the driver if any services were seen, to avoid damage to any underlying services. The slit trenches 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 slit trench records which are provided in Appendix 3 of this Report.

3.4. Soakaway Testing

The soakaway testing was carried out in selected trial pits at the locations shown in the exploratory hole location plan in Appendix 1. These pits were carefully excavated and filled with water to assess the infiltration characteristics of the proposed site. The pits were allowed to drain and the drop in water level was recorded over time as required by BRE Digest 365. The pits were logged prior to completing the soakaway test and were backfilled with arising’s upon completion. The soakaway test results are provided in Appendix 4 of this Report.

3.5. Window Sampling

The window sampling was carried out at the locations shown in the location plan in Appendix 1 using a Tecopsa SPT Tec 10 percussion drilling rig. The window sampling consists of a 1m long steel tube with a cutting edge and an internal plastic liner which is mechanically driven into the ground utilising a 50kg weight falling a height of 500mm. Upon completion of the 1m sample, the tube is withdrawn, and the plastic liner removed and sealed for logging and sub sampling by a Geotechnical Engineer/Engineering Geologist. The tube is replaced in the borehole and a subsequent 1m sample can be recovered. Occasionally outer casing or a reduced diameter tube is utilised to enable the window sample to progress in difficult drilling conditions. Geotechnical or environmental soil samples can be recovered from each of the liners following logging.
Where less than 100% recovery has been achieved in the window sample liners, the logging engineer will use the information from adjacent exploratory holes to determine the nature of the strata, however this is not definite and is subject to variation. To assist with the review of this information by the client/consulting engineer the pictures of the recovery is presented with the recovery noted in the remarks column of the window sample log. The window sample records are provided in Appendix 5 of this Report.

3.6. Cable Percussion Boreholes

The Cable Percussion Boreholes were drilled using a Dando 2000 drilling rig with regular in-situ testing and sampling undertaken to facilitate the production of geotechnical logs and laboratory testing.
The standard method of boring in soil for site investigation is known as the Cable Percussion method. It consists of using a Shell in non-cohesive soils and a clay cutter in cohesive soils, both operated on a wire cable. Very hard soils, boulders and other hard obstructions are broken up by chiselling and the fragments removed with the Shell. Where ground conditions made it necessary, the borehole was lined with 200mm diameter steel casing. While the use of the Cable Percussion method of boring gives the maximum data on soil conditions, some mixing of laminated soil is inevitable. For this reason, thin lenses of granular material may not be noticed. Disturbed samples were taken from the boring tools at suitable depths, so that there is a representative sample at the top of each change in stratum and thereafter at regular intervals down the borehole until the next stratum was encountered. The disturbed samples were then sealed and sent to the laboratory where they were visually examined to confirm the description of the relevant strata.
Standard Penetration Tests were carried out in the boreholes. The results of these tests, together with the depths at which the tests were taken are shown on the accompanying borehole records. The test consists of a thick wall sampler tube, 50mm external diameter, being driven into the soil by a monkey weighing 63.5kg and with a free drop of 760mm. For gravels and glacial till the driving shoe was replaced by a solid 60º cone. The Standard Penetration Test number referred to as the ‘N’ value is the number of blows required to drive the tube 300mm, after an initial penetration of 150mm. The number gives a guide to the consistency of the soil and can also be used to estimate the relative strength/density at the depth of the test and also to estimate the bearing capacity and compressibility of the soil. The cable percussion borehole logs are provided in Appendix 6 of this Report.

3.7. Rotary Boreholes

The rotary coring was carried out by a track mounted T44 Beretta rig at the locations shown on the location plan in Appendix 1. The rotary boreholes were completed from the ground surface or alternatively, from the base of the cable percussion borehole.

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 6 of this Report.

3.8. Surveying

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

3.9. Groundwater Monitoring Installations

Groundwater Monitoring Installations were installed upon the completion of the boreholes to enable sampling and the determination of the equilibrium groundwater level. The typical groundwater monitoring installation consists of a 50mm uPVC/HDPE slotted pipe with a pea gravel response zone and bentonite seal installed to the Engineers specification. Where required the standpipe is sealed with a gas tap and finished with a durable steel cover fixed in place with a concrete surround. The installation details are provided on the exploratory hole logs in the appendices of this Report.

3.10. 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, pH, water soluble sulphate, acid soluble sulphate, total sulphur and water-soluble chloride 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. Geotechnical testing consisting of moisture content, Atterberg limits, and Particle Size Distribution (PSD) tests were carried out by Geotechnical and Soil Testing Services Limited in County Meath.
The results of the laboratory testing are included in Appendix 7 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 was consistent across the site and generally comprised;

- Topsoil
- Made Ground
- Cohesive Deposits
- Bedrock

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

MADE GROUND: Made Ground deposits were encountered from ground level or beneath the Topsoil and were present to a depth of 0.50m to 2.50m BGL. These deposits were described generally as *brown / dark brownish grey / grey slightly sandy slightly gravelly Clay with low cobble and boulder content* and contained *rare fragments of concrete, red brick, glass, ceramic, rootlets, shells, metal and plastic.*

COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Made Ground and were described typically as *brown slightly 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. These deposits had low (<5%), medium (5%-20%) or high (20%-50%) cobble and boulder content, where noted on the exploratory hole logs.

BEDROCK: The rotary core boreholes recovered *interbedded medium strong to strong thinly bedded dark grey fine grained argillaceous LIMESTONE and black calcareous MUDSTONE.* This is typical of the Lucan Formation, which is noted on Geological Survey Ireland's (GSI) geological mapping of the site. The degree

of weathering ranged from unweathered to partially weathered. Rare visible pyrite veins were noted during logging which are typically present within the Lucan Formation. The depth to rock varies from 3.20m BGL in BH-04 and BH-05, to a maximum of 4.20m BGL in BH01.

4.2. Groundwater

No groundwater was noted during the investigation however it should be noted out 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 time of year, rainfall, nearby construction and other factors. For this reason, standpipes are due to be installed at the four rotary core borehole locations to allow the equilibrium groundwater level to be determined. The groundwater monitoring is included in Appendix 8 of this report.

4.3. Laboratory Testing

4.3.1. Geotechnical Laboratory Testing

The geotechnical testing carried out on soil samples recovered generally confirm the descriptions on the logs with the primary constituent of the cohesive deposits found to be a CLAY of low to intermediate plasticity. The Particle Size Distribution tests confirm that generally the cohesive deposits are well-graded with percentages of sands and gravels ranging between 29% and 64% generally with fines contents of 17% to 47%.

4.3.2. Chemical Laboratory Testing

At the location of BH-07 at 2.30m, the pH and sulphate testing carried out on the sample indicates the pH results are near neutral however the total sulphur results are elevated when compared to the guideline values from BRE Special Digest 1:2005. The samples tested classify the soil as a Design Sulphate Level DS-2. At all other tested locations, the pH and sulphate testing carried out on samples indicate that pH results are near neutral and the water-soluble sulphate results are normal when compared to the guideline values from BRE Special Digest 1:2005. The samples tested classify the soil as a Design Sulphate Level DS-1.

4.3.3. 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 7 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

As a high loading apartment block with an undercroft is proposed, it may be more economically advantageous to excavate foundations to the underlying bedrock. At the rotary borehole locations, bedrock was encountered between 3.20m and 4.20m BGL, across the site. Where competent bedrock is present at foundation level, an allowable bearing capacity of 1000kN/m^2 is recommended.

In the areas where bedrock is deemed too deep to construct foundations on directly, lean mix trench fill from bedrock to foundation level can be used to achieve the recommended allowable bearing capacity. In any part of the site, should part of the foundation be on rock we would recommend that all the foundations of the unit in question be lowered to the competent rock stratum to avoid differential settlement.

The possibility for variation in the depth of the made ground and bedrock 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.

At the location of BH-07 at 2.30m, the pH and sulphate testing carried out indicate that pH results are near neutral however the total sulphur results are elevated when compared to the guideline values from BRE Special Digest 1:2005. The samples tested classify the soil as a Design Sulphate Level DS-2. These tested samples were dark grey / black boulder clay and based on the results special precautions may be required for concrete foundations in contact with this layer to prevent sulphate attack.

At all other tested locations, the pH and sulphate testing carried out on samples indicate that pH results are near neutral and the water-soluble sulphate results are normal when compared to the guideline values from BRE Special Digest 1:2005. These samples tested classify the soil at these locations as a Design Sulphate Level DS-1. No special precautions are required for concrete foundations to prevent sulphate attack at these locations. These samples tested were below the limits of DS1 in the BRE Special Digest 1:2005.

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. The groundwater and stability noted on the trial pit logs should be consulted when determining the most appropriate construction methods for excavations. Excavations in the upper cohesive and weathered rock deposits are expected to be excavatable with conventional excavation equipment, with zones of more intact bedrock below this depth requiring rock breaking techniques.

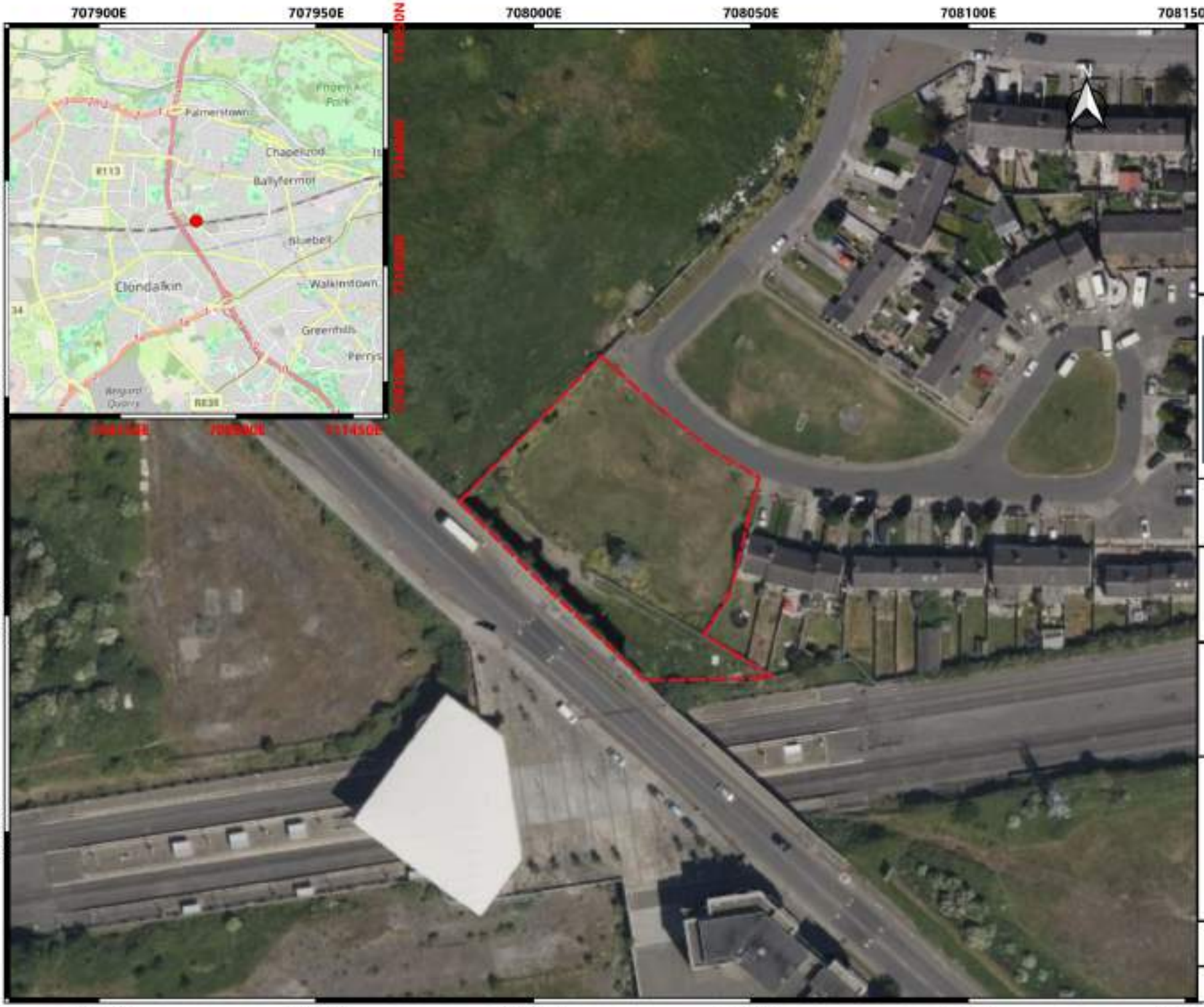
Any waste material to be removed off site should be disposed of to a suitably licenced landfill. The environmental testing completed during the ground investigation is reported under the cover of a separate GII Waste Classification Report.

5.4. Soakaway Design

At all soakaway locations, the water level dropped too slowly to allow calculation of ‘f’ the soil infiltration rate. These locations are therefore not recommended as suitable for soakaway design and construction.

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

APPENDIX 1 - Figures


707900E
707950E
708000E
708050E
708100E
708150E
732900N
732850N
732800N
732750N
Palmerstown
Phoenix Park
Chapelizod
Ballyfermot
Bluebell
Clondalkin
Walkinstown
Greenhills
Perrys
R113
R838
Site Location
Indicative Site Boundary
N
Client:
LDA
Project Code:
15401-03-26
Project Title:
Cherry Orchard Phase 3 Site 5B
Drawing Title:
Figure 1 Site Location and Layout
Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gi.ie 01-6015175/5176
0 10 20 30 40 50 m
Drawn By:
EOL
Date:
10-07-2026


707975E
708000E
708025E
708050E
732850N
732825N
732800N
WS01
BH01
TP32
WS06
WS02
ST05
WS03
BH02
WS07
BH03
SA01
TP31
WS09
TP33
WS05
WS04
BH06A
SA02
BH04
SA03
WS13
TP34
TP35
ST01
SA04
BH05
BH06
WS10
WS14
WS11
ST04
WS08
ST02
BH07
WS12
ST03
N
Indicative Site Boundary
Trial Pit
Slit Trench
Soakaway Test
Window Sample
Cable Percussion only Borehole
Cable with Rotary Borehole
Rotary only Borehole
Client:
LDA
Project Code:
15401-03-26
Project Title:
Cherry Orchard Phase 3 Site 5B
Drawing Title:
Figure 2 Site Investigation Points
Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gi.ie 01-6015175/5176
0 3.5 7 10.5 14 17.5 m
Drawn By:
EOL
Date:
18-08-2026

APPENDIX 2 – Trial Pit Records

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Trial Pit Number** TP31
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions** 5.30m x 0.40m x 2.60m (L x W x D)	**Ground Level (mOD)** 55.48	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location (dGPS) 708005 E 732821.9 N	**Dates** 15/06/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	TOPSOIL reworked		
				55.28	0.20	MADE GROUND: Brown slightly sandy slightly gravelly Clay with fragments of red brick and concrete with low cobble content		
0.50 0.50	B ES				(0.70)			
				54.58	0.90	Firm greyish brown slightly sandy gravelly CLAY with medium cobble content		
1.50 1.50	B ES				(1.40)			
				53.18	2.30	Firm to stiff greyish brown slightly sandy gravelly CLAY with medium cobble content and low boulder content		
2.50 2.50	B ES			52.88	(0.30) 2.60	Complete at 2.60m		

Plan

Remarks

No groundwater encountered
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	NK	15401-03-26.TP31

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Trial Pit Number** TP32
Machine : JCB 3CX **Method :** Trial Pit - Toothless Bucket	**Dimensions** 3.20m x 0.40m x 2.50m (L x W x D)	**Ground Level (mOD)** 55.47	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location (dGPS) 708011.5 E 732847.3 N	**Dates** 15/06/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	MADE GROUND: Topsoil with rare fragments of glass		
				55.27	0.20			
0.50 0.50	B ES				(0.60)	MADE GROUND: Brown slightly sandy gravelly Clay with low cobble content and low boulder content and rare fragments of glass plastic and red brick		
				54.67	0.80			
1.50 1.50	B ES				(1.70)	Firm to stiff brown slightly sandy gravelly CLAY with medium cobble content and low boulder content		
				52.97	2.50			
2.50 2.50	B ES					Complete at 2.50m		

Plan

Remarks

No groundwater encountered
Trial pit stable
Refusal at 2.50m BGL due to large boulders
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	NK	15401-03-26.TP32

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Trial Pit Number** TP33
Machine : JCB 3CX **Method :** Trial Pit	**Dimensions** 3.40m x 0.40m x 2.70m (L x W x D)	**Ground Level (mOD)** 55.56	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location (dGPS) 708009.6 E 732832.8 N	**Dates** 16/06/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	MADE GROUND: Topsoil with rare fragments of glass and plastic		
				55.36	0.20	MADE GROUND: Brown slightly sandy gravelly Clay with low cobble content and low boulder content and rare fragments of glass plastic red brick concrete and ceramic		
0.50 0.50	B ES				(0.60)			
				54.76	0.80	Firm to stiff brown slightly sandy gravelly CLAY with medium cobble content and low boulder content		
1.50 1.50	B ES				(1.70)			
				53.06	2.50			
2.50 2.50	B ES					Complete at 2.70m		

Plan

Remarks

No groundwater encountered
Trial pit stable
Complete at 2.50m BGL
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	NK	15401-03-26.TP33

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Trial Pit Number** TP34
Machine : JCB 3CX **Method :** Trial Pit - Toothless Bucket	**Dimensions** 3.20m x 0.40m x 2.50m (L x W x D)	**Ground Level (mOD)** 55.59	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location (dGPS) 708029.4 E 732824.9 N	**Dates** 16/06/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.49	(0.10) 0.10	MADE GROUND: Topsoil - reworked		
0.50 0.50	B ES				(1.10)	MADE GROUND: Brown slightly sandy gravelly Clay with low cobble content and rare fragments of glass plastic		
				54.39	1.20	Stiff brown slightly sandy ls;sightly gravelly CLAY with medium cobble content and medium boulder content		
1.50 1.50	B ES				(1.10)			
				53.29	2.30			
					(0.20)	Stiff greyish brown slightly sandy slightly gravelly CLAY with medium cobble content and medium boulder content		
2.50 2.50	B ES			53.09	2.50	Complete at 2.50m		

Plan

Remarks

No groundwater encountered
Trial pit stable
Complete at 2.50m BGL
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	NK	15401-03-26.TP34

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Trial Pit Number** TP35
Machine : JCB 3CX **Method :** Trial Pit - Toothless Bucket	**Dimensions** 4.20m x 0.40m x 2.70m (L x W x D)	**Ground Level (mOD)** 55.50	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location (dGPS) 708039.4 E 732824.9 N	**Dates** 16/06/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.40	(0.10) 0.10	MADE GROUND: Topsoil - reworked		
					(0.20)	MADE GROUND: Blackish dark grey slightly sandy angular to subangular fine to coarse Gravel (Crushed Rock Fill)		
				55.20	0.30	MADE GROUND: Brown slightly sandy slightly gravelly Clay with low cobble content and occasional fragments of red brick		
0.50 0.50	B ES				(0.80)			
				54.40	1.10	Firm to stiff light brownish grey slightly sandy slightly gravelly CLAY with low cobble content and low boulder content		
1.50 1.50	B ES				(0.80)			
				53.60	1.90	Stiff brownish grey slightly sandy slightly gravelly CLAY with medium cobble content and low boulder content		
2.50 2.50	B ES				(0.80)			
				52.80	2.70	Complete at 2.70m		

Plan

Remarks

No groundwater encountered
Trial pit stable
Complete at 2.70m BGL
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	NK	15401-03-26.TP35

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Cherry Orchard Phase 3 Site 5B – Trial Pit Photographs

TP-31



TP-31



Cherry Orchard Phase 3 Site 5B – Trial Pit Photographs

TP-31



TP-31



Cherry Orchard Phase 3 Site 5B – Trial Pit Photographs

TP-32



TP-32



Cherry Orchard Phase 3 Site 5B – Trial Pit Photographs

TP-32



TP-32



Cherry Orchard Phase 3 Site 5B – Trial Pit Photographs

TP-33



TP-33



Cherry Orchard Phase 3 Site 5B – Trial Pit Photographs

TP-33



TP-33



Cherry Orchard Phase 3 Site 5B – Trial Pit Photographs

TP-34



TP-34



Cherry Orchard Phase 3 Site 5B – Trial Pit Photographs

TP-34



TP-34



Cherry Orchard Phase 3 Site 5B – Trial Pit Photographs

TP-35



TP-35



Cherry Orchard Phase 3 Site 5B – Trial Pit Photographs

TP-35



TP-35

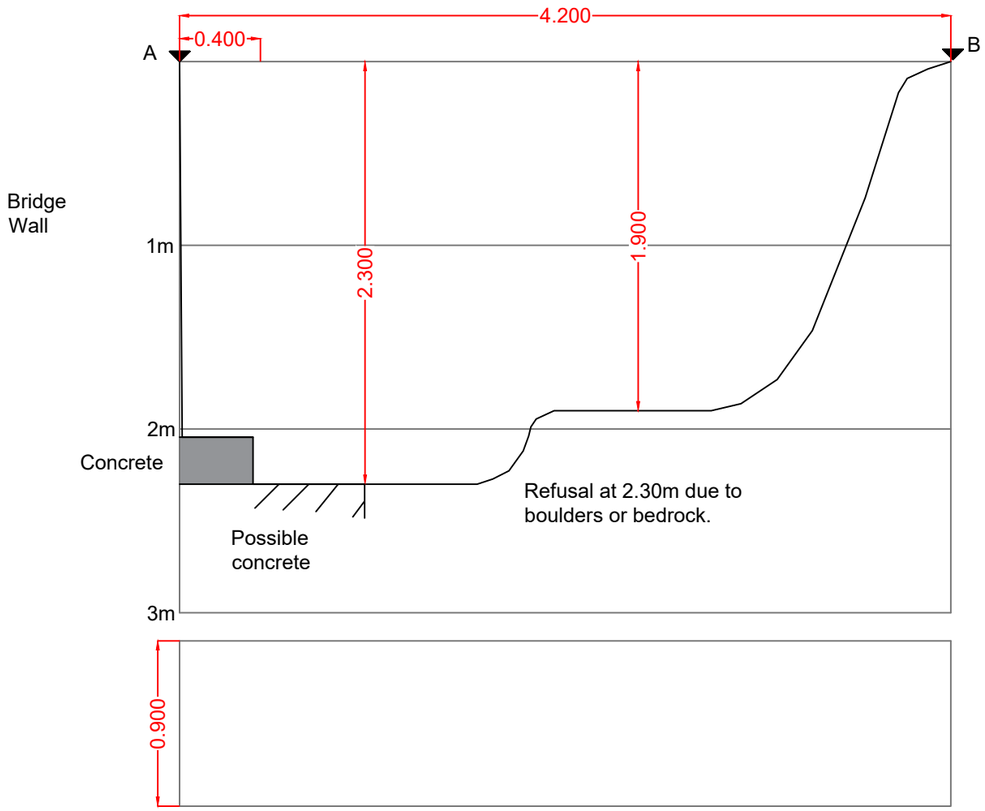


APPENDIX 3 – Slit Trench Records

ST-01

SW
E:707988.4
N:732823.8
Z:55.915

NE
E:707991.79
N:732823.271
Z:55.902



Service No	ø (m)	Colour - Material	Utility	Angle to trench	Coordinates		Level
					East	North	
N/A	-	-	-	-	-	-	-

Surface from/to (m)		Surface type
0.00	4.20	Overgrowth

Sample depth (m)	Sample type
0.50	ES, B
1.50	ES, B
2.30	ES, B

From (m)	To (m)	Description
0.00	0.30	TOPSOIL : REWORKED
0.30	0.70	MADE GROUND: Firm brown slightly sandy gravelly Clay with medium cobble content with fragments of plastic with mild cobble and boulder content.
0.70	1.40	MADE GROUND: Grey slightly sandy angular to subangular Gravel -
1.40	2.30	Firm to stiff brown slightly sandy CLAY with medium cobble content.

Groundwater	Y/N	Depth	Notes
	N		

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Ground Investigations Ireland Ltd.
Catherinestown House
Hazelhatch Road,
Newcastle,
County Dublin

Tel: +353-(0)1 6015175/6 Fax: +353-(0)1 6015173
Email: info@gii.ie Web: www.gii.ie

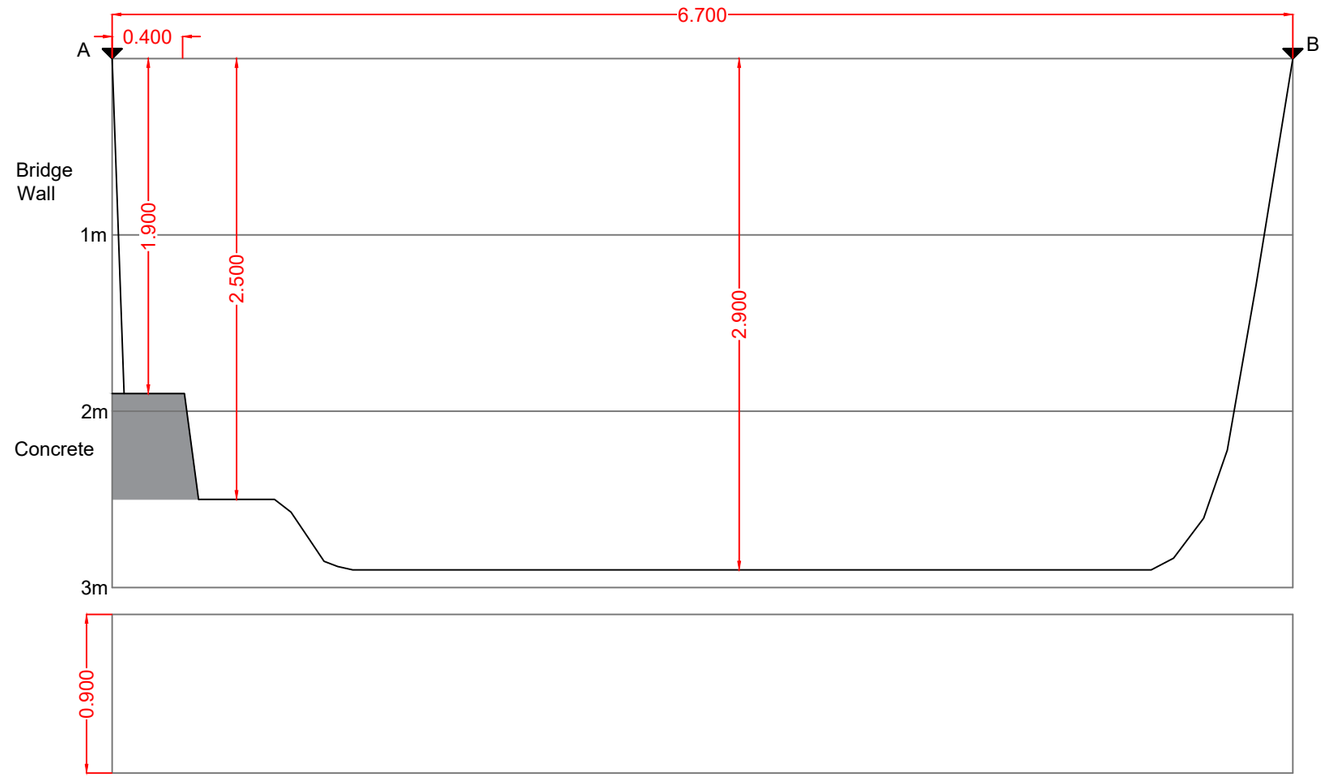
PROJECT:	15401-03-26 - Cherry Orchard P3 Site 5B
DRAWING No.:	ST-01
DATE:	15/06/2026
CLIENT:	Land Development Agency
SCALE:	NTS

Version:	Date:	Drawn By:	Checked By:
1	07/07/2026	S.F.	C.McP

ST-02

SW
E:708005.981
N:732803.909
Z:56.171

NE
E:708009.71
N:732808.448
Z:56.018



Service No	ø (m)	Colour - Material	Utility	Angle to trench	Coordinates		Level
					East	North	
N/A	-	-	-	-	-	-	-

Surface from/to (m)		Surface type
0.00	6.70	Overgrowth

Sample depth (m)	Sample type
0.50	ES, B
1.50	ES, B
2.30	ES, B

From (m)	To (m)	Description
0.00	0.30	TOPSOIL : REWORKED
0.30	1.40	MADE GROUND: Soft to firm brown slightly sandy gravelly Clay with medium cobble content and fragments of plastic, glass and red brick.
1.40	1.70	MADE GROUND: Grey slightly sandy angular to subangular Gravel with meddium cobble and boulder content with fragments of plastic membrane and rebar.
1.70	2.90	Stiff Brown / dark brown slightly sandy Clay with meddium cobble and boulder content.

Groundwater	Y/N	Depth	Notes
	N		

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Ground Investigations Ireland Ltd.
Catherinestown House
Hazelhatch Road,
Newcastle,
County Dublin

Tel: +353-(0)1 6015175/6 Fax: +353-(0)1 6015173
Email: info@gii.ie Web: www.gii.ie

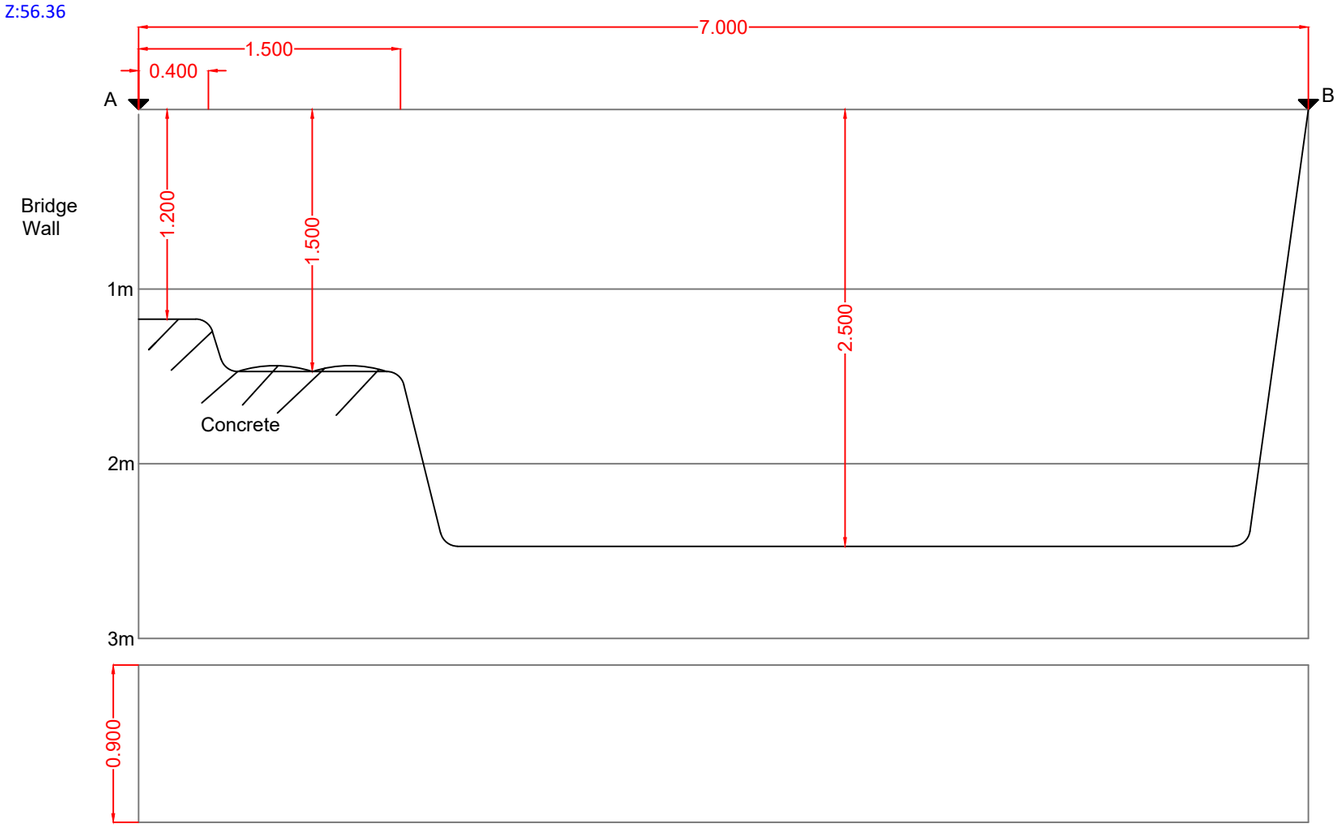
PROJECT:	15401-03-26 - Cherry Orchard P3 Site 5B
DRAWING No.:	ST-02
DATE:	15/06/2026
CLIENT:	Land Development Agency
SCALE:	NTS

Version:	Date:	Drawn By:	Checked By:
1	07/07/2026	S.F.	C.McP

ST-03

SW
E:708021.796
N:732788.644
Z:56.36

NE
E:708025.82
N:732793.874
Z:56.221



Service No	ø (m)	Colour - Material	Utility	Angle to trench	Coordinates		Level
					East	North	
N/A	-	-	-	-	-	-	-

Surface from/to (m)		Surface type
0.00	7.00	Grass

Sample depth (m)	Sample type
0.50	ES, B
1.50	ES, B
2.50	ES, B

From (m)	To (m)	Description
0.00	0.30	TOPSOIL : REWORKED
0.30	1.30	MADE GROUND: Firm brown slightly sandy gravelly Clay with medium cobble content and fragments of plastic, glass and metal.
1.30	2.10	MADE GROUND: Dark grey slightly sandy Clay with medium cobble content and fragments of rebar and glass.
2.10	2.50	Stiff dark grey / brown slightly sandy slightly gravelly Clay with medium cobble and boulder content.

Groundwater	Y/N	Depth	Notes
	N		

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

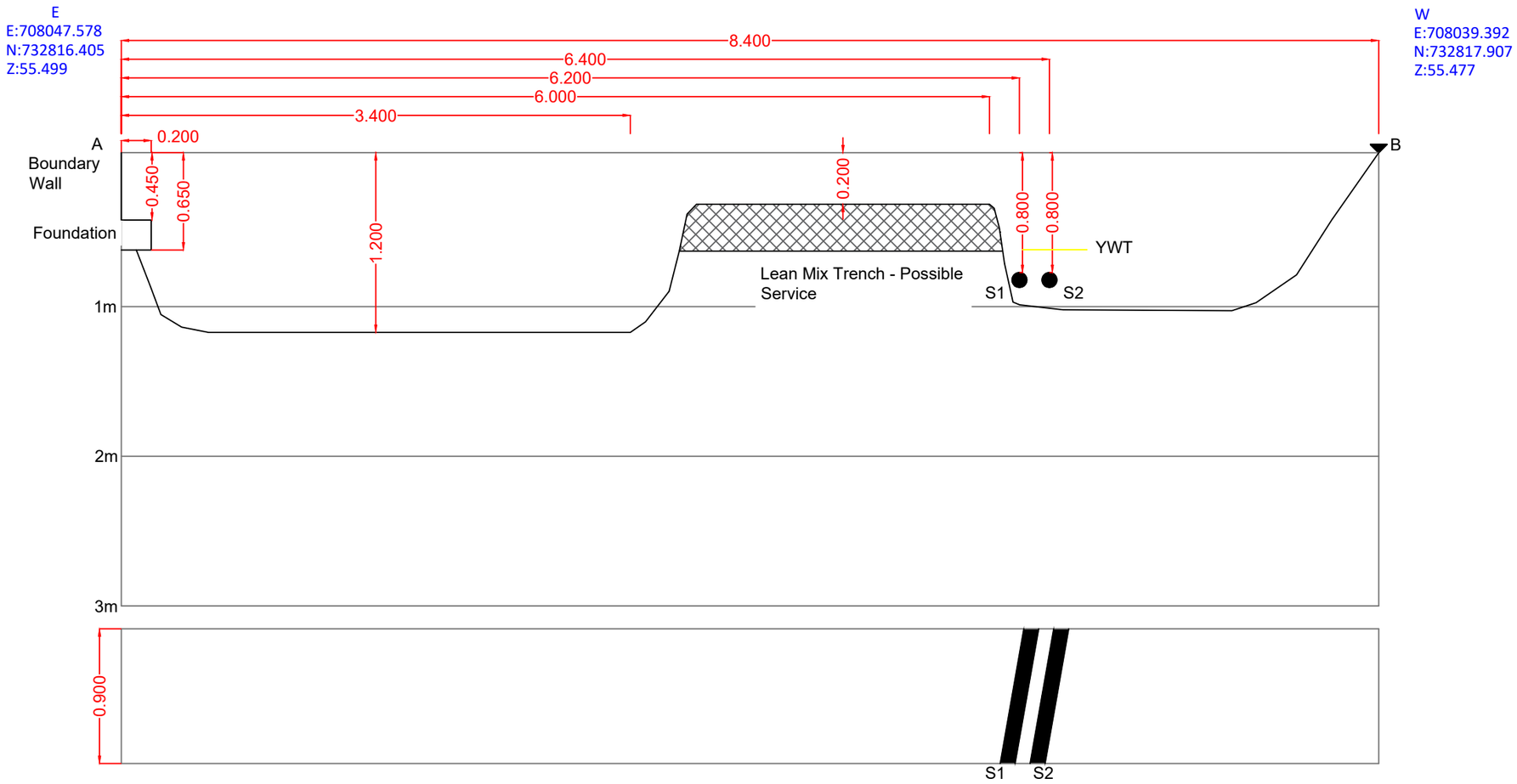
Ground Investigations Ireland Ltd.
Catherinestown House
Hazelhatch Road,
Newcastle,
County Dublin

Tel: +353-(0)1 6015175/6 Fax: +353-(0)1 6015173
Email: info@gii.ie Web: www.gii.ie

PROJECT:	15401-03-26 - Cherry Orchard P3 Site 5B
DRAWING No.:	ST-03
DATE:	15/06/2026
CLIENT:	Land Development Agency
SCALE:	NTS

Version:	Date:	Drawn By:	Checked By:
1	07/07/2026	S.F.	C.McP

ST-04



Service No	ø (m)	Colour - Material	Utility	Angle to trench	Coordinates		Level
					East	North	
S1	0.100	Black	Possible Lighting	110	708041.661	732817.058	54.708
S1	0.100	Black	Possible Lighting	110	708041.533	732817.1	54.697

From (m)	To (m)	Description
0.00	0.25	MADE GROUND: Topsoil with rare fragments of glass, ceramic, concrete and red brick.
0.25	1.20	MADE GROUND: Brown slightly sandy gravelly Clay with rare fragments of metal, plastic, ceramic, concrete and red brick.

Surface from/to (m)		Surface type
0.00	8.40	Grass

Sample depth (m)	Sample type
0.50	ES, B
1.50	ES, B
2.50	ES, B

Groundwater	Y/N	Depth	Notes
	N		

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

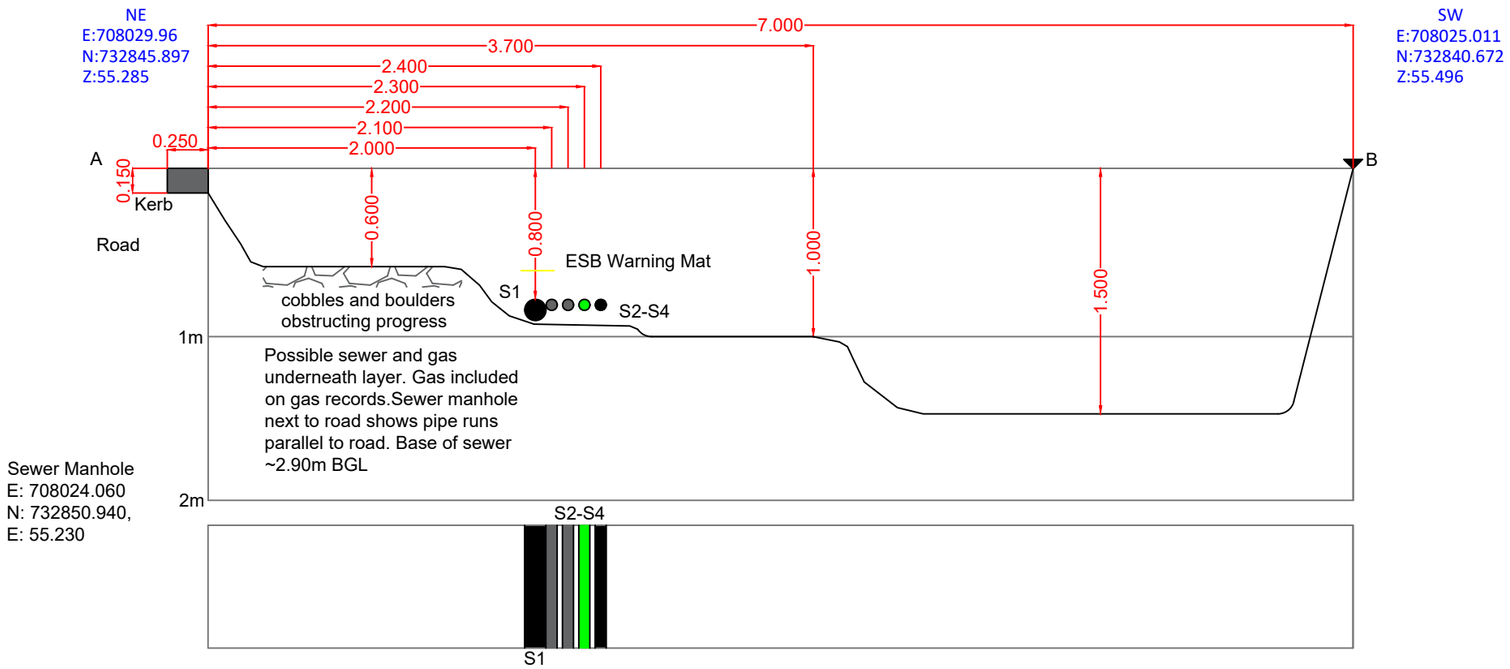
Ground Investigations Ireland Ltd.
Catherinestown House
Hazelhatch Road,
Newcastle,
County Dublin

Tel: +353-(0)1 6015175/6 Fax: +353-(0)1 6015173
Email: info@gii.ie Web: www.gii.ie

PROJECT:	15401-03-26 - Cherry Orchard P3 Site 5B
DRAWING No.:	ST-04
DATE:	15/06/2026
CLIENT:	Land Development Agency
SCALE:	NTS

Version:	Date:	Drawn By:	Checked By:
1	07/07/2026	S.F.	C.McP

ST-05



Service No	ø (m)	Colour - Material	Utility	Angle to trench	Coordinates		Level
					East	North	
S1	0.130	Black Cable	Power	90	708028.729	732844.431	54.677
S1	0.100	Grey Ribbed	Comms	90	708028.612	732844.203	54.647
S1	0.100	Grey Ribbed	Comms	90	708028.551	732844.132	54.666
S1	0.100	Green Ribbed	Comms	90	708028.449	732844.008	54.682
S1	0.100	Black	Water / Waste	90	708028.366	732843.915	54.691

Surface from/to (m)		Surface type
0.00	7.00	Grass

Sample depth (m)	Sample type
0.50	ES, B
1.50	ES, B
2.50	ES, B

From (m)	To (m)	Description 0.00m to 3.70m
0.00	0.20	MADE GROUND: Brown slightly sandy slightly gravelly Clay with rare fragments of glass.
0.20	1.00	MADE GROUND: Brown slightly sandy gravelly Clay with rare fragments of glass, ceramic, glass, and red brick.

From (m)	To (m)	Description 3.70m to 7.00m
0.00	0.20	MADE GROUND: Brown slightly sandy slightly gravelly Clay with rare fragments of glass.
0.20	1.00	MADE GROUND: Grey angular fine to coarse Gravel FILL.
0.20	1.00	MADE GROUND: Brown sandy gravelly Clay with rare fragments of red brick and ceramic.

Groundwater	Y/N	Depth	Notes
	N		

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Ground Investigations Ireland Ltd.
Catherinestown House
Hazelhatch Road,
Newcastle,
County Dublin

Tel: +353-(0)1 6015175/6 Fax: +353-(0)1 6015173
Email: info@gii.ie Web: www.gii.ie

PROJECT:	15401-03-26 - Cherry Orchard P3 Site 5B
DRAWING No.:	ST-05
DATE:	15/06/2026
CLIENT:	Land Development Agency
SCALE:	NTS

Version:	Date:	Drawn By:	Checked By:
1	07/07/2026	S.F.	C.McP

Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST-01



ST-01



Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST-01



ST-01



Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST-02



ST-02



Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST-02



ST-02



Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST-02



ST-02



Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST-03



ST-03



Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST-03



ST-03



Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST-03



ST-03



Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST-03



Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST04



ST-04



Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST-04



ST-04



Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST-04



ST-04



Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST-05



ST-05



Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST-05



ST-05



Cherry Orchard Phase 3 Site 5B - Slit Trench Photographs

ST-05



APPENDIX 4 – Soakaway Testing Records

Ground Investigations Ireland Ltd
www.gii.ie

Site	Trial Pit Number
Cherry Orchard Phase 3 Site 5B	SA01

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit	1.90m x 0.40m x 1.50m (L x W x D)	55.49	The Land Development Agency	15401-03-26
	Location (dGPS) 708002.8 E 732836 N	**Dates** 15/06/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	TOPSOIL (reworked)		
				55.29	0.20	MADE GROUND: brown slightly sandy slightlygravelly Clay with low cobble content		
					(0.90)			
				54.39	1.10	Firm brown slight sandy slightly gravelly CLAY with medium cobble content		
					(0.40)			
				53.99	1.50	Complete at 1.50m		

Plan

Remarks

No groundwater encountered
Trial pit stable
Soakway test carried out in accordance with BRE Digest 365
Trial pit backfilled upon completion of soakway test

Scale (approx)	Logged By	Figure No.
1:25	NK	15401-03-26.SA01

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site	Trial Pit Number
Cherry Orchard Phase 3 Site 5B	SA02

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit	2.40m x 0.40m x 1.60m (L x W x D)	55.61	The Land Development Agency	15401-03-26
	Location (dGPS) 708028.8 E 732830.8 N	**Dates** 15/06/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.51	(0.10) 0.10	TOPSOIL		
						MADE GROUND: Grey/brown slightly sandy slightly gravelly Clay with medium cobble content and low boulder content		
					(0.50)			
0.50	ES			55.01	0.60	Stiff brown slightly sandy gravelly CLAY with medium cobble content and low boulder content		
					(1.00)			
1.50	ES			54.01	1.60	Complete at 1.60m		

Plan

Remarks

No groundwater encountered
Trial pit stable
Soakaway test carried out in accordance with BRE Digest 365
Trial pit backfilled upon completion of soakaway test

Scale (approx)	Logged By	Figure No.
1:25	NK	15401-03-26.SA02

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site	Trial Pit Number
Cherry Orchard Phase 3 Site 5B	SA03

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit	2.00m x 0.40m x 1.70m (L x W x D)	55.68	The Land Development Agency	15401-03-26
	Location (dGPS) 708012.4 E 732825.3 N	**Dates** 15/06/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.58	(0.10) 0.10	TOPSOIL		
					(0.30)	MADE GROUND: brown slightly sandy slightlygravelly Clay with low cobble content with fragments ofplastic, red brick and metal		
				55.28	0.40			
0.50	ES				(0.80)	Firm brown slightly sandy slightly gravelly CLAY with low cobble content		
				54.48	1.20			
1.50	ES				(0.50)	Firm to stiff brown/grey slightly sandy gravelly CLAY with medium cobble content and low boulder content		
				53.98	1.70	Complete at 1.70m		

Plan

Remarks

No groundwater encountered
Trial pit stable
Soakway test carried out in accordance with BRE Digest 365
Trial pit backfilled upon completion of soakway test

Scale (approx)	Logged By	Figure No.
1:25	NK	15401-03-26.SA03

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site	Trial Pit Number
Cherry Orchard Phase 3 Site 5B	SA04

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Trial Pit	1.80m x 0.40m x 1.50m (L x W x D)	55.48	The Land Development Agency	15401-03-26
	Location (dGPS) 708005 E 732821.9 N	**Dates** 15/06/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	TOPSOIL		
				55.28	0.20	MADE GROUND: light brown slightly sandy slightly gravelly Clay with low cobble content with fragments of red brick		
					(0.40)			
0.50	ES			54.88	0.60	Firm to stiff brown slightly sandy gravelly CLAY with medium cobble content		
					(0.90)			
1.50	ES			53.98	1.50	Complete at 1.50m		

Plan

Remarks

No groundwater encountered
Trial pit stable
Soakaway test carried out in accordance with BRE Digest 365
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	NK	15401-03-26.SA04

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

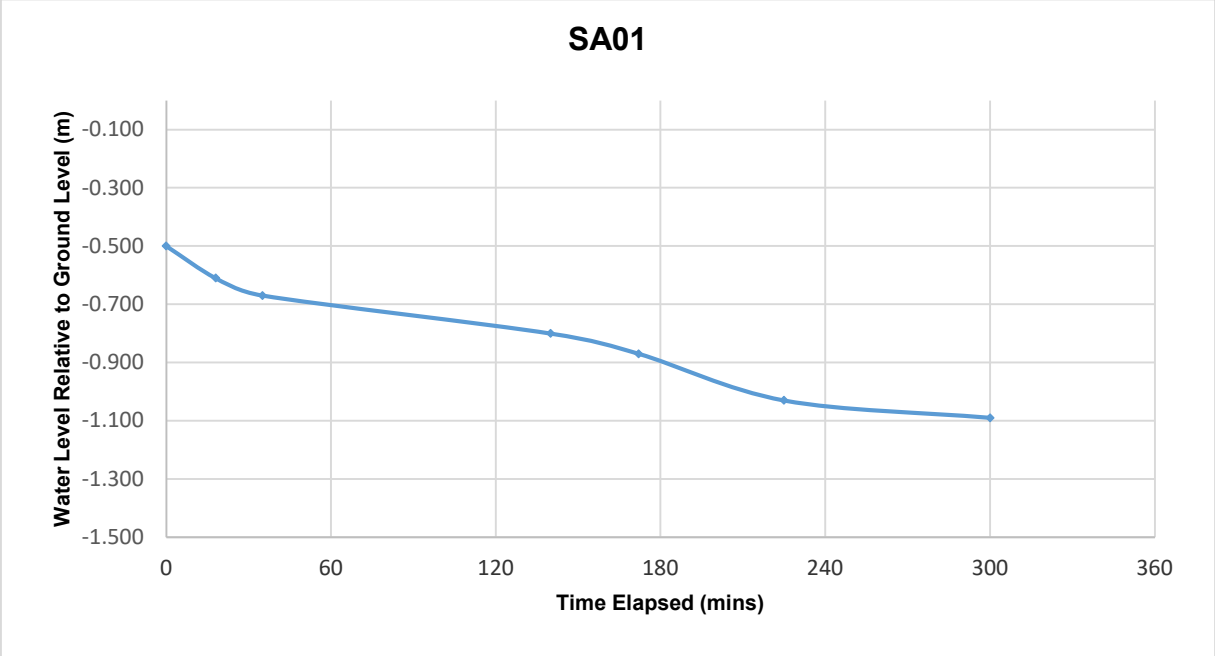
Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

SA01

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 1.90m x 0.40m x 1.50m (L x W x D)

Date	Time	Water level (m bgl)
15/06/2026	0	-0.500
15/06/2026	18	-0.610
15/06/2026	35	-0.670
15/06/2026	140	-0.800
15/06/2026	172	-0.870
15/06/2026	225	-1.030
15/06/2026	300	-1.090

Start depth	Depth of Pit	Diff	75% full	25%full
0.50	1.500	1.000	0.75	1.25



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

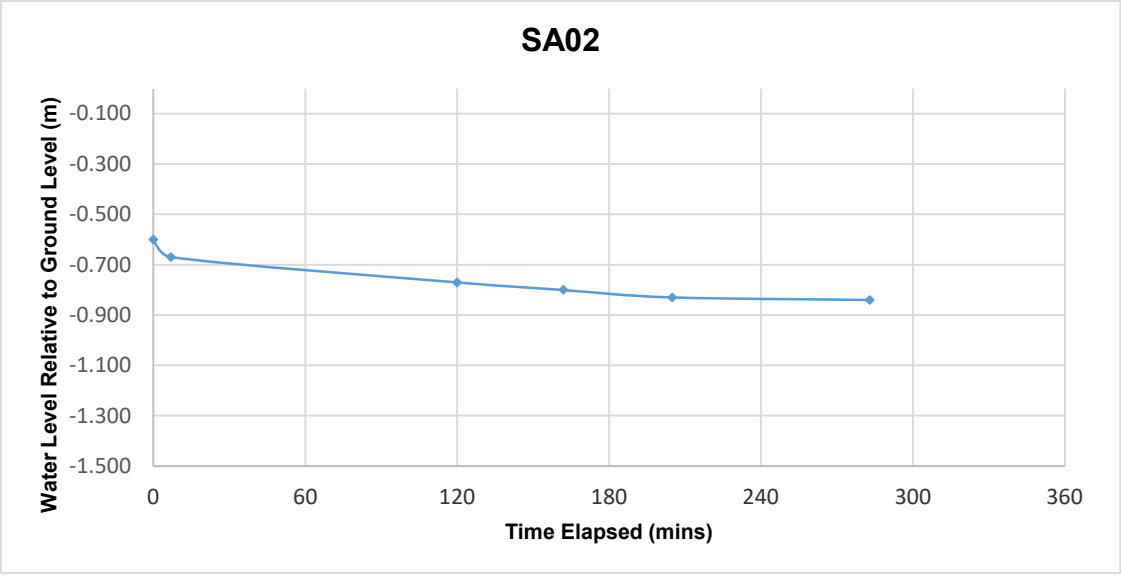
Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

SA02

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.40m x 0.40m x 1.60m (L x W x D)

Date	Time	Water level (m bgl)
15/06/2026	0	-0.600
15/06/2026	7	-0.670
15/06/2026	120	-0.770
15/06/2026	162	-0.800
15/06/2026	205	-0.830
15/06/2026	283	-0.840

Start depth	Depth of Pit		Diff	75% full	25%full
0.60	1.600		1.000	0.85	1.35



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

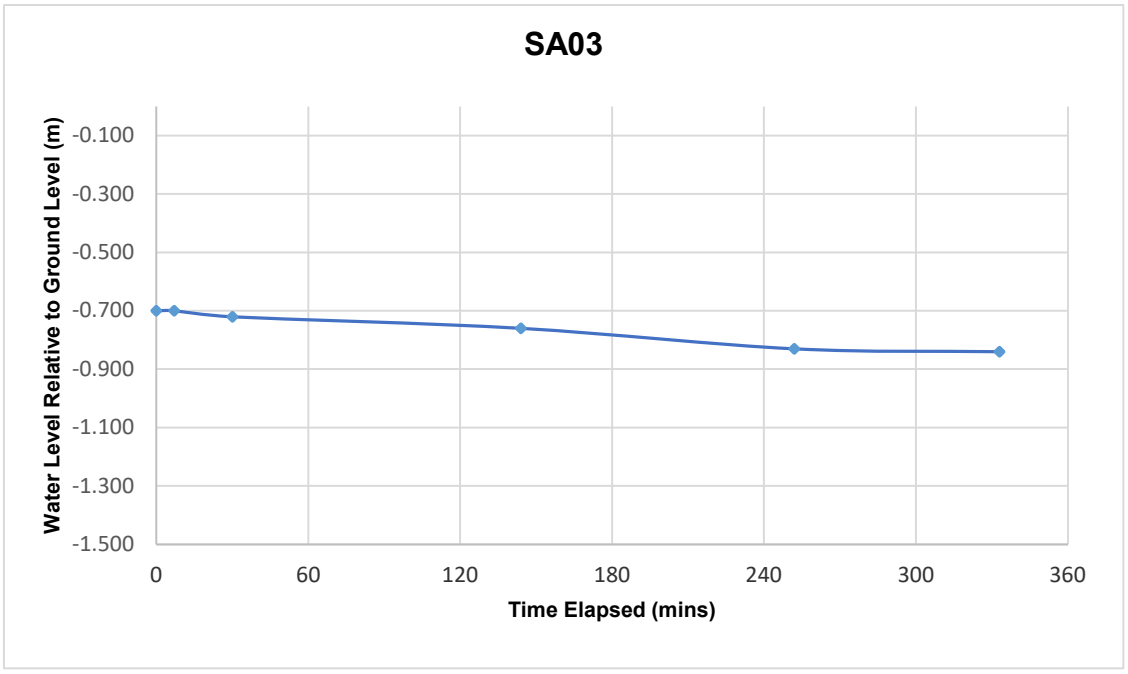
Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

SA03

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.00m x 0.40m x 1.70m (L x W x D)

Date	Time	Water level (m bgl)
15/06/2026	0	-0.700
15/06/2026	7	-0.700
15/06/2026	30	-0.720
15/06/2026	144	-0.760
15/06/2026	252	-0.830
15/06/2026	333	-0.840

Start depth	Depth of Pit		Diff	75% full	25%full
0.70	1.700		1.000	0.95	1.45



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

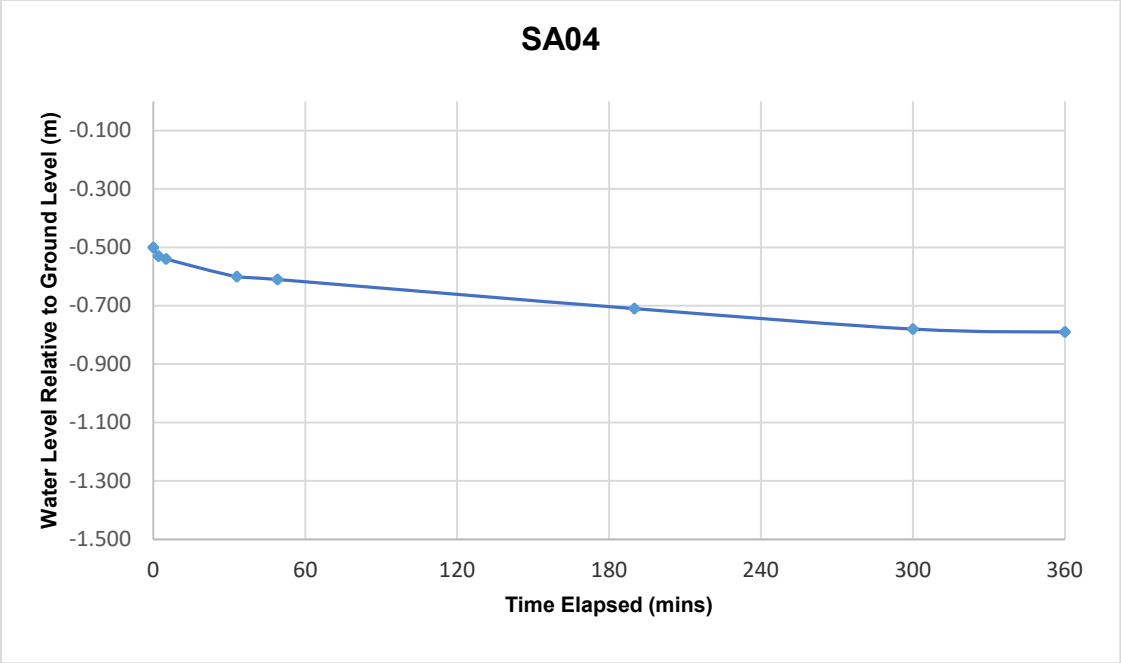
Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

SA04

Soakaway Test to BRE Digest 365
Trial Pit Dimensions: 2.00m x 0.40m x 1.70m (L x W x D)

Date	Time	Water level (m bgl)
15/06/2026	0	-0.500
15/06/2026	2	-0.530
15/06/2026	5	-0.540
15/06/2026	33	-0.600
15/06/2026	49	-0.610
15/06/2026	190	-0.710
15/06/2026	300	-0.780
15/06/2026	360	-0.790

Start depth	Depth of Pit		Diff	75% full	25%full
0.50	1.500		1.000	0.75	1.25



APPENDIX 5 – Window Sample Records

www.gii.ie

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Number** WS01
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 68mm to 2.20m	**Ground Level (mOD)** 55.35	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708013.4 E 732853.9 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.70)	MADE GROUND: Brown slightly sandy gravelly Clay with low cobble content, fragments of red brick, rootlets		
0.50	ES			54.65	0.70			
					(0.30)	MADE GROUND: brown and gery slightly sandy clayey fine to coarse angular to subrounded GRAVEL		
				54.35	1.00	Firm brown slightly sandy gravelly CLAY		
1.50	ES				(1.20)			
2.20	ES			53.15	2.20	Terminated at 2.20m		

Remarks
0.00m to 1.00m BGL - 100% Recovery
1.00m to 2.00m BGL - 95% Recovery
2.00m to 2.20m BGL - 100% Recovery
Borehole terminated at 2.20m BGL
Borehole backfilled upon completion
No groundwater encountered

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS01

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Number** WS02
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 68mm to 2.60m	**Ground Level (mOD)** 55.29	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708026.2 E 732848.4 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.50)	MADE GROUND: Brown slightly sandy gravelly Clay with fragments of red brick, rootlets, occasional fragments of cement		
0.50	ES			54.79	0.50	Firm to stiff brown slightly sandy gravelly CLAY		
					(0.50)			
				54.29	1.00	Stiff brownish grey slightly sandy gravelly CLAY with low cobble content		
1.50	ES							
					(1.60)			
2.60	ES			52.69	2.60	Terminated at 2.60m		

Remarks
0.00m to 1.00m BGL - 100% Recovery
1.00m to 2.00m BGL - 100% Recovery
2.00m to 2.60m BGL - 100% Recovery
Borehole terminated at 2.60m BGL
Borehole backfilled upon completion
No groundwater encountered

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS02

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Number** WS03
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 68mm to 1.90m	**Ground Level (mOD)** 55.27	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708035.3 E 732839.8 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	MADE GROUND: Dark brownish grey slightly clayey slightly sandy medium to coarse angular to subangular Gravel with low cobble content with rootlets, fragments of plastic		
				54.87	0.40			
0.50	ES				(0.60)	MADE GROUND: Brownish grey slightly sandy slightly gravelly silty Clay with rootlets, with fragments of plastic		
				54.27	1.00			
1.50	ES				(0.90)	Firm brownish grey slightly gravelly sandy silty Clay with rootlets		
1.90	ES			53.37	1.90			
						Terminated at 1.90m		

Remarks
0.00m to 1.00m BGL - 90% Recovery
1.00m to 1.90m BGL - 50% Recovery
Borehole terminated at 1.90m BGL
Borehole backfilled upon completion
No groundwater encountered

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS03

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Number** WS04
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 68mm to 1.60m	**Ground Level (mOD)** 55.29	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708044.2 E 732833.9 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.35)	MADE GROUND: Dark brownish grey slightly clayey sandy fine to coarse angular to subrounded Gravel with medium cobble content, with rootlets		
				54.94	0.35			
0.50	ES				(0.35)	MADE GROUND: Brown slightly sandy slightly gravelly CLAY with low cobble content		
				54.59	0.70			
					(0.50)	MADE GROUND: Brownish grey slightly clayey sandy fine to coarse subangular to subrounded Gravel		
				54.09	1.20			
1.50	ES				(0.40)	Firm to stiff brown slightly sandy slightly gravelly CLAY		
				53.69	1.60			
						Terminated at 1.60m		

Remarks
0.00m to 1.00m BGL - 80% Recovery
1.00m to 1.60m BGL - 100% Recovery
Borehole terminated at 1.60m BGL
Borehole backfilled upon completion
No groundwater encountered

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS04

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Number** WS05
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 68mm to 2.20m	**Ground Level (mOD)** 55.51	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708030.8 E 732834.1 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.85)	MADE GROUND: Brown slightly sandy slightly gravelly Clay with fragments of red brick, shells		
0.50	ES			54.66	0.85			
						Firm to stiff brown slightly sandy slightly gravelly CLAY with low cobble content		
1.50	ES				(1.35)			
				53.31	2.20			
						Terminated at 2.20m		

Remarks
0.00m to 1.00m BGL - 80% Recovery
1.00m to 2.00m BGL - 65% Recovery
2.00m to 2.20m BGL - 100% Recovery
Borehole terminated at 2.20m BGL
Borehole backfilled upon completion
No groundwater encountered

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS05

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Number** WS06
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 68mm to 1.80m	**Ground Level (mOD)** 55.48	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708006.5 E 732845.4 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.50)	MADE GROUND: Brown slightly sandy slightly gravelly Clay with fragments of red brick, shells, plastic, rootlets		
0.50	ES			54.98	0.50			
					(0.50)	Firm brown slightly sandy slightly gravelly CLAY with rootlets, rare shell fragments		
				54.48	1.00			
1.50	ES				(0.80)	Firm to stiff dark brown slightly sandy slightly gravelly CLAY with low cobble content		
				53.68	1.80	Terminated at 1.80m		

Remarks
0.00m to 1.00m BGL - 100% Recovery
1.00m to 1.80m BGL - 88% Recovery
Borehole terminated at 1.80m BGL
Borehole backfilled upon completion
No groundwater encountered

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS06

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Number** WS07
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 68mm to 1.30m	**Ground Level (mOD)** 55.45	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708010.5 E 732839.6 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.60)	MADE GROUND: Brown slightly sandy slightly gravelly Clay with rootlets, and cobble sized fragments of red brick		
0.50	ES			54.85	0.60	Firm to stiff brown slightly sandy slightly gravelly CLAY with rootlets		
					(0.70)			
1.30	ES			54.15	1.30	Terminated at 1.30m		

Remarks
0.00m to 1.00m BGL - 90% Recovery
1.00m to 1.30m BGL - 100% Recovery
Borehole terminated at 1.30m BGL
Borehole backfilled upon completion
No groundwater encountered

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS07

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Number** WS08
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 68mm to 2.60m	**Ground Level (mOD)** 55.59	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708042.8 E 732806.8 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.60)	MADE GROUND: Brownish grey slightly clayey slightly sandy medium to coarse angular to subrounded Gravel with medium cobble content with rare shell fragments (Reworked)		
0.50	ES			54.99	0.60			
					(1.10)	Firm to stiff brown slightly sandy slightly gravelly CLAY		
1.50	ES			53.89	1.70			
					(0.90)	Stiff brown mottled brownish grey slightly sandy CLAY		
2.50	ES			52.99	2.60			
						Terminated at 2.60m		

Remarks
0.00m to 1.00m BGL - 100% Recovery
1.00m to 2.00m BGL - 100% Recovery
2.00m to 2.60m BGL - 67% Recovery
Borehole terminated at 2.60m BGL
Borehole backfilled upon completion
No groundwater encountered

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS08

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B				**Number** WS09
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 0.30m	**Ground Level (mOD)** 55.53	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708009.6 E 732834.3 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	MADE GROUND: no recovery		
				55.23	0.30	Terminated at 0.30m		

Remarks
Window sample attempted three times, refused shallow. No recovery
Borehole terminated at 0.30m BGL
Borehole backfilled upon completion

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS09

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Number** WS10
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 68mm to 2.00m	**Ground Level (mOD)** 55.60	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708026.3 E 732820 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.60)	MADE GROUND: Dark brownish grey slightly sandy gravelly Clay with low cobble content, with rootlets, fragments of red brick		
0.50	ES			55.00	0.60	Firm to stiff brown slightly sandy slightly gravelly CLAY		
					(0.40)			
				54.60	1.00	Stiff brownish grey slightly sandy gravelly CLAY		
1.50	ES				(0.80)			
				53.80	1.80	Stiff brown mottled brownish grey slightly sandy slightly gravelly CLAY		
					(0.20)			
				53.60	2.00	Terminated at 2.00m		

Remarks
0.00m to 1.00m BGL - 95% Recovery
1.00m to 2.00m BGL - 100% Recovery
Borehole terminated at 2.00m BGL
Borehole backfilled upon completion
No groundwater encountered

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS10

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Number** WS11
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 68mm to 2.20m	**Ground Level (mOD)** 55.54	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708031.3 E 732816 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.60)	MADE GROUND: Brownish grey slightly sandy gravelly Clay with rootlets with fragments of red brick, cement		
0.50	ES			54.94	0.60			
					(0.40)	Firm to stiff brown slightly sandy slightly gravelly CLAY		
				54.54	1.00			
1.50	ES				(1.00)	Firm to stiff brown slightly sandy gravelly CLAY		
				53.54	2.00			
					(0.20)	Stiff brown slightly sandy slightly gravelly CLAY		
2.20	ES			53.34	2.20	Terminated at 2.20m		

Remarks
0.00m to 1.00m BGL - 95% Recovery
1.00m to 2.00m BGL - 100% Recovery
2.00m to 2.20m BGL - 100% Recovery
Borehole terminated at 2.20m BGL
Borehole backfilled upon completion
No groundwater encountered

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS11

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Number** WS12
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 68mm to 2.50m	**Ground Level (mOD)** 56.05	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708035.4 E 732790.3 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.95	(0.10) 0.10	TOPSOIL		
						MADE GROUND: Brown slightly sandy gravelly Clay with rootlets with fragments of red brick, glass, plastic		
0.50	ES				(0.90)			
				55.05	1.00	MADE GROUND: Dark brownish grey slightly sandy gravelly Clay with fragments of red brick, glass, plastic		
1.50	ES				(1.50)			
2.50	ES			53.55	2.50	Terminated at 2.50m		

Remarks
0.00m to 1.00m BGL - 100% Recovery
1.00m to 2.00m BGL - 90% Recovery
2.00m to 2.50m BGL - 80% Recovery
Borehole terminated at 2.50m BGL
Borehole backfilled upon completion
No groundwater encountered

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS12

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Number** WS13
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 68mm to 2.20m	**Ground Level (mOD)** 55.45	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708001.1 E 732824.5 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.45)	MADE GROUND: Brown slightly sandy slightly gravelly Clay with rootlets, fragments of red brick		
0.50	ES			55.00	0.45	Firm brown slightly sandy gravelly CLAY with low cobble content		
					(0.75)			
1.50	ES			54.25	1.20	Stiff brown mottled brownish grey slightly sandy slightly gravelly CLAY		
					(1.00)			
2.20	ES			53.25	2.20	Terminated at 2.20m		

Remarks
0.00m to 1.00m BGL - 95% Recovery
1.00m to 2.00m BGL - 100% Recovery
2.00m to 2.20m BGL - 100% Recovery
Borehole terminated at 2.20m BGL
Borehole backfilled upon completion
No groundwater encountered

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS12

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Number** WS14
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 0.80m	**Ground Level (mOD)** 55.85	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708001.3 E 732815.7 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.75	(0.10) 0.10	TOPSOIL		
						MADE GROUND: Brownish grey slightly sandy gravelly Clay with fragments of concrete, red brick		
					(0.70)			
				55.05	0.80	Terminated at 0.80m		

Remarks
0.00m to 0.80m BGL - 100% Recovery
Borehole terminated at 0.80m BGL
Borehole backfilled upon completion
No groundwater encountered

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS14

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Number** WS14A
Machine : Tecop 10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 68mm to 2.00m	**Ground Level (mOD)** 55.85	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708001.3 E 732815.7 N	**Dates** 10/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.70)	MADE GROUND: Brown slightly sandy gravelly Clay with low cobble content, with fragments of red brick, concrete, rootlets		
0.50	ES			55.15	0.70			
					(0.20)	MADE GROUND: Dark blackish brown slightly sandy gravelly Clay with fragments of cement, rootlets		
				54.95	0.90			
					(0.10)	MADE GROUND: Dark brown slightly sandy slightly gravelly Clay with fragments of plastic		
				54.85	1.00			
						Firm to stiff brown slightly sandy slightly gravelly CLAY		
						1.15m to 1.25m BGL - Brown fine grained SAND lense		
1.50	ES				(1.00)			
				53.85	2.00			
						Terminated at 2.00m		

Remarks
0.00m to 1.00m BGL - 100% Recovery
1.00m to 2.00m BGL - 90% Recovery
Borehole terminated at 2.00m BGL
Borehole backfilled upon completion
No groundwater encountered

Scale (approx)	Logged By
1:25	EOL

Figure No. 15401-03-26.WS14A

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Cherry Orchard Phase 3 Site 5B Window Sample Photographs

WS01



WS01

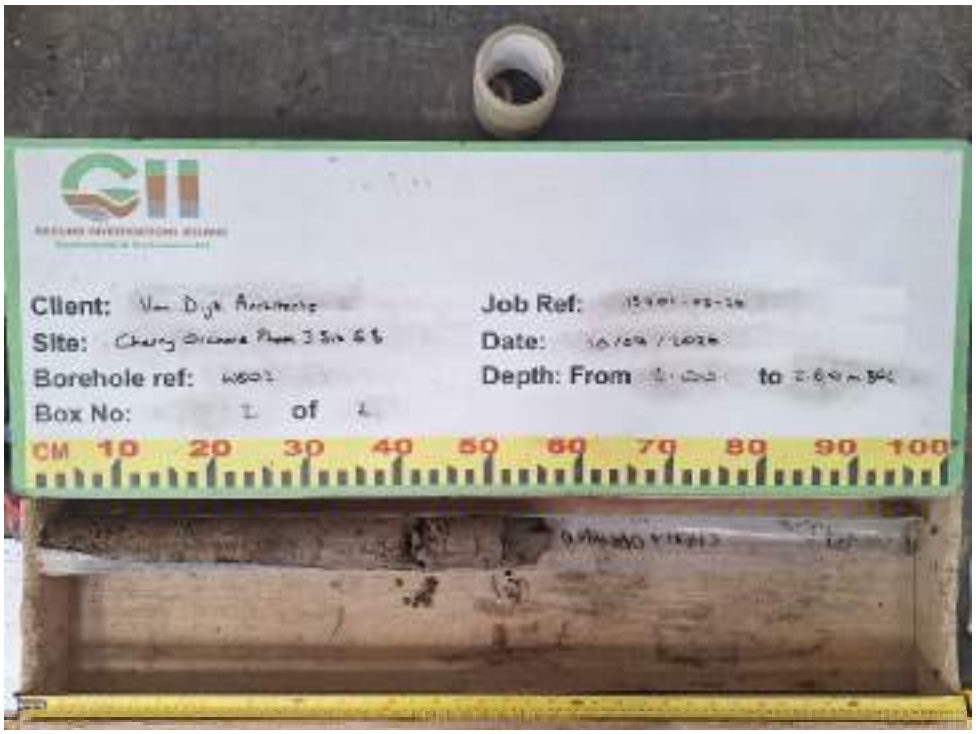


Cherry Orchard Phase 3 Site 5B Window Sample Photographs

WS02



WS02



Cherry Orchard Phase 3 Site 5B Window Sample Photographs

WS03



WS04



Cherry Orchard Phase 3 Site 5B Window Sample Photographs

WS05



WS05



Cherry Orchard Phase 3 Site 5B Window Sample Photographs

WS06



WS07



Cherry Orchard Phase 3 Site 5B Window Sample Photographs

WS08



WS08



Cherry Orchard Phase 3 Site 5B Window Sample Photographs

WS10



WS11



Cherry Orchard Phase 3 Site 5B Window Sample Photographs

WS11



WS12



Cherry Orchard Phase 3 Site 5B Window Sample Photographs

WS12



WS13



Cherry Orchard Phase 3 Site 5B Window Sample Photographs

WS13



WS14



Cherry Orchard Phase 3 Site 5B Window Sample Photographs

WS14A



APPENDIX 6 – Borehole Records

www.gii.ie

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Borehole Number** BH-01
Machine : Dando 2000 + Beretta T44 **Flush :** Water **Core Dia :** 63.5 mm **Method :** Rotary Cored	**Casing Diameter** 200mm cased to 3.70m 96mm cased to 8.50m	**Ground Level (mOD)** 55.42	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708013.1 E 732850.8 N	**Dates** 23/06/2026-23/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
						55.32	0.10	TOPSOIL			
								MADE GROUND: Brown slightly sandy gravelly CLAY with rootlets			
0.50					B		(0.90)				
0.50					ES						
					2,2/4,5,5,5	54.42	1.00				
1.00-1.45					SPT(C) N=19			Stiff brown lightly sandy gravelly CLAY with medium cobble content and low boulder content			
1.00					B						
1.50					ES						
					3,4/5,6,7,7		(1.80)				
2.00-2.45					SPT(C) N=25						
2.00					B						
2.50					ES						
					5,7/9,10,10,17	52.62	2.80				
3.00-3.45					SPT(C) N=46			Very stiff dark grey slightly sandy slightly gravelly CLAY with low cobble content and low boulder content			
3.00					B						
							(1.40)				
3.70	77										
4.00						51.22	4.20				
	100	57	21	13				Medium strong thinly bedded dark grey fine grained argillaceous LIMESTONE interbeddded with black calcareous MUDSTONE. Fresh to slightly weathered with occasional calcite veins.			
5.40				NI							
5.50								4.20m to 8.50m BGL - Three Fracture Sets - F1: 0 to 10 degrees, close to wide spaced, smooth, planar undulating; F2: 40 to 60 degrees, close spaced, smooth, planar; F3: 60 to 90 degrees, close to wide spaced, smooth, planar undulating. Clay smearing on fracture surfaces			
	100	67	44	7			(4.30)				
6.40				NI							
6.80											
7.00				6							
7.50				NI							
7.70	100	49	33	20							
						46.92	8.50				
8.50								Complete at 8.50m			

Remarks
Cable percussion with rotary core follow on from 3.70m BGL
No groundwater encountered during cable percussion drilling
Borehole complete at 8.50m BGL
50mm standpipe installed in borehole upon completion. Slotted pipe with pea gravel surround from 8.50m BGL to 1.50m BGL. Plain pipe with bentonite seal from 1.50m BGL to ground level with raised cover
Chiselling from 3.70m to 3.70m for 1.00 hour.

Scale (approx)	Logged By
1:50	NK

Figure No. 15401-03-26.BH-01

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Borehole Number** BH-02
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 3.30m	**Ground Level (mOD)** 55.52	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708001.9 E 732838.8 N	**Dates** 23/06/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					55.32	(0.20) 0.20	TOPSOIL		
						(0.40)	MADE GROUND: Brown sandy gravelly CLAY		
0.50	B				54.92	0.60			
						(0.40)	Firm brown slightly sandy gravelly CLAY with low cobble content and low boulder content		
1.00-1.45 1.00	SPT(C) N=15 B			2,2/3,4,4,4	54.52	1.00			
							Stiff brown slightly sandy gravelly CLAY with low cobble content and low boulder content		
2.00-2.45 2.00	SPT(C) N=23 B			2,3/4,5,5,9		(2.00)			
2.50	ES								
3.00-3.15 3.00	SPT(C) 50/0 B			10,21/50	52.52	3.00			
						(0.30)	Very stiff dark grey slightly sandy slightly gravelly CLAY with medium cobble content		
					52.22	3.30	Chiselling on obstruction		
							Terminated at 3.30m		

Remarks
No groundwater encountered
Refusal at 3.30m due to chiselling on obstruction
Borehole backfilled at 3.30m BGL
Chiselling from 3.30m to 3.30m for 1.00 hour.

Scale (approx)	Logged By
1:50	NK

Figure No. 15401-03-26.BH-02

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Borehole Number** BH-03
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 3.00m	**Ground Level (mOD)** 55.51	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708027.6 E 732837.2 N	**Dates** 24/06/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						(0.50)	MADE GROUND: Brown slightly sandy gravelly Clay with fragments of brick		
0.50	B				55.01	0.50	Firm brown slightly sandy gravelly CLAY with low cobble content		
1.00-1.45 1.00	SPT(C) N=11 B			2,3/2,3,3,3		(1.80)			
2.00-2.45 2.00	SPT(C) N=33 B			2,7/8,8,9,8	53.21	2.30			
2.50	ES					(0.50)	Very stiff brown slightly sandy gravelly CLAY with low cobble content		
					52.71	2.80			
3.00-3.05 3.00	SPT(C) 53*/50 50/0 B			3,50/50	52.51	(0.20) 3.00	Dense dark grey slightly sandy clayey subangular to subrounded fine to coarse GRAVEL Chiselling on obstruction		
							Terminated at 3.00m		

Remarks
No groundwater encountered
Refusal at 3.00m
Borehole backfilled at 3.00m BGL
Chiselling from 3.00m to 3.00m for 1.00 hour.

Scale (approx)	Logged By
1:50	NK

Figure No. 15401-03-26.BH-03

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Borehole Number** BH-04
Machine : Dando 2000 + Beretta T44 **Flush :** **Core Dia :** mm **Method :** Cable Percussion with Rotary Core Follow-on	**Casing Diameter** 200mm cased to 2.30m 96mm cased to 7.00m	**Ground Level (mOD)** 55.63	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708009.6 E 732826.8 N	**Dates** 24/06/2026-24/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
						55.43	(0.20) 0.20	TOPSOIL			
0.50					B		(0.50)	MADE GROUND: Brown slightly sandy gravelly Clay with fragments of plastic			
1.00-1.45 1.00					3,7/9,5,5,8 SPT(C) N=27 B	54.93 54.63	0.70 (0.30) 1.00	Soft to firm brown slightly sandy gravelly CLAY with low cobble content and occasional grey mottling			
2.00-2.24 2.00 2.30 2.30					3,7/10,40 SPT(C) 50/90 B ES	53.43	(1.20) 2.20	Stiff brown slightly sandy gravelly CLAY with low cobble content and occasional grey mottling Very stiff dark grey slightly sandy gravelly CLAY with low cobble content			
3.20	86	22	14	8		52.43	(1.00) 3.20	Medium strong thinly bedded dark grey fine grained argillaceous LIMESTONE interbeddded with black calcareous MUDSTONE. Fresh to slightly weathered with occasional calcite veins. 3.20m to 7.00m BGL - Three Fracture Sets - F1: 0 to 10 degrees, close to wide spaced, smooth, planar undulating; F2: 40 to 60 degrees, close spaced, smooth, planar; F3: 60 to 90 degrees, close to wide spaced, smooth, planar undulating. Clay smearing on fracture surfaces			
4.00	100	90	26	15							
5.50	100	85	22	10			(3.80)				
7.00						48.63	7.00	Complete at 7.00m			

Remarks
No groundwater encountered during cable percussion drilling
Cable percussion to 2.30m BGL with rotary core follow-on
Borehole complete at 7.00m BGL
50 mm standpipe installed in borehole upon completion. Slotted pipe with pea gravel surround from 7.00m BGL to 1.50m BGL, plain pipe with bentonite seal from 1.50m BGL to ground level with raised cover.
Chiselling from 2.30m to 2.30m for 1.00 hour.

Scale (approx)	Logged By
1:50	NK

Figure No. 15401-03-26.BH-03

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Borehole Number** BH-05
Machine : Dando 2000 + Beretta T44 **Flush :** **Core Dia :** mm **Method :** Cable Percussion with Rotary Core Follow-on	**Casing Diameter** 200mm cased to 2.30m 96mm cased to 7.00m	**Ground Level (mOD)** 55.56	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708033.2 E 732821.7 N	**Dates** 24/06/2026-24/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
								MADE GROUND: Brownish grey slightly sandy gravelly Clay with fragments of roots plastic with low cobble content			
0.50					B		(1.00)				
1.00-1.45					2,3/3,3,3,4 SPT(C) N=13	54.56	1.00	Firm to stiff brown slightly sandy slightly gravelly CLAY with low cobble content and orange mottling			
1.00					B		(1.00)				
2.00-2.24					2,4/19,31 SPT(C) 50/90	53.56	2.00	Very stiff brown slightly sandy slightly gravelly CLAY with low cobble content and orange mottling			
2.00					B						
2.30											
2.30	100	7			B						
2.30					ES		(1.20)				
2.50											
	43	19	7								
3.20						52.36	3.20	Medium strong thinly bedded dark grey fine grained argillaceous LIMESTONE interbeddded with black calcareous MUDSTONE. Fresh to slightly weathered with occasional calcite veins. 3.20m to 5.75m BGL - Two Fracture Sets - F1: 0 to 10 degrees, close spaced, smooth, planar; F2: 40 to 60 degrees, close to wide spaced, rough to smooth, planar. Clay smearing on fracture surfaces			
4.00				9							
	100	87	46								
							(3.80)				
5.50											
5.75				NI				5.75m to 5.90m BGL - Non-intact			
5.90											
	93	73	65	9				5.75m to 7.00m BGL - Two Fracture Sets - F1: 0 to 10 degrees, close spaced, smooth, planar; F2: 40 to 60 degrees, close to wide spaced, rough to smooth, planar. Clay smearing on fracture surfaces			
7.00						48.56	7.00	Complete at 7.00m			

Remarks
No groundwater encountered
Cable percussion to 2.30m BGL with rotary core follow-on to 7.00m BGL
50mm standpipe installed in borehole upon completion. Slotted pipe with pea gravel surround from 7.00m BGL to 1.50m BGL, plain pipe with bentonite seal from 1.50m BGL to ground level with raised cover.
Chiselling from 2.30m to 2.30m for 1.00 hour.

Scale (approx)	Logged By
1:50	NK

Figure No. 15401-03-26.BH-05

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Borehole Number** BH-06
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 3.50m	**Ground Level (mOD)** 55.85	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 707995.7 E 732818.9 N	**Dates** 25/06/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50 0.50	B ES					(1.40)	MADE GROUND: Brown slightly sandy gravelly Clay with fragments of timber red brick and roots		
1.00-1.45 1.00	SPT(C) N=32 B			17,15/19,5,4,4	54.45	1.40			
1.50	ES					(0.60)	Firm brown slightly sandy slightly gravelly CLAY with low cobble content		
2.00-2.45 2.00 2.30	SPT(C) N=26 B B			2,3/5,7,7,7	53.85	2.00			
2.50	ES					(1.00)	Stiff greyish brown slightly sandy slightly gravelly CLAY with low cobble content		
3.00-3.32	SPT(C) 50/170			7,10/19,22,9	52.85	3.00			
						(0.50)	Very stiff greyish brown slightly sandy slightly gravelly CLAY with low cobble content		
					52.35	3.50	Chiselling on obstruction		
							Terminated at 3.50m		

Remarks
No groundwater encountered
Refusal at 3.50m due to chiselling on obstruction
Borehole backfilled at 3.50m BGL
Chiselling from 3.50m to 3.50m for 1.00 hour.

Scale (approx)	Logged By
1:50	NK

Figure No. 15401-03-26.BH-06

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Borehole Number** BH-06A
Machine : Beretta T44 **Flush :** Water **Core Dia :** 63.5 mm **Method :** Rotary Cored	**Casing Diameter** 96mm cased to 8.50m	**Ground Level (mOD)** 55.41	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 707996.3 E 732831.2 N	**Dates** 23/07/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.00											
	80					54.91	(0.50) 0.50	MADE GROUND: Brown slightly sandy gravelly Clay with fragments of red brick			
							(0.50)	Brown slightly sandy gravelly CLAY with low cobble content			
1.00						54.41	1.00				
1.00-1.45	50				3,5/7,7,10,15 SPT(C) N=39		(1.50)	Recovery consists of brown slightly sandy gravelly Clay with medium cobble content			
2.50						52.91	2.50				
2.50-2.78					8,12/25,25 SPT(C) 50/130		(0.80)	COBBLES and BOULDERS of Limestone			
3.30	77	20	7	8		52.11	3.30	Medium strong thinly bedded dark grey fine grained argillaceous LIMESTONE interbeddded with black calcareous MUDSTONE. Fresh to slightly weathered with occasional calcite veins. 3.30m to 4.20m BGL - Three Fracture Sets - F1: 0 to 10 degrees, close to wide spaced, smooth, planar; F2: 20 to 40 degrees, close spaced, smooth, planar; F3: 70 to 90 degrees, close to wide spaced, smooth, planar undulating			
4.00											
4.20	87	41	28	NI				4.20m to 5.00m BGL - Non-intact			
5.00											
5.50	93	55	28	12			(5.20)	5.00m to 8.20m BGL - Three Fracture Sets - F1: 0 to 10 degrees, close to wide spaced, smooth, planar; F2: 20 to 40 degrees, close spaced, smooth, planar; F3: 70 to 90 degrees, close to wide spaced, smooth, planar undulating. Clay smearing on fracture surfaces			
7.00	93	57	37								
8.20				NI				8.20m to 8.35m BGL - Non-intact			
8.35								8.35m to 8.50m BGL - Single Fracture - 0 to 10 degrees, rough to smooth, undulating			
8.50						46.91	8.50	Complete at 8.50m			

Remarks
Borehole complete at 8.50m BGL
50mm standpipe installed in borehole upon complete. Slotted pipe with pea gravel surround from 8.50m BGL to 1.50m BGL, plain pipe with bentonite seal from 1.50m BGL to ground level with raised cover.

Scale (approx)	Logged By
1:50	NK

Figure No. 15401-03-26.BH-01

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Phase 3 Site 5B			**Borehole Number** BH-07
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 200mm cased to 2.30m	**Ground Level (mOD)** 56.19	**Client** The Land Development Agency	**Job Number** 15401-03-26
	Location 708026.9 E 732791.9 N	**Dates** 25/06/2026	**Engineer** Waterman Moylan	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					56.09	0.10	TOPSOIL		
						(0.60)	MADE GROUND: Brown slightly sandy gravelly Clay with occasional fragments of red brick and concrete		
0.50	B								
0.50	ES				55.49	0.70			
						(0.30)	Firm greyish brown slightly sandy gravelly CLAY with low cobble content		
1.00-1.45	SPT(C) N=23			2,3/4,5,7,7	55.19	1.00			
1.00	B						Stiff greyish brown slightly sandy gravelly CLAY with low cobble content		
1.50	ES					(1.10)			
2.00-2.24	SPT(C) 50/90			10,15/24,26	54.09	2.10			
2.00	B					(0.20)	Very stiff dark grey slightly sandy gravelly CLAY with low cobble content and low boulder content		
2.30	ES				53.89	2.30	Chiselling on obstruction		
							Terminated at 2.30m		

Remarks
No groundwater encountered
Refusal at 2.30m
Borehole backfilled at 2.30m BGL
Chiselling from 2.30m to 2.30m for 1.00 hour.

Scale (approx)	Logged By
1:50	NK

Figure No. 15401-03-26.BH-07

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Cherry Orchard Phase 3 Site 5B – Rotary Core Photographs

BH-01



BH-01



Cherry Orchard Phase 3 Site 5B – Rotary Core Photographs

BH-04



BH-04



Cherry Orchard Phase 3 Site 5B – Rotary Core Photographs

BH-05



BH-05



Cherry Orchard Phase 3 Site 5B – Rotary Core Photographs

BH-06A



BH-06A



Cherry Orchard Phase 3 Site 5B – Rotary Core Photographs

BH-06A



APPENDIX 7 – Laboratory Testing

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	James Cashen
Date :	15th July, 2026
Your reference :	15400-03-26
Our reference :	Test Report 26/9695 Batch 1
Location :	Cherry Orchard Phase 3 Site 5B
Date samples received :	19th June, 2026
Status :	Final report
Issue :	202607151028

Twenty six samples were received for analysis on 19th June, 2026 of which twenty three 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 - 157.687 kg of CO2

Scope 1&2&3 emissions - 372.656 kg of CO2

Authorised By:

Sean Anglish
Project Coordinator

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : Solid

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

EMT Sample No.	17-20	21-24	25-28	31,33,36	32,34-35	39,41,44	40,42-43	47,51-52	48-50	53-56	LOD/LOR	Units	Method No.
Sample ID	TP-31	TP-31	TP-31	TP-34	TP-33	TP-34	TP-33	TP-33	TP-34	TP-35			
Depth	0.50	1.50	2.50	0.50	0.50	1.50	1.50	2.50	2.50	0.50			
COC No / misc													
Containers	V J T	V J T	V J T	J T	J T	J T	J T	J T	J T	V J T			
Sample Date	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
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	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026			
Antimony	3	2	2	3	3	2	3	3	2	3	<1	mg/kg	TM30/PM15
Arsenic #	15.2	8.2	8.3	14.5	12.6	9.4	13.0	6.7	5.3	12.3	<0.5	mg/kg	TM30/PM15
Barium #	96	56	35	154	116	52	91	31	28	99	<1	mg/kg	TM30/PM15
Cadmium #	3.3	2.0	1.5	4.0	3.3	2.1	3.4	1.5	1.2	2.4	<0.3	mg/kg	TM30/PM15
Chromium #	29.0	27.5	18.6	41.8	56.2	37.6	34.6	21.5	22.6	62.7	<0.5	mg/kg	TM30/PM15
Copper #	46	27	25	51	50	33	46	24	19	45	<1	mg/kg	TM30/PM15
Lead #	34	17	14	97	69	15	24	13	9	71	<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	3.2	4.3	2.6	5.1	5.6	4.2	5.5	5.3	4.3	5.8	<0.1	mg/kg	TM30/PM15
Nickel #	71.5	34.4	38.6	55.6	54.5	43.5	61.8	43.9	35.0	47.0	<0.7	mg/kg	TM30/PM15
Selenium #	2	1	1	2	2	<1	2	2	1	2	<1	mg/kg	TM30/PM15
Zinc #	140	88	69	147	149	93	131	72	51	139	<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	0.27	<0.03	<0.03	<0.03	<0.03	<0.03	0.12	<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	0.30	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03	0.33	<0.03	<0.03	<0.03	<0.03	<0.03	0.16	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	0.19	<0.06	<0.06	<0.06	<0.06	<0.06	0.13	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	0.19	<0.02	<0.02	<0.02	<0.02	<0.02	0.25	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	0.26	<0.07	<0.07	<0.07	<0.07	<0.07	0.17	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	0.17	<0.04	<0.04	<0.04	<0.04	<0.04	0.10	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	0.09	<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	0.09	<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	0.91	<0.22	<0.22	<0.22	<0.22	<0.22	0.27	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	1.89	<0.64	<0.64	<0.64	<0.64	<0.64	0.93	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	0.19	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	0.05	<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	96	97	111	103	116	106	100	115	99	110	<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

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : Solid

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

EMT Sample No.	17-20	21-24	25-28	31,33,36	32,34-35	39,41,44	40,42-43	47,51-52	48-50	53-56	LOD/LOR	Units	Method No.
Sample ID	TP-31	TP-31	TP-31	TP-34	TP-33	TP-34	TP-33	TP-33	TP-34	TP-35			
Depth	0.50	1.50	2.50	0.50	0.50	1.50	1.50	2.50	2.50	0.50			
COC No / misc													
Containers	V J T	V J T	V J T	J T	J T	J T	J T	J T	J T	V J T			
Sample Date	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
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	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026			
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	2.1	<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/TM36/PM8/PM12/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	1.5	<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/TM36/PM8/PM12/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/TM36/PM8/PM12/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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : Solid

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

EMT Sample No.	17-20	21-24	25-28	31,33,36	32,34-35	39,41,44	40,42-43	47,51-52	48-50	53-56	LOD/LOR	Units	Method No.
Sample ID	TP-31	TP-31	TP-31	TP-34	TP-33	TP-34	TP-33	TP-33	TP-34	TP-35			
Depth	0.50	1.50	2.50	0.50	0.50	1.50	1.50	2.50	2.50	0.50			
COC No / misc													
Containers	V J T	V J T	V J T	J T	J T	J T	J T	J T	J T	V J T			
Sample Date	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
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	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026			
Natural Moisture Content	15.4	11.3	13.2	18.1	14.6	12.7	18.3	21.4	23.4	21.3	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	13.3	10.1	11.7	15.3	12.7	11.3	15.5	17.6	19.0	17.5	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Chromium III	29.0	27.5	18.6	41.8	56.2	37.6	34.6	21.5	22.6	62.7	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.77	0.27	0.32	2.01	1.08	0.21	0.47	0.25	0.13	2.02	<0.02	%	TM21/PM24
Loss on Ignition #	4.7	1.7	2.5	7.7	5.9	2.7	4.4	3.1	2.8	7.0	<1.0	%	TM22/PM0
pH #	8.38	8.63	8.71	7.92	8.23	8.43	8.32	8.56	8.59	7.94	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : Solid

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

EMT Sample No.	57-60	61-64	65-66	67-70	71-74	75-78	79-82	83-86	87-92	93-96	LOD/LOR	Units	Method No.
Sample ID	TP-35	TP-35	SA-01	SA-01	SA-02	SA-02	SA-03	SA-03	SA-04	SA-04			
Depth	1.50	2.50	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 T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
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	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026			
Antimony	2	2	3	3	3	2	3	2	3	2	<1	mg/kg	TM30/PM15
Arsenic #	8.5	8.3	13.7	11.8	14.4	13.6	16.0	10.0	14.0	7.9	<0.5	mg/kg	TM30/PM15
Barium #	57	57	128	71	130	53	84	65	134	48	<1	mg/kg	TM30/PM15
Cadmium #	1.7	1.6	3.4	2.3	3.4	2.1	2.8	2.0	2.9	2.1	<0.3	mg/kg	TM30/PM15
Chromium #	42.4	32.6	61.9	40.5	25.3	15.0	44.9	28.6	49.8	24.5	<0.5	mg/kg	TM30/PM15
Copper #	28	30	54	82	50	31	47	33	47	26	<1	mg/kg	TM30/PM15
Lead #	15	30	50	48	94	16	22	22	50	11	<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 #	4.1	3.7	5.4	4.8	3.5	3.9	5.2	4.0	4.8	4.4	<0.1	mg/kg	TM30/PM15
Nickel #	42.0	38.4	66.8	48.5	51.8	37.7	68.2	42.9	57.3	37.9	<0.7	mg/kg	TM30/PM15
Selenium #	<1	1	2	1	2	<1	2	<1	2	<1	<1	mg/kg	TM30/PM15
Zinc #	92	81	152	168	148	89	144	92	140	100	<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	0.06	0.07	0.13	<0.03	<0.03	<0.03	0.16	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	0.07	<0.04	<0.04	<0.04	<0.04	0.12	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	0.06	0.09	0.17	<0.03	<0.03	<0.03	0.61	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	0.05	0.08	0.16	<0.03	<0.03	<0.03	0.56	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	<0.06	0.10	<0.06	<0.06	<0.06	0.38	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	0.05	<0.02	0.10	<0.02	<0.02	<0.02	0.73	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	0.09	0.16	<0.07	<0.07	<0.07	0.53	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	0.06	0.10	<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	0.07	<0.04	<0.04	<0.04	0.16	<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	0.07	<0.04	<0.04	<0.04	0.15	<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	0.24	0.57	<0.22	<0.22	<0.22	1.45	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	<0.64	1.06	<0.64	<0.64	<0.64	3.40	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	0.06	0.12	<0.05	<0.05	<0.05	0.38	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	0.03	0.04	<0.02	<0.02	<0.02	0.15	<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	107	96	102	93	97	101	110	108	96	90	<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

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : Solid

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

EMT Sample No.	57-60	61-64	65-66	67-70	71-74	75-78	79-82	83-86	87-92	93-96	LOD/LOR	Units	Method No.
Sample ID	TP-35	TP-35	SA-01	SA-01	SA-02	SA-02	SA-03	SA-03	SA-04	SA-04			
Depth	1.50	2.50	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 T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
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	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026			
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	10	<7	<7	18	<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/TM36/PM8/PM12/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	12	<10	<10	17	<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	15	<7	<7	<7	<7	<7	14	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	12	<7	<7	<7	<7	<7	10	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	27	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TM5/TM36/PM8/PM12/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/TM36/PM8/PM12/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	14	<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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : Solid

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

EMT Sample No.	57-60	61-64	65-66	67-70	71-74	75-78	79-82	83-86	87-92	93-96	LOD/LOR	Units	Method No.
Sample ID	TP-35	TP-35	SA-01	SA-01	SA-02	SA-02	SA-03	SA-03	SA-04	SA-04			
Depth	1.50	2.50	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 T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
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	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026			
Natural Moisture Content	18.3	17.3	15.9	16.3	15.7	10.8	21.6	12.4	16.0	12.9	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	15.5	14.8	13.7	14.0	13.6	9.8	17.8	11.1	13.8	11.4	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Chromium III	42.4	32.6	61.9	40.5	25.3	15.0	44.9	28.6	49.8	24.5	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.34	0.33	1.20	0.93	1.70	0.26	0.72	0.52	2.29	0.31	<0.02	%	TM21/PM24
Loss on Ignition #	3.2	3.3	6.0	4.5	6.5	2.3	5.5	3.2	7.2	2.5	<1.0	%	TM22/PM0
pH #	8.38	8.32	8.31	8.37	8.13	8.69	8.13	8.46	8.18	8.24	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : Solid

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

EMT Sample No.	97-100	101-104	105-108								LOD/LOR	Units	Method No.
Sample ID	TP-32	TP-32	TP-32										
Depth	0.50	1.50	2.50										
COC No / misc													
Containers	V J T	V J T	V J T										
Sample Date	16/06/2026	16/06/2026	16/06/2026										
Sample Type	Soil	Soil	Soil										
Batch Number	1	1	1										
Date of Receipt	19/06/2026	19/06/2026	19/06/2026										
Antimony	2	2	2								<1	mg/kg	TM30/PM15
Arsenic #	11.5	9.2	10.9								<0.5	mg/kg	TM30/PM15
Barium #	152	45	86								<1	mg/kg	TM30/PM15
Cadmium #	3.7	1.9	2.3								<0.3	mg/kg	TM30/PM15
Chromium #	54.8	28.4	33.5								<0.5	mg/kg	TM30/PM15
Copper #	28	31	34								<1	mg/kg	TM30/PM15
Lead #	31	14	21								<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1								<0.1	mg/kg	TM30/PM15
Molybdenum #	5.4	3.4	4.5								<0.1	mg/kg	TM30/PM15
Nickel #	46.4	39.3	42.9								<0.7	mg/kg	TM30/PM15
Selenium #	2	<1	1								<1	mg/kg	TM30/PM15
Zinc #	121	82	106								<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03								<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05								<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06								<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02								<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07								<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	<0.22								<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64								<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05								<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02								<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1								<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	104	99	93								<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30								<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : Solid

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

EMT Sample No.	97-100	101-104	105-108								LOD/LOR	Units	Method No.
Sample ID	TP-32	TP-32	TP-32										
Depth	0.50	1.50	2.50										
COC No / misc													
Containers	V J T	V J T	V J T										
Sample Date	16/06/2026	16/06/2026	16/06/2026										
Sample Type	Soil	Soil	Soil										
Batch Number	1	1	1										
Date of Receipt	19/06/2026	19/06/2026	19/06/2026										
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<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	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL) #	<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	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4								<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26								<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	<10								<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10								<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	<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	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<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	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4								<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26								<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52								<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10								<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10								<10	mg/kg	TM5/PM8/PM16
MTBE #	<5	<5	<5								<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5								<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5								<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5								<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5								<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5								<5	ug/kg	TM36/PM12
PCB 28 #	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 52 #	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 101 #	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 118 #	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 138 #	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 153 #	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 180 #	<5	<5	<5								<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<35	<35								<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : Solid

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

EMT Sample No.	97-100	101-104	105-108								LOD/LOR	Units	Method No.
Sample ID	TP-32	TP-32	TP-32										
Depth	0.50	1.50	2.50										
COC No / misc													
Containers	V J T	V J T	V J T										
Sample Date	16/06/2026	16/06/2026	16/06/2026										
Sample Type	Soil	Soil	Soil										
Batch Number	1	1	1										
Date of Receipt	19/06/2026	19/06/2026	19/06/2026										
Natural Moisture Content	12.9	10.5	13.2								<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	11.4	9.5	11.7								<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3								<0.3	mg/kg	TM38/PM20
Chromium III	54.8	28.4	33.5								<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.74	0.29	1.13								<0.02	%	TM21/PM24
Loss on Ignition #	4.9	2.3	3.7								<1.0	%	TM22/PM0
pH #	8.08	8.31	8.40								<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : CEN 10:1 1 Batch

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

EMT Sample No.	17-20	21-24	25-28	31,33,36	32,34-35	39,41,44	40,42-43	47,51-52	48-50	53-56	LOD/LOR	Units	Method No.
Sample ID	TP-31	TP-31	TP-31	TP-34	TP-33	TP-34	TP-33	TP-33	TP-34	TP-35			
Depth	0.50	1.50	2.50	0.50	0.50	1.50	1.50	2.50	2.50	0.50			
COC No / misc													
Containers	V J T	V J T	V J T	J T	J T	J T	J T	J T	J T	V J T			
Sample Date	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
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	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026			
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
Dissolved Barium #	<0.003	<0.003	<0.003	<0.003	0.003	<0.003	<0.003	<0.003	<0.003	0.003	<0.003	mg/l	TM170/PM14
Dissolved Barium (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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
Dissolved Molybdenum #	0.002	0.006	0.008	0.006	0.005	0.007	0.009	0.014	0.016	0.003	<0.002	mg/l	TM170/PM14
Dissolved Molybdenum (A10) #	0.02	0.06	0.08	0.06	0.05	0.07	0.09	0.14	0.16	0.03	<0.02	mg/kg	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	<0.3	0.6	0.6	0.4	0.4	0.4	<0.3	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	4	<3	<3	6	6	4	4	4	<3	<3	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.6	34.6	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5	<5	<5	<5	<5	<5	<5	<5	6	346	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1056	0.0996	0.1033	0.1073	0.108	0.0997	0.1078	0.1079	0.1061	0.1117		kg	NONE/PM17
Chloride #	<0.3	<0.3	0.4	<0.3	0.5	<0.3	0.3	<0.3	<0.3	<0.3	<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	4	<3	5	<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	3	<2	<2	<2	<2	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	30	<20	<20	<20	<20	<20	<20	<20	mg/kg	TM60/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : CEN 10:1 1 Batch

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

EMT Sample No.	17-20	21-24	25-28	31,33,36	32,34-35	39,41,44	40,42-43	47,51-52	48-50	53-56	LOD/LOR	Units	Method No.
Sample ID	TP-31	TP-31	TP-31	TP-34	TP-33	TP-34	TP-33	TP-33	TP-34	TP-35			
Depth	0.50	1.50	2.50	0.50	0.50	1.50	1.50	2.50	2.50	0.50			
COC No / misc													
Containers	V J T	V J T	V J T	J T	J T	J T	J T	J T	J T	V J T			
Sample Date	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
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	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026			
pH	7.97	8.05	8.06	8.04	8.05	7.97	7.97	8.11	7.97	8.03	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	55	41	41	82	80	47	53	45	49	125	<35	mg/l	TM20/PM0
Total Dissolved Solids #	550	410	410	820	800	470	530	450	490	1251	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : CEN 10:1 1 Batch

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	57-60	61-64	65-66	67-70	71-74	75-78	79-82	83-86	87-92	93-96	LOD/LOR	Units	Method No.
Sample ID	TP-35	TP-35	SA-01	SA-01	SA-02	SA-02	SA-03	SA-03	SA-04	SA-04			
Depth	1.50	2.50	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 T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
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	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026			
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
Dissolved Barium #	<0.003	<0.003	<0.003	<0.003	0.004	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM170/PM14
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
Dissolved Molybdenum #	0.005	0.005	0.004	0.008	0.006	0.003	0.002	0.007	0.004	0.013	<0.002	mg/l	TM170/PM14
Dissolved Molybdenum (A10) #	0.05	0.05	0.04	0.08	0.06	0.03	0.02	0.07	0.04	0.13	<0.02	mg/kg	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	0.6	0.4	0.5	0.5	0.5	0.4	0.6	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	<3	<3	6	4	5	5	5	4	6	<3	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	15.5	12.6	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	155	126	<5	<5	<5	5	<5	<5	<5	<5	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1081	0.1072	0.104	0.1034	0.1037	0.1024	0.1059	0.1057	0.1056	0.1009		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	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

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : CEN 10:1 1 Batch

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

EMT Sample No.	57-60	61-64	65-66	67-70	71-74	75-78	79-82	83-86	87-92	93-96	LOD/LOR	Units	Method No.
Sample ID	TP-35	TP-35	SA-01	SA-01	SA-02	SA-02	SA-03	SA-03	SA-04	SA-04			
Depth	1.50	2.50	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 T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026			
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	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026			
pH	7.10	7.88	8.05	8.07	8.10	8.02	8.07	8.04	8.24	7.87	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	80	76	67	61	73	47	60	47	66	46	<35	mg/l	TM20/PM0
Total Dissolved Solids #	800	760	670	610	730	470	600	470	660	460	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : CEN 10:1 1 Batch

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	97-100	101-104	105-108								LOD/LOR	Units	Method No.
Sample ID	TP-32	TP-32	TP-32										
Depth	0.50	1.50	2.50										
COC No / misc													
Containers	V J T	V J T	V J T										
Sample Date	16/06/2026	16/06/2026	16/06/2026										
Sample Type	Soil	Soil	Soil										
Batch Number	1	1	1										
Date of Receipt	19/06/2026	19/06/2026	19/06/2026										
Dissolved Antimony #	<0.002	<0.002	<0.002								<0.002	mg/l	TM170/PM14
Dissolved Antimony (A10) #	<0.02	<0.02	<0.02								<0.02	mg/kg	TM170/PM14
Dissolved Arsenic #	<0.0025	<0.0025	<0.0025								<0.0025	mg/l	TM170/PM14
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025								<0.025	mg/kg	TM170/PM14
Dissolved Barium #	<0.003	<0.003	<0.003								<0.003	mg/l	TM170/PM14
Dissolved Barium (A10) #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM170/PM14
Dissolved Cadmium #	<0.0005	<0.0005	<0.0005								<0.0005	mg/l	TM170/PM14
Dissolved Cadmium (A10) #	<0.005	<0.005	<0.005								<0.005	mg/kg	TM170/PM14
Dissolved Chromium #	<0.0015	<0.0015	<0.0015								<0.0015	mg/l	TM170/PM14
Dissolved Chromium (A10) #	<0.015	<0.015	<0.015								<0.015	mg/kg	TM170/PM14
Dissolved Copper #	<0.007	<0.007	<0.007								<0.007	mg/l	TM170/PM14
Dissolved Copper (A10) #	<0.07	<0.07	<0.07								<0.07	mg/kg	TM170/PM14
Dissolved Lead #	<0.005	<0.005	<0.005								<0.005	mg/l	TM170/PM14
Dissolved Lead (A10) #	<0.05	<0.05	<0.05								<0.05	mg/kg	TM170/PM14
Dissolved Molybdenum #	0.003	0.004	0.010								<0.002	mg/l	TM170/PM14
Dissolved Molybdenum (A10) #	0.03	0.04	0.10								<0.02	mg/kg	TM170/PM14
Dissolved Nickel #	<0.002	<0.002	<0.002								<0.002	mg/l	TM170/PM14
Dissolved Nickel (A10) #	<0.02	<0.02	<0.02								<0.02	mg/kg	TM170/PM14
Dissolved Selenium #	<0.003	<0.003	<0.003								<0.003	mg/l	TM170/PM14
Dissolved Selenium (A10) #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM170/PM14
Dissolved Zinc #	<0.003	<0.003	<0.003								<0.003	mg/l	TM170/PM14
Dissolved Zinc (A10) #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM170/PM14
Mercury Dissolved by CVAF #	<0.00001	<0.00001	<0.00001								<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001	<0.0001								<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1								<0.1	mg/kg	TM26/PM0
Fluoride	0.5	<0.3	<0.3								<0.3	mg/l	TM173/PM0
Fluoride	5	<3	<3								<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5	<0.5	<0.5								<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5	<5	<5								<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1051	0.1023	0.1016									kg	NONE/PM17
Chloride #	<0.3	<0.3	<0.3								<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	<3								<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09									kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2								<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20								<20	mg/kg	TM60/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : CEN 10:1 1 Batch

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

EMT Sample No.	97-100	101-104	105-108									
Sample ID	TP-32	TP-32	TP-32									
Depth	0.50	1.50	2.50									
COC No / misc												
Containers	V J T	V J T	V J T									
Sample Date	16/06/2026	16/06/2026	16/06/2026									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	19/06/2026	19/06/2026	19/06/2026									

Please see attached notes for all abbreviations and acronyms

				LOD/LOR	Units	Method No.
pH	8.10	7.98	7.99	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	56	39	43	<35	mg/l	TM20/PM0
Total Dissolved Solids #	560	390	430	<350	mg/kg	TM20/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : EN12457_2

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

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.

EMT Sample No.	17-20	21-24	25-28	31,33,36	32,34-35	39,41,44	40,42-43	47,51-52	48-50	53-56						
Sample ID	TP-31	TP-31	TP-31	TP-34	TP-33	TP-34	TP-33	TP-33	TP-34	TP-35						
Depth	0.50	1.50	2.50	0.50	0.50	1.50	1.50	2.50	2.50	0.50						
COC No / misc																
Containers	V J T	V J T	V J T	J T	J T	J T	J T	J T	J T	V J T						
Sample Date	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026						
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	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	0.77	0.27	0.32	2.01	1.08	0.21	0.47	0.25	0.13	2.02	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035+	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	0.91	<0.22	<0.22	<0.22	<0.22	<0.22	0.27	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	1.89	<0.64	<0.64	<0.64	<0.64	<0.64	0.93	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM170/PM14
Barium #	<0.03	<0.03	<0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	0.03	20	100	300	<0.03	mg/kg	TM170/PM14
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1	5	<0.005	mg/kg	TM170/PM14
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10	70	<0.015	mg/kg	TM170/PM14
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM170/PM14
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.02	0.06	0.08	0.06	0.05	0.07	0.09	0.14	0.16	0.03	0.5	10	30	<0.02	mg/kg	TM170/PM14
Nickel #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	10	40	<0.02	mg/kg	TM170/PM14
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM170/PM14
Antimony #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.7	5	<0.02	mg/kg	TM170/PM14
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM170/PM14
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM170/PM14
Total Dissolved Solids #	550	410	410	820	800	470	530	450	490	1251	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	30	<20	<20	<20	<20	<20	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1056	0.0996	0.1033	0.1073	0.108	0.0997	0.1078	0.1079	0.1061	0.1117	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	84.8	90.7	87.5	83.9	83.2	90.0	83.4	83.5	84.5	80.7	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.884	0.891	0.887	0.883	0.882	0.89	0.882	0.882	0.884	0.879	-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	17.9	10.3	14.3	19.1	20.2	11.1	19.9	19.8	18.3	23.8	-	-	-	<0.1	%	PM4/PM0
pH #	8.38	8.63	8.71	7.92	8.23	8.43	8.32	8.56	8.59	7.94	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	4	<3	<3	6	6	4	4	4	<3	<3	10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5	<5	<5	<5	<5	<5	<5	<5	6	346	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	4	<3	5	<3	<3	<3	<3	<3	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : EN12457_2

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

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.

EMT Sample No.	57-60	61-64	65-66	67-70	71-74	75-78	79-82	83-86	87-92	93-96						
Sample ID	TP-35	TP-35	SA-01	SA-01	SA-02	SA-02	SA-03	SA-03	SA-04	SA-04						
Depth	1.50	2.50	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 T	V J T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026	16/06/2026						
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	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	19/06/2026	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	0.34	0.33	1.20	0.93	1.70	0.26	0.72	0.52	2.29	0.31	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035+	<0.035+	<0.035+	<0.035+	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	0.24	0.57	<0.22	<0.22	<0.22	1.45	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	1.06	<0.64	<0.64	<0.64	3.40	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM170/PM14
Barium #	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	20	100	300	<0.03	mg/kg	TM170/PM14
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1	5	<0.005	mg/kg	TM170/PM14
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10	70	<0.015	mg/kg	TM170/PM14
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM170/PM14
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.05	0.05	0.04	0.08	0.06	0.03	0.02	0.07	0.04	0.13	0.5	10	30	<0.02	mg/kg	TM170/PM14
Nickel #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	10	40	<0.02	mg/kg	TM170/PM14
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM170/PM14
Antimony #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.7	5	<0.02	mg/kg	TM170/PM14
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM170/PM14
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM170/PM14
Total Dissolved Solids #	800	760	670	610	730	470	600	470	660	460	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	30	<20	<20	<20	<20	<20	<20	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1081	0.1072	0.104	0.1034	0.1037	0.1024	0.1059	0.1057	0.1056	0.1009	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	83.1	83.9	86.1	86.7	86.8	88.2	84.7	85.0	85.0	89.0	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.882	0.883	0.885	0.886	0.886	0.888	0.884	0.884	0.884	0.889	-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	20.3	19.1	16.2	15.3	15.3	13.4	18.0	17.7	17.7	12.3	-	-	-	<0.1	%	PM4/PM0
pH #	8.38	8.32	8.31	8.37	8.13	8.69	8.13	8.46	8.18	8.24	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	<3	6	4	5	5	5	4	6	<3	10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	155	126	<5	<5	<5	5	<5	<5	<5	<5	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/9695

Report : EN12457_2

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

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.

EMT Sample No.	97-100	101-104	105-108													
Sample ID	TP-32	TP-32	TP-32													
Depth	0.50	1.50	2.50													
COC No / misc																
Containers	V J T	V J T	V J T													
Sample Date	16/06/2026	16/06/2026	16/06/2026													
Sample Type	Soil	Soil	Soil													
Batch Number	1	1	1													
Date of Receipt	19/06/2026	19/06/2026	19/06/2026													
Solid Waste Analysis											Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Total Organic Carbon #	0.74	0.29	1.13								3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025								6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035								1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30								500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22								-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64								100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025								0.5	2	25	<0.025	mg/kg	TM170/PM14
Barium #	<0.03	<0.03	<0.03								20	100	300	<0.03	mg/kg	TM170/PM14
Cadmium #	<0.005	<0.005	<0.005								0.04	1	5	<0.005	mg/kg	TM170/PM14
Chromium #	<0.015	<0.015	<0.015								0.5	10	70	<0.015	mg/kg	TM170/PM14
Copper #	<0.07	<0.07	<0.07								2	50	100	<0.07	mg/kg	TM170/PM14
Mercury #	<0.0001	<0.0001	<0.0001								0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.03	0.04	0.10								0.5	10	30	<0.02	mg/kg	TM170/PM14
Nickel #	<0.02	<0.02	<0.02								0.4	10	40	<0.02	mg/kg	TM170/PM14
Lead #	<0.05	<0.05	<0.05								0.5	10	50	<0.05	mg/kg	TM170/PM14
Antimony #	<0.02	<0.02	<0.02								0.06	0.7	5	<0.02	mg/kg	TM170/PM14
Selenium #	<0.03	<0.03	<0.03								0.1	0.5	7	<0.03	mg/kg	TM170/PM14
Zinc #	<0.03	<0.03	<0.03								4	50	200	<0.03	mg/kg	TM170/PM14
Total Dissolved Solids #	560	390	430								4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20								500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1051	0.1023	0.1016								-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	85.2	87.8	88.2								-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.884	0.887	0.888								-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	17.3	13.9	13.4								-	-	-	<0.1	%	PM4/PM0
pH #	8.08	8.31	8.40								-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1								1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	5	<3	<3								10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5	<5	<5								1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	<3								800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 15400-03-26

Location: Cherry Orchard Phase 3 Site 5B

Contact: James Cashen

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
26/9695	1	TP-31	0.50	17-20	No interpretation possible
26/9695	1	TP-31	1.50	21-24	No interpretation possible
26/9695	1	TP-31	2.50	25-28	No interpretation possible
26/9695	1	TP-34	0.50	31,33,36	No interpretation possible
26/9695	1	TP-33	0.50	32,34-35	No interpretation possible
26/9695	1	TP-34	1.50	39,41,44	No interpretation possible
26/9695	1	TP-33	1.50	40,42-43	No interpretation possible
26/9695	1	TP-33	2.50	47,51-52	No interpretation possible
26/9695	1	TP-34	2.50	48-50	No interpretation possible
26/9695	1	TP-35	0.50	53-56	No interpretation possible
26/9695	1	TP-35	1.50	57-60	No interpretation possible
26/9695	1	TP-35	2.50	61-64	No interpretation possible
26/9695	1	SA-01	0.50	65-66	Naturally occurring compounds
26/9695	1	SA-01	1.50	67-70	No interpretation possible
26/9695	1	SA-02	0.50	71-74	No interpretation possible
26/9695	1	SA-02	1.50	75-78	No interpretation possible
26/9695	1	SA-03	0.50	79-82	No interpretation possible
26/9695	1	SA-03	1.50	83-86	Lubricating oil
26/9695	1	SA-04	0.50	87-92	Naturally occurring compounds
26/9695	1	SA-04	1.50	93-96	No interpretation possible
26/9695	1	TP-32	0.50	97-100	No interpretation possible
26/9695	1	TP-32	1.50	101-104	No interpretation possible
26/9695	1	TP-32	2.50	105-108	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen

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
26/9695	1	TP-31	0.50	20	Matthew Turner	26/06/2026	**General Description (Bulk Analysis)**	Brown soil/Stones
					Matthew Turner	26/06/2026	**Asbestos Fibres**	NAD
					Matthew Turner	26/06/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	26/06/2026	**Asbestos ACM**	NAD
					Matthew Turner	26/06/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	26/06/2026	**Asbestos Type**	NAD
					Matthew Turner	26/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	TP-31	1.50	24	Matthew Turner	26/06/2026	**General Description (Bulk Analysis)**	Brown soil/Stone
					Matthew Turner	26/06/2026	**Asbestos Fibres**	NAD
					Matthew Turner	26/06/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	26/06/2026	**Asbestos ACM**	NAD
					Matthew Turner	26/06/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	26/06/2026	**Asbestos Type**	NAD
					Matthew Turner	26/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	TP-31	2.50	28	Simon Postlewhite	26/06/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	26/06/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos Type**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	TP-33	0.50	35	Kieran Hubbard	03/07/2026	**General Description (Bulk Analysis)**	Brown Soil
					Kieran Hubbard	03/07/2026	**Asbestos Fibres**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos Fibres (2)**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos ACM**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos ACM (2)**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos Type**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos Type (2)**	NAD
26/9695	1	TP-34	0.50	36	Kieran Hubbard	03/07/2026	**General Description (Bulk Analysis)**	brown soil
					Kieran Hubbard	03/07/2026	**Asbestos Fibres**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos Fibres (2)**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos ACM**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos ACM (2)**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos Type**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos Type (2)**	NAD

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/9695	1	TP-33	1.50	43	Kieran Hubbard	06/07/2026	**General Description (Bulk Analysis)**	brown soil
					Kieran Hubbard	06/07/2026	**Asbestos Fibres**	NAD
					Kieran Hubbard	06/07/2026	**Asbestos Fibres (2)**	NAD
					Kieran Hubbard	06/07/2026	**Asbestos ACM**	NAD
					Kieran Hubbard	06/07/2026	**Asbestos ACM (2)**	NAD
					Kieran Hubbard	06/07/2026	**Asbestos Type**	NAD
					Kieran Hubbard	06/07/2026	**Asbestos Type (2)**	NAD
26/9695	1	TP-34	1.50	44	Kieran Hubbard	06/07/2026	**General Description (Bulk Analysis)**	brown soil
					Kieran Hubbard	06/07/2026	**Asbestos Fibres**	NAD
					Kieran Hubbard	06/07/2026	**Asbestos Fibres (2)**	NAD
					Kieran Hubbard	06/07/2026	**Asbestos ACM**	NAD
					Kieran Hubbard	06/07/2026	**Asbestos ACM (2)**	NAD
					Kieran Hubbard	06/07/2026	**Asbestos Type**	NAD
					Kieran Hubbard	06/07/2026	**Asbestos Type (2)**	NAD
26/9695	1	TP-34	2.50	50	Kieran Hubbard	03/07/2026	**General Description (Bulk Analysis)**	brown soil
					Kieran Hubbard	03/07/2026	**Asbestos Fibres**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos Fibres (2)**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos ACM**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos ACM (2)**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos Type**	NAD
					Kieran Hubbard	03/07/2026	**Asbestos Type (2)**	NAD
26/9695	1	TP-33	2.50	52	Miriam Silverlock	03/07/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Miriam Silverlock	03/07/2026	**Asbestos Fibres**	NAD
					Miriam Silverlock	03/07/2026	**Asbestos Fibres (2)**	NAD
					Miriam Silverlock	03/07/2026	**Asbestos ACM**	NAD
					Miriam Silverlock	03/07/2026	**Asbestos ACM (2)**	NAD
					Miriam Silverlock	03/07/2026	**Asbestos Type**	NAD
					Miriam Silverlock	03/07/2026	**Asbestos Type (2)**	NAD
26/9695	1	TP-35	0.50	56	Simon Postlewhite	26/06/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	26/06/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos Type**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	TP-35	1.50	60	Matthew Turner	26/06/2026	**General Description (Bulk Analysis)**	Brown soil/Stone
					Matthew Turner	26/06/2026	**Asbestos Fibres**	NAD
					Matthew Turner	26/06/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	26/06/2026	**Asbestos ACM**	NAD
					Matthew Turner	26/06/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	26/06/2026	**Asbestos Type**	NAD
					Matthew Turner	26/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	TP-35	2.50	64	Matthew Turner	26/06/2026	**General Description (Bulk Analysis)**	Brown soil/Stones
					Matthew Turner	26/06/2026	**Asbestos Fibres**	NAD
					Matthew Turner	26/06/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	26/06/2026	**Asbestos ACM**	NAD
					Matthew Turner	26/06/2026	**Asbestos ACM (2)**	NAD

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/9695	1	TP-35	2.50	64	Matthew Turner	26/06/2026	**Asbestos Type**	NAD
					Matthew Turner	26/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	SA-01	0.50	66	Simon Postlewhite	26/06/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	26/06/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos Type**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	SA-01	1.50	70	Simon Postlewhite	26/06/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	26/06/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos Type**	NAD
					Simon Postlewhite	26/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	SA-02	0.50	74	Matthew Turner	26/06/2026	**General Description (Bulk Analysis)**	Brown soil/Stone
					Matthew Turner	26/06/2026	**Asbestos Fibres**	NAD
					Matthew Turner	26/06/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	26/06/2026	**Asbestos ACM**	NAD
					Matthew Turner	26/06/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	26/06/2026	**Asbestos Type**	NAD
					Matthew Turner	26/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	SA-02	1.50	78	Matthew Turner	26/06/2026	**General Description (Bulk Analysis)**	Brown soil/Stone
					Matthew Turner	26/06/2026	**Asbestos Fibres**	NAD
					Matthew Turner	26/06/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	26/06/2026	**Asbestos ACM**	NAD
					Matthew Turner	26/06/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	26/06/2026	**Asbestos Type**	NAD
					Matthew Turner	26/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	SA-03	0.50	82	Matthew Turner	26/06/2026	**General Description (Bulk Analysis)**	Brown soil/Stone
					Matthew Turner	26/06/2026	**Asbestos Fibres**	NAD
					Matthew Turner	26/06/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	26/06/2026	**Asbestos ACM**	NAD
					Matthew Turner	26/06/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	26/06/2026	**Asbestos Type**	NAD
					Matthew Turner	26/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	SA-03	1.50	86	Kieran Hubbard	30/06/2026	**General Description (Bulk Analysis)**	brown soil
					Kieran Hubbard	30/06/2026	**Asbestos Fibres**	NAD
					Kieran Hubbard	30/06/2026	**Asbestos Fibres (2)**	NAD
					Kieran Hubbard	30/06/2026	**Asbestos ACM**	NAD
					Kieran Hubbard	30/06/2026	**Asbestos ACM (2)**	NAD
					Kieran Hubbard	30/06/2026	**Asbestos Type**	NAD
					Kieran Hubbard	30/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	SA-04	0.50	91	Mathew Day	30/06/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Mathew Day	30/06/2026	**Asbestos Fibres**	NAD

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/9695	1	SA-04	0.50	91	Mathew Day	30/06/2026	**Asbestos Fibres (2)**	NAD
					Mathew Day	30/06/2026	**Asbestos ACM**	NAD
					Mathew Day	30/06/2026	**Asbestos ACM (2)**	NAD
					Mathew Day	30/06/2026	**Asbestos Type**	NAD
					Mathew Day	30/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	SA-04	1.50	96	Miriam Silverlock	30/06/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Miriam Silverlock	30/06/2026	**Asbestos Fibres**	NAD
					Miriam Silverlock	30/06/2026	**Asbestos Fibres (2)**	NAD
					Miriam Silverlock	30/06/2026	**Asbestos ACM**	NAD
					Miriam Silverlock	30/06/2026	**Asbestos ACM (2)**	NAD
					Miriam Silverlock	30/06/2026	**Asbestos Type**	NAD
					Miriam Silverlock	30/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	TP-32	0.50	100	Kieran Hubbard	30/06/2026	**General Description (Bulk Analysis)**	Brown soil
					Kieran Hubbard	30/06/2026	**Asbestos Fibres**	NAD
					Kieran Hubbard	30/06/2026	**Asbestos Fibres (2)**	NAD
					Kieran Hubbard	30/06/2026	**Asbestos ACM**	NAD
					Kieran Hubbard	30/06/2026	**Asbestos ACM (2)**	NAD
					Kieran Hubbard	30/06/2026	**Asbestos Type**	NAD
					Kieran Hubbard	30/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	TP-32	1.50	104	Matthew Turner	29/06/2026	**General Description (Bulk Analysis)**	Brown soil/Stones
					Matthew Turner	29/06/2026	**Asbestos Fibres**	NAD
					Matthew Turner	29/06/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	29/06/2026	**Asbestos ACM**	NAD
					Matthew Turner	29/06/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	29/06/2026	**Asbestos Type**	NAD
					Matthew Turner	29/06/2026	**Asbestos Type (2)**	NAD
26/9695	1	TP-32	2.50	108	Matthew Turner	29/06/2026	**General Description (Bulk Analysis)**	Brown soil/Stones
					Matthew Turner	29/06/2026	**Asbestos Fibres**	NAD
					Matthew Turner	29/06/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	29/06/2026	**Asbestos ACM**	NAD
					Matthew Turner	29/06/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	29/06/2026	**Asbestos Type**	NAD
					Matthew Turner	29/06/2026	**Asbestos Type (2)**	NAD

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 15400-03-26

Location: Cherry Orchard Phase 3 Site 5B

Contact: James Cashen

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
26/9695	1	TP-31	1.50	21-24	PCB	Sample holding time exceeded
26/9695	1	TP-31	2.50	25-28	PCB	Sample holding time exceeded
26/9695	1	TP-34	0.50	31,33,36	EPH	Sample holding time exceeded
26/9695	1	TP-33	0.50	32,34-35	PCB	Sample holding time exceeded
26/9695	1	TP-35	0.50	53-56	EPH, PCB	Sample holding time exceeded
26/9695	1	TP-35	1.50	57-60	PCB	Sample holding time exceeded
26/9695	1	SA-03	0.50	79-82	PCB	Sample holding time exceeded
26/9695	1	SA-03	1.50	83-86	PCB	Sample holding time exceeded
26/9695	1	SA-04	0.50	87-92	PCB	Sample holding time exceeded
26/9695	1	SA-04	1.50	93-96	PCB	Sample holding time exceeded
26/9695	1	TP-32	0.50	97-100	PCB	Sample holding time exceeded
26/9695	1	TP-32	1.50	101-104	PCB	Sample holding time exceeded

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.

Please include all sections of this report if it is reproduced

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 26/9695

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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.

Date

The dates of the performance of laboratory activity are available on request.

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-quantitively, 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: 26/9695

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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: 26/9695

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM22	Modified BS1377-3:1990 Gravimetric determination of Loss on Ignition by temperature controlled Muffle Furnace (35C-440C). On request modified ASTM D2974-00 LOI (105C-440C)	PM0	No preparation is required.	Yes		AD	Yes
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
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 GCFID 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 GCFID 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: 2013l	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: 2013l	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: 26/9695

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	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 of 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. Please note to follow the standard implicitly 2kg of sample is required.				
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	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	James Cashen
Date :	13th July, 2026
Your reference :	15400-03-26
Our reference :	Test Report 26/10200 Batch 1
Location :	Cherry Orchard Phase 3 Site 5A
Date samples received :	29th June, 2026
Status :	Final Report
Issue :	202607131152

Thirteen samples were received for analysis on 29th June, 2026 of which thirteen 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 - 69.287 kg of CO2

Scope 1&2&3 emissions - 163.743 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Technical Account Manager

Please include all sections of this report if it is reproduced

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen
EMT Job No: 26/10200

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	LOD/LOR	Units	Method No.
Sample ID	ST-01	ST-01	ST-01	ST-02	ST-02	ST-02	ST-03	ST-03	ST-03	ST-04			
Depth	0.50	1.50	2.30	0.50	1.50	2.50	0.50	1.50	2.50	0.50			
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	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026			
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	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026			
Antimony	2	2	2	2	<1	3	2	3	2	3	<1	mg/kg	TM30/PM15
Arsenic #	8.8	11.2	4.4	10.0	9.6	8.6	10.6	13.0	9.7	12.6	<0.5	mg/kg	TM30/PM15
Barium #	85	94	20	82	128	41	86	146	94	116	<1	mg/kg	TM30/PM15
Cadmium #	1.8	2.7	0.7	1.8	1.0	1.9	2.0	2.8	1.5	3.2	<0.3	mg/kg	TM30/PM15
Chromium #	34.5	40.4	16.9	36.3	38.7	24.4	45.5	44.1	39.2	60.7	<0.5	mg/kg	TM30/PM15
Copper #	34	41	18	46	20	32	48	67	41	45	<1	mg/kg	TM30/PM15
Lead #	34	40	8	37	26	18	50	53	46	62	<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 #	3.5	4.2	3.5	4.1	3.2	4.4	4.5	4.9	3.8	5.7	<0.1	mg/kg	TM30/PM15
Nickel #	35.4	41.5	24.2	40.4	23.8	51.5	42.6	47.9	39.0	58.3	<0.7	mg/kg	TM30/PM15
Selenium #	<1	1	1	1	1	1	1	2	1	1	<1	mg/kg	TM30/PM15
Zinc #	111	115	32	128	173	93	120	159	115	145	<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 #	0.07	0.05	<0.03	0.10	<0.03	<0.03	0.06	0.18	0.11	0.06	<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 #	0.10	0.07	<0.03	0.18	<0.03	<0.03	0.09	0.25	0.13	0.08	<0.03	mg/kg	TM4/PM8
Pyrene #	0.09	0.07	<0.03	0.17	<0.03	<0.03	0.09	0.21	0.12	0.08	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.08	<0.06	<0.06	0.14	<0.06	<0.06	0.08	0.14	0.09	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	0.07	0.06	<0.02	0.11	<0.02	<0.02	0.06	0.13	0.09	0.06	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	0.10	0.09	<0.07	0.18	<0.07	<0.07	0.09	0.18	0.11	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	0.05	<0.04	0.10	<0.04	<0.04	0.06	0.11	0.06	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	0.07	<0.04	<0.04	<0.04	0.06	<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	0.06	<0.04	<0.04	<0.04	0.06	<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	0.59	<0.22	<0.22	0.24	0.66	0.30	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	1.11	<0.64	<0.64	<0.64	1.32	0.71	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.07	0.06	<0.05	0.13	<0.05	<0.05	0.06	0.13	0.08	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.03	0.03	<0.02	0.05	<0.02	<0.02	0.03	0.05	0.03	<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	104	104	101	102	100	100	105	100	100	102	<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	88	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen
EMT Job No: 26/10200

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	LOD/LOR	Units	Method No.
Sample ID	ST-01	ST-01	ST-01	ST-02	ST-02	ST-02	ST-03	ST-03	ST-03	ST-04			
Depth	0.50	1.50	2.30	0.50	1.50	2.50	0.50	1.50	2.50	0.50			
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	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026			
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	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026			
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)#	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	7.8	<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)#	25	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	12	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	43	<7	<7	<7	<7	<7	<7	14	<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)	88	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	65	<10	<10	<10	<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	14	<10	<10	<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1 SV	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1 SV	<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)#	5	<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/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	88	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1 SV	<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 SV	<5 SV	<5	<5	<5 SV	<5	<5	<5 SV	<5 SV	<5	<5	ug/kg	TM36/PM12
Benzene#	<5 SV	<5 SV	<5	<5	<5 SV	<5	<5	<5 SV	<5 SV	<5	<5	ug/kg	TM36/PM12
Toluene#	<5 SV	<5 SV	<5	<5	<5 SV	<5	<5	<5 SV	<5 SV	<5	<5	ug/kg	TM36/PM12
Ethylbenzene#	<5 SV	<5 SV	<5	<5	<5 SV	<5	<5	<5 SV	<5 SV	<5	<5	ug/kg	TM36/PM12
m/p-Xylene#	<5 SV	<5 SV	<5	<5	<5 SV	<5	<5	<5 SV	<5 SV	<5	<5	ug/kg	TM36/PM12
o-Xylene#	<5 SV	<5 SV	<5	<5	<5 SV	<5	<5	<5 SV	<5 SV	<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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen
EMT Job No: 26/10200

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	LOD/LOR	Units	Method No.
Sample ID	ST-01	ST-01	ST-01	ST-02	ST-02	ST-02	ST-03	ST-03	ST-03	ST-04			
Depth	0.50	1.50	2.30	0.50	1.50	2.50	0.50	1.50	2.50	0.50			
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	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026			
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	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026			
Natural Moisture Content	9.0	13.2	21.6	13.6	4.6	16.1	14.1	19.1	22.5	21.2	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	8.3	11.6	17.8	12.0	4.4	13.9	12.4	16.0	18.4	17.5	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Chromium III	34.5	40.4	16.9	36.3	38.7	24.4	45.5	44.1	39.2	60.7	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.87	0.98	0.22	1.15	0.38	0.54	1.21	1.38	1.19	1.51	<0.02	%	TM21/PM24
Loss on Ignition #	4.0	4.5	2.3	5.1	1.2	3.5	5.6	5.8	5.2	6.2	<1.0	%	TM22/PM0
pH #	8.47	8.36	8.64	8.31	8.98	8.57	8.13	8.02	7.86	7.85	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen
EMT Job No: 26/10200

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	41-44	45-48	49-52								LOD/LOR	Units	Method No.
Sample ID	ST-04	ST-05	ST-05										
Depth	1.20	0.50	1.50										
COC No / misc													
Containers	V J T	V J T	V J T										
Sample Date	26/06/2026	26/06/2026	26/06/2026										
Sample Type	Soil	Soil	Soil										
Batch Number	1	1	1										
Date of Receipt	29/06/2026	29/06/2026	29/06/2026										
Antimony	3	3	2								<1	mg/kg	TM30/PM15
Arsenic #	9.7	14.1	10.8								<0.5	mg/kg	TM30/PM15
Barium #	39	146	75								<1	mg/kg	TM30/PM15
Cadmium #	1.9	3.9	2.3								<0.3	mg/kg	TM30/PM15
Chromium #	26.2	53.3	38.1								<0.5	mg/kg	TM30/PM15
Copper #	31	40	37								<1	mg/kg	TM30/PM15
Lead #	15	66	18								<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1								<0.1	mg/kg	TM30/PM15
Molybdenum #	4.4	5.8	4.3								<0.1	mg/kg	TM30/PM15
Nickel #	49.4	50.7	46.3								<0.7	mg/kg	TM30/PM15
Selenium #	<1	2	1								<1	mg/kg	TM30/PM15
Zinc #	77	142	96								<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03								<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	0.10	<0.05								<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	0.06	<0.04								<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	0.82	<0.03								<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	0.08	<0.04								<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	0.77	<0.03								<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	0.69	<0.03								<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	0.32	<0.06								<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	0.39	<0.02								<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	0.49	<0.07								<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	0.26	<0.04								<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	0.15	<0.04								<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	0.06	<0.04								<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	0.17	<0.04								<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	1.84	<0.22								<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	4.36	<0.64								<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	0.35	<0.05								<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	0.14	<0.02								<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1								<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	106	104	101								<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30								<30	mg/kg	TM5/PM8/PM16

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen
EMT Job No: 26/10200

Report : Solid

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

EMT Sample No.	41-44	45-48	49-52									
Sample ID	ST-04	ST-05	ST-05									
Depth	1.20	0.50	1.50									
COC No / misc												
Containers	V J T	V J T	V J T									
Sample Date	26/06/2026	26/06/2026	26/06/2026									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	29/06/2026	29/06/2026	29/06/2026									

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<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	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)#	<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	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	<4	<4								<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26								<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	<10								<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10								<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<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	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4	<4	<4								<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26								<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52								<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10								<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10								<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5	<5								<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5								<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5								<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5								<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5								<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5								<5	ug/kg	TM36/PM12
PCB 28#	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 52#	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 101#	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 118#	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 138#	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 153#	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 180#	<5	<5	<5								<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35	<35								<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen
EMT Job No: 26/10200

Report : Solid

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

EMT Sample No.	41-44	45-48	49-52									
Sample ID	ST-04	ST-05	ST-05									
Depth	1.20	0.50	1.50									
COC No / misc												
Containers	V J T	V J T	V J T									
Sample Date	26/06/2026	26/06/2026	26/06/2026									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	29/06/2026	29/06/2026	29/06/2026									

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Natural Moisture Content	16.2	13.9	12.4								<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	14.0	12.2	11.1								<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3								<0.3	mg/kg	TM38/PM20
Chromium III	26.2	53.3	38.1								<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.32	1.63	0.41								<0.02	%	TM21/PM24
Loss on Ignition #	3.3	6.7	3.0								<1.0	%	TM22/PM0
pH #	8.56	8.09	8.58								<0.01	pH units	TM73/PM11

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen
EMT Job No: 26/10200

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	LOD/LOR	Units	Method No.
Sample ID	ST-01	ST-01	ST-01	ST-02	ST-02	ST-02	ST-03	ST-03	ST-03	ST-04			
Depth	0.50	1.50	2.30	0.50	1.50	2.50	0.50	1.50	2.50	0.50			
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	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026			
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	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026			
Dissolved Antimony #	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	mg/l	TM170/PM14
Dissolved Antimony (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	mg/kg	TM170/PM14
Dissolved Arsenic #	<0.0025	<0.0025	<0.0025	<0.0025	0.0045	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM170/PM14
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025	<0.025	0.045	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM170/PM14
Dissolved Barium #	0.003	0.004	0.003	0.004	0.015	<0.003	0.003	0.015	0.035	0.005	<0.003	mg/l	TM170/PM14
Dissolved Barium (A10) #	<0.03	0.04	0.03	0.04	0.15	<0.03	<0.03	0.15	0.35	0.05	<0.03	mg/kg	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
Dissolved Molybdenum #	0.010	0.008	0.007	0.007	0.004	0.009	0.006	0.006	0.014	0.004	<0.002	mg/l	TM170/PM14
Dissolved Molybdenum (A10) #	0.10	0.08	0.07	0.07	0.04	0.09	0.06	0.06	0.14	0.04	<0.02	mg/kg	TM170/PM14
Dissolved Nickel #	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	<0.002	mg/l	TM170/PM14
Dissolved Nickel (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	mg/kg	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	0.6	<0.3	0.4	<0.3	0.3	0.6	0.5	0.4	0.3	<0.3	mg/l	TM173/PM0
Fluoride	5	6	<3	4	<3	<3	6	5	4	3	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	2.3	3.4	8.3	0.8	2.2	12.7	2.3	16.5	11.7	55.1	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	23	34	83	8	22	127	23	165	117	551	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.0993	0.1011	0.1096	0.1004	0.0935	0.1021	0.1028	0.1057	0.1061	0.107		kg	NONE/PM17
Chloride #	0.5	0.4	<0.3	0.7	<0.3	0.4	0.7	0.5	1.8	<0.3	<0.3	mg/l	TM38/PM0
Chloride #	5	4	<3	7	<3	4	7	5	18	<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	3	<2	<2	<2	2	5	3	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	30	<20	<20	<20	<20	50	30	<20	mg/kg	TM60/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen
EMT Job No: 26/10200

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	LOD/LOR	Units	Method No.
Sample ID	ST-01	ST-01	ST-01	ST-02	ST-02	ST-02	ST-03	ST-03	ST-03	ST-04			
Depth	0.50	1.50	2.30	0.50	1.50	2.50	0.50	1.50	2.50	0.50			
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	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026			
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	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026			
pH	8.46	8.31	8.31	8.28	9.26	8.15	8.18	8.23	8.24	8.10	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	58	61	41	70	<35	66	60	121	120	148	<35	mg/l	TM20/PM0
Total Dissolved Solids #	580	610	410	700	<350	660	600	1210	1200	1481	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen
EMT Job No: 26/10200

Report : CEN 10:1 1 Batch

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	41-44	45-48	49-52								LOD/LOR	Units	Method No.
Sample ID	ST-04	ST-05	ST-05										
Depth	1.20	0.50	1.50										
COC No / misc													
Containers	V J T	V J T	V J T										
Sample Date	26/06/2026	26/06/2026	26/06/2026										
Sample Type	Soil	Soil	Soil										
Batch Number	1	1	1										
Date of Receipt	29/06/2026	29/06/2026	29/06/2026										
Dissolved Antimony #	<0.002	<0.002	<0.002								<0.002	mg/l	TM170/PM14
Dissolved Antimony (A10) #	<0.02	<0.02	<0.02								<0.02	mg/kg	TM170/PM14
Dissolved Arsenic #	<0.0025	<0.0025	<0.0025								<0.0025	mg/l	TM170/PM14
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025								<0.025	mg/kg	TM170/PM14
Dissolved Barium #	<0.003	<0.003	<0.003								<0.003	mg/l	TM170/PM14
Dissolved Barium (A10) #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM170/PM14
Dissolved Cadmium #	<0.0005	<0.0005	<0.0005								<0.0005	mg/l	TM170/PM14
Dissolved Cadmium (A10) #	<0.005	<0.005	<0.005								<0.005	mg/kg	TM170/PM14
Dissolved Chromium #	<0.0015	<0.0015	<0.0015								<0.0015	mg/l	TM170/PM14
Dissolved Chromium (A10) #	<0.015	<0.015	<0.015								<0.015	mg/kg	TM170/PM14
Dissolved Copper #	<0.007	<0.007	<0.007								<0.007	mg/l	TM170/PM14
Dissolved Copper (A10) #	<0.07	<0.07	<0.07								<0.07	mg/kg	TM170/PM14
Dissolved Lead #	<0.005	<0.005	<0.005								<0.005	mg/l	TM170/PM14
Dissolved Lead (A10) #	<0.05	<0.05	<0.05								<0.05	mg/kg	TM170/PM14
Dissolved Molybdenum #	0.006	0.003	0.004								<0.002	mg/l	TM170/PM14
Dissolved Molybdenum (A10) #	0.06	0.03	0.04								<0.02	mg/kg	TM170/PM14
Dissolved Nickel #	<0.002	<0.002	<0.002								<0.002	mg/l	TM170/PM14
Dissolved Nickel (A10) #	<0.02	<0.02	<0.02								<0.02	mg/kg	TM170/PM14
Dissolved Selenium #	<0.003	<0.003	<0.003								<0.003	mg/l	TM170/PM14
Dissolved Selenium (A10) #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM170/PM14
Dissolved Zinc #	<0.003	<0.003	<0.003								<0.003	mg/l	TM170/PM14
Dissolved Zinc (A10) #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM170/PM14
Mercury Dissolved by CVAF #	<0.00001	<0.00001	<0.00001								<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001	<0.0001								<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1								<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	0.5	0.4								<0.3	mg/l	TM173/PM0
Fluoride	<3	5	4								<3	mg/kg	TM173/PM0
Sulphate as SO4 #	19.1	<0.5	<0.5								<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	191	<5	<5								<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1055	0.1053	0.1025									kg	NONE/PM17
Chloride #	<0.3	<0.3	<0.3								<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	<3								<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09									kg	NONE/PM17
Dissolved Organic Carbon	<2	3	<2								<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	30	<20								<20	mg/kg	TM60/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen
EMT Job No: 26/10200

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									
Sample ID	ST-04	ST-05	ST-05									
Depth	1.20	0.50	1.50									
COC No / misc												
Containers	V J T	V J T	V J T									
Sample Date	26/06/2026	26/06/2026	26/06/2026									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	29/06/2026	29/06/2026	29/06/2026									

Please see attached notes for all abbreviations and acronyms

				LOD/LOR	Units	Method No.
pH	7.89	8.05	8.07	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	56	67	39	<35	mg/l	TM20/PM0
Total Dissolved Solids #	560	670	390	<350	mg/kg	TM20/PM0

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen
EMT Job No: 26/10200

Report : EN12457_2

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

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.

EMT Sample No.	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40						
Sample ID	ST-01	ST-01	ST-01	ST-02	ST-02	ST-02	ST-03	ST-03	ST-03	ST-04						
Depth	0.50	1.50	2.30	0.50	1.50	2.50	0.50	1.50	2.50	0.50						
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	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026						
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	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	29/06/2026	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	0.87	0.98	0.22	1.15	0.38	0.54	1.21	1.38	1.19	1.51	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025 SV	<0.025 SV	<0.025	<0.025	<0.025 SV	<0.025	<0.025	<0.025 SV	<0.025 SV	<0.025	6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	88	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	0.59	<0.22	<0.22	0.24	0.66	0.30	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	1.11	<0.64	<0.64	<0.64	1.32	0.71	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	0.045	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM170/PM14
Barium #	<0.03	0.04	0.03	0.04	0.15	<0.03	<0.03	0.15	0.35	0.05	20	100	300	<0.03	mg/kg	TM170/PM14
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1	5	<0.005	mg/kg	TM170/PM14
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10	70	<0.015	mg/kg	TM170/PM14
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM170/PM14
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.10	0.08	0.07	0.07	0.04	0.09	0.06	0.06	0.14	0.04	0.5	10	30	<0.02	mg/kg	TM170/PM14
Nickel #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	0.4	10	40	<0.02	mg/kg	TM170/PM14
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM170/PM14
Antimony #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	0.06	0.7	5	<0.02	mg/kg	TM170/PM14
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM170/PM14
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM170/PM14
Total Dissolved Solids #	580	610	410	700	<350	660	600	1210	1200	1481	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	30	<20	<20	<20	<20	50	30	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.0993	0.1011	0.1096	0.1004	0.0935	0.1021	0.1028	0.1057	0.1061	0.107	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	90.4	89.4	82.3	90.0	96.3	88.6	87.5	85.0	84.8	83.8	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.89	0.889	0.881	0.89	0.897	0.888	0.887	0.884	0.884	0.883	-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	10.6	11.9	21.5	11.1	3.8	12.9	14.3	17.7	18.0	19.3	-	-	-	<0.1	%	PM4/PM0
pH #	8.47	8.36	8.64	8.31	8.98	8.57	8.13	8.02	7.86	7.85	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	5	6	<3	4	<3	<3	6	5	4	3	10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	23	34	83	8	22	127	23	165	117	551	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	5	4	<3	7	<3	4	7	5	18	<3	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen
EMT Job No: 26/10200

Report : EN12457_2

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

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.

EMT Sample No.	41-44	45-48	49-52								Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	ST-04	ST-05	ST-05													
Depth	1.20	0.50	1.50													
COC No / misc																
Containers	V J T	V J T	V J T													
Sample Date	26/06/2026	26/06/2026	26/06/2026													
Sample Type	Soil	Soil	Soil													
Batch Number	1	1	1													
Date of Receipt	29/06/2026	29/06/2026	29/06/2026													
Solid Waste Analysis																
Total Organic Carbon #	0.32	1.63	0.41								3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025								6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035								1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30								500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	1.84	<0.22								-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	4.36	<0.64								100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025								0.5	2	25	<0.025	mg/kg	TM170/PM14
Barium #	<0.03	<0.03	<0.03								20	100	300	<0.03	mg/kg	TM170/PM14
Cadmium #	<0.005	<0.005	<0.005								0.04	1	5	<0.005	mg/kg	TM170/PM14
Chromium #	<0.015	<0.015	<0.015								0.5	10	70	<0.015	mg/kg	TM170/PM14
Copper #	<0.07	<0.07	<0.07								2	50	100	<0.07	mg/kg	TM170/PM14
Mercury #	<0.0001	<0.0001	<0.0001								0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.06	0.03	0.04								0.5	10	30	<0.02	mg/kg	TM170/PM14
Nickel #	<0.02	<0.02	<0.02								0.4	10	40	<0.02	mg/kg	TM170/PM14
Lead #	<0.05	<0.05	<0.05								0.5	10	50	<0.05	mg/kg	TM170/PM14
Antimony #	<0.02	<0.02	<0.02								0.06	0.7	5	<0.02	mg/kg	TM170/PM14
Selenium #	<0.03	<0.03	<0.03								0.1	0.5	7	<0.03	mg/kg	TM170/PM14
Zinc #	<0.03	<0.03	<0.03								4	50	200	<0.03	mg/kg	TM170/PM14
Total Dissolved Solids #	560	670	390								4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	30	<20								500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1055	0.1053	0.1025								-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	85.4	85.2	87.6								-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.885	0.884	0.887								-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	17.0	17.4	14.1								-	-	-	<0.1	%	PM4/PM0
pH #	8.56	8.09	8.58								-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1								1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	5	4								10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	191	<5	<5								1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	<3								800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 15400-03-26

Location: Cherry Orchard Phase 3 Site 5A

Contact: James Cashen

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
26/10200	1	ST-01	0.50	1-4	Possible PAHs & Unknown hydrocarbon blend
26/10200	1	ST-01	1.50	5-8	No interpretation possible
26/10200	1	ST-01	2.30	9-12	No interpretation possible
26/10200	1	ST-02	0.50	13-16	No interpretation possible
26/10200	1	ST-02	1.50	17-20	No interpretation possible
26/10200	1	ST-02	2.50	21-24	No interpretation possible
26/10200	1	ST-03	0.50	25-28	No interpretation possible
26/10200	1	ST-03	1.50	29-32	No interpretation possible
26/10200	1	ST-03	2.50	33-36	No interpretation possible
26/10200	1	ST-04	0.50	37-40	No interpretation possible
26/10200	1	ST-04	1.20	41-44	No interpretation possible
26/10200	1	ST-05	0.50	45-48	No interpretation possible
26/10200	1	ST-05	1.50	49-52	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen

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
26/10200	1	ST-01	0.50	4	Emily Smith	07/07/2026	**General Description (Bulk Analysis)**	Brown soil with stones
					Emily Smith	07/07/2026	**Asbestos Fibres**	NAD
					Emily Smith	07/07/2026	**Asbestos ACM**	NAD
					Emily Smith	07/07/2026	**Asbestos Type**	NAD
26/10200	1	ST-01	1.50	8	Mathew Day	07/07/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Mathew Day	07/07/2026	**Asbestos Fibres**	NAD
					Mathew Day	07/07/2026	**Asbestos Fibres (2)**	NAD
					Mathew Day	07/07/2026	**Asbestos ACM**	NAD
					Mathew Day	07/07/2026	**Asbestos ACM (2)**	NAD
					Mathew Day	07/07/2026	**Asbestos Type**	NAD
					Mathew Day	07/07/2026	**Asbestos Type (2)**	NAD
26/10200	1	ST-01	2.30	12	Emily Smith	07/07/2026	**General Description (Bulk Analysis)**	Brown soil with stones
					Emily Smith	07/07/2026	**Asbestos Fibres**	NAD
					Emily Smith	07/07/2026	**Asbestos ACM**	NAD
					Emily Smith	07/07/2026	**Asbestos Type**	NAD
26/10200	1	ST-02	0.50	16	Kieran Hubbard	07/07/2026	**General Description (Bulk Analysis)**	brown soil
					Kieran Hubbard	07/07/2026	**Asbestos Fibres**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos Fibres (2)**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos ACM**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos ACM (2)**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos Type**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos Type (2)**	NAD
26/10200	1	ST-02	1.50	20	Charlotte Taylor	07/07/2026	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	07/07/2026	**Asbestos Fibres**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos Fibres (2)**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos ACM**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos Type**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos Type (2)**	NAD
26/10200	1	ST-02	2.50	24	Charlotte Taylor	07/07/2026	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	07/07/2026	**Asbestos Fibres**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos Fibres (2)**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos ACM**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos ACM (2)**	NAD

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/10200	1	ST-02	2.50	24	Charlotte Taylor	07/07/2026	**Asbestos Type**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos Type (2)**	NAD
26/10200	1	ST-03	0.50	28	Kieran Hubbard	07/07/2026	**General Description (Bulk Analysis)**	brown soil
					Kieran Hubbard	07/07/2026	**Asbestos Fibres**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos Fibres (2)**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos ACM**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos ACM (2)**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos Type**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos Type (2)**	NAD
26/10200	1	ST-03	1.50	32	Kieran Hubbard	07/07/2026	**General Description (Bulk Analysis)**	brown soil
					Kieran Hubbard	07/07/2026	**Asbestos Fibres**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos Fibres (2)**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos ACM**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos ACM (2)**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos Type**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos Type (2)**	NAD
26/10200	1	ST-03	2.50	36	Emily Smith	07/07/2026	**General Description (Bulk Analysis)**	Brown soil with stones
					Emily Smith	07/07/2026	**Asbestos Fibres**	NAD
					Emily Smith	07/07/2026	**Asbestos ACM**	NAD
					Emily Smith	07/07/2026	**Asbestos Type**	NAD
26/10200	1	ST-04	0.50	40	Emily Smith	07/07/2026	**General Description (Bulk Analysis)**	Brown soil with stones
					Emily Smith	07/07/2026	**Asbestos Fibres**	NAD
					Emily Smith	07/07/2026	**Asbestos ACM**	NAD
					Emily Smith	07/07/2026	**Asbestos Type**	NAD
26/10200	1	ST-04	1.20	44	Charlotte Taylor	07/07/2026	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	07/07/2026	**Asbestos Fibres**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos Fibres (2)**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos ACM**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos Type**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos Type (2)**	NAD
26/10200	1	ST-05	0.50	48	Kieran Hubbard	07/07/2026	**General Description (Bulk Analysis)**	brown soil
					Kieran Hubbard	07/07/2026	**Asbestos Fibres**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos Fibres (2)**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos ACM**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos ACM (2)**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos Type**	NAD
					Kieran Hubbard	07/07/2026	**Asbestos Type (2)**	NAD
26/10200	1	ST-05	1.50	52	Charlotte Taylor	07/07/2026	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	07/07/2026	**Asbestos Fibres**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos Fibres (2)**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos ACM**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos Type**	NAD
					Charlotte Taylor	07/07/2026	**Asbestos Type (2)**	NAD

Element Materials Technology

Notification of Deviating Samples

Client Name: Ground Investigations Ireland
Reference: 15400-03-26
Location: Cherry Orchard Phase 3 Site 5A
Contact: James Cashen

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 26/10200						

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.

EMT Job No.: 26/10200

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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.

Date

The dates of the performance of laboratory activity are available on request.

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-quantitively, 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: 26/10200

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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: 26/10200

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM22	Modified BS1377-3:1990 Gravimetric determination of Loss on Ignition by temperature controlled Muffle Furnace (35C-440C). On request modified ASTM D2974-00 LOI (105C-440C)	PM0	No preparation is required.	Yes		AD	Yes
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
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 GCFID 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 GCFID 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: 2013I	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: 2013I	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: 26/10200

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	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 of 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. Please note to follow the standard implicitly 2kg of sample is required.				
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	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	James Cashen
Date :	27th July, 2026
Your reference :	15401-03-26
Our reference :	Test Report 26/10604 Batch 1
Location :	Cherry Orchard Phase 3 Site 5B
Date samples received :	6th July, 2026
Status :	Final Report
Issue :	202607271614

Seventeen samples were received for analysis on 6th July, 2026 of which fifteen 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 - 76.599 kg of CO2

Scope 1&2&3 emissions - 181.024 kg of CO2

Authorised By:

Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/10604

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	29-32	33-36	37-40	41-44	45-48	LOD/LOR	Units	Method No.
Sample ID	BH-01	BH-01	BH-01	BH-02	BH-03	BH-04	BH-05	BH-05	BH-05	BH-06			
Depth	0.50	1.50	2.50	2.50	2.50	2.20	0.50	1.50	2.30	0.50			
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	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026			
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	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026			
Antimony	2	2	2	2	2	2	2	3	2	2	<1	mg/kg	TM30/PM15
Arsenic #	17.1	11.2	9.0	8.5	7.6	7.1	12.5	15.1	6.5	8.9	<0.5	mg/kg	TM30/PM15
Barium #	71	78	53	56	61	40	76	84	40	77	<1	mg/kg	TM30/PM15
Cadmium #	2.2	2.1	2.1	2.0	2.1	1.9	1.6	3.8	2.0	1.9	<0.3	mg/kg	TM30/PM15
Chromium #	48.9	29.7	31.4	30.3	27.1	21.0	40.4	41.3	23.8	30.6	<0.5	mg/kg	TM30/PM15
Copper #	40	29	35	31	31	28	34	43	27	35	<1	mg/kg	TM30/PM15
Lead #	54	30	17	16	16	11	30	31	11	23	<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 #	3.7	2.9	4.0	3.9	4.3	6.0	3.3	5.2	3.6	3.9	<0.1	mg/kg	TM30/PM15
Nickel #	43.0	35.5	47.6	39.6	44.7	56.1	34.1	69.3	38.2	39.3	<0.7	mg/kg	TM30/PM15
Selenium #	1	1	<1	<1	<1	1	<1	1	<1	1	<1	mg/kg	TM30/PM15
Sulphur as S	-	0.03	-	-	-	-	-	0.03	-	-	<0.01	%	TM30/PM15
Total Sulphate as SO4 BRE	-	0.04	-	-	-	-	-	0.04	-	-	<0.01	%	TM50/PM29
Zinc #	164	108	104	84	89	95	158	148	62	110	<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 #	0.07	0.09	<0.03	<0.03	<0.03	<0.03	0.06	<0.03	<0.03	0.07	<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 #	0.08	0.09	<0.03	<0.03	<0.03	<0.03	0.06	<0.03	<0.03	0.08	<0.03	mg/kg	TM4/PM8
Pyrene #	0.07	0.08	<0.03	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	0.07	<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 #	0.07	0.06	<0.02	<0.02	<0.02	<0.02	<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	<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	101	105	100	94	103	95	110	101	105	105	<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

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/10604

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8	9-12	13-16	17-20	29-32	33-36	37-40	41-44	45-48	LOD/LOR	Units	Method No.
Sample ID	BH-01	BH-01	BH-01	BH-02	BH-03	BH-04	BH-05	BH-05	BH-05	BH-06			
Depth	0.50	1.50	2.50	2.50	2.50	2.20	0.50	1.50	2.30	0.50			
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	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026			
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	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026			
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<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 SV	<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 SV	<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/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<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 SV	<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 SV	<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 SV	<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/TM36/PM8/PM12/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/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<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 SV	<5	<5	<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5	<5	<5	<5	<5	<5 SV	<5	<5	<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5	<5	<5	<5	<5	<5 SV	<5	<5	<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5	<5	<5	<5	<5	<5 SV	<5	<5	<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5	<5	<5	<5	<5	<5 SV	<5	<5	<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5	<5	<5	<5	<5	<5 SV	<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: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/10604

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	29-32	33-36	37-40	41-44	45-48	LOD/LOR	Units	Method No.
Sample ID	BH-01	BH-01	BH-01	BH-02	BH-03	BH-04	BH-05	BH-05	BH-05	BH-06			
Depth	0.50	1.50	2.50	2.50	2.50	2.20	0.50	1.50	2.30	0.50			
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	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026			
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	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026			
Natural Moisture Content	19.1	16.5	13.9	14.4	12.9	16.9	18.3	15.7	18.4	15.3	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	16.0	14.2	12.2	12.6	11.4	14.5	15.5	13.6	15.6	13.3	<0.1	%	PM4/PM0
Chloride (2:1 Ext BRE) #	-	0.006	-	-	-	-	-	0.005	-	-	<0.002	g/l	TM38/PM20
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	-	0.0101	-	-	-	-	-	0.0728	-	-	<0.0015	g/l	TM38/PM20
Chromium III	48.9	29.7	31.4	30.3	27.1	21.0	40.4	41.3	23.8	30.6	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	1.13	0.87	0.39	0.35	0.31	0.32	1.08	0.69	0.29	0.76	<0.02	%	TM21/PM24
Loss on Ignition #	4.2	3.8	2.8	2.2	3.0	2.6	3.5	4.9	3.4	<1.0	<1.0	%	TM22/PM0
pH #	8.45	8.58	8.73	8.77	8.75	8.82	8.51	8.36	8.60	8.46	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/10604

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	49-52	53-56	57-60	61-64	65-68						LOD/LOR	Units	Method No.
Sample ID	BH-06	BH-06	BH-07	BH-07	BH-07								
Depth	1.50	2.50	0.50	1.50	2.30								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026								
Antimony	2	2	3	3	<1						<1	mg/kg	TM30/PM15
Arsenic #	6.4	5.8	10.0	11.0	6.6						<0.5	mg/kg	TM30/PM15
Barium #	35	28	84	115	78						<1	mg/kg	TM30/PM15
Cadmium #	1.9	1.4	2.3	1.9	0.8						<0.3	mg/kg	TM30/PM15
Chromium #	18.1	16.7	38.1	52.7	20.2						<0.5	mg/kg	TM30/PM15
Copper #	27	24	55	101	19						<1	mg/kg	TM30/PM15
Lead #	13	12	50	78	15						<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	mg/kg	TM30/PM15
Molybdenum #	6.1	5.8	4.2	4.5	1.9						<0.1	mg/kg	TM30/PM15
Nickel #	47.3	43.6	44.7	43.6	21.0						<0.7	mg/kg	TM30/PM15
Selenium #	1	<1	1	1	<1						<1	mg/kg	TM30/PM15
Sulphur as S	0.03	0.03	-	-	0.18						<0.01	%	TM30/PM15
Total Sulphate as SO4 BRE	0.05	0.04	-	-	0.10						<0.01	%	TM50/PM29
Zinc #	81	79	211	151	67						<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<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	mg/kg	TM4/PM8
Acenaphthene #	<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	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	0.20	0.07	0.05						<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	0.30	0.13	0.05						<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	0.26	0.12	0.05						<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	0.13	0.09	<0.06						<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	0.14	0.09	<0.02						<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	0.21	0.12	<0.07						<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	0.12	0.07	<0.04						<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	0.06	<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	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	0.07	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	0.76	0.32	<0.22						<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	1.49	0.69	<0.64						<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	0.15	0.09	<0.05						<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	0.06	0.03	<0.02						<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1						<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	107	92	91	104	106						<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30						<30	mg/kg	TM5/PM8/PM16

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/10604

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	49-52	53-56	57-60	61-64	65-68	LOD/LOR	Units	Method No.
Sample ID	BH-06	BH-06	BH-07	BH-07	BH-07			
Depth	1.50	2.50	0.50	1.50	2.30			
COC No / misc								
Containers	V J T	V J T	V J T	V J T	V J T			
Sample Date	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026			
Sample Type	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1			
Date of Receipt	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026			
TPH CWG								
Aliphatics								
>C5-C6 (HS_1D_AL)#	<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 SV	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)#	<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	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	<7	<7	<7	17	<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<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	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<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	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10	<10	17	<10	mg/kg	TM5/PM8/PM16
Aromatics								
>C5-EC7 (HS_1D_AR)#	<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 SV	<0.1	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<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	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52	<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5	<5 SV	<5	<5 SV	<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5 SV	<5	<5 SV	<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5 SV	<5	<5 SV	<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5 SV	<5	<5 SV	<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5 SV	<5	<5 SV	<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5 SV	<5	<5 SV	<5	ug/kg	TM36/PM12
PCB 28#	<5	<5	<5	<5	<5 +	<5	ug/kg	TM17/PM8
PCB 52#	<5	<5	<5	<5	<5 +	<5	ug/kg	TM17/PM8
PCB 101#	<5	<5	<5	<5	<5 +	<5	ug/kg	TM17/PM8
PCB 118#	<5	<5	<5	<5	<5 +	<5	ug/kg	TM17/PM8
PCB 138#	<5	<5	<5	<5	<5 +	<5	ug/kg	TM17/PM8
PCB 153#	<5	<5	<5	<5	<5 +	<5	ug/kg	TM17/PM8
PCB 180#	<5	<5	<5	<5	<5 +	<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35	<35	<35	<35 +	<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/10604

Report : Solid

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

EMT Sample No.	49-52	53-56	57-60	61-64	65-68						LOD/LOR	Units	Method No.
Sample ID	BH-06	BH-06	BH-07	BH-07	BH-07								
Depth	1.50	2.50	0.50	1.50	2.30								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026								
Natural Moisture Content	17.9	17.7	18.8	22.0	12.6						<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	15.2	15.1	15.8	18.1	11.2						<0.1	%	PM4/PM0
Chloride (2:1 Ext BRE) #	0.004	0.006	-	-	0.011						<0.002	g/l	TM38/PM20
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3						<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0479	0.0350	-	-	0.2243						<0.0015	g/l	TM38/PM20
Chromium III	18.1	16.7	38.1	52.7	20.2						<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.29	0.25	1.30	1.74	0.61						<0.02	%	TM21/PM24
Loss on Ignition #	2.7	2.6	5.3	6.9	1.2						<1.0	%	TM22/PM0
pH #	8.68	8.67	8.36	8.22	8.20						<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/10604

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	29-32	33-36	37-40	41-44	45-48	LOD/LOR	Units	Method No.
Sample ID	BH-01	BH-01	BH-01	BH-02	BH-03	BH-04	BH-05	BH-05	BH-05	BH-06			
Depth	0.50	1.50	2.50	2.50	2.50	2.20	0.50	1.50	2.30	0.50			
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	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026			
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	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026			
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
Dissolved Barium #	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.004	<0.003	<0.003	<0.003	<0.003	mg/l	TM170/PM14
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	mg/kg	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
Dissolved Molybdenum #	0.006	0.005	0.009	0.010	0.008	0.026	0.006	0.004	0.005	0.008	<0.002	mg/l	TM170/PM14
Dissolved Molybdenum (A10) #	0.06	0.05	0.09	0.10	0.08	0.26	0.06	0.04	0.05	0.08	<0.02	mg/kg	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	0.4	0.4	0.3	0.3	0.4	0.6	0.5	0.3	0.4	<0.3	mg/l	TM173/PM0
Fluoride	4	4	4	3	<3	4	6	5	<3	4	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	0.6	<0.5	0.5	0.5	0.6	2.4	4.9	12.2	10.9	0.9	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	6	<5	<5	5	6	24	49	122	109	9	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1107	0.1035	0.1031	0.1052	0.1027	0.1079	0.1028	0.1069	0.103	0.1062		kg	NONE/PM17
Chloride #	0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.5	0.4	<0.3	<0.3	<0.3	mg/l	TM38/PM0
Chloride #	3	<3	<3	<3	<3	<3	5	4	<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	3	2	<2	<2	<2	<2	3	3	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	30	<20	<20	<20	<20	<20	30	30	<20	<20	<20	mg/kg	TM60/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/10604

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	29-32	33-36	37-40	41-44	45-48	LOD/LOR	Units	Method No.
Sample ID	BH-01	BH-01	BH-01	BH-02	BH-03	BH-04	BH-05	BH-05	BH-05	BH-06			
Depth	0.50	1.50	2.50	2.50	2.50	2.20	0.50	1.50	2.30	0.50			
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	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026			
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	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026			
pH	8.03	7.98	8.03	8.09	7.95	7.95	7.97	8.26	8.33	8.19	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	61	38	44	43	38	43	69	83	74	49	<35	mg/l	TM20/PM0
Total Dissolved Solids #	610	380	440	430	380	430	690	830	740	490	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/10604

Report : CEN 10:1 1 Batch

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	49-52	53-56	57-60	61-64	65-68						LOD/LOR	Units	Method No.
Sample ID	BH-06	BH-06	BH-07	BH-07	BH-07								
Depth	1.50	2.50	0.50	1.50	2.30								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026								
Dissolved Antimony #	<0.002	<0.002	<0.002	<0.002	0.004						<0.002	mg/l	TM170/PM14
Dissolved Antimony (A10) #	<0.02	<0.02	<0.02	<0.02	0.04						<0.02	mg/kg	TM170/PM14
Dissolved Arsenic #	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025						<0.0025	mg/l	TM170/PM14
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025	<0.025	<0.025						<0.025	mg/kg	TM170/PM14
Dissolved Barium #	<0.003	<0.003	0.005	0.008	0.038						<0.003	mg/l	TM170/PM14
Dissolved Barium (A10) #	<0.03	<0.03	0.05	0.08	0.38						<0.03	mg/kg	TM170/PM14
Dissolved Cadmium #	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005						<0.0005	mg/l	TM170/PM14
Dissolved Cadmium (A10) #	<0.005	<0.005	<0.005	<0.005	<0.005						<0.005	mg/kg	TM170/PM14
Dissolved Chromium #	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015						<0.0015	mg/l	TM170/PM14
Dissolved Chromium (A10) #	<0.015	<0.015	<0.015	<0.015	<0.015						<0.015	mg/kg	TM170/PM14
Dissolved Copper #	<0.007	<0.007	<0.007	0.009	<0.007						<0.007	mg/l	TM170/PM14
Dissolved Copper (A10) #	<0.07	<0.07	<0.07	0.09	<0.07						<0.07	mg/kg	TM170/PM14
Dissolved Lead #	<0.005	<0.005	<0.005	<0.005	<0.005						<0.005	mg/l	TM170/PM14
Dissolved Lead (A10) #	<0.05	<0.05	<0.05	<0.05	<0.05						<0.05	mg/kg	TM170/PM14
Dissolved Molybdenum #	0.008	0.016	0.010	0.007	0.018						<0.002	mg/l	TM170/PM14
Dissolved Molybdenum (A10) #	0.08	0.16	0.10	0.07	0.18						<0.02	mg/kg	TM170/PM14
Dissolved Nickel #	<0.002	<0.002	<0.002	<0.002	0.003						<0.002	mg/l	TM170/PM14
Dissolved Nickel (A10) #	<0.02	<0.02	<0.02	<0.02	0.03						<0.02	mg/kg	TM170/PM14
Dissolved Selenium #	<0.003	<0.003	<0.003	<0.003	<0.003						<0.003	mg/l	TM170/PM14
Dissolved Selenium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03						<0.03	mg/kg	TM170/PM14
Dissolved Zinc #	<0.003	<0.003	<0.003	<0.003	<0.003						<0.003	mg/l	TM170/PM14
Dissolved Zinc (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03						<0.03	mg/kg	TM170/PM14
Mercury Dissolved by CVAF #	<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	mg/kg	TM61/PM0
Phenol	<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	mg/kg	TM26/PM0
Fluoride	0.3	0.4	0.7	0.5	0.5						<0.3	mg/l	TM173/PM0
Fluoride	3	4	7	5	5						<3	mg/kg	TM173/PM0
Sulphate as SO4 #	14.9	7.0	8.7	10.9	46.2						<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	149	70	87	109	462						<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1074	0.1079	0.1064	0.1085	0.1054							kg	NONE/PM17
Chloride #	<0.3	<0.3	<0.3	<0.3	0.4						<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	<3	<3	4						<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09							kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	2	2						<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20						<20	mg/kg	TM60/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/10604

Report : CEN 10:1 1 Batch

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

EMT Sample No.	49-52	53-56	57-60	61-64	65-68							
Sample ID	BH-06	BH-06	BH-07	BH-07	BH-07							
Depth	1.50	2.50	0.50	1.50	2.30							
COC No / misc												
Containers	V J T	V J T	V J T	V J T	V J T							
Sample Date	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026							

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
pH	7.81	8.06	8.23	8.18	8.16						<0.01	pH units	TM73/PM0
Total Dissolved Solids #	68	48	81	88	155						<35	mg/l	TM20/PM0
Total Dissolved Solids #	680	480	810	880	1549						<350	mg/kg	TM20/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/10604

Report : CEN 10:1 1 Batch (Duplicate results)

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

EMT Sample No.	41-44												
Sample ID	BH-05												
Depth	2.30												
COC No / misc													
Containers	V J T												
Sample Date	02/07/2026												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	06/07/2026												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Mass of raw test portion	0.1022											kg	NONE/PM17
Mass of dried test portion	0.09											kg	NONE/PM17

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/10604

Report : EN12457_2

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

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.

EMT Sample No.	1-4	5-8	9-12	13-16	17-20	29-32	33-36	37-40	41-44	45-48						
Sample ID	BH-01	BH-01	BH-01	BH-02	BH-03	BH-04	BH-05	BH-05	BH-05	BH-06						
Depth	0.50	1.50	2.50	2.50	2.50	2.20	0.50	1.50	2.30	0.50						
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	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026						
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	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	1.13	0.87	0.39	0.35	0.31	0.32	1.08	0.69	0.29	0.76	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025 [SV]	<0.025	<0.025	6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035 [+]	<0.035	<0.035	<0.035 [+]	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM170/PM14
Barium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	20	100	300	<0.03	mg/kg	TM170/PM14
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1	5	<0.005	mg/kg	TM170/PM14
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10	70	<0.015	mg/kg	TM170/PM14
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM170/PM14
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.06	0.05	0.09	0.10	0.08	0.26	0.06	0.04	0.05	0.08	0.5	10	30	<0.02	mg/kg	TM170/PM14
Nickel #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	10	40	<0.02	mg/kg	TM170/PM14
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM170/PM14
Antimony #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.7	5	<0.02	mg/kg	TM170/PM14
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM170/PM14
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM170/PM14
Total Dissolved Solids #	610	380	440	430	380	430	690	830	740	490	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	30	<20	<20	<20	<20	<20	30	30	<20	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1107	0.1035	0.1031	0.1052	0.1027	0.1079	0.1028	0.1069	0.103	0.1062	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	80.9	87.4	87.7	85.3	87.8	83.8	87.8	84.4	87.7	84.6	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.879	0.887	0.887	0.885	0.887	0.883	0.888	0.883	0.887	0.884	-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	23.7	14.4	14.0	17.2	13.9	19.4	13.8	18.5	14.1	18.1	-	-	-	<0.1	%	PM4/PM0
pH #	8.45	8.58	8.73	8.77	8.75	8.82	8.51	8.36	8.60	8.46	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	4	4	4	3	<3	4	6	5	<3	4	10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	6	<5	<5	5	6	24	49	122	109	9	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	3	<3	<3	<3	<3	<3	5	4	<3	<3	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/10604

Report : EN12457_2

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

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.

EMT Sample No.	49-52	53-56	57-60	61-64	65-68						Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	BH-06	BH-06	BH-07	BH-07	BH-07											
Depth	1.50	2.50	0.50	1.50	2.30											
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T											
Sample Date	02/07/2026	02/07/2026	02/07/2026	02/07/2026	02/07/2026											
Sample Type	Soil	Soil	Soil	Soil	Soil											
Batch Number	1	1	1	1	1											
Date of Receipt	06/07/2026	06/07/2026	06/07/2026	06/07/2026	06/07/2026											
Solid Waste Analysis																
Total Organic Carbon #	0.29	0.25	1.30	1.74	0.61						3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<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 *						1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30						500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	0.76	0.32	<0.22						-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	1.49	0.69	<0.64						100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025						0.5	2	25	<0.025	mg/kg	TM170/PM14
Barium #	<0.03	<0.03	0.05	0.08	0.38						20	100	300	<0.03	mg/kg	TM170/PM14
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005						0.04	1	5	<0.005	mg/kg	TM170/PM14
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015						0.5	10	70	<0.015	mg/kg	TM170/PM14
Copper #	<0.07	<0.07	<0.07	0.09	<0.07						2	50	100	<0.07	mg/kg	TM170/PM14
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001						0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.08	0.16	0.10	0.07	0.18						0.5	10	30	<0.02	mg/kg	TM170/PM14
Nickel #	<0.02	<0.02	<0.02	<0.02	0.03						0.4	10	40	<0.02	mg/kg	TM170/PM14
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05						0.5	10	50	<0.05	mg/kg	TM170/PM14
Antimony #	<0.02	<0.02	<0.02	<0.02	0.04						0.06	0.7	5	<0.02	mg/kg	TM170/PM14
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03						0.1	0.5	7	<0.03	mg/kg	TM170/PM14
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03						4	50	200	<0.03	mg/kg	TM170/PM14
Total Dissolved Solids #	680	480	810	880	1549						4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20						500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1074	0.1079	0.1064	0.1085	0.1054						-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	83.9	83.3	84.4	82.8	85.2						-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.883	0.882	0.883	0.881	0.884						-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	19.2	20.0	18.4	20.7	17.4						-	-	-	<0.1	%	PM4/PM0
pH #	8.68	8.67	8.36	8.22	8.20						-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1						1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	3	4	7	5	5						10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	149	70	87	109	462						1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	<3	<3	4						800	15000	25000	<3	mg/kg	TM38/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/10604

Report : EN12457_2 Dup 1

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

EMT Sample No.	41-44												
Sample ID	BH-05												
Depth	2.30												
COC No / misc													
Containers	V J T												
Sample Date	02/07/2026												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	06/07/2026												

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.

											LOD LOR	Units	Method No.
Solid Waste Analysis													
CEN 10:1 Leachate													
Mass of raw test portion	0.1022											kg	NONE/PM17
Leachant Volume	0.887											l	NONE/PM17

Client Name: Ground Investigations Ireland

Reference: 15401-03-26

Location: Cherry Orchard Phase 3 Site 5B

Contact: James Cashen

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
26/10604	1	BH-01	0.50	1-4	No interpretation possible
26/10604	1	BH-01	1.50	5-8	No interpretation possible
26/10604	1	BH-01	2.50	9-12	No interpretation possible
26/10604	1	BH-02	2.50	13-16	No interpretation possible
26/10604	1	BH-03	2.50	17-20	No interpretation possible
26/10604	1	BH-04	2.20	29-32	No interpretation possible
26/10604	1	BH-05	0.50	33-36	No interpretation possible
26/10604	1	BH-05	1.50	37-40	No interpretation possible
26/10604	1	BH-05	2.30	41-44	No interpretation possible
26/10604	1	BH-06	0.50	45-48	No interpretation possible
26/10604	1	BH-06	1.50	49-52	No interpretation possible
26/10604	1	BH-06	2.50	53-56	No interpretation possible
26/10604	1	BH-07	0.50	57-60	No interpretation possible
26/10604	1	BH-07	1.50	61-64	No interpretation possible
26/10604	1	BH-07	2.30	65-68	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen

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
26/10604	1	BH-01	0.50	4	Simon Postlewhite	14/07/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	14/07/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	14/07/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	14/07/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	14/07/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	14/07/2026	**Asbestos Type**	NAD
					Simon Postlewhite	14/07/2026	**Asbestos Type (2)**	NAD
26/10604	1	BH-01	1.50	8	Mathew Day	14/07/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Mathew Day	14/07/2026	**Asbestos Fibres**	NAD
					Mathew Day	14/07/2026	**Asbestos Fibres (2)**	NAD
					Mathew Day	14/07/2026	**Asbestos ACM**	NAD
					Mathew Day	14/07/2026	**Asbestos ACM (2)**	NAD
					Mathew Day	14/07/2026	**Asbestos Type**	NAD
					Mathew Day	14/07/2026	**Asbestos Type (2)**	NAD
26/10604	1	BH-01	2.50	12	Anthony Carman	15/07/2026	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	15/07/2026	**Asbestos Fibres**	NAD
					Anthony Carman	15/07/2026	**Asbestos Fibres (2)**	NAD
					Anthony Carman	15/07/2026	**Asbestos ACM**	NAD
					Anthony Carman	15/07/2026	**Asbestos ACM (2)**	NAD
					Anthony Carman	15/07/2026	**Asbestos Type**	NAD
					Anthony Carman	15/07/2026	**Asbestos Type (2)**	NAD
26/10604	1	BH-02	2.50	16	Matthew Turner	10/07/2026	**General Description (Bulk Analysis)**	Brown soil/Stones
					Matthew Turner	10/07/2026	**Asbestos Fibres**	NAD
					Matthew Turner	10/07/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	10/07/2026	**Asbestos ACM**	NAD
					Matthew Turner	10/07/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	10/07/2026	**Asbestos Type**	NAD
					Matthew Turner	10/07/2026	**Asbestos Type (2)**	NAD
26/10604	1	BH-03	2.50	20	Matthew Turner	10/07/2026	**General Description (Bulk Analysis)**	Brown soil/Stone
					Matthew Turner	10/07/2026	**Asbestos Fibres**	NAD
					Matthew Turner	10/07/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	10/07/2026	**Asbestos ACM**	NAD
					Matthew Turner	10/07/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	10/07/2026	**Asbestos Type**	NAD
					Matthew Turner	10/07/2026	**Asbestos Type (2)**	NAD

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/10604	1	BH-04	2.20	32	Matthew Turner	10/07/2026	**General Description (Bulk Analysis)**	Brown soil/Stone
					Matthew Turner	10/07/2026	**Asbestos Fibres**	NAD
					Matthew Turner	10/07/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	10/07/2026	**Asbestos ACM**	NAD
					Matthew Turner	10/07/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	10/07/2026	**Asbestos Type**	NAD
					Matthew Turner	10/07/2026	**Asbestos Type (2)**	NAD
26/10604	1	BH-05	0.50	36	Simon Postlewhite	10/07/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	10/07/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos Type**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos Type (2)**	NAD
26/10604	1	BH-05	1.50	40	Matthew Turner	10/07/2026	**General Description (Bulk Analysis)**	Brown soil/Stones
					Matthew Turner	10/07/2026	**Asbestos Fibres**	NAD
					Matthew Turner	10/07/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	10/07/2026	**Asbestos ACM**	NAD
					Matthew Turner	10/07/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	10/07/2026	**Asbestos Type**	NAD
					Matthew Turner	10/07/2026	**Asbestos Type (2)**	NAD
26/10604	1	BH-05	2.30	44	Simon Postlewhite	10/07/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	10/07/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos Type**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos Type (2)**	NAD
26/10604	1	BH-06	0.50	48	Simon Postlewhite	10/07/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	10/07/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos Type**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos Type (2)**	NAD
26/10604	1	BH-06	1.50	52	Matthew Turner	10/07/2026	**General Description (Bulk Analysis)**	Brown soil/Stones
					Matthew Turner	10/07/2026	**Asbestos Fibres**	NAD
					Matthew Turner	10/07/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	10/07/2026	**Asbestos ACM**	NAD
					Matthew Turner	10/07/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	10/07/2026	**Asbestos Type**	NAD
					Matthew Turner	10/07/2026	**Asbestos Type (2)**	NAD
26/10604	1	BH-06	2.50	56	Kieran Hubbard	10/07/2026	**General Description (Bulk Analysis)**	brown soil
					Kieran Hubbard	10/07/2026	**Asbestos Fibres**	NAD
					Kieran Hubbard	10/07/2026	**Asbestos Fibres (2)**	NAD
					Kieran Hubbard	10/07/2026	**Asbestos ACM**	NAD
					Kieran Hubbard	10/07/2026	**Asbestos ACM (2)**	NAD

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/10604	1	BH-06	2.50	56	Kieran Hubbard	10/07/2026	**Asbestos Type**	NAD
					Kieran Hubbard	10/07/2026	**Asbestos Type (2)**	NAD
26/10604	1	BH-07	0.50	60	Simon Postlewhite	10/07/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	10/07/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos Type**	NAD
					Simon Postlewhite	10/07/2026	**Asbestos Type (2)**	NAD
26/10604	1	BH-07	1.50	64	Miriam Silverlock	10/07/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Miriam Silverlock	10/07/2026	**Asbestos Fibres**	NAD
					Miriam Silverlock	10/07/2026	**Asbestos Fibres (2)**	NAD
					Miriam Silverlock	10/07/2026	**Asbestos ACM**	NAD
					Miriam Silverlock	10/07/2026	**Asbestos ACM (2)**	NAD
					Miriam Silverlock	10/07/2026	**Asbestos Type**	NAD
					Miriam Silverlock	10/07/2026	**Asbestos Type (2)**	NAD
26/10604	1	BH-07	2.30	68	Miriam Silverlock	10/07/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Miriam Silverlock	10/07/2026	**Asbestos Fibres**	NAD
					Miriam Silverlock	10/07/2026	**Asbestos Fibres (2)**	NAD
					Miriam Silverlock	10/07/2026	**Asbestos ACM**	NAD
					Miriam Silverlock	10/07/2026	**Asbestos ACM (2)**	NAD
					Miriam Silverlock	10/07/2026	**Asbestos Type**	NAD
					Miriam Silverlock	10/07/2026	**Asbestos Type (2)**	NAD

Element Materials Technology

Notification of Deviating Samples

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 26/10604						

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.

EMT Job No.: 26/10604

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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.

Date

The dates of the performance of laboratory activity are available on request.

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-quantitively, 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: 26/10604

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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: 26/10604

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM22	Modified BS1377-3:1990 Gravimetric determination of Loss on Ignition by temperature controlled Muffle Furnace (35C-440C). On request modified ASTM D2974-00 LOI (105C-440C)	PM0	No preparation is required.	Yes		AD	Yes
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
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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	A hot hydrochloric acid digest is performed on a dried and ground sample, and the resulting liquor is analysed.			AD	Yes

EMT Job No: 26/10604

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	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 of 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. Please note to follow the standard implicitly 2kg of sample is required.				
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	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	James Cashen
Date :	31st July, 2026
Your reference :	15401-03-26
Our reference :	Test Report 26/11337 Batch 1
Location :	Cherry Orchard Phase 3 Site 5B
Date samples received :	17th July, 2026
Status :	Final Report
Issue :	202607311438

Thirty three samples were received for analysis on 17th July, 2026 of which thirty three 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 - 163.045 kg of CO2

Scope 1&2&3 emissions - 385.317 kg of CO2

Authorised By:

Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

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	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS01	WS02	WS02	WS02	WS03	WS03	WS03	WS04			
Depth	0.50	1.50	2.20	0.50	1.50	2.60	0.50	1.50	1.90	0.50			
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	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
Antimony	2	2	1	2	1	2	<1	2	2	2	<1	mg/kg	TM30/PM15
Arsenic #	9.2	9.0	6.4	11.9	6.4	6.2	3.8	7.9	10.7	9.2	<0.5	mg/kg	TM30/PM15
Barium #	105	56	83	89	34	35	82	59	74	82	<1	mg/kg	TM30/PM15
Cadmium #	2.3	2.3	2.1	1.1	1.3	<0.3	1.0	2.2	2.0	2.2	<0.3	mg/kg	TM30/PM15
Chromium #	38.5	28.8	22.5	44.5	25.9	23.8	20.1	34.6	38.9	43.0	<0.5	mg/kg	TM30/PM15
Copper #	27	33	26	95	22	26	15	30	39	28	<1	mg/kg	TM30/PM15
Lead #	33	15	11	60	12	13	12	31	52	26	<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	3.8	3.4	3.2	3.1	2.0	1.8	3.9	4.1	4.0	<0.1	mg/kg	TM30/PM15
Nickel #	35.8	40.6	35.0	36.3	29.0	43.0	15.5	32.7	38.2	37.6	<0.7	mg/kg	TM30/PM15
Selenium #	2	1	2	1	<1	2	1	<1	1	2	<1	mg/kg	TM30/PM15
Zinc #	100	94	74	132	52	21	161	224	218	139	<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	0.15	<0.03	<0.03	<0.03	<0.03	0.06	<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 #	0.11	<0.03	<0.03	0.20	<0.03	<0.03	<0.03	<0.03	0.07	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	0.11	<0.03	<0.03	0.17	<0.03	<0.03	<0.03	<0.03	0.07	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.09	<0.06	<0.06	0.12	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	0.11	<0.02	<0.02	0.13	<0.02	<0.02	<0.02	<0.02	0.05	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	0.10	<0.07	<0.07	0.17	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.06	<0.04	<0.04	0.10	<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	0.07	<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	0.07	<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 #	0.27	<0.22	<0.22	0.61	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	0.68	<0.64	<0.64	1.18	<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	0.12	<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	0.05	<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	96	95	102	98	99	97	98	97	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

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

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	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS01	WS02	WS02	WS02	WS03	WS03	WS03	WS04			
Depth	0.50	1.50	2.20	0.50	1.50	2.60	0.50	1.50	1.90	0.50			
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	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<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 SV	<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 SV	<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	15	<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/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<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	15	<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 SV	<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 SV	<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 SV	<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	26	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7	<7	<7	<7	<7	<7	<7	25	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26	<26	<26	<26	<26	<26	<26	51	<26	mg/kg	TM5/TM36/PM8/PM12/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/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<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	26	<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5	<5	<5	<5	<5 SV	<5	<5	<5 SV	<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5	<5	<5	<5	<5 SV	<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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

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	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS01	WS02	WS02	WS02	WS03	WS03	WS03	WS04			
Depth	0.50	1.50	2.20	0.50	1.50	2.60	0.50	1.50	1.90	0.50			
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	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
Natural Moisture Content	10.2	12.6	8.4	8.4	16.2	13.8	1.2	11.8	14.0	17.2	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	9.3	11.2	7.8	7.7	14.0	12.1	1.2	10.6	12.3	14.7	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Chromium III	38.5	28.8	22.5	44.5	25.9	23.8	20.1	34.6	38.9	43.0	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.82	0.30	0.49	1.63	0.25	0.31	0.54	1.07	1.27	0.81	<0.02	%	TM21/PM24
Loss on Ignition #	4.6	2.1	2.2	5.3	2.2	3.6	1.3	3.9	4.7	4.0	<1.0	%	TM22/PM0
pH #	8.29	8.75	8.74	8.17	8.79	8.63	8.31	8.38	8.45	8.53	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

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	69-72	73-76	77-80	LOD/LOR	Units	Method No.
Sample ID	WS04	WS05	WS05	WS06	WS06	WS07	WS07	WS08	WS08	WS08			
Depth	1.50	0.50	1.50	0.50	1.50	0.50	1.30	0.50	1.50	2.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
Antimony	2	2	3	3	2	3	2	2	2	1	<1	mg/kg	TM30/PM15
Arsenic #	8.7	12.2	13.7	11.6	8.3	11.7	7.7	17.3	7.3	3.8	<0.5	mg/kg	TM30/PM15
Barium #	49	119	77	91	48	120	61	55	54	18	<1	mg/kg	TM30/PM15
Cadmium #	2.1	3.2	2.1	2.1	2.0	4.1	2.3	<0.3	2.2	0.7	<0.3	mg/kg	TM30/PM15
Chromium #	27.9	54.9	43.2	49.4	28.2	57.2	30.1	40.9	25.5	14.0	<0.5	mg/kg	TM30/PM15
Copper #	30	34	38	39	29	38	26	33	26	17	<1	mg/kg	TM30/PM15
Lead #	14	48	20	56	13	33	14	6	13	7	<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 #	3.8	6.9	4.5	4.4	3.6	5.8	3.2	0.8	3.2	2.3	<0.1	mg/kg	TM30/PM15
Nickel #	37.1	47.3	56.8	38.3	32.9	64.3	35.6	39.7	36.6	28.2	<0.7	mg/kg	TM30/PM15
Selenium #	<1	2	1	<1	<1	1	<1	<1	<1	<1	<1	mg/kg	TM30/PM15
Zinc #	89	154	128	121	88	131	85	99	77	30	<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	0.06	<0.03	0.31	<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 #	<0.03	0.08	<0.03	0.44	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	0.08	<0.03	0.39	<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	0.21	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	0.06	<0.02	0.34	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	0.34	<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	0.20	<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	0.11	<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	0.14	<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	0.06	<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	1.23	<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	2.58	<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	0.24	<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	0.10	<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	99	99	99	103	90	96	97	97	86	94	<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

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

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	69-72	73-76	77-80	LOD/LOR	Units	Method No.
Sample ID	WS04	WS05	WS05	WS06	WS06	WS07	WS07	WS08	WS08	WS08			
Depth	1.50	0.50	1.50	0.50	1.50	0.50	1.30	0.50	1.50	2.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
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/TM36/PM8/PM12/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/TM36/PM8/PM12/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/TM36/PM8/PM12/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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

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	69-72	73-76	77-80	LOD/LOR	Units	Method No.
Sample ID	WS04	WS05	WS05	WS06	WS06	WS07	WS07	WS08	WS08	WS08			
Depth	1.50	0.50	1.50	0.50	1.50	0.50	1.30	0.50	1.50	2.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
Natural Moisture Content	12.1	17.6	20.0	10.7	10.3	11.8	8.5	3.7	10.0	17.8	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	10.8	15.0	16.7	9.7	9.4	10.6	7.9	3.6	9.1	15.1	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Chromium III	27.9	54.9	43.2	49.4	28.2	57.2	30.1	40.9	25.5	14.0	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.43	1.70	0.41	1.44	0.50	0.81	0.48	0.27	0.38	0.30	<0.02	%	TM21/PM24
Loss on Ignition #	2.3	5.7	3.6	5.1	2.4	5.0	2.6	1.3	2.4	2.3	<1.0	%	TM22/PM0
pH #	8.73	8.24	8.42	8.10	8.79	8.15	8.72	8.72	8.67	8.77	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

Report : Solid

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

EMT Sample No.	81-84	85-88	89-92	93-96	97-100	101-104	105-108	109-112	113-116	117-120	LOD/LOR	Units	Method No.
Sample ID	WS10	WS10	WS11	WS11	WS11	WS12	WS12	WS12	WS13	WS13			
Depth	0.50	1.50	0.50	1.50	2.20	0.50	1.50	2.50	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	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
Antimony	1	1	1	2	2	1	3	2	2	2	<1	mg/kg	TM30/PM15
Arsenic #	11.3	5.3	4.3	10.2	15.3	7.9	22.3	8.4	10.6	5.6	<0.5	mg/kg	TM30/PM15
Barium #	52	63	39	70	34	56	113	85	106	26	<1	mg/kg	TM30/PM15
Cadmium #	1.7	1.2	1.0	2.6	1.7	2.2	2.6	1.3	1.9	2.7	<0.3	mg/kg	TM30/PM15
Chromium #	26.3	18.3	21.0	30.5	21.2	27.6	52.0	48.8	34.1	17.3	<0.5	mg/kg	TM30/PM15
Copper #	19	21	34	35	23	33	54	32	35	24	<1	mg/kg	TM30/PM15
Lead #	17	10	27	15	26	16	60	26	23	10	<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 #	2.8	2.2	2.1	3.3	3.2	4.3	4.5	3.8	3.6	6.5	<0.1	mg/kg	TM30/PM15
Nickel #	25.4	27.6	21.2	43.1	29.3	43.7	53.6	36.8	42.4	41.0	<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	<1	1	<1	<1	<1	1	1	<1	<1	mg/kg	TM30/PM15
Zinc #	135	56	86	94	69	90	154	90	96	131	<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	0.05	<0.03	<0.03	<0.03	0.09	0.10	<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	0.07	<0.03	<0.03	0.05	0.12	0.12	0.03	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	0.06	<0.03	<0.03	0.05	0.10	0.10	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	0.09	0.08	<0.06	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.07	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.13	0.10	<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	0.07	0.06	<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	0.32	0.28	<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	0.68	<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	0.09	0.07	<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	0.04	0.03	<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	101	99	101	101	96	95	93	95	98	94	<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

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

Report : Solid

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

EMT Sample No.	81-84	85-88	89-92	93-96	97-100	101-104	105-108	109-112	113-116	117-120	LOD/LOR	Units	Method No.
Sample ID	WS10	WS10	WS11	WS11	WS11	WS12	WS12	WS12	WS13	WS13			
Depth	0.50	1.50	0.50	1.50	2.20	0.50	1.50	2.50	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	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
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 SV	<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 SV	<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 SV	<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	14	<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/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<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	14	<10	<10	<10	mg/kg	TM5/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 SV	<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 SV	<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 SV	<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	13	<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/TM36/PM8/PM12/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/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1 SV	<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	13	<10	<10	<10	mg/kg	TM5/PM8/PM16
MTBE#	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	<5	ug/kg	TM36/PM12
Benzene#	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	<5	ug/kg	TM36/PM12
Toluene#	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	<5	ug/kg	TM36/PM12
Ethylbenzene#	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	<5	ug/kg	TM36/PM12
m/p-Xylene#	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5 SV	<5	<5	<5	ug/kg	TM36/PM12
o-Xylene#	<5 SV	<5	<5 SV	<5	<5	<5	<5	<5 SV	<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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

Report : Solid

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

EMT Sample No.	81-84	85-88	89-92	93-96	97-100	101-104	105-108	109-112	113-116	117-120	LOD/LOR	Units	Method No.
Sample ID	WS10	WS10	WS11	WS11	WS11	WS12	WS12	WS12	WS13	WS13			
Depth	0.50	1.50	0.50	1.50	2.20	0.50	1.50	2.50	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	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
Natural Moisture Content	5.7	7.6	6.8	13.0	8.1	9.8	16.0	16.1	9.6	14.3	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	5.4	7.1	6.4	11.5	7.5	8.9	13.8	13.9	8.8	12.5	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Chromium III	26.3	18.3	21.0	30.5	21.2	27.6	52.0	48.8	34.1	17.3	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.54	0.25	0.95	0.44	0.23	0.49	2.15	1.19	0.68	0.35	<0.02	%	TM21/PM24
Loss on Ignition #	2.1	1.7	2.7	3.1	1.8	2.7	7.1	4.0	3.8	2.8	<1.0	%	TM22/PM0
pH #	8.58	8.73	8.36	8.58	8.63	8.48	8.25	8.10	8.50	8.71	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

Report : Solid

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

EMT Sample No.	121-124	125-128	129-132								LOD/LOR	Units	Method No.
Sample ID	WS13	WS14A	WS14A										
Depth	2.50	0.50	1.50										
COC No / misc													
Containers	V J T	V J T	V J T										
Sample Date	16/07/2026	16/07/2026	16/07/2026										
Sample Type	Soil	Soil	Soil										
Batch Number	1	1	1										
Date of Receipt	17/07/2026	17/07/2026	17/07/2026										
Antimony	2	2	2								<1	mg/kg	TM30/PM15
Arsenic #	4.9	7.5	8.6								<0.5	mg/kg	TM30/PM15
Barium #	29	47	55								<1	mg/kg	TM30/PM15
Cadmium #	1.0	2.0	2.0								<0.3	mg/kg	TM30/PM15
Chromium #	18.4	27.5	24.2								<0.5	mg/kg	TM30/PM15
Copper #	20	33	30								<1	mg/kg	TM30/PM15
Lead #	7	17	15								<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1								<0.1	mg/kg	TM30/PM15
Molybdenum #	2.8	3.8	3.3								<0.1	mg/kg	TM30/PM15
Nickel #	33.0	38.2	37.7								<0.7	mg/kg	TM30/PM15
Selenium #	1	<1	1								<1	mg/kg	TM30/PM15
Zinc #	48	104	98								<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03								<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05								<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06								<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02								<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07								<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	<0.22								<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64								<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05								<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02								<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1								<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	97	93	95								<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30								<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

Report : Solid

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

EMT Sample No.	121-124	125-128	129-132								LOD/LOR	Units	Method No.
Sample ID	WS13	WS14A	WS14A										
Depth	2.50	0.50	1.50										
COC No / misc													
Containers	V J T	V J T	V J T										
Sample Date	16/07/2026	16/07/2026	16/07/2026										
Sample Type	Soil	Soil	Soil										
Batch Number	1	1	1										
Date of Receipt	17/07/2026	17/07/2026	17/07/2026										
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<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	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)#	<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	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	<4	<4								<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26								<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10	<10								<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10	<10								<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<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	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4	<4	<4								<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7								<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26								<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52								<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	<10								<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10								<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5	<5								<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5								<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5								<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5								<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5								<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5								<5	ug/kg	TM36/PM12
PCB 28#	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 52#	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 101#	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 118#	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 138#	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 153#	<5	<5	<5								<5	ug/kg	TM17/PM8
PCB 180#	<5	<5	<5								<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35	<35								<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

Report : Solid

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

EMT Sample No.	121-124	125-128	129-132									
Sample ID	WS13	WS14A	WS14A									
Depth	2.50	0.50	1.50									
COC No / misc												
Containers	V J T	V J T	V J T									
Sample Date	16/07/2026	16/07/2026	16/07/2026									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	17/07/2026	17/07/2026	17/07/2026									

Please see attached notes for all abbreviations and acronyms

				LOD/LOR	Units	Method No.
Natural Moisture Content	17.7	8.8	11.5	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	15.1	8.1	10.3	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Chromium III	18.4	27.5	24.2	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.29	0.66	0.32	<0.02	%	TM21/PM24
Loss on Ignition #	2.5	3.0	2.3	<1.0	%	TM22/PM0
pH #	8.78	8.52	8.66	<0.01	pH units	TM73/PM11

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

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	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS01	WS02	WS02	WS02	WS03	WS03	WS03	WS04			
Depth	0.50	1.50	2.20	0.50	1.50	2.60	0.50	1.50	1.90	0.50			
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	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
Dissolved Barium #	<0.003	<0.003	<0.003	0.005	<0.003	<0.003	0.007	0.005	<0.003	<0.003	<0.003	mg/l	TM170/PM14
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	0.07	0.05	<0.03	<0.03	<0.03	mg/kg	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
Dissolved Molybdenum #	0.003	0.008	0.012	0.003	0.004	0.005	0.005	0.006	0.006	0.005	<0.002	mg/l	TM170/PM14
Dissolved Molybdenum (A10) #	0.03	0.08	0.12	0.03	0.04	0.05	0.05	0.06	0.06	0.05	<0.02	mg/kg	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	<0.3	0.6	<0.3	<0.3	0.5	0.4	0.5	0.4	<0.3	mg/l	TM173/PM0
Fluoride	5	<3	<3	6	<3	<3	5	4	5	4	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	2.0	1.1	2.4	1.9	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5	<5	6	<5	<5	<5	20	11	24	19	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1022	0.1015	0.1022	0.099	0.1051	0.101	0.0906	0.107	0.1006	0.0988		kg	NONE/PM17
Chloride #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.9	<0.3	<0.3	<0.3	<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	<3	<3	<3	<3	9	<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	4	<2	<2	3	<2	<2	<2	2	<2	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	40	<20	<20	30	<20	<20	<20	20	<20	<20	<20	mg/kg	TM60/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

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	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS01	WS02	WS02	WS02	WS03	WS03	WS03	WS04			
Depth	0.50	1.50	2.20	0.50	1.50	2.60	0.50	1.50	1.90	0.50			
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	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
pH	7.99	8.06	8.01	8.08	7.99	7.96	8.01	7.88	7.86	7.86	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	62	<35	35	47	37	46	38	77	53	52	<35	mg/l	TM20/PM0
Total Dissolved Solids #	620	<350	350	470	370	460	380	770	530	520	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

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	69-72	73-76	77-80	LOD/LOR	Units	Method No.
Sample ID	WS04	WS05	WS05	WS06	WS06	WS07	WS07	WS08	WS08	WS08			
Depth	1.50	0.50	1.50	0.50	1.50	0.50	1.30	0.50	1.50	2.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
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	TM170/PM14
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	TM170/PM14
Dissolved Arsenic #	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0060	<0.0025	<0.0025	<0.0025	mg/l	TM170/PM14
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.060	<0.025	<0.025	<0.025	mg/kg	TM170/PM14
Dissolved Barium #	<0.003	<0.003	<0.003	0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM170/PM14
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
Dissolved Molybdenum #	0.006	0.003	0.005	0.004	0.006	<0.002	0.007	0.005	0.002	0.007	<0.002	mg/l	TM170/PM14
Dissolved Molybdenum (A10) #	0.06	0.03	0.05	0.04	0.06	<0.02	0.07	0.05	0.02	0.07	<0.02	mg/kg	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
Dissolved Zinc #	<0.003	<0.003	<0.003	<0.003	<0.003	0.004	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM170/PM14
Dissolved Zinc (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM170/PM14
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	0.6	<0.3	0.5	<0.3	1.1	<0.3	<0.3	0.4	<0.3	<0.3	mg/l	TM173/PM0
Fluoride	3	6	<3	5	<3	11	<3	<3	4	<3	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5	3.1	3.0	<0.5	<0.5	<0.5	<0.5	1.4	5.6	1.3	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5	31	30	<5	<5	<5	<5	14	56	13	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.0969	0.1048	0.1	0.1032	0.0993	0.1001	0.0992	0.0937	0.1034	0.1132		kg	NONE/PM17
Chloride #	<0.3	<0.3	<0.3	0.3	0.8	0.9	<0.3	<0.3	<0.3	<0.3	<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	<3	3	8	9	<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	4	<2	5	<2	5	<2	<2	3	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	40	<20	50	<20	50	<20	<20	30	<20	<20	mg/kg	TM60/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

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	69-72	73-76	77-80	LOD/LOR	Units	Method No.
Sample ID	WS04	WS05	WS05	WS06	WS06	WS07	WS07	WS08	WS08	WS08			
Depth	1.50	0.50	1.50	0.50	1.50	0.50	1.30	0.50	1.50	2.50			
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
pH	7.85	7.83	7.92	8.06	7.83	7.67	7.94	7.96	7.83	7.88	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	54	75	37	117	47	64	44	<35	66	43	<35	mg/l	TM20/PM0
Total Dissolved Solids #	540	750	370	1171	470	640	440	<350	660	430	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

Report : CEN 10:1 1 Batch

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

EMT Sample No.	81-84	85-88	89-92	93-96	97-100	101-104	105-108	109-112	113-116	117-120	LOD/LOR	Units	Method No.
Sample ID	WS10	WS10	WS11	WS11	WS11	WS12	WS12	WS12	WS13	WS13			
Depth	0.50	1.50	0.50	1.50	2.20	0.50	1.50	2.50	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	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
Dissolved Antimony #	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	<0.002	mg/l	TM170/PM14
Dissolved Antimony (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	mg/kg	TM170/PM14
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	TM170/PM14
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	TM170/PM14
Dissolved Barium #	<0.003	<0.003	<0.003	<0.003	<0.003	0.003	0.005	0.035	<0.003	<0.003	<0.003	mg/l	TM170/PM14
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	0.05	0.35	<0.03	<0.03	<0.03	mg/kg	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
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	TM170/PM14
Dissolved Molybdenum #	0.008	0.005	0.008	<0.002	0.010	0.007	0.006	0.009	0.007	0.005	<0.002	mg/l	TM170/PM14
Dissolved Molybdenum (A10) #	0.08	0.05	0.08	<0.02	0.10	0.07	0.06	0.09	0.07	0.05	<0.02	mg/kg	TM170/PM14
Dissolved Nickel #	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	<0.002	mg/l	TM170/PM14
Dissolved Nickel (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	mg/kg	TM170/PM14
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	TM170/PM14
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	TM170/PM14
Dissolved Zinc #	<0.003	<0.003	0.003	<0.003	<0.003	<0.003	<0.003	0.048	<0.003	<0.003	<0.003	mg/l	TM170/PM14
Dissolved Zinc (A10) #	<0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	0.48	<0.03	<0.03	<0.03	mg/kg	TM170/PM14
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	0.7	0.5	0.3	0.5	0.7	0.3	0.6	0.4	<0.3	mg/l	TM173/PM0
Fluoride	4	<3	7	5	<3	5	7	<3	6	4	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	1.6	1.0	0.6	1.8	1.4	0.8	2.7	12.5	0.6	<0.5	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	16	10	6	18	14	8	27	125	6	<5	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.0995	0.1004	0.0978	0.1024	0.1023	0.1017	0.1006	0.1047	0.1009	0.0996		kg	NONE/PM17
Chloride #	0.4	0.3	<0.3	0.3	0.3	0.3	0.5	0.6	<0.3	<0.3	<0.3	mg/l	TM38/PM0
Chloride #	4	<3	<3	<3	<3	3	5	6	<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	3	3	<2	2	3	4	3	<2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	30	30	<20	20	30	40	30	<20	<20	mg/kg	TM60/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

Report : CEN 10:1 1 Batch

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

EMT Sample No.	81-84	85-88	89-92	93-96	97-100	101-104	105-108	109-112	113-116	117-120	LOD/LOR	Units	Method No.
Sample ID	WS10	WS10	WS11	WS11	WS11	WS12	WS12	WS12	WS13	WS13			
Depth	0.50	1.50	0.50	1.50	2.20	0.50	1.50	2.50	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	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026			
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026			
pH	7.87	7.92	7.90	7.91	7.87	8.00	8.08	8.27	7.96	7.88	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	60	45	69	62	43	60	53	118	56	42	<35	mg/l	TM20/PM0
Total Dissolved Solids #	600	450	690	620	430	600	530	1179	560	420	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

Report : CEN 10:1 1 Batch

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

EMT Sample No.	121-124	125-128	129-132									
Sample ID	WS13	WS14A	WS14A									
Depth	2.50	0.50	1.50									
COC No / misc												
Containers	V J T	V J T	V J T									
Sample Date	16/07/2026	16/07/2026	16/07/2026									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	17/07/2026	17/07/2026	17/07/2026									

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Dissolved Antimony #	<0.002	<0.002	<0.002								<0.002	mg/l	TM170/PM14
Dissolved Antimony (A10) #	<0.02	<0.02	<0.02								<0.02	mg/kg	TM170/PM14
Dissolved Arsenic #	<0.0025	<0.0025	<0.0025								<0.0025	mg/l	TM170/PM14
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025								<0.025	mg/kg	TM170/PM14
Dissolved Barium #	<0.003	<0.003	<0.003								<0.003	mg/l	TM170/PM14
Dissolved Barium (A10) #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM170/PM14
Dissolved Cadmium #	<0.0005	<0.0005	<0.0005								<0.0005	mg/l	TM170/PM14
Dissolved Cadmium (A10) #	<0.005	<0.005	<0.005								<0.005	mg/kg	TM170/PM14
Dissolved Chromium #	<0.0015	<0.0015	<0.0015								<0.0015	mg/l	TM170/PM14
Dissolved Chromium (A10) #	<0.015	<0.015	<0.015								<0.015	mg/kg	TM170/PM14
Dissolved Copper #	<0.007	<0.007	<0.007								<0.007	mg/l	TM170/PM14
Dissolved Copper (A10) #	<0.07	<0.07	<0.07								<0.07	mg/kg	TM170/PM14
Dissolved Lead #	<0.005	<0.005	<0.005								<0.005	mg/l	TM170/PM14
Dissolved Lead (A10) #	<0.05	<0.05	<0.05								<0.05	mg/kg	TM170/PM14
Dissolved Molybdenum #	0.014	0.008	0.007								<0.002	mg/l	TM170/PM14
Dissolved Molybdenum (A10) #	0.14	0.08	0.07								<0.02	mg/kg	TM170/PM14
Dissolved Nickel #	<0.002	<0.002	<0.002								<0.002	mg/l	TM170/PM14
Dissolved Nickel (A10) #	<0.02	<0.02	<0.02								<0.02	mg/kg	TM170/PM14
Dissolved Selenium #	<0.003	<0.003	<0.003								<0.003	mg/l	TM170/PM14
Dissolved Selenium (A10) #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM170/PM14
Dissolved Zinc #	<0.003	<0.003	<0.003								<0.003	mg/l	TM170/PM14
Dissolved Zinc (A10) #	<0.03	<0.03	<0.03								<0.03	mg/kg	TM170/PM14
Mercury Dissolved by CVAF #	<0.00001	<0.00001	<0.00001								<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001	<0.0001								<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01	<0.01								<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1								<0.1	mg/kg	TM26/PM0
Fluoride	0.3	0.4	0.4								<0.3	mg/l	TM173/PM0
Fluoride	3	4	4								<3	mg/kg	TM173/PM0
Sulphate as SO4 #	0.9	<0.5	10.1								<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	9	<5	101								<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1059	0.098	0.1033									kg	NONE/PM17
Chloride #	<0.3	<0.3	<0.3								<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	<3								<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09									kg	NONE/PM17
Dissolved Organic Carbon	<2	2	<2								<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20								<20	mg/kg	TM60/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

Report : CEN 10:1 1 Batch

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

EMT Sample No.	121-124	125-128	129-132									
Sample ID	WS13	WS14A	WS14A									
Depth	2.50	0.50	1.50									
COC No / misc												
Containers	V J T	V J T	V J T									
Sample Date	16/07/2026	16/07/2026	16/07/2026									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	17/07/2026	17/07/2026	17/07/2026									

Please see attached notes for all abbreviations and acronyms

				LOD/LOR	Units	Method No.
pH	7.76	7.84	7.80	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	45	57	71	<35	mg/l	TM20/PM0
Total Dissolved Solids #	450	570	710	<350	mg/kg	TM20/PM0

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

Report : EN12457_2

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

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.

EMT Sample No.	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40						
Sample ID	WS01	WS01	WS01	WS02	WS02	WS02	WS03	WS03	WS03	WS04						
Depth	0.50	1.50	2.20	0.50	1.50	2.60	0.50	1.50	1.90	0.50						
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	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026						
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	0.82	0.30	0.49	1.63	0.25	0.31	0.54	1.07	1.27	0.81	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025 [SV]	<0.025	<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	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	0.27	<0.22	<0.22	0.61	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	0.68	<0.64	<0.64	1.18	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM170/PM14
Barium #	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	0.07	0.05	<0.03	<0.03	20	100	300	<0.03	mg/kg	TM170/PM14
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1	5	<0.005	mg/kg	TM170/PM14
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10	70	<0.015	mg/kg	TM170/PM14
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM170/PM14
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.03	0.08	0.12	0.03	0.04	0.05	0.05	0.06	0.06	0.05	0.5	10	30	<0.02	mg/kg	TM170/PM14
Nickel #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	10	40	<0.02	mg/kg	TM170/PM14
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM170/PM14
Antimony #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.7	5	<0.02	mg/kg	TM170/PM14
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM170/PM14
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM170/PM14
Total Dissolved Solids #	620	<350	350	470	370	460	380	770	530	520	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	40	<20	<20	30	<20	<20	<20	20	<20	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1022	0.1015	0.1022	0.099	0.1051	0.101	0.0906	0.107	0.1006	0.0988	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	88.1	88.6	87.9	90.6	85.2	89.4	99.0	83.9	89.1	90.9	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.888	0.888	0.888	0.891	0.884	0.889	0.899	0.883	0.889	0.891	-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	13.5	12.9	13.8	10.4	17.3	11.8	1.0	19.2	12.2	10.0	-	-	-	<0.1	%	PM4/PM0
pH #	8.29	8.75	8.74	8.17	8.79	8.63	8.31	8.38	8.45	8.53	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	5	<3	<3	6	<3	<3	5	4	5	4	10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5	<5	6	<5	<5	<5	20	11	24	19	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	<3	<3	<3	<3	9	<3	<3	<3	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

Report : EN12457_2

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

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.

EMT Sample No.	41-44	45-48	49-52	53-56	57-60	61-64	65-68	69-72	73-76	77-80						
Sample ID	WS04	WS05	WS05	WS06	WS06	WS07	WS07	WS08	WS08	WS08						
Depth	1.50	0.50	1.50	0.50	1.50	0.50	1.30	0.50	1.50	2.50						
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026						
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	0.43	1.70	0.41	1.44	0.50	0.81	0.48	0.27	0.38	0.30	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	1.23	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	2.58	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.060	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM170/PM14
Barium #	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	20	100	300	<0.03	mg/kg	TM170/PM14
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1	5	<0.005	mg/kg	TM170/PM14
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10	70	<0.015	mg/kg	TM170/PM14
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM170/PM14
Mercury #	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.06	0.03	0.05	0.04	0.06	<0.02	0.07	0.05	0.02	0.07	0.5	10	30	<0.02	mg/kg	TM170/PM14
Nickel #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	10	40	<0.02	mg/kg	TM170/PM14
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM170/PM14
Antimony #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.7	5	<0.02	mg/kg	TM170/PM14
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM170/PM14
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM170/PM14
Total Dissolved Solids #	540	750	370	1171	470	640	440	<350	660	430	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	40	<20	50	<20	50	<20	<20	30	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.0969	0.1048	0.1	0.1032	0.0993	0.1001	0.0992	0.0937	0.1034	0.1132	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	92.5	85.5	90.2	87.0	90.6	89.9	90.5	95.7	87.2	79.3	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.893	0.885	0.89	0.887	0.891	0.89	0.891	0.896	0.887	0.877	-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	8.1	16.9	10.9	15.0	10.4	11.3	10.5	4.5	14.7	26.1	-	-	-	<0.1	%	PM4/PM0
pH #	8.73	8.24	8.42	8.10	8.79	8.15	8.72	8.72	8.67	8.77	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	3	6	<3	5	<3	11	<3	<3	4	<3	10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5	31	30	<5	<5	<5	<5	14	56	13	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	<3	3	8	9	<3	<3	<3	<3	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

Report : EN12457_2

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

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.

EMT Sample No.	81-84	85-88	89-92	93-96	97-100	101-104	105-108	109-112	113-116	117-120	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	WS10	WS10	WS11	WS11	WS11	WS12	WS12	WS12	WS13	WS13						
Depth	0.50	1.50	0.50	1.50	2.20	0.50	1.50	2.50	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	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026	16/07/2026						
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	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026	17/07/2026						
Solid Waste Analysis																
Total Organic Carbon #	0.54	0.25	0.95	0.44	0.23	0.49	2.15	1.19	0.68	0.35	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025 SV	<0.025	<0.025 SV	<0.025	<0.025	<0.025	<0.025	<0.025 SV	<0.025	<0.025	6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	0.32	0.28	<0.22	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	0.68	<0.64	<0.64	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM170/PM14
Barium #	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	0.05	0.35	<0.03	<0.03	20	100	300	<0.03	mg/kg	TM170/PM14
Cadmium #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	1	5	<0.005	mg/kg	TM170/PM14
Chromium #	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	10	70	<0.015	mg/kg	TM170/PM14
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	50	100	<0.07	mg/kg	TM170/PM14
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.08	0.05	0.08	<0.02	0.10	0.07	0.06	0.09	0.07	0.05	0.5	10	30	<0.02	mg/kg	TM170/PM14
Nickel #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	0.4	10	40	<0.02	mg/kg	TM170/PM14
Lead #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	10	50	<0.05	mg/kg	TM170/PM14
Antimony #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	0.06	0.7	5	<0.02	mg/kg	TM170/PM14
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM170/PM14
Zinc #	<0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	0.48	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM170/PM14
Total Dissolved Solids #	600	450	690	620	430	600	530	1179	560	420	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	30	30	<20	20	30	40	30	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.0995	0.1004	0.0978	0.1024	0.1023	0.1017	0.1006	0.1047	0.1009	0.0996	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	90.5	89.5	91.7	87.7	87.6	88.8	89.2	86.0	89.1	90.3	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.891	0.889	0.892	0.887	0.887	0.889	0.889	0.885	0.889	0.89	-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	10.4	11.7	9.0	14.0	14.1	12.6	12.2	16.2	12.3	10.7	-	-	-	<0.1	%	PM4/PM0
pH #	8.58	8.73	8.36	8.58	8.63	8.48	8.25	8.10	8.50	8.71	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	4	<3	7	5	<3	5	7	<3	6	4	10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	16	10	6	18	14	8	27	125	6	<5	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	4	<3	<3	<3	<3	3	5	6	<3	<3	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen
EMT Job No: 26/11337

Report : **EN12457_2**

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

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.

EMT Sample No.	121-124	125-128	129-132													
Sample ID	WS13	WS14A	WS14A													
Depth	2.50	0.50	1.50													
COC No / misc																
Containers	V J T	V J T	V J T													
Sample Date	16/07/2026	16/07/2026	16/07/2026													
Sample Type	Soil	Soil	Soil													
Batch Number	1	1	1													
Date of Receipt	17/07/2026	17/07/2026	17/07/2026													
Solid Waste Analysis																
Total Organic Carbon #	0.29	0.66	0.32										3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025										6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035										1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30										500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22										-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64										100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025										0.5	2	25	<0.025	mg/kg	TM170/PM14
Barium #	<0.03	<0.03	<0.03										20	100	300	<0.03	mg/kg	TM170/PM14
Cadmium #	<0.005	<0.005	<0.005										0.04	1	5	<0.005	mg/kg	TM170/PM14
Chromium #	<0.015	<0.015	<0.015										0.5	10	70	<0.015	mg/kg	TM170/PM14
Copper #	<0.07	<0.07	<0.07										2	50	100	<0.07	mg/kg	TM170/PM14
Mercury #	<0.0001	<0.0001	<0.0001										0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.14	0.08	0.07										0.5	10	30	<0.02	mg/kg	TM170/PM14
Nickel #	<0.02	<0.02	<0.02										0.4	10	40	<0.02	mg/kg	TM170/PM14
Lead #	<0.05	<0.05	<0.05										0.5	10	50	<0.05	mg/kg	TM170/PM14
Antimony #	<0.02	<0.02	<0.02										0.06	0.7	5	<0.02	mg/kg	TM170/PM14
Selenium #	<0.03	<0.03	<0.03										0.1	0.5	7	<0.03	mg/kg	TM170/PM14
Zinc #	<0.03	<0.03	<0.03										4	50	200	<0.03	mg/kg	TM170/PM14
Total Dissolved Solids #	450	570	710										4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20										500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1059	0.098	0.1033										-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	84.9	91.9	87.3										-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.884	0.892	0.887										-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	17.8	8.8	14.5										-	-	-	<0.1	%	PM4/PM0
pH #	8.78	8.52	8.66										-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1										1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	3	4	4										10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	9	<5	101										1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	<3										800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 15401-03-26

Location: Cherry Orchard Phase 3 Site 5B

Contact: James Cashen

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
26/11337	1	WS01	0.50	1-4	No interpretation possible
26/11337	1	WS01	1.50	5-8	No interpretation possible
26/11337	1	WS01	2.20	9-12	No interpretation possible
26/11337	1	WS02	0.50	13-16	Lubricating oil
26/11337	1	WS02	1.50	17-20	No interpretation possible
26/11337	1	WS02	2.60	21-24	No interpretation possible
26/11337	1	WS03	0.50	25-28	No interpretation possible
26/11337	1	WS03	1.50	29-32	No interpretation possible
26/11337	1	WS03	1.90	33-36	No interpretation possible
26/11337	1	WS04	0.50	37-40	Trace of naturally occurring compounds
26/11337	1	WS04	1.50	41-44	No interpretation possible
26/11337	1	WS05	0.50	45-48	No interpretation possible
26/11337	1	WS05	1.50	49-52	No interpretation possible
26/11337	1	WS06	0.50	53-56	No interpretation possible
26/11337	1	WS06	1.50	57-60	No interpretation possible
26/11337	1	WS07	0.50	61-64	No interpretation possible
26/11337	1	WS07	1.30	65-68	No interpretation possible
26/11337	1	WS08	0.50	69-72	No interpretation possible
26/11337	1	WS08	1.50	73-76	No interpretation possible
26/11337	1	WS08	2.50	77-80	No interpretation possible
26/11337	1	WS10	0.50	81-84	No interpretation possible
26/11337	1	WS10	1.50	85-88	No interpretation possible
26/11337	1	WS11	0.50	89-92	No interpretation possible
26/11337	1	WS11	1.50	93-96	No interpretation possible
26/11337	1	WS11	2.20	97-100	No interpretation possible
26/11337	1	WS12	0.50	101-104	No interpretation possible
26/11337	1	WS12	1.50	105-108	No interpretation possible
26/11337	1	WS12	2.50	109-112	Trace of lubricating oil
26/11337	1	WS13	0.50	113-116	No interpretation possible
26/11337	1	WS13	1.50	117-120	No interpretation possible
26/11337	1	WS13	2.50	121-124	No interpretation possible
26/11337	1	WS14A	0.50	125-128	No interpretation possible

Client Name: Ground Investigations Ireland

Reference: 15401-03-26

Location: Cherry Orchard Phase 3 Site 5B

Contact: James Cashen

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
26/11337	1	WS14A	1.50	129-132	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen

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
26/11337	1	WS01	0.50	4	Emily Smith	28/07/2026	**General Description (Bulk Analysis)**	Brown soil with stones
					Emily Smith	28/07/2026	**Asbestos Fibres**	NAD
					Emily Smith	28/07/2026	**Asbestos ACM**	NAD
					Emily Smith	28/07/2026	**Asbestos Type**	NAD
26/11337	1	WS01	1.50	8	Matthew Turner	28/07/2026	**General Description (Bulk Analysis)**	Brown soil/Stones
					Matthew Turner	28/07/2026	**Asbestos Fibres**	NAD
					Matthew Turner	28/07/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	28/07/2026	**Asbestos ACM**	NAD
					Matthew Turner	28/07/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	28/07/2026	**Asbestos Type**	NAD
					Matthew Turner	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS01	2.20	12	Charlotte Taylor	29/07/2026	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	29/07/2026	**Asbestos Fibres**	NAD
					Charlotte Taylor	29/07/2026	**Asbestos Fibres (2)**	NAD
					Charlotte Taylor	29/07/2026	**Asbestos ACM**	NAD
					Charlotte Taylor	29/07/2026	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	29/07/2026	**Asbestos Type**	NAD
					Charlotte Taylor	29/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS02	0.50	16	Caoimhe Anders	28/07/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Caoimhe Anders	28/07/2026	**Asbestos Fibres**	NAD
					Caoimhe Anders	28/07/2026	**Asbestos ACM**	NAD
					Caoimhe Anders	28/07/2026	**Asbestos Type**	NAD
26/11337	1	WS02	1.50	20	Simon Postlewhite	28/07/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	28/07/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS02	2.60	24	Simon Postlewhite	28/07/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	28/07/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM (2)**	NAD

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/11337	1	WS02	2.60	24	Simon Postlewhite	28/07/2026	**Asbestos Type**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS03	0.50	28	Charlotte Taylor	28/07/2026	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	28/07/2026	**Asbestos Fibres**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Fibres (2)**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos ACM**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Type**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS03	1.50	32	Emily Smith	28/07/2026	**General Description (Bulk Analysis)**	Brown soil with stones
					Emily Smith	28/07/2026	**Asbestos Fibres**	NAD
					Emily Smith	28/07/2026	**Asbestos ACM**	NAD
					Emily Smith	28/07/2026	**Asbestos Type**	NAD
26/11337	1	WS03	1.90	36	Charlotte Taylor	29/07/2026	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	29/07/2026	**Asbestos Fibres**	NAD
					Charlotte Taylor	29/07/2026	**Asbestos Fibres (2)**	NAD
					Charlotte Taylor	29/07/2026	**Asbestos ACM**	NAD
					Charlotte Taylor	29/07/2026	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	29/07/2026	**Asbestos Type**	NAD
					Charlotte Taylor	29/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS04	0.50	40	Michael Reilly	28/07/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	28/07/2026	**Asbestos Fibres**	NAD
					Michael Reilly	28/07/2026	**Asbestos Fibres (2)**	NAD
					Michael Reilly	28/07/2026	**Asbestos ACM**	NAD
					Michael Reilly	28/07/2026	**Asbestos ACM (2)**	NAD
					Michael Reilly	28/07/2026	**Asbestos Type**	NAD
					Michael Reilly	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS04	1.50	44	Simon Postlewhite	28/07/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	28/07/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS05	0.50	48	Matthew Turner	28/07/2026	**General Description (Bulk Analysis)**	Brown soil/Stones
					Matthew Turner	28/07/2026	**Asbestos Fibres**	NAD
					Matthew Turner	28/07/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	28/07/2026	**Asbestos ACM**	NAD
					Matthew Turner	28/07/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	28/07/2026	**Asbestos Type**	NAD
					Matthew Turner	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS05	1.50	52	Emily Smith	29/07/2026	**General Description (Bulk Analysis)**	Brown soil with stones
					Emily Smith	29/07/2026	**Asbestos Fibres**	NAD
					Emily Smith	29/07/2026	**Asbestos ACM**	NAD
					Emily Smith	29/07/2026	**Asbestos Type**	NAD

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/11337	1	WS06	0.50	56	Matthew Turner	28/07/2026	**General Description (Bulk Analysis)**	Brown soil/Stones
					Matthew Turner	28/07/2026	**Asbestos Fibres**	NAD
					Matthew Turner	28/07/2026	**Asbestos Fibres (2)**	NAD
					Matthew Turner	28/07/2026	**Asbestos ACM**	NAD
					Matthew Turner	28/07/2026	**Asbestos ACM (2)**	NAD
					Matthew Turner	28/07/2026	**Asbestos Type**	NAD
					Matthew Turner	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS06	1.50	60	Charlotte Taylor	28/07/2026	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	28/07/2026	**Asbestos Fibres**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Fibres (2)**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos ACM**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Type**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS07	0.50	64	Caoimhe Anders	28/07/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Caoimhe Anders	28/07/2026	**Asbestos Fibres**	NAD
					Caoimhe Anders	28/07/2026	**Asbestos ACM**	NAD
					Caoimhe Anders	28/07/2026	**Asbestos Type**	NAD
26/11337	1	WS07	1.30	68	Emily Smith	28/07/2026	**General Description (Bulk Analysis)**	Brown soil with stones
					Emily Smith	28/07/2026	**Asbestos Fibres**	NAD
					Emily Smith	28/07/2026	**Asbestos ACM**	NAD
					Emily Smith	28/07/2026	**Asbestos Type**	NAD
26/11337	1	WS08	0.50	72	Charlotte Taylor	28/07/2026	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	28/07/2026	**Asbestos Fibres**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Fibres (2)**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos ACM**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Type**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS08	1.50	76	Charlotte Taylor	28/07/2026	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	28/07/2026	**Asbestos Fibres**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Fibres (2)**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos ACM**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Type**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS08	2.50	80	Charlotte Taylor	28/07/2026	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	28/07/2026	**Asbestos Fibres**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Fibres (2)**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos ACM**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Type**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS10	0.50	84	Charlotte Taylor	29/07/2026	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	29/07/2026	**Asbestos Fibres**	NAD
					Charlotte Taylor	29/07/2026	**Asbestos Fibres (2)**	NAD

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/11337	1	WS10	0.50	84	Charlotte Taylor	29/07/2026	**Asbestos ACM**	NAD
					Charlotte Taylor	29/07/2026	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	29/07/2026	**Asbestos Type**	NAD
					Charlotte Taylor	29/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS10	1.50	88	Charlotte Taylor	28/07/2026	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	28/07/2026	**Asbestos Fibres**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Fibres (2)**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos ACM**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Type**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS11	0.50	92	Simon Postlewhite	28/07/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	28/07/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS11	1.50	96	Michael Reilly	28/07/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	28/07/2026	**Asbestos Fibres**	NAD
					Michael Reilly	28/07/2026	**Asbestos Fibres (2)**	NAD
					Michael Reilly	28/07/2026	**Asbestos ACM**	NAD
					Michael Reilly	28/07/2026	**Asbestos ACM (2)**	NAD
					Michael Reilly	28/07/2026	**Asbestos Type**	NAD
					Michael Reilly	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS11	2.20	100	Simon Postlewhite	28/07/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	28/07/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS12	0.50	104	Simon Postlewhite	28/07/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	28/07/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS12	1.50	108	Charlotte Taylor	28/07/2026	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	28/07/2026	**Asbestos Fibres**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Fibres (2)**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos ACM**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Type**	NAD
					Charlotte Taylor	28/07/2026	**Asbestos Type (2)**	NAD

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/11337	1	WS12	2.50	112	Simon Postlewhite	28/07/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	28/07/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS13	0.50	116	Simon Postlewhite	28/07/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	28/07/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS13	1.50	120	Caoimhe Anders	28/07/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Caoimhe Anders	28/07/2026	**Asbestos Fibres**	NAD
					Caoimhe Anders	28/07/2026	**Asbestos ACM**	NAD
					Caoimhe Anders	28/07/2026	**Asbestos Type**	NAD
26/11337	1	WS13	2.50	124	Michael Reilly	28/07/2026	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	28/07/2026	**Asbestos Fibres**	NAD
					Michael Reilly	28/07/2026	**Asbestos Fibres (2)**	NAD
					Michael Reilly	28/07/2026	**Asbestos ACM**	NAD
					Michael Reilly	28/07/2026	**Asbestos ACM (2)**	NAD
					Michael Reilly	28/07/2026	**Asbestos Type**	NAD
					Michael Reilly	28/07/2026	**Asbestos Type (2)**	NAD
26/11337	1	WS14A	0.50	128	Emily Smith	28/07/2026	**General Description (Bulk Analysis)**	Brown soil with stones
					Emily Smith	28/07/2026	**Asbestos Fibres**	NAD
					Emily Smith	28/07/2026	**Asbestos ACM**	NAD
					Emily Smith	28/07/2026	**Asbestos Type**	NAD
26/11337	1	WS14A	1.50	132	Simon Postlewhite	28/07/2026	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	28/07/2026	**Asbestos Fibres**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Fibres (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos ACM (2)**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type**	NAD
					Simon Postlewhite	28/07/2026	**Asbestos Type (2)**	NAD

Element Materials Technology

Notification of Deviating Samples

Client Name: Ground Investigations Ireland
Reference: 15401-03-26
Location: Cherry Orchard Phase 3 Site 5B
Contact: James Cashen

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 26/11337						

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.: 26/11337

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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.

Date

The dates of the performance of laboratory activity are available on request.

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-quantitively, 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: 26/11337

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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: 26/11337

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM22	Modified BS1377-3:1990 Gravimetric determination of Loss on Ignition by temperature controlled Muffle Furnace (35C-440C). On request modified ASTM D2974-00 LOI (105C-440C)	PM0	No preparation is required.	Yes		AD	Yes
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
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 GCFID 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 GCFID 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: 2013I	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: 2013I	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: 26/11337

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	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 of 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. Please note to follow the standard implicitly 2kg of sample is required.				
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	

Old School Building
Ughtyneill
Moynalty
A82AE70

Geotechnical and Soil Testing Services Ltd

			Geotechnical Testing								
Job No.	**GII**	**839**	Determination of Moisture Content, Atterberg Limits, Particle Density Tested in accordeance with BS1377: Part 2 (2022)							Client No.	28
Report No.		**GII839 -GEO AA**							Date Sampled	23/06/2026	
Client:		Ground Investigations Ireland							Date Received	06/07/2026	
Contract		Cherry Orchard Phase 3 Site 5B							Date Tested	06/07/2026	

Sample No	BH- TP	Depth (m)	Sample Type	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity Index	% <425µm		Description
6310	BH01@1.00m	BH01@1.00m	B	13.3	33	21	12	100		Sandy, silty, gravelly clay
6311	BH01@2.00m	BH01@2.00m	B	14.3	28	17	11	100		Sandy, gravelly Silt
6312	BH01@3.00m	BH01@3.00m	B	13.3	28	15	13	100		Sandy, gravelly Silt
6313	BH02@2.00m	BH02@2.00m	B	15.7	29	17	12	100		Sandy, gravelly Silt
6314	BH02@3.00m	BH02@3.00m	B	12.7	31	17	13	100		Sandy, gravelly Silt
6315	BH03@1.00m	BH03@1.00m	B	18.3	31	17	14	100		Sandy, gravelly Silt
6316	BH03@2.00m	BH03@2.00m	B	15.0	30	18	12	100		Sandy, gravelly Silt
6317	BH04@1.00m	BH04@1.00m	B	21.6	38	20	18	100		Sandy, gravelly Silt
6318	BH04@2.00m	BH04@2.00m	B	17.0	33	18	14	100		Sandy, gravelly Silt
6320	BH06@2.00m	BH06@2.00m	B	18.2	36	19	17	100		Gravelly, sandy Silt
6321	BH07@1.00m	BH07@1.00m	B	19.8	39	22	17	100		Sandy, gravelly Silt

Notes Sample Type: B- Bulk, U- Undisturbed, D- Disturbed Preparation: WS- Wet Sieved, AR- As received,
NP- Non plastic, ND - Not Determined

Remarks

Approved by	Date	Page	1	of	1

REMARKS:

15/07/2026

Old School Building
Ughtyneill
Moynalty
Co. Meath

Geotechnical and Soil Testing Services Ltd

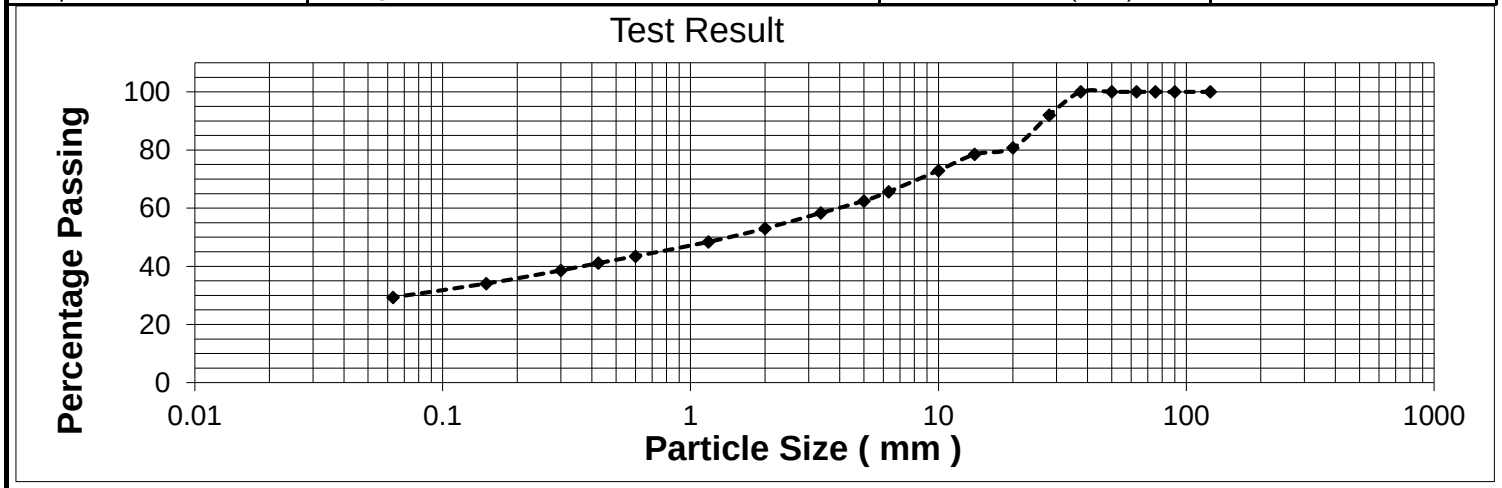
Sample No. **SA 6310**
Job No. **GII 839**
Client No. **C028**

Contract: **Cherry Orchard Phase 3 Site 5B**
Client: **Ground Investigations Ireland**
Client address: Catherinestown House
Hazelhatch Road
Newcastle D22 YD52

TEST REPORT FOR SOILS - PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 2022; BS EN 17892-4:2016 - 5.2 (Wet / Dry sieving method) ***6310 PSD***

Description of Soil	Sandy, silty, gravelly clay	Sample Number	**SA6310**
Supplier *	Ground Investigation Ireland	Date Sampled	23/06/2026
Source *	BH01@1.00m	Date Received	06/07/2026
Deposition / Location *	Cherry Orchard Phase 3 Site 5B	Date Tested	07/07/26
Sample Ref. *	BH01@1.00m	Moisture Content (All in)	12.7 %



CLAY	Fine Med Coarse	Fine Med Coarse	Fine Med Coarse	Coarse	Boulders
	Silt	Sand	Gravel	Cobbles	
	29.3	24	47		

BS Sieve	% Passing	Spec
125 mm	100	
90 mm	100	
75 mm	100	
63 mm	100	
50 mm	100	
37.5 mm	100	
28 mm	92	
20 mm	81	
14 mm	78	
10 mm	73	
6.3 mm	66	
5 mm	62	
3.35 mm	58	
2 mm	53	
1.18 µm	48	
600 µm	43	
425 µm	41	
300 µm	39	
150 µm	34	
63 µm	**29.3**	

Sample Certificate No.: ***SA6310***

Notes: This test report shall not be reproduced except in full,without the prior written approval of the laboratory.
Results relate only to the sample tested and apply to sample as receieved.
(*) Denotes Sample information above has been provided by the client.

Authorised signatories

Signed: _____
for Geotechnical and Soil Testing Services Ltd

Date: 14/07/2026

G . Reilly - Laboratory Manager

Old School Building
Ughtyneill
Moynalty
Co. Meath

Geotechnical and Soil Testing Services Ltd

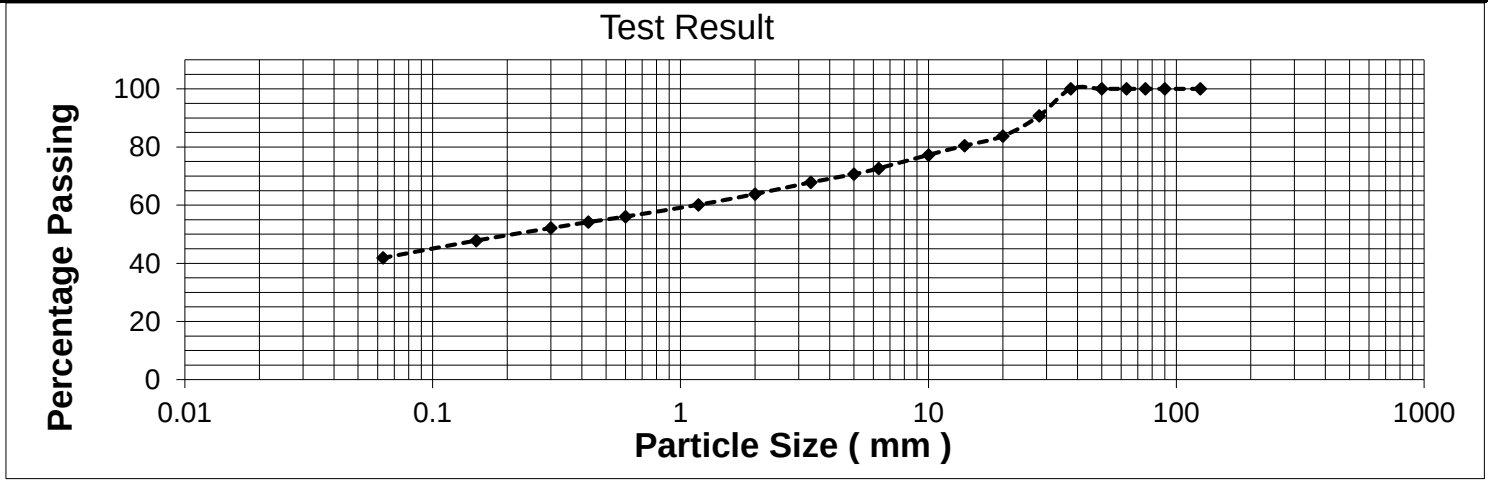
Sample No. **SA 6311**
Job No. **GII 839**
Client No. **C028**

Contract: **Cherry Orchard Phase 3 Site 5B**
Client: **Ground Investigations Ireland**
Client address: Catherinestown House
Hazelhatch Road
Newcastle D22 YD52

TEST REPORT FOR SOILS - PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 2022; BS EN 17892-4:2016 - 5.2 (Wet / Dry sieving method) ***6311 PSD***

Description of Soil	Sandy, gravelly Silt	Sample Number	**SA6311**
Supplier *	Ground Investigation Ireland	Date Sampled	23/06/2026
Source *	BH01@2.00m	Date Received	06/07/2026
Deposition / Location *	Cherry Orchard Phase 3 Site 5B	Date Tested	07/07/26
Sample Ref. *	BH01@2.00m	Moisture Content (All in)	13.4 %



CLAY	Fine Med Coarse	Fine Med Coarse	Fine Med Coarse	Coarse	Boulders
	Silt	Sand	Gravel	Cobbles	
	41.9	22	36		

BS Sieve	% Passing	Spec
125 mm	100	
90 mm	100	
75 mm	100	
63 mm	100	
50 mm	100	
37.5 mm	100	
28 mm	91	
20 mm	84	
14 mm	80	
10 mm	77	
6.3 mm	73	
5 mm	71	
3.35 mm	68	
2 mm	64	
1.18 µm	60	
600 µm	56	
425 µm	54	
300 µm	52	
150 µm	48	
63 µm	**41.9**	

Sample Certificate No.: ***SA6311***

Notes: This test report shall not be reproduced except in full,without the prior written approval of the laboratory.
Results relate only to the sample tested and apply to sample as receieved.
(*) Denotes Sample information above has been provided by the client.

Authorised signatories

Signed: _____
for Geotechnical and Soil Testing Services Ltd

Date: 14/07/2026

G . Reilly - Laboratory Manager

Old School Building
Ughtyneill
Moynalty
Co. Meath

Geotechnical and Soil Testing Services Ltd

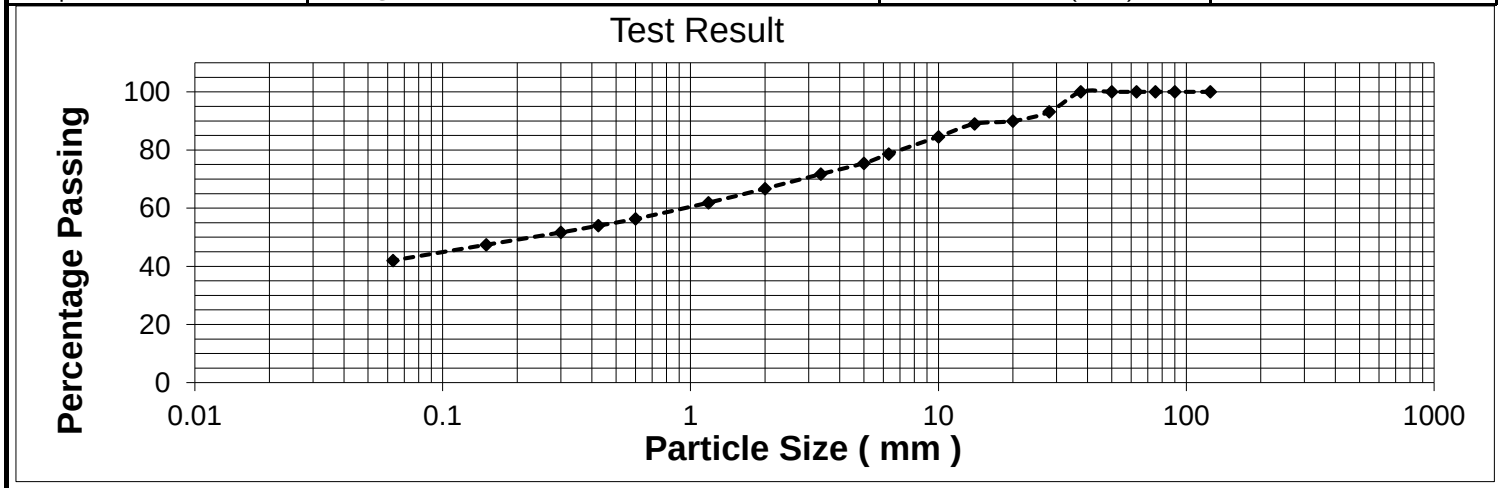
Sample No. **SA 6312**
Job No. **GII 839**
Client No. **C028**

Contract: **Cherry Orchard Phase 3 Site 5B**
Client: **Ground Investigations Ireland**
Client address: Catherinestown House
Hazelhatch Road
Newcastle D22 YD52

TEST REPORT FOR SOILS - PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 2022; BS EN 17892-4:2016 - 5.2 (Wet / Dry sieving method) ***6312 PSD***

Description of Soil	Sandy, gravelly Silt	Sample Number	**SA6312**
Supplier *	Ground Investigation Ireland	Date Sampled	23/06/2026
Source *	BH01@3.00m	Date Received	06/07/2026
Deposition / Location *	Cherry Orchard Phase 3 Site 5B	Date Tested	07/07/26
Sample Ref. *	BH01@3.00m	Moisture Content (All in)	13.3 %



CLAY	Fine Med Coarse	Fine Med Coarse	Fine Med Coarse	Coarse	Boulders
	Silt	Sand	Gravel	Cobbles	
	42.0	25	33		

BS Sieve	% Passing	Spec
125 mm	100	
90 mm	100	
75 mm	100	
63 mm	100	
50 mm	100	
37.5 mm	100	
28 mm	93	
20 mm	90	
14 mm	89	
10 mm	85	
6.3 mm	79	
5 mm	75	
3.35 mm	72	
2 mm	67	
1.18 µm	62	
600 µm	56	
425 µm	54	
300 µm	52	
150 µm	47	
63 µm	**42.0**	

Sample Certificate No.: ***SA6312***

Notes: This test report shall not be reproduced except in full,without the prior written approval of the laboratory.
Results relate only to the sample tested and apply to sample as receieved.
(*) Denotes Sample information above has been provided by the client.

Authorised signatories

Signed: _____
for Geotechnical and Soil Testing Services Ltd

Date: 14/07/2026

G . Reilly - Laboratory Manager

Old School Building
Ughtyneill
Moynalty
Co. Meath

Geotechnical and Soil Testing Services Ltd

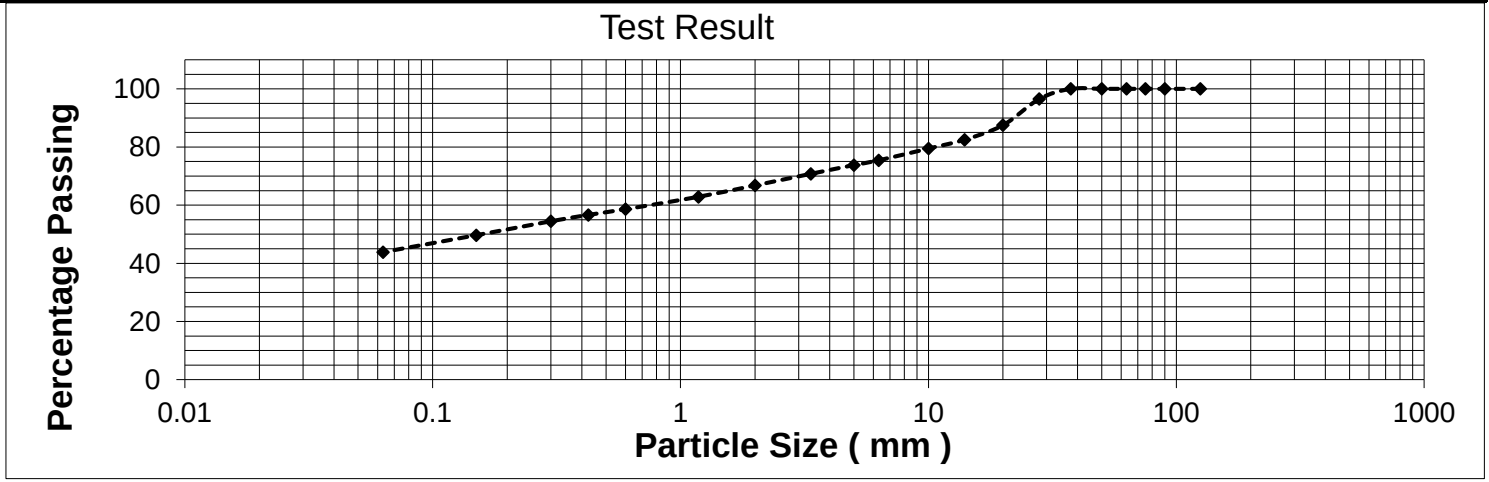
Sample No. **SA 6313**
Job No. **GII 839**
Client No. **C028**

Contract: **Cherry Orchard Phase 3 Site 5B**
Client: **Ground Investigations Ireland**
Client address: Catherinestown House
Hazelhatch Road
Newcastle D22 YD52

TEST REPORT FOR SOILS - PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 2022; BS EN 17892-4:2016 - 5.2 (Wet / Dry sieving method) ***6313 PSD***

Description of Soil	Sandy, gravelly Silt	Sample Number	**SA6313**
Supplier *	Ground Investigation Ireland	Date Sampled	24/06/2026
Source *	BH02@2.00m	Date Received	06/07/2026
Deposition / Location *	Cherry Orchard Phase 3 Site 5B	Date Tested	07/07/26
Sample Ref. *	BH02@2.00m	Moisture Content (All in)	13.7 %



CLAY	Fine Med Coarse	Fine Med Coarse	Fine Med Coarse	Coarse	Boulders
	Silt	Sand	Gravel	Cobbles	
	43.8	23	33		

BS Sieve	% Passing	Spec
125 mm	100	
90 mm	100	
75 mm	100	
63 mm	100	
50 mm	100	
37.5 mm	100	
28 mm	97	
20 mm	88	
14 mm	83	
10 mm	79	
6.3 mm	75	
5 mm	74	
3.35 mm	71	
2 mm	67	
1.18 µm	63	
600 µm	59	
425 µm	57	
300 µm	54	
150 µm	50	
63 µm	**43.8**	

Sample Certificate No.: ***SA6313***

Notes: This test report shall not be reproduced except in full,without the prior written approval of the laboratory.
Results relate only to the sample tested and apply to sample as receieved.
(*) Denotes Sample information above has been provided by the client.

Authorised signatories

Signed: _____
for Geotechnical and Soil Testing Services Ltd

Date: 14/07/2026

G . Reilly - Laboratory Manager

Page 1 of 1 **End of Report**

Old School Building
Ughtyneill
Moynalty
Co. Meath

Geotechnical and Soil Testing Services Ltd

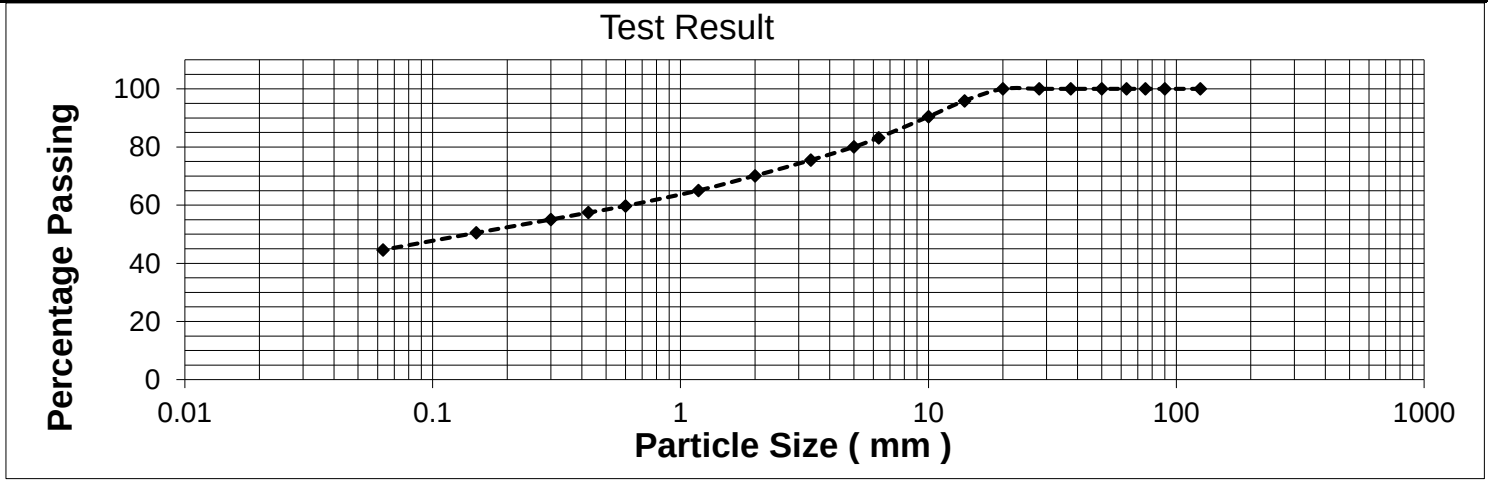
Sample No. **SA 6314**
Job No. **GII 839**
Client No. **C028**

Contract: **Cherry Orchard Phase 3 Site 5B**
Client: **Ground Investigations Ireland**
Client address: Catherinestown House
Hazelhatch Road
Newcastle D22 YD52

TEST REPORT FOR SOILS - PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 2022; BS EN 17892-4:2016 - 5.2 (Wet / Dry sieving method) ***6314 PSD***

Description of Soil	Sandy, gravelly Silt	Sample Number	**SA6314**
Supplier *	Ground Investigation Ireland	Date Sampled	25/06/2026
Source *	BH02@3.00m	Date Received	06/07/2026
Deposition / Location *	Cherry Orchard Phase 3 Site 5B	Date Tested	07/07/26
Sample Ref. *	BH02@3.00m	Moisture Content (All in)	12.7 %



CLAY	Fine Med Coarse	Fine Med Coarse	Fine Med Coarse	Coarse	Boulders
	Silt	Sand	Gravel	Cobbles	
	44.6	26	30		

BS Sieve	% Passing	Spec
125 mm	100	
90 mm	100	
75 mm	100	
63 mm	100	
50 mm	100	
37.5 mm	100	
28 mm	100	
20 mm	100	
14 mm	96	
10 mm	90	
6.3 mm	83	
5 mm	80	
3.35 mm	75	
2 mm	70	
1.18 µm	65	
600 µm	60	
425 µm	57	
300 µm	55	
150 µm	50	
63 µm	**44.6**	

Sample Certificate No.: ***SA6314***

Notes: This test report shall not be reproduced except in full,without the prior written approval of the laboratory.
Results relate only to the sample tested and apply to sample as receieved.
(*) Denotes Sample information above has been provided by the client.

Authorised signatories

Signed: _____
for Geotechnical and Soil Testing Services Ltd

Date: 14/07/2026

G . Reilly - Laboratory Manager

Old School Building
Ughtyneill
Moynalty
Co. Meath

Geotechnical and Soil Testing Services Ltd

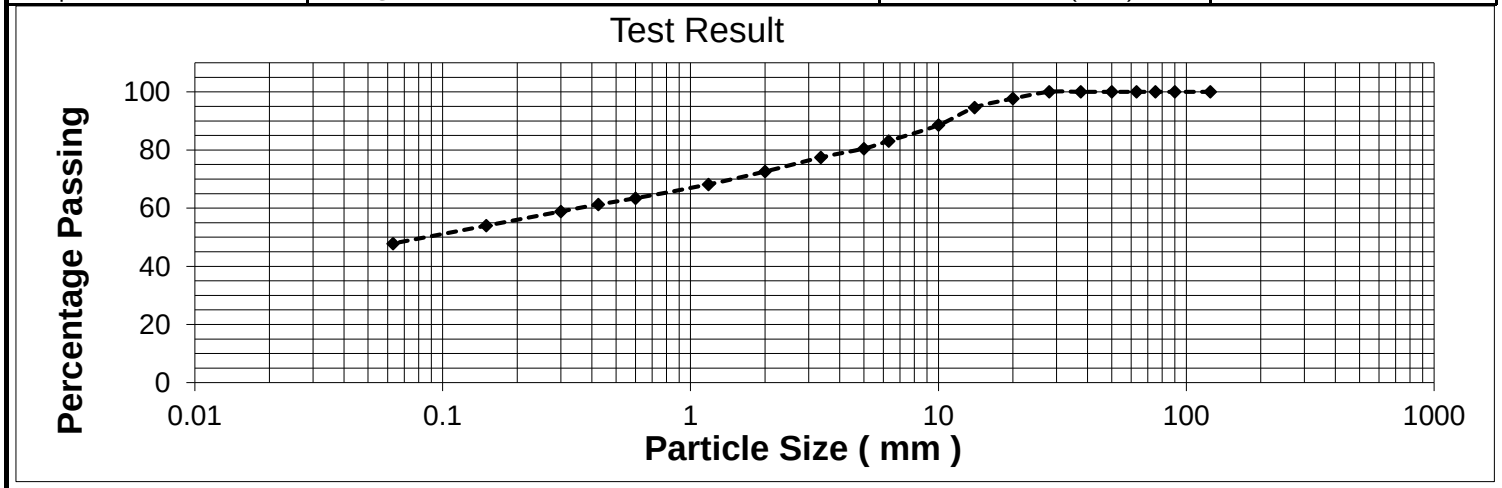
Sample No. **SA 6315**
Job No. **GII 839**
Client No. **C028**

Contract: **Cherry Orchard Phase 3 Site 5B**
Client: **Ground Investigations Ireland**
Client address: Catherinestown House
Hazelhatch Road
Newcastle D22 YD52

TEST REPORT FOR SOILS - PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 2022; BS EN 17892-4:2016 - 5.2 (Wet / Dry sieving method) ***6315 PSD***

Description of Soil	Sandy, gravelly Silt	Sample Number	**SA6315**
Supplier *	Ground Investigation Ireland	Date Sampled	24/06/2026
Source *	BH03@1.00m	Date Received	06/07/2026
Deposition / Location *	Cherry Orchard Phase 3 Site 5B	Date Tested	07/07/26
Sample Ref. *	BH03@1.00m	Moisture Content (All in)	18.3 %



CLAY	Fine Med Coarse	Fine Med Coarse	Fine Med Coarse	Coarse	Boulders
	Silt	Sand	Gravel	Cobbles	
	47.9	25	27		

BS Sieve	% Passing	Spec
125 mm	100	
90 mm	100	
75 mm	100	
63 mm	100	
50 mm	100	
37.5 mm	100	
28 mm	100	
20 mm	98	
14 mm	95	
10 mm	89	
6.3 mm	83	
5 mm	80	
3.35 mm	77	
2 mm	73	
1.18 µm	68	
600 µm	63	
425 µm	61	
300 µm	59	
150 µm	54	
63 µm	**47.9**	

Sample Certificate No.: ***SA6315***

Notes: This test report shall not be reproduced except in full,without the prior written approval of the laboratory.
Results relate only to the sample tested and apply to sample as receieved.
(*) Denotes Sample information above has been provided by the client.

Authorised signatories

Signed: _____
for Geotechnical and Soil Testing Services Ltd

Date: 14/07/2026

G . Reilly - Laboratory Manager

Old School Building
Ughtyneill
Moynalty
Co. Meath

Geotechnical and Soil Testing Services Ltd

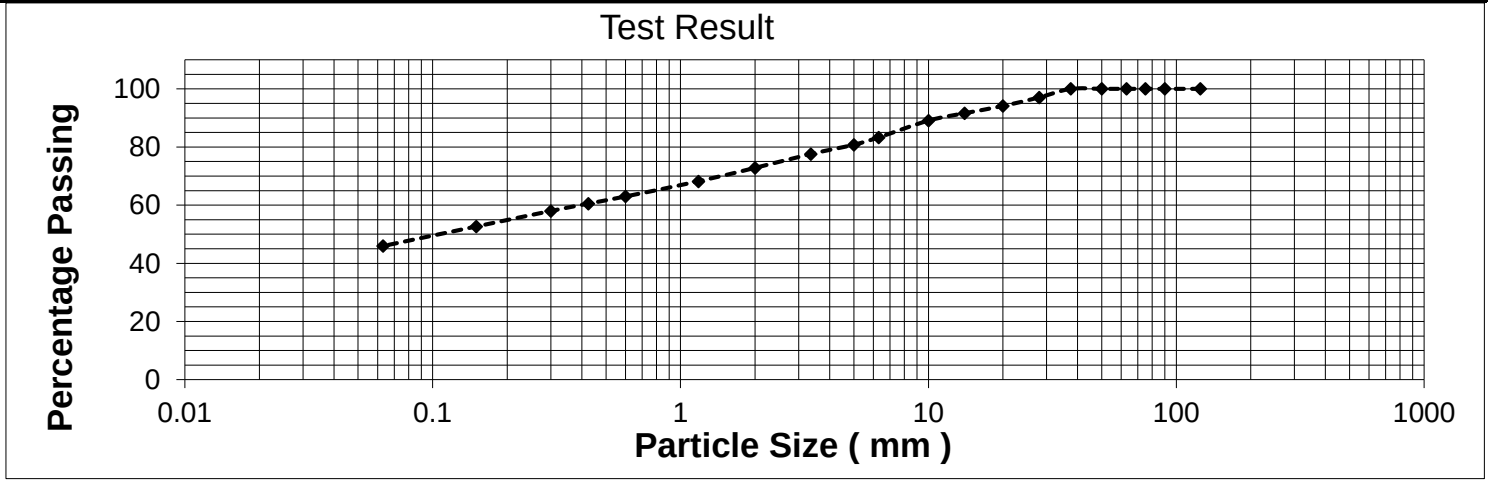
Sample No. **SA 6316**
Job No. **GII 839**
Client No. **C028**

Contract: **Cherry Orchard Phase 3 Site 5B**
Client: **Ground Investigations Ireland**
Client address: Catherinestown House
Hazelhatch Road
Newcastle D22 YD52

TEST REPORT FOR SOILS - PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 2022; BS EN 17892-4:2016 - 5.2 (Wet / Dry sieving method) ***6316 PSD***

Description of Soil	Sandy, gravelly Silt	Sample Number	**SA6316**
Supplier *	Ground Investigation Ireland	Date Sampled	24/06/2026
Source *	BH03@2.00m	Date Received	06/07/2026
Deposition / Location *	Cherry Orchard Phase 3 Site 5B	Date Tested	07/07/26
Sample Ref. *	BH03@2.00m	Moisture Content (All in)	13.5 %



CLAY	Fine Med Coarse	Fine Med Coarse	Fine Med Coarse	Coarse	Boulders
	Silt	Sand	Gravel	Cobbles	
	45.9	27	27		

BS Sieve	% Passing	Spec
125 mm	100	
90 mm	100	
75 mm	100	
63 mm	100	
50 mm	100	
37.5 mm	100	
28 mm	97	
20 mm	94	
14 mm	92	
10 mm	89	
6.3 mm	83	
5 mm	81	
3.35 mm	78	
2 mm	73	
1.18 µm	68	
600 µm	63	
425 µm	61	
300 µm	58	
150 µm	53	
63 µm	**45.9**	

Sample Certificate No.: ***SA6316***

Notes: This test report shall not be reproduced except in full,without the prior written approval of the laboratory.
Results relate only to the sample tested and apply to sample as receieved.
(*) Denotes Sample information above has been provided by the client.

Authorised signatories

Signed: _____
for Geotechnical and Soil Testing Services Ltd

Date: 14/07/2026

G . Reilly - Laboratory Manager

Old School Building
Ughtyneill
Moynalty
Co. Meath

Geotechnical and Soil Testing Services Ltd

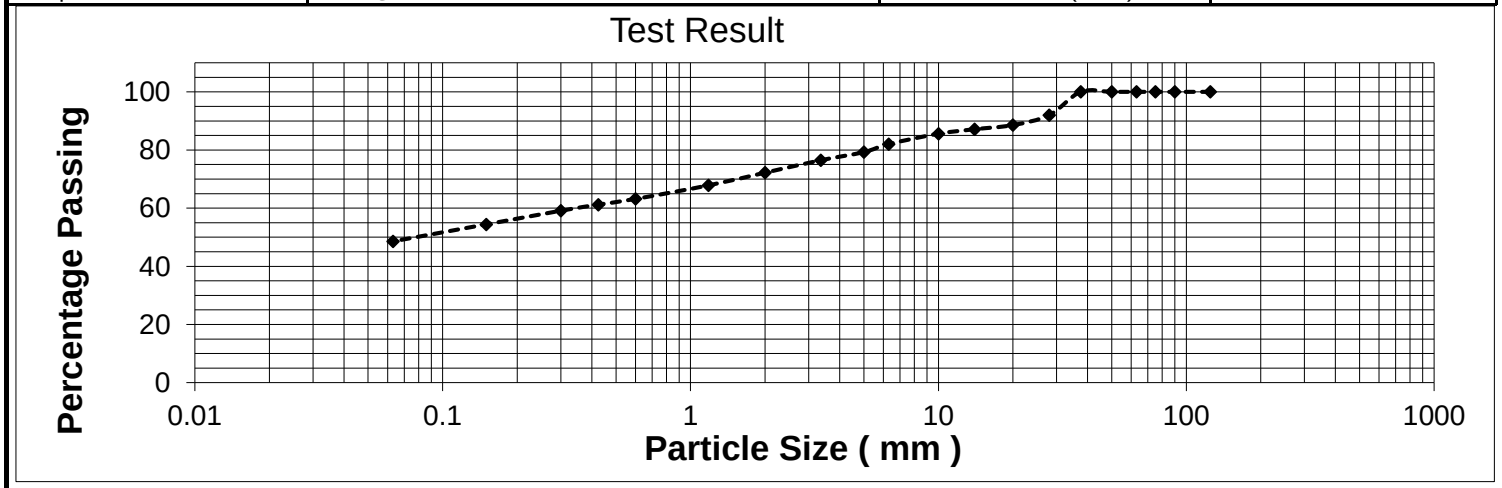
Sample No. **SA 6317**
Job No. **GII 839**
Client No. **C028**

Contract: **Cherry Orchard Phase 3 Site 5B**
Client: **Ground Investigations Ireland**
Client address: Catherinestown House
Hazelhatch Road
Newcastle D22 YD52

TEST REPORT FOR SOILS - PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 2022; BS EN 17892-4:2016 - 5.2 (Wet / Dry sieving method) ***6317 PSD***

Description of Soil	Sandy, gravelly Silt	Sample Number	**SA6317**
Supplier *	Ground Investigation Ireland	Date Sampled	24/06/2026
Source *	BH04@1.00m	Date Received	06/07/2026
Deposition / Location *	Cherry Orchard Phase 3 Site 5B	Date Tested	07/07/26
Sample Ref. *	BH04@1.00m	Moisture Content (All in)	21.6 %



CLAY	Fine Med Coarse	Fine Med Coarse	Fine Med Coarse	Coarse	Boulders
	Silt	Sand	Gravel	Cobbles	
	48.6	24	28		

BS Sieve	% Passing	Spec
125 mm	100	
90 mm	100	
75 mm	100	
63 mm	100	
50 mm	100	
37.5 mm	100	
28 mm	92	
20 mm	89	
14 mm	87	
10 mm	86	
6.3 mm	82	
5 mm	79	
3.35 mm	76	
2 mm	72	
1.18 µm	68	
600 µm	63	
425 µm	61	
300 µm	59	
150 µm	54	
63 µm	**48.6**	

Sample Certificate No.: ***SA6317***

Notes: This test report shall not be reproduced except in full,without the prior written approval of the laboratory.
Results relate only to the sample tested and apply to sample as receieved.
(*) Denotes Sample information above has been provided by the client.

Authorised signatories

Signed: _____
for Geotechnical and Soil Testing Services Ltd

Date: 14/07/2026

G . Reilly - Laboratory Manager

Page 1 of 1 **End of Report**

Old School Building
Ughtyneill
Moynalty
Co. Meath

Geotechnical and Soil Testing Services Ltd

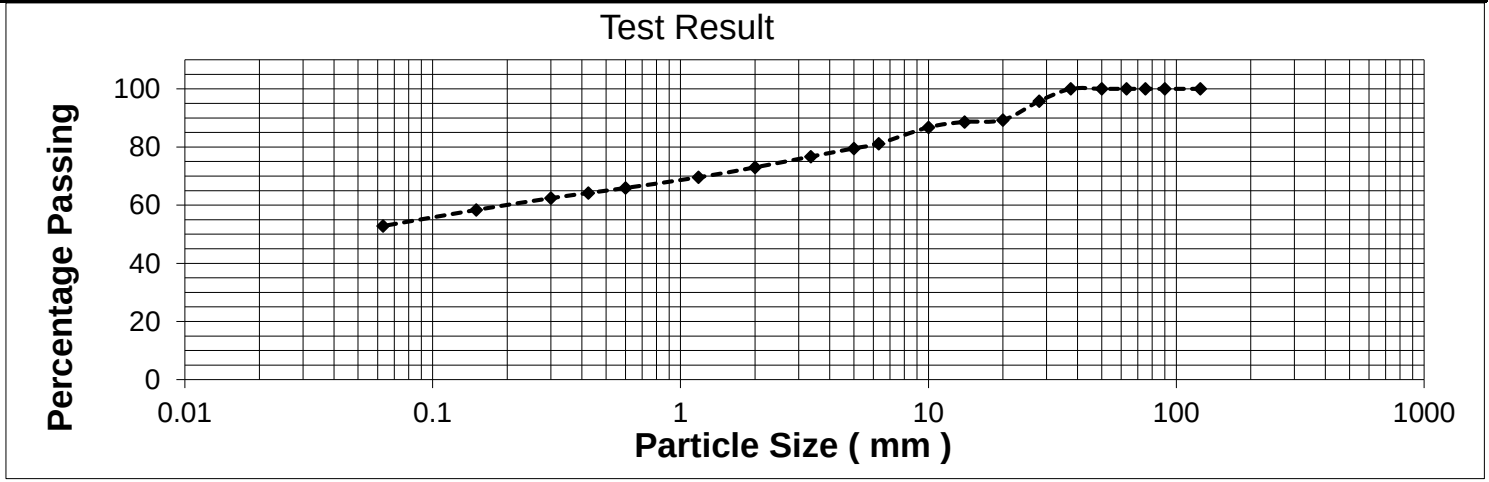
Sample No. **SA 6318**
Job No. **GII 839**
Client No. **C028**

Contract: **Cherry Orchard Phase 3 Site 5B**
Client: **Ground Investigations Ireland**
Client address: Catherinestown House
Hazelhatch Road
Newcastle D22 YD52

TEST REPORT FOR SOILS - PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 2022; BS EN 17892-4:2016 - 5.2 (Wet / Dry sieving method) ***6318 PSD***

Description of Soil	Sandy, gravelly Silt	Sample Number	**SA6318**
Supplier *	Ground Investigation Ireland	Date Sampled	24/06/2026
Source *	BH04@2.00m	Date Received	06/07/2026
Deposition / Location *	Cherry Orchard Phase 3 Site 5B	Date Tested	07/07/26
Sample Ref. *	BH04@2.00m	Moisture Content (All in)	17.0 %



CLAY	Fine Med Coarse	Fine Med Coarse	Fine Med Coarse	Coarse	Boulders
	Silt	Sand	Gravel	Cobbles	
	52.8	20	27		

BS Sieve	% Passing	Spec
125 mm	100	
90 mm	100	
75 mm	100	
63 mm	100	
50 mm	100	
37.5 mm	100	
28 mm	96	
20 mm	89	
14 mm	89	
10 mm	87	
6.3 mm	81	
5 mm	80	
3.35 mm	77	
2 mm	73	
1.18 µm	70	
600 µm	66	
425 µm	64	
300 µm	62	
150 µm	58	
63 µm	**52.8**	

Sample Certificate No.: ***SA6318***

Notes: This test report shall not be reproduced except in full,without the prior written approval of the laboratory.
Results relate only to the sample tested and apply to sample as receieved.
(*) Denotes Sample information above has been provided by the client.

Authorised signatories

Signed: _____
for Geotechnical and Soil Testing Services Ltd

Date: 14/07/2026

G . Reilly - Laboratory Manager

Page 1 of 1 **End of Report**

Old School Building
Ughtyneill
Moynalty
Co. Meath

Geotechnical and Soil Testing Services Ltd

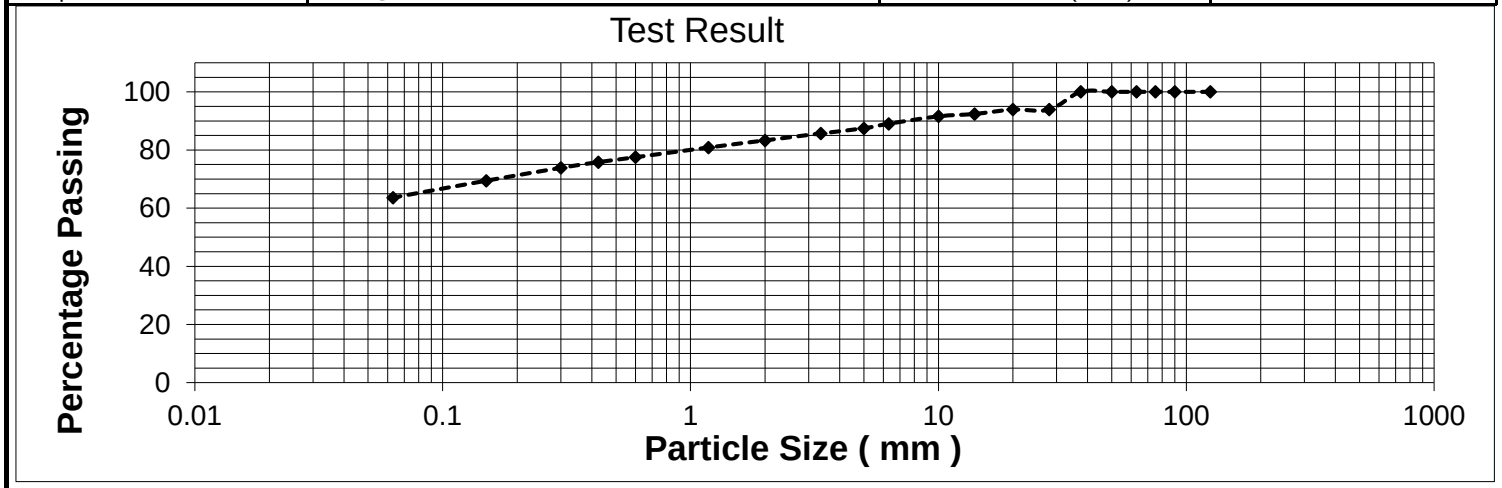
Sample No. **SA 6320**
Job No. **GII 839**
Client No. **C028**

Contract: **Cherry Orchard Phase 3 Site 5B**
Client: **Ground Investigations Ireland**
Client address: Catherinestown House
Hazelhatch Road
Newcastle D22 YD52

TEST REPORT FOR SOILS - PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 2022; BS EN 17892-4:2016 - 5.2 (Wet / Dry sieving method) ***6320 PSD***

Description of Soil	Gravelly, sandy Silt	Sample Number	**SA6320**
Supplier *	Ground Investigation Ireland	Date Sampled	24/06/2026
Source *	BH06@2.00m	Date Received	06/07/2026
Deposition / Location *	Cherry Orchard Phase 3 Site 5B	Date Tested	07/07/26
Sample Ref. *	BH06@2.00m	Moisture Content (All in)	15.7 %



CLAY	Fine Med Coarse	Fine Med Coarse	Fine Med Coarse	Coarse	Boulders
	Silt	Sand	Gravel	Cobbles	
	63.6	20	17		

BS Sieve	% Passing	Spec
125 mm	100	
90 mm	100	
75 mm	100	
63 mm	100	
50 mm	100	
37.5 mm	100	
28 mm	94	
20 mm	94	
14 mm	92	
10 mm	92	
6.3 mm	89	
5 mm	87	
3.35 mm	86	
2 mm	83	
1.18 µm	81	
600 µm	78	
425 µm	76	
300 µm	74	
150 µm	69	
63 µm	**63.6**	

Sample Certificate No.: ***SA6320***

Notes: This test report shall not be reproduced except in full,without the prior written approval of the laboratory.
Results relate only to the sample tested and apply to sample as receieved.
(*) Denotes Sample information above has been provided by the client.

Authorised signatories

Signed: _____ **Date:** 14/07/2026
for Geotechnical and Soil Testing Services Ltd

G . Reilly - Laboratory Manager

Old School Building
Ughtyneill
Moynalty
Co. Meath

Geotechnical and Soil Testing Services Ltd

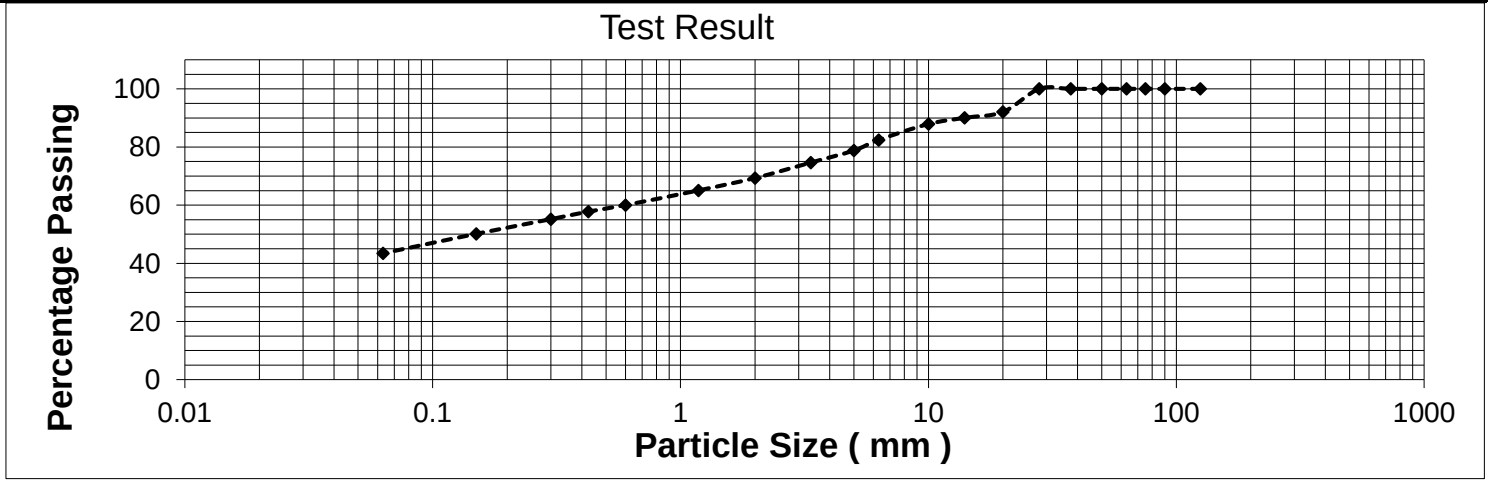
Sample No. **SA 6321**
Job No. **GII 839**
Client No. **C028**

Contract: **Cherry Orchard Phase 3 Site 5B**
Client: **Ground Investigations Ireland**
Client address: Catherinestown House
Hazelhatch Road
Newcastle D22 YD52

TEST REPORT FOR SOILS - PARTICLE SIZE DISTRIBUTION

BS 1377 : Part 2 : 2022; BS EN 17892-4:2016 - 5.2 (Wet / Dry sieving method) ***6321 PSD***

Description of Soil	Sandy, gravelly Silt	Sample Number	**SA6321**
Supplier *	Ground Investigation Ireland	Date Sampled	26/06/2026
Source *	BH07@1.00m	Date Received	06/07/2026
Deposition / Location *	Cherry Orchard Phase 3 Site 5B	Date Tested	07/07/26
Sample Ref. *	BH07@1.00m	Moisture Content (All in)	18.6 %



CLAY	Fine Med Coarse	Fine Med Coarse	Fine Med Coarse	Coarse	Boulders
	Silt	Sand	Gravel	Cobbles	
	43.4	26	31		

BS Sieve	% Passing	Spec
125 mm	100	
90 mm	100	
75 mm	100	
63 mm	100	
50 mm	100	
37.5 mm	100	
28 mm	100	
20 mm	92	
14 mm	90	
10 mm	88	
6.3 mm	82	
5 mm	79	
3.35 mm	75	
2 mm	69	
1.18 µm	65	
600 µm	60	
425 µm	58	
300 µm	55	
150 µm	50	
63 µm	**43.4**	

Sample Certificate No.: ***SA6321***

Notes: This test report shall not be reproduced except in full,without the prior written approval of the laboratory.
Results relate only to the sample tested and apply to sample as receieved.
(*) Denotes Sample information above has been provided by the client.

Authorised signatories

Signed: _____
for Geotechnical and Soil Testing Services Ltd

Date: 14/07/2026

G . Reilly - Laboratory Manager

Page 1 of 1 **End of Report**

APPENDIX 8 – Groundwater Monitoring



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

GROUNDWATER MONITORING

Cherry Orchard Phase 3 Site 5B

BOREHOLE	DATE	TIME	GROUNDWATER (m BGL)	Comments
BH-01	12/08/2026	9.14	2.86	
BH-04	12/08/2026	9.18	3.14	
BH-05	12/08/2026	9.22	3.17	
BH-06A	12/08/2026	9.32	2.73	

D. GII Waste Classification Report undertaken in August 2026

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

Ground Investigations Ireland

Cherry Orchard Site 4 and 5 Phase 2

The Land Development Agency

Waste Classification Report

July 2024

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

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

DOCUMENT CONTROL SHEET

Project Title	Cherry Orchard Sites 4 & 5 Phase 2
Engineer	Waterman Moylan
Client	The Land Development Agency
Project No	13687-03-24
Document Title	Waste Classification Report

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
A	Final	B Sexton	J Cashen	B Sexton	Dublin	10 July 2024
B	Final	B Sexton	J Cashen	B Sexton	Dublin	22 August 2024

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

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

CONTENTS

1.0 Preamble 1
2.0 Purpose & Scope 1
3.0 Limitations 2
4.0 Site Location and Layout 3
5.0 Site History 3
6.0 Subsurface Exploration 3
6.1. General 3
6.2. Trial Pits 3
6.3. Window Sampling 4
6.4. Surveying 4
7.0 Ground Conditions 4
7.1. General 4
8.0 Laboratory Analysis 5
8.1. Analysis Suite 5
8.2. Asbestos 6
9.0 Waste Classification 6
10.0 Soil Recovery Facility Suitability 8
11.0 Conclusions & Recommendations 13
11.1. Conclusions 13
11.1.1. Waste Classification 13
11.1.2. Asbestos 13
11.1.3. Waste Categories 13
11.2. Recommendations 13
11.2.1. Waste Transfer 13
12.0 References 14

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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

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

LIST OF TABLES

Table 1 Potential Waste Categories for Disposal/Recovery 7
Table 2 Waste Acceptance and SRF Suitability Summary Table 10

APPENDICES

Appendix 1	**Figures**
Appendix 2	**Trial Pit Records**
Appendix 3	**Window Sample Records**
Appendix 6	**Laboratory Testing**
Appendix 7	**HazWasteOnLine™ Report**
Appendix 8	**Waste Acceptance and SRF Suitability Summary Table**

1.0 Preamble

Ground Investigations Ireland (GII) was appointed by Waterman Moylan Consulting Engineers on behalf of The Land Development Agency (LDA) to carry out a Waste Classification Assessment for a proposed residential development in Cherry Orchard, Dublin 10. All site investigation works were carried out under the supervision of a GII Geo-Environmental Engineer. The site investigation works were completed in two phases. Phase one was completed in August 2022 and the second between May and June 2024.

2.0 Purpose & Scope

It is understood that as part of the proposed development there may be an excavation to accommodate foundations, services, pavements and carparking and as such the material which may be excavated and removed from site needs to be assessed in terms of waste disposal outlets. The waste classification was carried out in parallel with a wider geotechnical site investigation. The geotechnical site investigation is discussed in the GII Ground Investigation Reports Dated November 2022[1] and July 2024.[2]

The purpose of the waste classification exercise was as follows.

- Assess the site in terms of historical use;
- Classification, in terms of waste management and final disposal outlets, of material that may require disposal following excavation during the construction phase; and
- Assessment of material against Soil Recovery Facility (SRF) criteria.

The scope of the work undertaken to facilitate the waste classification exercise included the following:

- Site walkover;
- Historical desk study;
- Excavation of fourteen (14 No.) trial pits in Phase 1;
- Excavation of one hundred and eight (118 No.) trial pits in Phase 2;
- Collection of subsoil samples for chemical analysis;
- Environmental laboratory testing;
- Waste classification; and
- SFR suitability.

[1] Ground Investigations Ireland, Cherry Orchard Sites 4&5, Ground Investigation Report, November 2022.
[2] Ground Investigations Ireland, Cherry Orchard Sites 4&5 Phase 2, Ground Investigation Report, July 2024.

3.0 Limitations

This report is based on the waste classification regulatory requirements at the time of writing this report and the conclusions and recommendations may not be applicable where there have been amendments to these requirements subsequent to writing the report.

In all cases the reader of this report shall confirm that the waste categories are acceptable to the various waste facilities to which the material may be sent. The quantification of disposal costs shall not be completed prior to confirmation with the relevant waste facilities of the waste categories. It should be noted that the environmental regulator (in this case the EPA) and the waste acceptor (in this case a landfill operator) shall decide whether a waste is hazardous or non-hazardous and or suitable for disposal at their facility.

GII has prepared this report for the sole use of the LDA. No other warranty, express or implied, is made as to the professional advice included in this report or other services provided by GII.
The conclusions and recommendations contained in this report are based upon information provided by others and the assumption that all relevant information has been provided by those bodies from whom it has been requested. Information obtained from third parties has not been independently verified by GII, unless otherwise stated in this report.
This report has been prepared in line with best industry standards and within the project's budgetary and time constraints. The methodology adopted and the sources of information used by GII in providing its services are outlined in this report.
The work described was undertaken in in two phases. Phase one was completed in August 2022 and Phase 2 was completed between May and June 2024. This report is based on the conditions encountered and the information available during these periods. The scope of this Report and the services are accordingly factually limited by these circumstances.
Site investigation locations were selected by the consultant engineer.
GII disclaim any undertaking or obligation to advise any person of any change in any matter affecting the Report, which may come or be brought to GII's attention after the date of the Report.
The conclusions presented in this report represent GII's best professional judgement based on review of site conditions observed during any site visit and the relevant information available at the time of writing. The opinions and conclusions presented are valid only to the extent that the information provided was accurate and complete.
The investigation was focused on a broad assessment of the subsoil quality across the site. The assessment did not extend to the identification of asbestos containing materials associated with any on-site structures, ground gases or groundwater.
The waste classification exercise is reflective of and applicable to the ground conditions on site at the time of the site investigation and sampling. Alterations to the ground conditions or any further excavations carried out on site following the investigation are not reflected in this report.

4.0 Site Location and Layout

The site is located at Cherry Orchard, Dublin 10 (Figure 1 Appendix 1). At the time of the assessment the site was comprised of two parcels of land. The parcels were separated by Park West Avenue. The larger western parcel of land was bounded to the west by the M50, to the north by Cedar Park Avenue, to the east by Park West Avenue and to the south by a railway line. The smaller eastern parcel of land was located to the east of Park West Avenue. This parcel was bounded by housing estates to the north and south, by Park West Avenue to the west and by New Cherry Orchard Park to the east.

5.0 Site History

GII reviewed the aerial photographs and historical maps maintained by the Tailte Éireann and the google imagery records. These included the 6-inch maps that were produced between 1829 and 1842, the 25-inch maps that were produced between 1888 and 1913 and the 6-inch Cassini Maps that were produced between the 1830's and 1930's. The site is undeveloped on all historical maps reviewed.
Based on a review of the Tailte Éireann and Google Imagery aerial photograph records the site has not been developed per se since at least 1995. However subsoils from adjoining developments appear to have been imported into the site during the construction of the various surrounding developments. The southern section of the larger parcel and the entirety of the smaller parcel appear to have had accepted ground deposits from the surrounding developments.

6.0 Subsurface Exploration

6.1. 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 was undertaken in the exploratory holes to facilitate the geotechnical descriptions and to enable laboratory testing to be carried out on the soil samples recovered during excavation and drilling.
The procedures used in this site investigation are in accordance with Eurocode 7 Part 2: Ground Investigation and testing (ISEN 1997 – 2:2007) and B.S. 5930:2015.

6.2. Trial Pits

The trial pits were excavated using an 8T, 8.5T or 13T tracked excavator or a JCB 3CX at the locations shown in Figures 5 to 7. 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.

6.3. Window Sampling

The window sampling was carried out at the locations shown in Figure 8 using a Tecop Tec 10 percussion drilling rig. The window sampling consists of a 1m long steel tube with a cutting edge and an internal plastic liner which is mechanically driven into the ground utilising a 50kg weight falling a height of 500mm. Upon completion of the 1m sample, the tube is withdrawn and the plastic liner removed and sealed for logging and sub sampling by a Geotechnical Engineer/Engineering Geologist. The tube is replaced in the borehole and a subsequent 1m sample can be recovered. Occasionally outer casing or a reduced diameter tube is utilised to enable the window sample to progress in difficult drilling conditions. Geotechnical or environmental soil samples can be recovered from each of the liners following logging. The window sample records are provided in Appendix 3 of this Report.

6.4. 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.

7.0 Ground Conditions

7.1. General

The ground conditions encountered during the investigation are summarised below with reference to insitu and laboratory test results. The full details of the strata encountered during the ground investigation are provided in the exploratory hole logs included in the appendices of this report. For full geotechnical descriptions of the ground conditions refer to the geotechnical site investigation reports referenced in Section 2.0.

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

- Topsoil
- Made Ground
- Granular Deposits
- Cohesive Deposits
- Weathered Bedrock

TOPSOIL: Topsoil was encountered in the majority of the exploratory holes and was present to a maximum depth of 0.30m BGL.

MADE GROUND: Made Ground deposits were encountered beneath the Topsoil at several locations and were present to depths of up to 2.10m BGL. These deposits were described generally as either *grey sandy Gravel* or *brown sandy slightly gravelly CLAY with frequent cobbles and boulders and contained occasional fragments of concrete, red brick, glass and plastic.*

COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Topsoil or Made Ground and were described typically as *brown sandy gravelly CLAY with occasional cobbles and boulders, in places* overlying a *stiff black sandy gravelly CLAY with occasional cobbles and boulders*. The secondary sand and gravel constituents varied across the site and with depth, with granular lenses occasionally present in the glacial till matrix. These deposits had some, occasional or frequent cobble and boulder content, where noted on the exploratory hole logs.

WEATHERED BEDROCK: In several of exploratory holes weathered rock was encountered which was diggable with the large excavator to a depth of up to 2.00m below the top of the stratum. The trial pits were terminated upon encountering the more competent bedrock, in which further excavation became more difficult. This material was recovered typically as *angular gravel and cobbles of Limestone/Mudstone* however there was some variability in the fracture spacing and the ease at which the excavator could progress. Varying amounts clay and sand were also present with the rock mass either from weathering or as infilling to fractures which were opened upon excavation. In some locations residual soil was encountered which was described as *slightly sandy very gravelly CLAY*.

8.0 Laboratory Analysis

8.1. Analysis Suite

In order to assess materials, which may be excavated and removed from site, in terms of waste classification, a selection of samples collected were analysed for a suite of parameters which allows for the assessment of the soils in terms of total pollutant content for classification of materials as *hazardous* or *non-hazardous* (RILTA Suite). The suite also allows for the assessment of the soils in terms of suitability for placement at various categories of landfill. The parameter list for the RILTA 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 RILTA 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 pH, total organic carbon (TOC), speciated aliphatic and aromatic petroleum hydrocarbons, BTEX, phenol, polychlorinated biphenyls (PCB) and PAH.

In line with the requirement of Council Decision 2003/33/EC a leachate was generated from the solid samples which was in turn 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).

The laboratory testing was completed by Element Materials Technology (EMT) in the UK; EMT is a UKAS accredited laboratory. The full laboratory reports are included in Appendix 4.

8.2. Asbestos

Asbestos fibres were not detected in the samples. The laboratory did not identify asbestos containing materials (ACMs) in the samples.

9.0 Waste Classification

GII understands that any materials which may be excavated and removed from site would meet the definition of waste under the Waste Framework Directive. Due to the varying levels of anthropogenic materials encountered in the made ground there are potentially two sets of List of Waste (LoW)[3] codes with "mirror" entries which may be applied to excavated materials to be removed from site.

1. 17-05-03* (soil and stone containing dangerous substances, classified as hazardous) or 17-05-04 (soil and stone other than those mentioned in 17-05-03, not hazardous); or

2. 17-09-03* (other construction and demolition wastes (including mixed wastes) containing hazardous substances) or 17-09-04 (mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03).

Where waste is a mirror entry in the LoW, it can be classified via a process of analysis against standard criteria set out in the Waste Framework Directive. The assessment process is described in detail in guidance published by the Irish (EPA Waste Classification, List of Waste & Determining if Waste is Hazardous or Non-Hazardous, June 2015) and UK regulatory authorities (Guidance on the Classification and Assessment of Waste: Technical Guidance WM3, 2015). The assessment involves comparison of the concentration of various parameters against defined threshold values.

The specific LoW code which should be applied to the material at each sample location is summarised in Table 2 below. These codes are only applicable where the material is being removed from a site as a waste.

GII use HazWasteOnline™, a web-based commercial waste classification software tool which assists in the classification of potentially hazardous materials. This tool was used to determine whether the materials sampled are classified as hazardous or non-hazardous. The use of the online tool is accepted by the EPA (EPA 2014).

The conclusions presented in the report are based on GII's professional opinion. **It should be noted that the environmental regulator (in this case the EPA) and the waste acceptor (in this case a landfill operator) shall decide whether a waste is hazardous or non-hazardous and suitable for disposal at their facility.**

[3] Formerly European Waste Catalogue Codes (EWC Codes)

9.1. HazWasteOnLineTM Results

In total, seventy-one (71 No.) samples were assessed using the HazWasteOnLine™ Tool. All samples were classified as being non-hazardous. The complete HazWasteOnLine™ report for all samples is included in Appendix 5. The specific LoW code which should be applied to the material at each SI location is summarised in Table 2 below. The assigning of the LoW code is based on observations recorded in the window samples and trial pits, an estimation of the % of anthropogenic material present and the results of the HazWasteOnline™ output. The final LoW codes applied at the time of disposal may vary due to variations in % of anthropogenic material observed in the excavation phase. Where there is in excess of 2%[4] anthropogenic material observed the LoW code 17 09 04 may be applied.

9.2. Landfill Waste Acceptance Criteria

Waste Acceptance Criteria (WAC) have been agreed by the EU (Council Decision 2003/33/EC) and are only applicable to material if it is to be disposed of as a waste at a landfill facility. Each individual member state and licensed operators of landfills may apply more stringent WAC. WAC limits and the associated laboratory analysis are not suitable for use in the determination of whether a waste is hazardous or non-hazardous. The data have been compared to the WAC limits set out in Council Decision 2003/33/EC as well as the specific increased WAC which the EPA have applied to a selection of EPA licenced landfills. These landfills have higher limits for a range of parameters while still operating under an inert landfill licence. The WAC data considered in combination with the waste classification outlined in Section 9.1 allows the most suitable waste category to be applied to the material tested. The potentially applicable waste categories where the material is to be disposed are summarised in Table 1. A summary of the WAC data is presented in Appendix 6. The waste category assigned to each sample in the event that the material is to be disposed of in a **landfill only** is summarised in Table 2.

Table 1 Potential Waste Categories for Disposal/Recovery

Waste Category	Classification Criteria
Category A Unlined Facilities	Soil and Stone only which are free from[5] anthropogenic materials such as concrete, brick, timber. Soil must be free from "contamination" e.g. PAHs, Hydrocarbons[6].
Category B1 Inert Landfill	Reported concentrations within inert waste limits, which are set out by the adopted EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002). Results also found to be non-hazardous using the HWOL[7] application.

[4] EPA (2020) - Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities.
[5] Free from equates to less than 2%.
[6] Total BTEX 0.05mg/kg, Mineral Oil 50mg/kg, Total PAHs 1mg/kg, Total PCBs 0.05mg/kg and Asbestos No Asbestos Detected – EPA Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities, 2020.
[7] HazWasteOnLine™ Tool.

Waste Category	Classification Criteria
Category B2 Inert Landfill	Reported concentrations greater than Category B1 criteria but less than IMS Hollywood Landfill acceptance criteria, as set out in their Waste Licence W0129-02. Results also found to be non-hazardous using the HWOL application.
Category C Non-Haz Landfill	Reported concentrations greater than Category B2 criteria but within non-haz landfill waste acceptance limits set out by the adopted EU Council Decision 2003/33/EC establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC (2002). Results also found to be non-hazardous using the HWOL application.
Category C 1 Non-Haz Landfill	As Category C but containing < 0.001% w/w asbestos fibres.
Category C 2 Non-Haz Landfill	As Category C but containing >0.001% and <0.01% w/w asbestos fibres
Category C 3 Non-Haz Landfill	As Category C but containing >0.01% and <0.1% w/w asbestos fibres.
Category D Hazardous Treatment	Results found to be hazardous using HWOL Application.
Category D 1 Hazardous Disposal	Results found to be hazardous due to the presence of asbestos (>0.1%).

9.3. Final Waste Categorisation

All samples were assessed in terms of waste classification using the HazWasteOnLine™ tool and also the WAC set out in Council Decision 2003/33/EC and the EPA's increased WAC to give a final waste categorisation to determine the most appropriate disposal route for any waste generated. The final and most applicable waste category for each sample where it is being disposed of to **landfill only** are summarised in is summarised in Table 2.

10.0 Soil Recovery Facility Suitability

GII assessed the suitability of the material sampled in line with the EPA 2020 Guidance on waste acceptance criteria at authorised soil recovery facilities[8].

The guidance outlines a summary of Maximum Concentrations and/or Trigger Levels in Soil & Stone for SRFs based on the location of the facility or site in the country (Geochemical Domains).

The material sampled has been assessed against all seven Geochemical Domains in terms of its suitability to be accepted at an SRF in each domain, the results of which are presented in Table 2.

[8] Guidance on waste acceptance criteria at authorised soil recovery facilities 2020 - ENVIRONMENTAL PROTECTION AGENCY

Where material has been deemed to be acceptable within a specific domain this is based on the chemical priorities of the material tested. During bulk excavation of the material a visual assessment of the percentage of anthropogenic material contained within it is required. If there is less than 2% anthropogenic material present then it may be accepted by an SRF. **This assessment is at the discretion of the SRF.**

Table 2 Waste Acceptance and SRF Suitability Summary Table

Sample ID	Sample Depth (m)	HazWasteOnLine Classification	List of Waste Code	Soil Recovery Facility Trigger Level Compliant (Category A Criteria)							Landfill WAC Classification
				Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6	Domain 7	
Spoil Heap A	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	Yes	Yes	Yes	No	Category B1
Spoil Heap B	0.50	Non Hazardous	17 05 04	No	No	No	No	No	No	No	Category B1
WS01	0.50-0.90	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
WS01	0.90-1.40	Non Hazardous	17 05 04	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Category B1
WS02	0.20-0.60	Non Hazardous	17 05 04	No	Yes	Yes	No	No	No	No	Category B1
WS02	1.00-1.40	Non Hazardous	17 05 04	No	No	No	No	No	No	No	Category B1
WS03	0.20-0.90	Non Hazardous	17 05 04	No	No	No	No	No	No	No	Category B1
WS03	1.00-1.30	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
WS04	0.25-1.00	Non Hazardous	17 05 04	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Category B1
WS04	1.00-1.15	Non Hazardous	17 05 04	Yes	Yes	Yes	Yes	Yes	Yes	No	Category B1
WS05	0.20-0.60	Non Hazardous	17 05 04	No	No	No	No	No	No	No	Category B1
WS05	1.00-1.90	Non Hazardous	17 05 04	No	No	No	No	No	No	No	Category B1
TP-01	0.50	Non Hazardous	17 05 04	No	Yes	Yes	No	No	No	No	Category B1
TP-03	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	Yes	Yes	Yes	No	Category B1
TP-03	1.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP-06	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	No	No	Category B1
TP-07	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP-09	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	No	No	Category B1
TP-10	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP-10	1.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	No	No	Category B1
TP-11	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP-11	1.50	Non Hazardous	17 05 04	No	Yes	No	No	No	No	No	Category B1
TP-12	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	Yes	Yes	Yes	No	Category B1
TP-13	0.50	Non Hazardous	17 05 04	No	Yes	Yes	No	No	No	No	Category B1
TP-13	1.50	Non Hazardous	17 05 04	No	No	No	No	No	No	No	Category B1
TP-14	0.50	Non Hazardous	17 05 04	No	No	No	No	No	No	No	Category B1
TP-23	0.5	Non Hazardous	17 05 04	Yes	Yes	Yes	Yes	Yes	Yes	No	Category B1
TP-23	1.5	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP-24	0.5	Non Hazardous	17 05 04	No	Yes	No	No	No	No	No	Category B1
TP24	1.70	Non Hazardous	17 05 04	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Category B1

Sample ID	Sample Depth (m)	HazWasteOnLine Classification	List of Waste Code	Soil Recovery Facility Trigger Level Compliant (Category A Criteria)							Landfill WAC Classification
				Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6	Domain 7	
TP29	0.40	Non Hazardous	17 05 04	No	Yes	Yes	Yes	Yes	No	No	Category B1
TP33	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP33	1.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP39	0.50	Non Hazardous	17 05 04	No	No	No	No	No	No	No	Category B1
TP44	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Category B2
TP45	1.00	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP47	0.50	Non Hazardous	17 05 04	Yes	No	No	No	Yes	No	No	Category B1
TP48	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP50	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP50	1.50	Non Hazardous	17 05 04	No	Yes	No	No	No	No	No	Category B1
TP54	0.50	Non Hazardous	17 05 04	No	Yes	No	No	No	No	No	Category B1
TP71	0.5	Non Hazardous	17 05 04	No	Yes	No	No	No	No	No	Category B1
TP75	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP78	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP85	0.60	Non Hazardous	17 05 04	Yes	Yes	No	Yes	Yes	Yes	No	Category B1
TP89	1.6	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	No	No	Category B1
TP95	2.00	Non Hazardous	17 05 04	No	Yes	Yes	No	No	Yes	No	Category B1
TP99	0.5	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	No	No	Category B1
TP100	2.50	Non Hazardous	17 05 04	No	Yes	Yes	No	No	No	No	Category B1
TP102	1.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP104	1.50	Non Hazardous	17 05 04	No	Yes	No	No	No	No	No	Category B1
TP108	2.50	Non Hazardous	17 05 04	Yes	Yes	Yes	Yes	Yes	No	Yes	Category B1
TP110	2.00	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	No	No	Category B1
TP114	1.50	Non Hazardous	17 05 04	No	Yes	Yes	No	Yes	Yes	No	Category B1
TP116	0.5	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	No	No	Category B1
TP116	1.5	Non Hazardous	17 05 04	No	Yes	No	No	No	Yes	No	Category B1
TP118	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	No	No	Category B1
TP118	1.50	Non Hazardous	17 05 04	No	Yes	No	No	No	No	No	Category B1
TP120	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP121	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP121	2.80	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	No	No	Category B1
TP123	0.50	Non Hazardous	17 05 04	No	No	No	No	No	No	No	Category B2

Sample ID	Sample Depth (m)	HazWasteOnLine Classification	List of Waste Code	Soil Recovery Facility Trigger Level Compliant (Category A Criteria)							Landfill WAC Classification
				Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6	Domain 7	
TP123	1.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP124	1.50	Non Hazardous	17 05 04	No	Yes	Yes	Yes	Yes	Yes	No	Category B1
TP125	0.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP125	1.50	Non Hazardous	17 05 04	No	Yes	Yes	No	Yes	Yes	No	Category B1
TP127	0.50	Non Hazardous	17 05 04	No	Yes	No	No	No	Yes	No	Category B1
TP131	0.50	Non Hazardous	17 05 04	No	No	No	No	No	No	No	Category B1
TP131	1.50	Non Hazardous	17 05 04	Yes	Yes	Yes	No	Yes	Yes	No	Category B1
TP135	0.80	Non Hazardous	17 05 04	No	Yes	No	No	No	No	No	Category B1
TP135	2.00	Non Hazardous	17 05 04	No	Yes	No	No	No	Yes	No	Category B1

11.0 Conclusions & Recommendations

The conclusions and recommendations given and opinions expressed in this report are based on the findings of the site investigation works and laboratory testing undertaken. Where any opinion is expressed on the classification of material between site investigation 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 findings at the site investigation locations.

11.1. Conclusions

11.1.1. Waste Classification

Based on the results of the HazWasteOnLine™ tool the material sampled across the site if being considered a waste can be classified as non-hazardous.

11.1.2. Asbestos

Asbestos was not detected in the soil samples.

11.1.3. Waste Categories

The most applicable waste category for each of the samples if being considered a waste to be disposed of at Landfill have been presented in Table 2.

The suitability of the samples to be accepted at an SRF in terms of the various trigger levels for the seven geochemical domains has been presented in Table 2.

11.2. Recommendations

11.2.1. Waste Transfer

In the event that material is excavated for removal from site, any firm engaged to transport waste material from site and the operator of any waste facility that will accept subsoils excavated from this site should be furnished with, at a minimum, copies of the **full unabridged** laboratory reports and HazWasteOnLine™ report for all samples presented in this report.

The non-hazardous material across the site if excavated should be removed from site to an appropriate facility under either the LoW codes 17 05 04 or 17 09 04. Where during excavation there is noted to be in excess of 2% anthropogenic material the appropriate LoW code which should be applied is 17 09 04.

12.0 References

Environment Agency (2013). *Waste Sampling and Testing for Disposal to Landfill.*

Environment Agency (2015). *Technical Guidance WM3 - Guidance on the classification and assessment of waste (1st edition 2015) Technical Guidance WM3*.

Environmental Protection Agency (EPA) (2014). Letter to Licences *Re: Waste Classification & Haz Waste On-Line™*.

Environmental Protection Agency (EPA) (2015). *Waste Classification List of Waste & Determining if Waste is Hazardous or Non-hazardous.*

Environmental Protection Agency (EPA) (2020). *Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities*.

Association of Geotechnical and Geoenvironmental Specialists (2019). *Waste Classification for Soils – A Practitioners Guide.*

APPENDIX 1 - Figures



Site Location

Indicative Site Boundary

Client:

LDA

Project Code:

11956-06-22

Project Title:

Cherry Orchard Sites 4&5
Phase 2

Drawing Title:

Figure 1 Site Location

Ground Investigations Ireland Ltd
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gi.ie 01-6015175/5176

0 50 100 150 200 250 m

Drawn By:	Date:
BS	04-07-2024



Indicative Site Location

Client:

LDA

Project Code:
13687-03-24

Project Title:
Cherry Orchard Sites 4 & 5
Phase 2

Drawing Title:
Figure 2 Tailte Éireann
6-Inch Map

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

Drawn By:	Date:
BS	04-07-2024



Indicative Site Location

Client:

LDA

Project Code:

13687-03-24

Project Title:

Cherry Orchard Sites 4 & 5
Phase 2

Drawing Title:

Figure 3 Tailte Éireann
25-Inch Map

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

Drawn By:	Date:
BS	04-07-2024



Client:

LDA

Project Code:

13687-03-24

Project Title:

Cherry Orchard Sites 4 & 5
Phase 2

Drawing Title:

Figure 4 Tailte Éireann
Cassini Map

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

Drawn By:	Date:
BS	04-07-2024



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

Client:

LDA

0 30 60 90 120 m

Project Title:
Cherry Orchard Sites 4&5 Phase 2

Drawing Title:
Figure 5 Phase 1 Trial Pit Locations

GII Project Reference:
13687-03-24

Drawn By:
BS

Date:
04-07-2024

Indicative Site Boundary

Trial Pit



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

Client:

LDA

0 20 40 60 m

Project Title:
Cherry Orchard Sites 4&5 Phase 2

Drawing Title:
Figure 6 Phase 2 Trial Pit Locations

GII Project Reference:
13687-03-24

Drawn By:
BS

Date:
04-07-2024

Indicative Site Boundary

Trial Pit



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

Client:

LDA

0 20 40 60 m

Project Title:
Cherry Orchard Sites 4&5 Phase 2

Drawing Title:
Figure 7 Phase 2 Trial Pit Locations

GII Project Reference:
13687-03-24

Drawn By:
BS

Date:
04-07-2024

Indicative Site Boundary

Trial Pit



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

Client:

LDA

0 20 40 60 m

Project Title:
Cherry Orchard Sites 4&5 Phase 2

Drawing Title:
Figure 8 Window Sample & Spoil Heap Locations

GII Project Reference:
13687-03-24

Drawn By:
BS

Date:
04-07-2024

Indicative Site Boundary
Window Sample
Spoil Heap



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Ground Investigations Ireland Ltd.
Catherinstown House,
Hazelhatch Road,
Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

Client:

LDA

0 10 20 30 m

Project Title:
Cherry Orchard Sites 4&5 Phase 2

Drawing Title:
Figure 9 Category B2 Hot Spots

GII Project Reference:
13687-03-24

Drawn By:
BS

Date:
04-07-2024

- Indicative Site Boundary
- Window Sample
- Spoil Heap
- Category B2 Hot Spot

APPENDIX 2 – Trial Pit Records

www.gii.ie

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP020
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.30	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707766.7 E 732914.4 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.35)	Brown slightly sandy slightly gravelly TOPSOIL. Some fragments of plastic.Gravel is sub-angular to sub-rounded fine to coarse.		
				55.95	0.35	Firm light grey mottled brown slightly sandy gravelly CLAY with medium cobbles content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.75)			
				55.20	1.10	Weathered rock recovered as dark grey with angular cobbles and boulders LIMESTONE.		
					(1.10)			
				54.10	2.20	Residual Soil stiff dark grey slightly sandy very gravelly CLAY with high cobbles and boulders content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.70)			
				53.40	2.90	Weathered rock recovered as dark grey angular to sub-angular fine to course Gravel with many cobbles LIMESTONE.		
					(0.20)			
				53.20	3.10	Complete at 3.10m		

Plan

Remarks

Ground water encountered at 1.70m and 3.00m as slow seepage
Trial pit spalling
Trial pit backfilled upon completion
Trial pit refused at 3.10m BGL due to obstruction. Possible boulders or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP020

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP021
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.12	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707741.5 E 732941.6 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.02	(0.10) 0.10	Brown slightly sandy slightly gravelly TOPSOIL.		
0.50	B				(1.50)	Firm light brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	B			54.52	1.60	Weathered rock recovered as dark grey angular cobbles of limestone and mudstone.		
					(0.40)			
				54.12	2.00	Residual Soil Firm to stiff dark brownish grey slightly sandy very gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
2.40	B				(0.60)			
				53.52	2.60	Complete at 2.60m		

Plan

Remarks

No ground water encountered during excavation.
Trial pit spalling
Trial pit backfilled upon completion
Trial pit refused at 2.60m on obstruction. Possible boulders or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP021

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP022
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.40m x 1.00m x 2.70m	**Ground Level (mOD)** 56.32	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707691.8 E 732934.4 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Brown sandy gravelly TOPSOIL with fragments of glass. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.07	0.25	Soft to firm light brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.35)			
				55.72	0.60	Firm to stiff greyish brown slightly sandy gravelly CLAY with some cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.40)			
				55.32	1.00	Firm to stiff grey mottled brown slightly sandy gravelly CLAY with some cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Fast(1) at 1.50m.					▽1
					(1.30)			
				54.02	2.30	Stiff dark grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.40)			
			Fast(2) at 2.70m.	53.62	2.70	Complete at 2.70m		▽2

Plan

Remarks

Trial pit refused at 2.90m on obstruction. Possible bedrock or boulders.
Ground water encountered at 1.50m and 2.70m BGL as fast ingress.
Trial pit spalling.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP022

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP023
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.37	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707692 E 732941.6 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.27	(0.10) 0.10 (0.10)	Dark brown slightly gravelly organic clay TOPSOIL with rootlets and tyre. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.17	0.20	MADE GROUND brown sandy gravelly Clay with some ceramic. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	B				(0.60)	Soft light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.57	0.80	sift to firm grey sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.50)			
				55.07	1.30	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with cobbles and some boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	B				(1.10)			
			Moderate(1) at 2.20m.					▽1
2.40	B			53.97	2.40	Stiff dark grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.50)			
			Moderate(2) at 2.90m.	53.47	2.90	Complete at 2.90m		▽2

Plan

Remarks

Trial pit refused at 2.90m on obstruction. Possible boulders or bedrock.
Ground water encountered at 2.20m and 2.90m BGL as moderate ingress.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP023

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP024
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.84	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707730.4 E 732882.3 N	**Dates** 01/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown slightly sandy gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.54	0.30			
					(0.25)	Firm to stiff greyish brown slightly sandy gravelly CLAY with medium cobbles content. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50 0.50	B ES			56.29	0.55	Firm brown mottled grey slightly sandy gravelly CLAY with high cobbles and boulders content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.35)			
1.70	B							
				54.94	1.90	Weathered rock recovered as grey angular Gravel with cobbles content mudstone and limestone.		
					(0.50)			
2.40	B			54.44	2.40	Complete at 2.40m		

Plan

Remarks

Ground water encountered at 2.00m as slow seepage
Trial pit stable
Trial pit backfilled upon completion
Trial pit refused at 2.40m on obstruction. Possible rock or boulders.

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP024

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP025
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.0 x 1.10 x 2.0	**Ground Level (mOD)** 56.47	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707719.3 E 732860.5 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.37	(0.10) 0.10	brown sandy gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
						MADE GROUND brown sandy gravelly Clay with cobbles, ,boulders and red brick fragments. Gravel is subangular to subrounded fine to coarse.		
0.50	B				(0.80)			
				55.57	0.90	Firm to stiff brownish grey slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
					(0.70)			
1.60	B			54.87	1.60	Stiff grey slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
					(0.40)			
			slow(1) at 2.00m.	54.47	2.00	Complete at 2.00m		▽1

Plan

Remarks

Trial pit stable
Ground water encountered at 2.0m BGL slow ingress
Trial pit back filled upon completion
Trial pit refused at 2.00m BGL due to obstruction. Possible boulders or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP25

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP026
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.10m x 1.20m x 2.30m	**Ground Level (mOD)** 56.50	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707708 E 732900.7 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL with fragments of red brick and roots. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.20	0.30			
					(0.50)	Soft to firm grey slightly sandy gravelly CLAY with boulder recovered as angular cobble. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.70	0.80			
					(1.00)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.70	1.80			
					(0.20)	Stiff brown mottled grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.50	2.00			
					(0.30)	Stiff dark grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Moderate(1) at 2.30m.	54.20	2.30	Complete at 2.30m		▽1

Plan

Remarks

Trial pit refused at 2.30m BGL on obstruction. Possible boulders or bedrock.
Ground water encountered at 2.30m BGL as moderate ingress.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP026

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP027
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.00m x 1.00m x 2.80m	**Ground Level (mOD)** 56.27	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707686.4 E 732901.7 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL with fragments of glass, rubber and rootlets. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.97	0.30			
					(0.35)	Soft to firm light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	B			55.62	0.65			
					(0.65)	Soft to firm brownish grey sandy gravelly CLAY with cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.97	1.30			
1.50	B				(1.00)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with cobbles and rare boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Moderate(1) at 2.30m.	53.97	2.30			▽1
2.50	B				(0.50)	Stiff dark grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.47	2.80			
						Complete at 2.80m		

Plan

Remarks

Trial pit refused at 2.80m BGL on obstruction. Possible boulders or bedrock.
Ground water encountered at 2.30m BGL as moderate ingress.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP027

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP028
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.29	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707693.1 E 732873.9 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.09	(0.20) 0.20	Brown sandy gravelly TOPSOIL with rootlets and fragments of brick and glass. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.40)	Soft light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.69	0.60	Firm to stiff greyish brown slightly sandy gravelly CLAY with many cobbles and rare boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.70)			
				54.99	1.30	Stiff greyish brown slightly sandy gravelly CLAY with cobbles and some boulders recovered as angular gravel or cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.70)			
				54.29	2.00	Stiff brownish grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Moderate(1) at 2.20m.		(0.20)			▽1
				54.09	2.20	Complete at 2.20m		

Plan

Remarks

Trial pit refused at 2.20m BGL on obstruction. Possible boulder or bedrock.
Ground water encountered at 2.20m BGL as moderate ingress.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP028

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP029
Machine : 3Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.84	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707680.5 E 732823 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.79	0.05	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.45)	Possible MADE GROUND. Brownish grey slightly sandy very gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
0.40	B							
0.40	ES			56.34	0.50	Firm to stiff brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.30)			
				56.04	0.80	Firm to stiff greyish brown slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.60)			
1.20	B							
				55.44	1.40	Firm light brownish grey slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.50)			
1.80	B							
				54.94	1.90	Weathered rock recovered as dark grey angular cobbles limestone.		
				54.84	(0.10) 2.00			
						Complete at 2.00m		

Plan

Remarks

No ground water encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.
Trial pit refused at 2.00m BGL on obstruction. Possible rock.

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP029

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP030
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.10m x 1.00m x 3.00m	**Ground Level (mOD)** 56.48	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707667.9 E 732881.7 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with fragments of glass. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.28	0.20			
					(0.30)	Soft light brown slightly sandy gravelly CLAY with some cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.98	0.50			
					(1.00)	Soft to firm greyish brown slightly sandy gravelly CLAY with cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	B			54.98	1.50			
					(1.00)	Greyish brown sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
2.50	B			53.98	2.50			
					(0.50)	Dark grey slightly sandy slightly gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Moderate(1) at 2.90m.	53.48	3.00			▽1
						Complete at 3.00m		

Plan

Remarks

Trial pit refused at 3.00m BGL on obstruction. Possible bedrock or boulder.
Ground water encountered at 2.90m BGL as moderate ingress.
Trial pit spalling from 1.90m to 2.80m BGL, one wall.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP030

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP031
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.20m x 1.00m x 3.40m	**Ground Level (mOD)** 56.82	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707658.3 E 732887.8 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.62	0.20	Soft light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.40)			
				56.22	0.60	Soft to firm grey slightly sandy gravelly CLAY with cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.40)			
				55.82	1.00	Firm brown mottled grey slightly sandy gravelly CLAY with cobbles and rare boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Slow(1) at 2.20m.		(1.60)			▽1
				54.22	2.60	Stiff dark grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Slow(2) at 2.90m.		(0.80)			▽2
				53.42	3.40	Complete at 3.40m		

Plan

Remarks

Trial pit refused at 3.40m BGL on obstruction. Possible boulders or bedrock.
Ground water encountered at 2.00m and 2.90m BGL as slow seepage.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP031

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP032
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.40m x 1.00m x 2.50m	**Ground Level (mOD)** 57.24	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707629.5 E 732924.8 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	MADE GROUND Dark brown slightly sandy gravelly clay with fragments of pottery and rubbish.		
				56.84	0.40	Soft to firm yellowish brown slightly sandy gravelly CLAY.Gravel is sub angular to sub rounded fine to coarse.		
					(0.60)			
				56.24	1.00	Soft to firm greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub angular to sub rounded fine to coarse.		
					(0.70)			
				55.54	1.70	Soft to firm Grey slightly sandy very gravelly CLAY with low cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
2.00	B				(0.50)			
				55.04	2.20	Soft to firm greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
					(0.30)			
				54.74	2.50	Complete at 2.50m		

Plan

Remarks

Trial pit stable.
No ground water encountered during excavation.
Trial pit refused at 2.6m BGL on obstructiuon, possible boulder or bedrock.
Trial pit back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP032

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP033
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.00m x 1.00m x 2.50m	**Ground Level (mOD)** 57.18	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707643.8 E 732936.7 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with fragments of pottery. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.98	0.20			
0.50	B				(0.80)	Soft to firm brown slightly sandy gravelly CLAY with some cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.18	1.00			
					(0.40)	Grey slightly clayey sub-angular to sub-rounded fine to coarse GRAVEL with low cobble content.		
				55.78	1.40			
1.50	B				(0.50)	Grey sandy sub-angular to sub-rounded fine to coarse GRAVEL with low cobble and boulder content.		
				55.28	1.90			
					(0.60)	Grey slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
2.50	B			54.68	2.50	Complete at 2.50m		

Plan

Remarks

Trial pit refused at 2.50m on obstruction. Possible bedrock.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP033

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP034
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.90m x 1.00m x 2.10m	**Ground Level (mOD)** 57.01	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707617.8 E 732944.5 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.71	0.30			
					(0.40)	Light brown sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.31	0.70			
					(0.55)	Grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.76	1.25			
1.50	B				(0.85)	Firm to stiff grey slightly sandy gravelly CLAY with high angular cobble and medium boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.91	2.10			
						Complete at 2.10m		

Plan

Remarks

Trial pit refused at 2.10m on obstruction. Possible boulders.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP034

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP035
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.00m x 1.00m x 2.30m	**Ground Level (mOD)** 56.56	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707606.3 E 732968.2 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.45)	Brown sandy gravelly TOPSOIL with roots, brick fragments and plastic fragments. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.11	0.45			
0.50	B				(0.30)	MADE GROUND light brown sandy gravelly CLAY with piece of plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.81	0.75	Soft to firm greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.25)			
1.50	B							
				54.56	2.00			
2.00	B				(0.30)	Stiff dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.26	2.30	Complete at 2.30m		

Plan

Remarks

Trial pit refused at 2.30m on obstruction from boulder. Possible bedrock.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP035

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP036
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.70m x 1.00m x 1.00m	**Ground Level (mOD)** 56.66	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707665 E 732959.5 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	Brown sandy gravelly TOPSOIL with fragments of pottery and roots. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.26	0.40			
					(0.30)	Soft to firm brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.96	0.70			
					(0.20)	Grey sandy gravelly CLAY wih low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.76	0.90			
1.00	B			55.66	(0.10) 1.00	Weathered Rock or boulder recovered as slightly clayey sub-angular to sub-rounded fine to coarse GRAVEL with high cobble content.		
						Complete at 1.00m		

Plan

Remarks

Trial pit refused at 1.00m on obstruction. Possible boulders or bedrock.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP036

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP037
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.00m x 1.00m x 2.10m	**Ground Level (mOD)** 56.13	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707648.6 E 732979.1 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	Brown sandy gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.73	0.40			
					(0.30)	Soft to firm light brown slightly sandy gravelly CLAY with some cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
0.60	B			55.43	0.70			
					(1.40)	Firm to stiff Greyish brown sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	B		Moderate (1) at 1.60m.					▽1
			Fast(2) at 2.10m.	54.03	2.10			▽2
						Complete at 2.10m		

Plan

Remarks

Trial pit refused at 2.10m on obstruction. Possible bedrock.
Ground water encountered at 1.60m and 2.10m BGL.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP037

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP038
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.80m x 1.00m x 2.00m	**Ground Level (mOD)** 56.17	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707695.5 E 732966.3 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL with fragments of metal, car parts and brick. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.87	0.30			
						Soft to firm light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	B				(0.50)			
				55.37	0.80			
						Firm to stiff grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.20)			
1.50	B		Moderate(1) at 1.60m.					▽1
				54.17	2.00			
						Complete at 2.00m		

Plan

Remarks

Trial pit refused at 2.00m on obstruction. Possible boulders.
Ground water encountered at 1.60m BGL.
Trial pit spalling.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP038

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP039
Machine : 3Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.17	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707695.5 E 732966.3 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.75)	MADE GROUND Brown slightly sandy slightly gravelly Clay with fragments of plastic and red brick.		
0.50 0.50	B ES			55.42	0.75			
1.10	B				(0.75)	Soft to firm light brown mottled grey slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.67	1.50			
					(0.25)	Soft to firm grey mottled brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.42	1.75			
			Moderate(1) at 1.80m.			Grey slightly sandy slightly clayey slightly gravelly fine to coarse sub angular to sub rounded Gravel with high cobble content		▽1
2.00	B				(0.45)			
				53.97	2.20			
2.40	B					Residual Soil dark bluish grey slightly sandy very gravelly CLAY with high cobbles and boulders content.		
					(1.30)			
				52.67	3.50			
						Complete at 3.50m		

Plan

Remarks

Trial pit refused at 3.50m on obstruction. Possible boulders or bedrock.
Ground water encountered at 1.80m BGL.
Ground collapsing
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP039

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP040
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.70m x 1.1m x 1.80m	**Ground Level (mOD)** 56.04	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707728.3 E 732968 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	MADE GROUND dark brown sandy gravelly Clay with organic material, rootlets and fragments of metal. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.74	0.30	Grey slightly clayey sub-angular fine to coarse GRAVEL.		
					(0.30)			
				55.44	0.60	Firm to stiff dark grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.20)			
				54.24	1.80	Complete at 1.80m		

Plan

Remarks

Trial pit refused at 1.80m on obstruction. Possible boulders or bedrock.
No groundwater encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP040

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP041
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.42	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707812.5 E 732959.3 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	MADE GROUND Reworked slightly sandy gravelly Clay with cobbles, rootlets, brick fragments and metal. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.02	0.40			
0.50	B				(0.60)	Possible Made Ground Light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.42	1.00			
					(1.60)	Firm to stiff greyish brown slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
			Slow(1) at 2.60m.	53.82	2.60	Complete at 2.60m		▽1

Plan

Remarks

Ground water encountered at 2.60m BGL.
Trial pit refused at 2.60m on obstruction. Possible boulders or bedrock.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP041

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP042
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.62	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707759.1 E 733007.1 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	TOPSOIL Brown slightly sandy gravelly Clay.		
				55.32	0.30	Stiff to firm light brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.35)			
				54.97	0.65	Grey slightly clayey very sandy sub-rounded to rounded fine to coarse GRAVEL with occasional sand lenses		
			Moderate(1) at 1.10m.		(0.95)			▽1
				54.02	1.60	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.20)			
				53.82	1.80	Complete at 1.80m		

Plan

Remarks

Trial pit refused at 1.80m on obstruction. Possible boulders or bedrock.
Trial pit collapsing
Ground water encountered at 1.10m BGL.
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP042

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP043
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.71	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707745.9 E 733000.9 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.41	0.30			
0.50 0.50	B ES				(0.70)	Firm light brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.71	1.00			
			Fast(1) at 1.10m.		(0.40)	Firm grey mottled brown slightly sandy slightly gravelly CLAY with some fragments of organic material. Gravel is sub-angular to sub-rounded fine to coarse.		▽1
				54.31	1.40			
1.50	B				(0.50)	Grey very sandy sub-rounded to rounded fine to coarse GRAVEL		
				53.81	1.90			
						Complete at 1.90m		

Plan

Remarks

Ground water encountered at 1.10m BGL.
Trial pit collapsing
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP043

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP044
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.74	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707769.9 E 732976.5 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.69	0.05	TOPSOIL brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.25)			
				55.44	0.30	MADE GROUND brown slightly sandy gravelly CLAY with fragments of rebar and plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
0.30	ES				(0.40)	Firm light grey mottled brown slightly sandy gravelly CLAY with low cobbles content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.04	0.70	Firm greyish brown slightly sandy gravelly CLAY with high cobbles content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.30)			
				53.74	2.00	Residual Soil Dark grey slightly sandy very gravelly CLAY with high cobbles and boulders content. Gravel is sub-angular to sub-rounded fine to coarse.		
2.50	ES				(1.50)			
			Moderate(1) at 3.50m.	52.24	3.50			▽1
				52.14	(0.10) 3.60	Weathered rock recovered aas dark grey angular cobbles limestone and Mudstone		
						Complete at 3.60m		

Plan

Remarks

Ground water encountered at 3.50m BGL.
Trial pit terminated due to collapsing
Trial pit refused at 3.60m BGL due to obstruction. Possible boulders or bedrock.
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP044

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP045
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.85	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707780.6 E 732981.9 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.65	0.20	MADE GROUND light brownish grey slightly sandy gravelly CLAY with low cobbles and some fragments of plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.35)			
				55.30	0.55	Firm brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.00 1.00	B ES				(1.15)			
				54.15	1.70	Dark grey slightly sandy slightly clayey angular cobbles with boulders limestone.		
					(0.40)			
			Slow(1) at 2.10m.	53.75	2.10	Residual soil Dark Bluish grey slightly sandy very gravelly CLAY with high cobble content and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		▽1
2.40	B				(0.60)			
				53.15	2.70	Complete at 2.70m		

Plan

Remarks

Ground water encountered at 2.10m BGL.
Trial pit spalling
Trial pit refused at 2.70m BGL due to obstruction. Possible boulders or bedrock.
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP045

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP046
Machine : 3Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.85	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707755.4 E 732969.4 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.75	(0.10) 0.10	Brown sandy gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.30)	MADE GROUND Brown slightly sandy gravelly CLAY with some fragments of plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.45	0.40			
					(0.30)	Light brown mottled grey slightly sandy very gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.15	0.70			
1.00	B					Firm to stiff brown slightly sandy gravelly CLAY with high cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.20)			
			Slow(1) at 1.80m.	53.95	1.90			▽1
						Residual Soil Dark bluish grey slightly sandy very gravelly CLAY with high cobbles and boulders content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.20)			
2.70	B							
				52.75	3.10			
						Complete at 3.10m		

Plan

Remarks

Ground water encountered at 1.80m as slow seepage
Trial pit collapsing
Trial pit refused at 3.10m BGL due to obstruction. Possible boulders or bedrock.
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP046

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP047
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.03	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707798.3 E 732938.1 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.55)	MADE GROUND Greyish brown slightly sandy gravelly CLAY high cobble content and fragments of plastic		
0.30	ES							
0.50	B			55.48	0.55			
					(0.75)	Firm to stiff brown slightly sandy gravelly CLAY with high cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.10	B							
				54.73	1.30			
					(0.30)	Dark grey angular cobbles of LIMESTONE		
				54.43	1.60			
			Slow(1) at 2.00m.			Possible residual soil black slightly sandy gravelly CLAY with high cobble content of limestone. Gravel is sub-angular to sub-rounded fine to coarse.		▽1
					(1.20)			
2.50	B							
				53.23	2.80			
					(0.40)	Residual soil dark grey slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
3.00	B							
				52.83	3.20			
						Complete at 3.20m		

Plan

Remarks

Ground water encountered at 2.00m BGL as slow seepage
Trial pit spalling
Trial pit refused at 3.20m BGL due to obstruction. Possible boulders or bedrock.
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP047

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

B0.5
B2.40

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP048
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.71	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707772.4 E 732951.7 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.56	(0.15) 0.15	TOPSOIL Brown slightly sandy gravelly Clay. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.35)	MADE GROUND Light grey mottled brown slightly sandy gravelly CLAY with medium cobble content ... Gravel is sub-angular to sub-rounded fine to coarse.		
				55.21	0.50	Firm brown mottled grey slightly sandy gravelly CLAY with medium cobbles and boulders content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.20)			
			Slow(1) at 1.70m.	54.01	1.70	Firm to stiff dark grey slightly sandy very gravelly CLAY with medium cobbles and boulders content. Gravel is sub-angular to sub-rounded fine to coarse.		▽1
					(1.40)			
				52.61	3.10	Complete at 3.10m		

Plan

Remarks

Ground water encountered at 1.70m BGL as slow seepage
Trial pit spalling
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	TM	13687-03-24.TP048

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP049
Machine : 13Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.89	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707791.5 E 732966 N	**Dates** 20/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.54	(0.35) 0.35	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
				55.39	(0.15) 0.50	Grey slightly sandy very clayey sub-angular to subrounded fine to course GRAVEL.		
					(1.35)	Soft greyish brown slightly sandy gravelly CLAY with medium cobble content. Cobbles are sub-angular to sub-rounded fine to coarse. Gravel is subangular to subrounded fine to coarse.		
			Slow(1) at 2.50m.	54.04	1.85	Residual soil firm to stiff bluish dark grey slightly sandy very gravelly CLAY with high cobble content and boulder content. Cobbles are sub-angular to sub-rounded fine to coarse. Gravel is subangular to subrounded fine to coarse.		▽1
					(1.65)			
				52.39	3.50	Complete at 3.50m		

Plan

Remarks

Ground water encountered at 2.50m BGL as slow seepage
Possible rock at 3.50m
Trial pit collapsing
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:50	GR	13687-03-24.TP049

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP050
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.0x1.0 x 2.80	**Ground Level (mOD)** 56.02	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707631.3 E 733158.6 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with fragments of ceramics. Gravel is subangular to subrounded fine to coarse.		
				55.82	0.20	Soft to firm Light brown slightly sandy gravelly CLAY with low cobble content.Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
0.50	B				(0.90)			
				54.92	1.10	Soft to firm Brown with grey mottling slightly sandy gravelly CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse.		
					(0.30)			
				54.62	1.40	Soft to firm Brown sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
1.50	B				(0.50)			
				54.12	1.90	Stiff Dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
					(0.90)			
2.50	B							
				53.22	2.80	Complete at 2.80m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit refused at 2.6m BGL on obstructiuon, possible boulder or bedrock.
Trial pit back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP050

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP051
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.60 x 1.0 x 2.50	**Ground Level (mOD)** 56.38	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707612 E 733136.9 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.18	(0.20) 0.20	Brown sandy gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
				55.88	(0.30) 0.50	MADE GROUND light brown sandy gravelly Clay with pieces of rubbish and tin cans. Gravel is subangular to subrounded fine to coarse.		
				55.58	(0.30) 0.80	Greyish brown sandy sub angular to sub rounded fine to coarse GRAVEL		
					(1.20)	Firm brown slightly sandy gravelly CLAY with medium cobble and boulder content. Gravel is subangular to subrounded fine to coarse.		
				54.38	2.00	Stiff Dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse. Gravel is subangular to subrounded fine to coarse.		
				53.88	(0.50) 2.50	Complete at 2.50m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit refused at 2.5m BGL on obstructiuon, possible boulder or bedrock.
Trial pit back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:50	PD	13687-03-24.TP051

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP052
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.53	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707594.9 E 733118.9 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.33	0.20			
					(0.45)	Firm light brown slightly sandy slightly gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.88	0.65			
1.00	ES				(1.35)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.53	2.00			
					(0.40)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.13	2.40			
						Complete at 2.40m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP052

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP053
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.80 x 1.0 x 2.9	**Ground Level (mOD)** 56.56	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707590.3 E 733109.2 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown slightly sandy gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
				56.26	0.30			
					(0.20)	POSSIBLE MADE GROUND light brown sandy gravelly Clay. Gravel is subangular to subrounded fine to coarse.		
				56.06	0.50			
					(0.20)	POSSIBLE MADE GROUND Dark brown sandy gravelly Clay. Gravel is subangular to subrounded fine to coarse.		
				55.86	0.70			
1.00	B					Firm to stiff greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is subangular to subrounded fine to coarse.		
					(1.30)			
2.00	B			54.56	2.00			
						Stiff dark grey slightly sandy gravelly CLAY with some cobbles and rare boulders. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
					(0.90)			
				53.66	2.90			
						Complete at 2.90m		

Plan

Remarks

Trial pit stable
No groundwater encountered during excavation.
Trial pit refused at 2.9m BGL on obstructiuon, possible boulder or bedrock.
Trial pit back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP053

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP054
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.43	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707563 E 733055.4 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.18	0.25			
					(0.30)	Firm light greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50 0.50	B ES			55.88	0.55			
					(1.40)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.40	B							
				54.48	1.95			
2.10	B				(0.65)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.83	2.60			
						Complete at 2.60m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP054

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP055
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.48	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707575.6 E 733066.5 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.23	0.25			
					(0.30)	Firm light greyish brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.93	0.55			
					(1.45)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.48	2.00			
					(0.20)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.28	2.20	Complete at 2.20m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP055

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP056
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.46	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707584 E 733076.3 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.21	0.25			
					(0.15)	Firm light brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.06	0.40			
					(1.40)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.66	1.80			
					(0.50)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.16	2.30			
						Complete at 2.30m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP056

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP057
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.42	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707614.4 E 733089.5 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.17	0.25			
					(0.35)	Firm light greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.82	0.60			
1.50	B				(1.40)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.42	2.00			
2.20	B				(0.50)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.92	2.50			
						Complete at 2.50m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP057

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP058
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.60m x 1.00m x 2.50m	**Ground Level (mOD)** 56.38	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707629.6 E 733100.4 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Dark brown sandy gravelly TOPSOIL with roots, fragments of plastic and brick. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.08	0.30	Soft to firm brown slightly sandy gravelly CLAY with occasional bands of gravelly fine to coarse soil. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.00)			
				55.08	1.30	Firm to stiff greyish brown slightly sandy gravelly CLAY with cobbles and some boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.10)			
				53.98	2.40			
					(0.10)	Stiff dark grey slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.88	2.50	Complete at 2.50m		

Plan

Remarks

Trial pit refused at 2.50m on obstruction. Possible boulders.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP058

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP059
Machine : 3CX **Method :**	**Dimensions** 3.10 x 1.0 x 2.80	**Ground Level (mOD)** 56.21	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707641.3 E 733119.9 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
				55.91	0.30	Soft slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel sub angular to sub rounded fine to coarse.		
					(0.50)			
				55.41	0.80	Firm greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel sub angular to sub rounded fine to coarse.		
					(0.50)			
				54.91	1.30	Stiff Dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is subangular to subrounded fine to coarse.		
					(0.90)			
				54.01	2.20	Complete at 2.80m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit back filled upon completion.
Trial pit refused at 2.2m BGL on obstructiuon, possible boulder or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP059

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP060
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.80 X 1.0 X 2.70	**Ground Level (mOD)** 56.15	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707653.5 E 733132.7 N	**Dates** 08/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
				55.95	0.20			
0.50	B				(0.70)	Soft light Brown slightly sandy gravelly CLAY with medium cobble content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse		
				55.25	0.90			
					(0.50)	Soft to firm Greyish brown slightly sandy gravelly CLAY with medium cobble content.Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse		
				54.75	1.40			
1.50	B				(0.80)	Firm Greyish brown slightly sandy gravelly CLAY with medium cobble content.Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse		
				53.95	2.20			
2.50	B				(0.50)	Stiff Dark grey slightly sandy gravelly CLAY with medium cobble and boulder content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse		
				53.45	2.70			
						Complete at 2.70m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit back filled upon completion
Trial pit refused at 2.7m BGL on obstructiuon, possible boulder or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP060

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP061
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.0 1.0 2.50	**Ground Level (mOD)** 56.01	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707660.4 E 733141.4 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.15)	Brown sandy gravelly TOPSOIL with rootlets. Gravel is subangular to subrounded fine to coarse.		
				55.86	0.15	POSSIBLE MADE GROUND brown sandy gravelly CLAY with rootlets. Gravel is subangular to subrounded fine to coarse.		
					(0.55)			
				55.31	0.70	Grey gravelly Fine to coarse SAND.		
					(0.15)			
				55.16	0.85	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is subangular to subrounded fine to coarse.		
					(1.35)			
				53.81	2.20	Stiff grey slightly sandy gravelly CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
					(0.30)			
				53.51	2.50	Complete at 2.50m		

Plan

Remarks

Trial pit stable
No groundwater encountered during excavation.
Trial pit back filled upon completion.
Trial pit refused at 2.5m BGL on obstructiuon, possible boulder or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP061

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP062
Machine : 3CX **Method :** Trial Pit	**Dimensions** 2.50 x 1.0 x 2.60	**Ground Level (mOD)** 56.15	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707683.1 E 733115.8 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with red brick fragments. Gravel is subangular to subrounded fine to coarse.		
				55.95	0.20	Soft to firm lightly brown sandy gravelly CLAY with some cobbles.Gravel is sub angular to sub rounded fine to coarse.		
					(0.60)			
				55.35	0.80	Firm to stiff greyish brown slightly sandy gravelly CLAY with some cobbles.Gravel is sub angular to sub rounded fine to coarse.		
					(1.20)			
				54.15	2.00	Stiff Dark grey slightly sandy gravelly CLAY with cobbles and some boulders.Gravel is sub angular to sub rounded fine to coarse.		
					(0.60)			
				53.55	2.60	Complete at 2.60m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit back filled upon completion.
Trial pit refused at 2.6m BGL on obstructiuon, possible boulder or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP062

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP063
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.30 1.0 x2.60	**Ground Level (mOD)** 56.05	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707665.3 E 733103.1 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with rootlets and fragments of red brick. Gravel is subangular to subrounded fine to coarse.		
				55.85	0.20			
				55.85	0.20	Soft to firm sandy gravelly CLAY with cobbles. Gravel is sub angular to sub rounded fine to coarse.		
0.50	B				(0.60)	Firm greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
				55.25	0.80			
						Firm to Stiff greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
					(1.00)			
1.50	B							
				54.25	1.80			
						Stiff Dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
					(0.80)			
2.50	B							
				53.45	2.60			
						Complete at 2.60m		

Plan

Remarks

Trial pit stable
No groundwater encountered during excavation.
Trial pit back filled upon completion.
Trial pit refused at 2.6m BGL on obstructiuon, possible boulder or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP063

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP064
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.11	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707653.2 E 733084.8 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.91	0.20			
					(0.35)	Firm light greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50 0.50	B ES			55.56	0.55			
					(1.95)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content and occasional sand and gravel lenses. Gravel is sub-angular to sub-rounded fine to coarse.		
1.70 1.70	B ES							
				53.61	2.50			
2.50	B				(0.10)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.51	2.60	Complete at 2.60m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP064

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP065
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.21	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707646.4 E 733075.7 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.01	0.20			
					(0.25)	Firm light greyish brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.76	0.45			
					(1.65)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.11	2.10			
					(0.40)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.71	2.50			
						Complete at 2.50m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP065

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP066
Machine : 3T **Method :** Trial Pit	**Dimensions** 2.60 x 0.60 x 2.40	**Ground Level (mOD)** 56.27	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707638.3 E 733068.4 N	**Dates** 07/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with rootlets and fragments of tile. Gravel is subangular to subrounded fine to coarse.		
				56.07	0.20			
					(0.20)	Soft to firm light brown slightly sandy gravelly CLAY.Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
				55.87	0.40			
0.50	B				(0.30)	Grey slightly clayey gravelly fine to coarse SAND with low cobble content. Gravel is subangular to subrounded fine to coarse.		
				55.57	0.70			
						Firm to stiff brown slightly sandy gravelly CLAY with meidium cobble and low boulder content. Gravel is sub angular to sub rounded fine to coarse.		
1.50	B				(1.60)			
				53.97	2.30			
					(0.10)	Stiff dark grey slightly sandy gravelly Clay with medium cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
				53.87	2.40			
						Complete at 2.40m		

Plan

Remarks

Trial pit stable
No groundwater encountered during excavation.
Trial pit refused at 2.4m BGL on obstructiuon, possible boulder or bedrock.
Trial pit back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP066

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP067
Machine : 3T **Method :** Trial Pit	**Dimensions** 2.40 x 0.60 x 2.40	**Ground Level (mOD)** 56.52	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707622.7 E 733070.1 N	**Dates** 07/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown slightly sandy gravelly TOPSOIL with fragments of pottery. Gravel is subangular to subrounded fine to coarse.		
				56.22	0.30	Soft light brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
					(0.50)			
				55.72	0.80	Firm to stiff brown slightly sandy gravelly CLAY with medium cobble and some boulder content.Sand is fine to coarse. Gravel is sub angular to sub rounded fine to coarse.		
					(1.60)			
				54.12	2.40	Complete at 2.40m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit refused at 2.4m BGL on obstructiuon, possible boulder or bedrock.
Trial pit back filled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	PD	13687-03-24.TP067

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP068
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.35	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707598.6 E 733059.6 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.15	0.20			
					(0.40)	Firm light brownish grey slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	B							
0.50	ES			55.75	0.60			
					(1.30)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.30	B							
				54.45	1.90			
					(0.50)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
2.10	B							
				53.95	2.40	Complete at 2.40m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP068

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP069
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.41	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707608.9 E 733047.4 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.16	0.25	Firm light greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.35)			
				55.81	0.60	Firm brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.50)			
				54.31	2.10	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.30)			
				54.01	2.40	Complete at 2.40m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP069

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP070
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.10m x 1.00m x 2.30m	**Ground Level (mOD)** 56.67	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707573.7 E 733007.4 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.47	(0.20) 0.20	Brown sandy gravelly TOPSOIL with rootlets and fragments of plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.60)	Soft to firm light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.87	0.80	Firm to stiff greyish brown slightly sandy gravelly CLAY with cobbles and boulders. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.50)			
				54.37	2.30	Complete at 2.30m		

Plan

Remarks

Trial pit refused at 2.3m BGL on obstructiuon, possible boulder or bedrock.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP070

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP071
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.00m x 1.00m x 2.40m	**Ground Level (mOD)** 56.34	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707586.2 E 733003.2 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.19	(0.15) 0.15	Brown sandy gravelly TOPSOIL with rootlets and fragments of brick. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.94	(0.25) 0.40	Soft to firm brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	B					Firm to stiff greyish brown slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	B				(1.70)			
				54.24	2.10	Stiff dark grey slightly sandy CLAY with cobbles and boulders.		
2.40	B			53.94	(0.30) 2.40	Complete at 2.40m		

Plan

Remarks

Trial pit refused at 2.4m BGL on obstructiuon, possible boulder or bedrock.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP071

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP072
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.15m x 1.00m x 2.80m	**Ground Level (mOD)** 56.54	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707602.3 E 733015.7 N	**Dates** 29/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL with fragments of bricks, plastic and roots. Gravel is sub-angular to sub-rounded fine to coarse.		
				56.24	0.30			
					(0.50)	Light brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.74	0.80			
					(1.80)	Firm to stiff grey slightly sandy gravelly CLAY with medium cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.94	2.60			
					(0.20)	Stiff Dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.74	2.80	Complete at 2.80m		

Plan

Remarks

Trial pit refused at 2.8m BGL on obstructiuon, possible boulder or bedrock.
Trial pit stable.
No groundwater encountered during excavation.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP072

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP073
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.06	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707629.9 E 733018.6 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	TOPSOIL Brown slightly sandy slightly gravelly Clay with rootlets. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.76	0.30			
					(0.20)	Light brown slightly sandy very gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.56	0.50			
					(0.40)	Grey sandy sub-angular to sub-rounded fine to coarse Gravel. Possible made ground.		
			Moderate(1) at 0.90m.	55.16	0.90			▽1
						Complete at 0.90m		

Plan

Remarks

Trial pit terminated due to material encountered.
Trial pit collapsing
Ground water encountered at 0.90m BGL as moderate ingress.
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP073

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP074
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.17	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707622 E 733038.9 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown slightly sandy slightly gravelly TOPSOIL with some fragments of plastic and ceramic. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.87	0.30			
					(0.20)	Firm light greyish brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.67	0.50			
					(1.50)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.17	2.00			
					(0.50)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.67	2.50			
						Complete at 2.50m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP074

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP075
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.22	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707631.9 E 733051.3 N	**Dates** 24/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Brown slightly sandy slightly gravelly TOPSOIL with some fragments of ceramic and plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.97	0.25			
					(0.25)	Firm light greyish brown slightly sandy slightly gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	ES			55.72	0.50			
					(1.50)	Firm to stiff brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	ES							
				54.22	2.00			
					(0.30)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.92	2.30			
						Complete at 2.30m		

Plan

Remarks

Trial pit refused at 2.3m BGL on obstructiuon, possible boulder or bedrock.
No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	GR	13687-03-24.TP075

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP076
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.20m x 1.00m x 2.30m	**Ground Level (mOD)** 55.96	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707687.6 E 733089.3 N	**Dates** 28/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with rootlets. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.76	0.20			
					(0.30)	Light brown slightly sandy gravelly CLAY with low cobble content and rootlets. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	B			55.46	0.50			
					(0.50)	Soft to firm brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.96	1.00			
					(1.00)	Form to stiff brown mottled grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.70	B							
				53.96	2.00			
					(0.30)	Stiff dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.66	2.30			
						Complete at 2.30m		

Plan

Remarks

Trial pit refused at 2.30m on obstruction. Possible cobbles and boulders.
No groundwater encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP076

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP077
Machine : 3cx **Method :** Trial Pit	**Dimensions** 3.10 x 1.0 x 2.90	**Ground Level (mOD)** 56.11	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707700.8 E 733087.1 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL. Gravel is subangular to subrounded fine to coarse.		
				55.81	0.30	Soft light brown slightly sandy gravelly CLAY. Gravel is sub angular to sub rounded fine to coarse.		
					(0.60)			
				55.21	0.90	Firm to stiff brown mottled grey slightly sandy gravelly Clay with low cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
					(1.30)			
				53.91	2.20	Stiff dark grey slightly sandy gravelly CLAY with medium cobble and boulder content. Gravel is sub angular to sub rounded fine to coarse.		
					(0.70)			
				53.21	2.90	Complete at 2.90m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit back filled upon completion.
Trial pit refused at 2.9m BGL on obstructiuon, possible boulder or bedrock.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP077

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP078
Machine : 3CX **Method :** Trial Pit	**Dimensions** .80 x 1.0 x 2.90	**Ground Level (mOD)** 56.11	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707707.3 E 733097 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	Brown sandy gravelly TOPSOIL with fragments of pottery. Gravel is subangular to subrounded fine to coarse.		
				55.81	0.30			
0.50	B				(0.70)	Soft light brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse.		
				55.11	1.00			
					(1.40)	Soft to firm greyish Brown slightly sandy gravelly CLAY with medium cobble and boulder content. Gravel is subangular to subrounded fine to coarse.		
				53.71	2.40			
2.50	B				(0.50)	Stiff Dark grey slightly sandy gravelly CLAY with medium cobble and boulder content. Gravel is subangular to subrounded fine to coarse.		
				53.21	2.90			
						Complete at 2.90m		

Plan

Remarks

Trial pit stable.
No groundwater encountered during excavation.
Trial pit back filled upon completion.
Trial pit refused at 2.9m BGL on obstructiuon, possible boulder or bedrock.

Scale (approx)	Logged By	Figure No.
1:25	pd	13687-03-24.TP78

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP079
Machine : 3CX **Method :** Trial Pit	**Dimensions** 3.20m x 1.00m x 2.70m	**Ground Level (mOD)** 55.45	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707730.1 E 733067.9 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.25	0.20	Soft to firm grey gravelly CLAY with cobbles. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.60)			
				54.65	0.80	Firm to stiff greyish brown slightly sandy gravelly CLAY with high cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(1.40)			
			Moderate(1) at 2.20m.	53.25	2.20	Stiff dark grey slightly sandy gravelly CLAY with medium cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		▽1
					(0.50)			
				52.75	2.70	Complete at 2.70m		

Plan

Remarks

Trial pit spalling from 1.30m below ground level.
Ground water encountered at 2.20m BGL as moderate ingress.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25	GR	13687-03-24.TP079

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP080
Machine : 3CX **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.69	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707722.2 E 733068.1 N	**Dates** 27/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.49	0.20			
					(0.40)	Soft to firm light brown sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50	B			55.09	0.60			
					(0.10)	Greyish brown slightly clayey gravelly SAND. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.99	0.70			
					(1.10)	Stiff greyish brown sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	B							
				53.89	1.80			
					(0.90)	Dark grey slightly sandy gravelly CLAY with low cobble and boulder content. Gravel is sub-angular to sub-rounded fine to coarse.		
				52.99	2.70			
						Complete at 2.70m		

Plan

Remarks

Trial pit refused at 2.7m BGL on obstructiuon, possible boulder or bedrock.
No groundwater encountered during excavation.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP080

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP081
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.70	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707711.4 E 733051.6 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.15)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.55	0.15			
					(0.30)	Firm light greyish brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
0.40	B			55.25	0.45			
					(0.50)	Grey very sandy sub-rounded to rounded fine to coarse Gravel with medium cobble content.		
				54.75	0.95			
					(0.75)	Firm to stiff greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.00	1.70			
1.90	B				(1.00)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.00	2.70			
						Complete at 2.70m		

Plan

Remarks

No groundwater encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP081

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP082
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.03	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707702.4 E 733040 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.83	(0.20) 0.20	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.25)	Light greyish brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.58	0.45			
0.60	B				(0.35)	Grey very sandy sub-rounded to rounded fine to coarse Gravel.		
				55.23	0.80			
					(0.70)	Firm to stiff greyish brown slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
1.50	B			54.53	1.50			
2.00	B				(1.30)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				53.23	2.80			
						Complete at 2.80m		

Plan

Remarks

Trial pit refused at 2.8m BGL on obstructiuon, possible boulder or bedrock.
Trial pit stable
No groundwater encountered during excavation.
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP082

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP083
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.13	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707670 E 733034.7 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.88	0.25			
					(0.20)	Light greyish brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
0.40	B			55.68	0.45			
					(0.25)	Grey very sandy sub-rounded to rounded fine to coarse Gravel.		
				55.43	0.70			
					(0.70)	Firm brown mottle grey slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.73	1.40			
					(0.30)	Stiff dark grey slightly sandy gravelly CLAY with medium cobble content.Gravel is sub-angular to sub-rounded fine to coarse.		
1.70	B			54.43	1.70			
					(1.30)			
2.50	B							
				53.13	3.00			
						Complete at 3.00m		

Plan

Remarks

Trial pit refused at 3.0m BGL on obstructiuon, possible boulder or bedrock.
No ground water encountered during excavation.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP083

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP084
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 56.14	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707694.3 E 733028.5 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY with some fragments of plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.84	0.30			
					(0.15)	Light greyish brown slightly sandy gravelly CLAY with low cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.69	0.45			
						Grey slightly clayey very sandy sub-rounded to rounded fine to coarse Gravel.		
					(1.25)			
			Slow(1) at 1.20m.					▽1
				54.44	1.70			
					(0.20)	Firm to stiff greyish brown slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.24	1.90			
						Possible Residual Soil: Stiff dark grey slightly sandy gravelly CLAY with high cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
			Slow(2) at 2.50m.					▽2
					(1.40)			
				52.84	3.30			
						Complete at 3.30m		

Plan

Remarks

Trial pit refused at 3.3m BGL on obstructiuon, possible boulder or bedrock.
Ground water encountered at 1.20m and 2.50m BGL as slow seepage
Trial pit spalling
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP084

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP085
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.91	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707702.6 E 733019.1 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.66	0.25			
					(0.30)	Stiff light greyish brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.36	0.55			
0.60	B				(0.35)	Grey slightly clayey very sandy sub rounded to rounded fine to coarse Gravel.		
				55.01	0.90			
			Slow(1) at 1.00m.			Firm to stiff greyish brown slightly sandy gravelly CLAY with medium cobble content and some gravel of limestone. Gravel is sub-angular to sub-rounded fine to coarse.		▽1
					(0.90)			
1.60	B							
1.60	ES							
				54.11	1.80	Possible Residual Soil: Stiff dark grey slightly sandy gravelly CLAY with high cobbles and boulders content. Gravel is sub-angular to sub-rounded fine to coarse.		
					(0.70)			
2.20	B							
			Slow(2) at 2.50m.	53.41	2.50			▽2
						Complete at 2.50m		

Plan

Remarks

Trial pit refused at 2.3m BGL on obstructiuon, possible boulder or bedrock.
Ground water encountered at 1.00m and 2.50m BGL as slow seepage
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25	GR	13687-03-24.TP085

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP086
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.88	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707711.4 E 733008 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.58	0.30			
					(0.10)	Light brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.48	0.40			
					(0.30)	Brownish grey clayey sandy sub-rounded to rounded fine to coarse Gravel with low cobble content.		
				55.18	0.70			
					(1.00)	Firm to stiff Brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
			Slow(1) at 1.70m.	54.18	1.70			▽1
1.90	B				(1.00)	Firm to stiff dark grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse. Possible residual soil.		
				53.18	2.70			
					(0.10)	Weathered rock: Dark grey clayey angular Gravel with cobbles of mudstone and limestone.		
				53.08	2.80			
						Complete at 2.80m		

Plan

Remarks

Trial pit refused at 2.8m BGL on obstructiuon, possible bedrock.
Groundwater encountered at 1.70m BGL as slow seepage.
Trial pit stable
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP086

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP087
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.84	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707721 E 733015.3 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	TOPSOIL: Brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.54	0.30			
					(0.30)	Stiff to firm greyish brown slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
0.50 0.50	B ES			55.24	0.60			
					(0.40)	Grey very sandy sub rounded to rounded fine to coarse GRAVEL.		
				54.84	1.00			
1.30	B				(0.65)	Fine to coarse brown mottled grey slightly sandy gravelly CLAY with medium cobble content. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.19	1.65			
			Slow(1) at 1.70m.	54.14	1.70	Reddish grey angular cobbles of limestone.		▽1
						Complete at 1.70m		

Plan

Remarks

Trial pit refused at 1.70m on obstruction. Possible rock.
Groundwater encountered at 1.70m BGL as slow seepage.
Trial pit stable.
Trial pit backfilled upon completion.

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP087

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP088
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.80	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707732.7 E 733028.1 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown slightly sandy slightly gravelly TOPSOIL. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.60	0.20			
					(0.30)	Firm light brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.30	0.50			
					(0.60)	Grey very sandy sub-rounded to rounded fine to coarse GRAVEL.		
				54.70	1.10			
					(0.30)	Firm greyish brown slightly sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse.		
				54.40	1.40			
				54.30	(0.10) 1.50	Weathered rock Grey angular cobbles of limestone and mudstone.		
			Moderate(1) at 1.50m.			Complete at 1.50m		▽1

Plan

Remarks

Trial pit refused at 1.50m on obstruction. Possible rock.
Trial pit spalling
Groundwater encountered at 1.50m BGL as moderate ingress
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP088

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Trial Pit Number** TP089
Machine : 8Ton **Method :** Trial Pit	**Dimensions**	**Ground Level (mOD)** 55.64	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707742.8 E 733034.1 N	**Dates** 21/05/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.30)	TOPSOIL Brown slightly sandy gravelly CLAY with some fragments of plastic. Gravel is sub-angular to sub-rounded fine to coarse.		
				55.34	0.30			
0.50	B					Grey slightly clayey very sandy sub-rounded to rounded fine to coarse GRAVEL with low cobble content..		
					(1.20)			
			Medium(1) at 1.40m.					▽1
1.50	B			54.14	1.50	Weathered Rock Brownish grey angular slightly clayey Gravel with cobbles of limestone and mudstone.		
					(0.30)			
				53.84	1.80	Complete at 1.80m		

Plan

Remarks

Trial pit refused at 1.80m on obstruction of bedrock
Groundwater encountered at 1.40m as medium ingress
Trial pit spalling
Trial pit backfilled upon completion

Scale (approx)	Logged By	Figure No.
1:25		13687-03-24.TP089

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

APPENDIX 3 – Window Sample Records

www.gii.ie

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Number** WS01
Machine : Tec10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.00m 66mm to 1.40m	**Ground Level (mOD)** 55.65	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 708007.9 E 732858.6 N	**Dates** 27/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy slightly gravelly TOPSOIL with occasional rootlets		
0.20-0.50	B			55.45	0.20	MADE GROUND: Brown sandy gravelly Clay with low cobble content		
0.50-0.90	B				(0.70)			
0.50-0.90	ES							
0.90-1.40	B			54.75	0.90	MADE GROUND: Brown slightly sandy gravelly Clay with low cobble content and rare ceramic fragments		
1.00-1.40	ES				(0.50)			
				54.25	1.40	Refused on obstruction. Possible rock or boulder		
						Complete at 1.40m		

Remarks
0.00 - 1.00m BGL 100% recovery
1.00 - 1.40m BGL 80% recovery
Refusal at 1.40m BGL

Scale (approx)	Logged By
1:25	AM

Figure No. 13687-03-24.WS01

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Number** WS02
Machine : Tec10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 2.00m 66mm to 2.40m	**Ground Level (mOD)** 58.08	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707980.4 E 732883 N	**Dates** 27/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL with occasional rootlets		
0.20-0.80	B			57.88	0.20	MADE GROUND: Brown mottled grey sandy slightly gravelly Clay with low cobble content and occasional fragments of domestic refuse and plastic		
0.50-0.70	ES				(0.60)			
				57.28	0.80	No recovery		
					(0.20)			
1.00-1.40 1.00-1.50	ES B			57.08	1.00	MADE GROUND: Brown mottled grey sandy slightly gravelly Clay with low cobble content and occasional fragments of glass red brick and wood. Organic odour Laminated structure below 1.2m BGL		
					(0.50)			
				56.58	1.50	No recovery		
					(0.50)			
2.00-2.40 2.00-2.40	B ES			56.08	2.00	MADE GROUND: Brown mottled grey sandy gravelly Clay with low cobble content		
					(0.40)			
				55.68	2.40	Complete at 2.40m		

Remarks
0.00 - 1.00m BGL 70% recovery
1.00 - 2.00m BGL 60% recovery
2.00 - 2.40m BGL 80% recovery
Refusal at 2.40m BGL

Scale (approx)	Logged By
1:25	AM

Figure No. 13687-03-24.WS02

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Number** WS03
Machine : Tec10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.30m	**Ground Level (mOD)** 56.46	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 708031.8 E 732892.9 N	**Dates** 27/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sandy gravelly TOPSOIL		
0.20-0.90	B			56.26	0.20	MADE GROUND: Brown sandy gravelly Clay with occasional fragments of red brick plastic ceramic and domestic refuse		
0.50-0.90	ES				(0.70)			
				55.56	0.90			
					(0.10)	No recovery		
1.00-1.30	B			55.46	1.00			
1.00-1.30	ES				(0.30)	MADE GROUND: Brown sandy gravelly Clay with occasional rootlets and fragments of organic material and metal		
				55.16	1.30	Complete at 1.30m		

Remarks
1.00 - 1.20m BGL 90% recovery
1.00 - 1.30m BGL 60% recovery
Refusal at 1.30m BGL

Scale (approx)	Logged By
1:25	AM

Figure No. 13687-03-24.WS03

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Number** WS04
Machine : Tec10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 1.15m	**Ground Level (mOD)** 57.88	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 708023.4 E 732912.6 N	**Dates** 27/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.25)	Brown sandy gravelly TOPSOIL with occasional rootlets		
0.25-1.00 0.25-1.00	B ES			57.63	0.25	MADE GROUND: Brown sandy gravelly Clay with low cobble content and rare fragments of glass and red brick		
					(0.75)			
1.00-1.15 1.00-1.15	B ES			56.88 56.73	1.00 (0.15) 1.15	Dark brown sandy gravelly CLAY with low cobble content and occasional rootlets		
						Complete at 1.15m		

Remarks
0.00 - 1.00m BGL 90% recovery
1.00 - 1.15m BGL 100% recovery
Refusal at 1.15m BGL

Scale (approx)	Logged By
1:25	AM

Figure No. 13687-03-24.WS04

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Ground Investigations Ireland Ltd
www.gii.ie

Site Cherry Orchard Sites 4&5 Phase 2			**Number** WS05
Machine : Tec10 **Method :** Drive-in Windowless Sampler	**Dimensions** 88mm to 2.00m 66mm to 2.60m	**Ground Level (mOD)** 57.87	**Client** Land Development Agency	**Job Number** 13687-03-24
	Location 707998.4 E 732938.4 N	**Dates** 27/06/2024	**Project Contractor** GII	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	Brown sadny gravelly TOPSOIL with occasional rootlets		
0.20-0.60	ES			57.67	0.20			
0.20-1.00	B					MADE GROUND: Brown sandy gravelly Clay with low cobble content and occasional fragments of red brick		
					(1.30)			
1.00-1.50	B							
1.00-1.90	ES							
1.50-1.80	B			56.37	1.50			
					(0.30)	Dark brown mottled grey laminated sandy slightly gravelly organic CLAY (Possible old topsoil)		
1.80-2.20	B			56.07	1.80			
2.00-2.50	ES					Brown sandy slightly gravelly CLAY with low cobble content		
					(0.80)			
				55.27	2.60			
						Complete at 2.60m		

Remarks
0.00 - 1.00m BGL 60% recovery
1.00 - 2.00m BGL 90% recovery
2.00 - 2.60m BGL 100% recovery
Refusal at 2.20m BGL

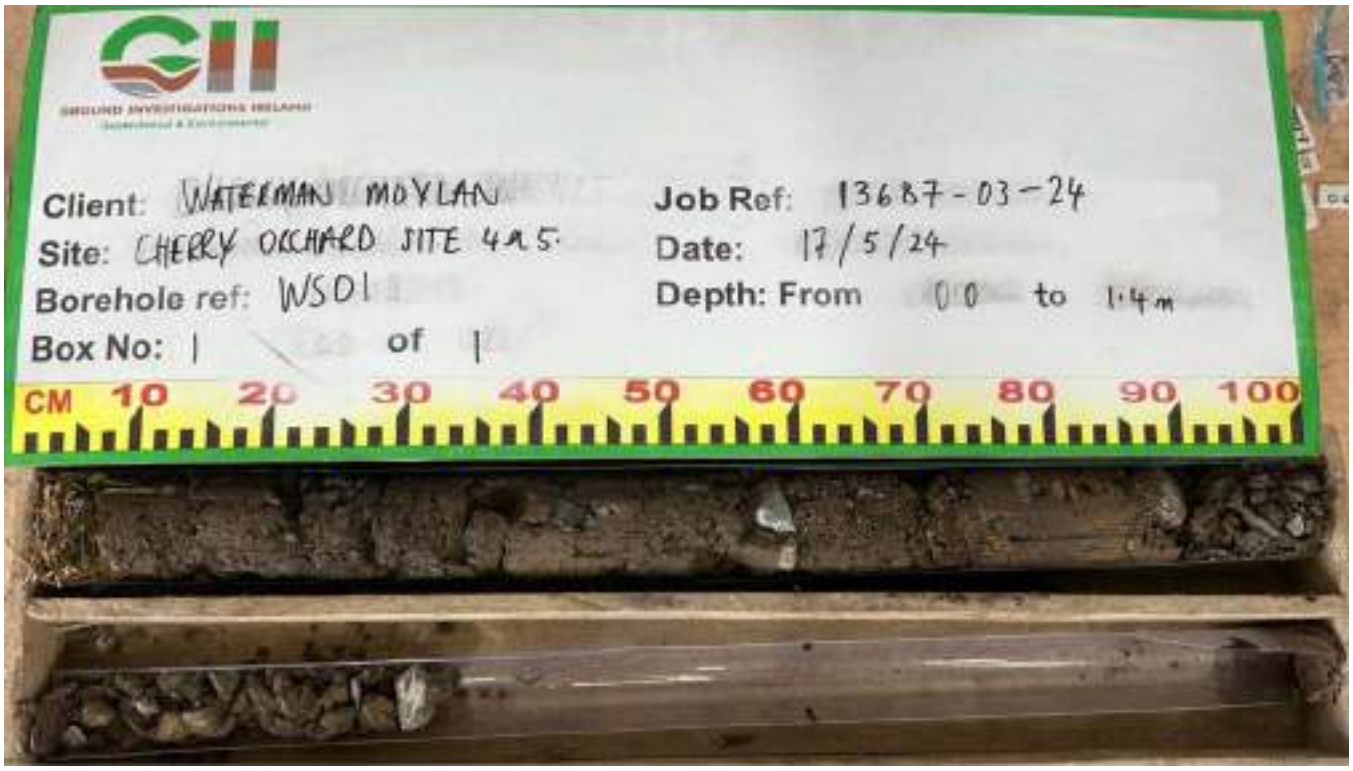
Scale (approx)	Logged By
1:25	AM

Figure No. 13687-03-24.WS05

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Cherry Orchard Sites 4&5 Phase 2 – Window Sample Photographs

WS01

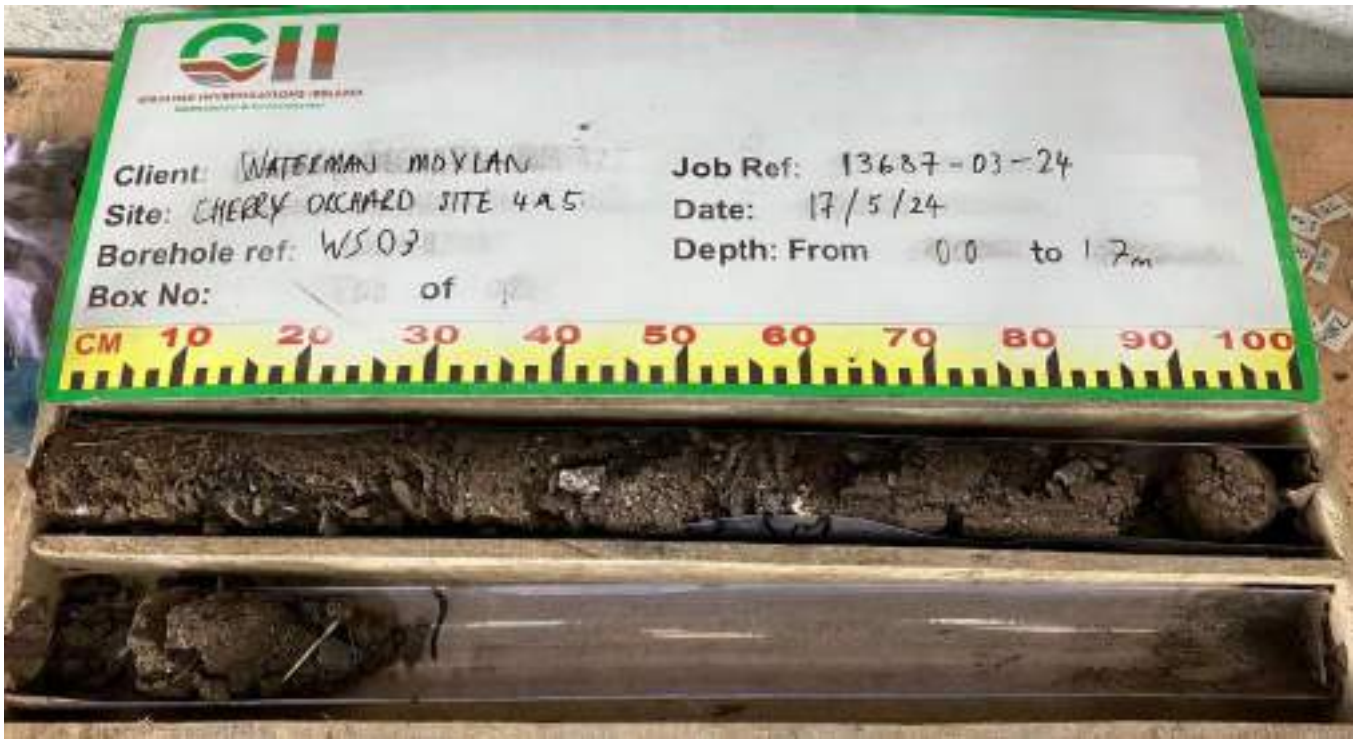


WS02



Cherry Orchard Sites 4&5 Phase 2 – Window Sample Photographs

WS03



WS04



Cherry Orchard Sites 4&5 Phase 2 – Window Sample Photographs

WS05



APPENDIX 4 – Laboratory Testing

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Tom McIntyre
Date :	13th June, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/8747 Batch 1
Location :	Cherry Orchard
Date samples received :	22nd May, 2024
Status :	Final Report
Issue :	202406130959

Five samples were received for analysis on 22nd May, 2024 of which five 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 - 26.571 kg of CO2

Scope 1&2&3 emissions - 62.794 kg of CO2

Authorised By:

D Bower

Darcey Bower MESci
Project Co-ordinator

Please include all sections of this report if it is reproduced

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8747

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8	9-12	13-16	17-20						LOD/LOR	Units	Method No.
Sample ID	TP118	TP120	TP121	TP123	TP123								
Depth	0.50	0.50	0.50	0.50	1.50								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	17/05/2024	17/05/2024	17/05/2024	17/05/2024	17/05/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024								
Antimony	2	2	2	4	2						<1	mg/kg	TM30/PM15
Arsenic #	11.3	9.4	8.9	17.5	9.7						<0.5	mg/kg	TM30/PM15
Barium #	87	79	47	118	53						<1	mg/kg	TM30/PM15
Cadmium #	1.9	1.5	1.5	2.3	1.8						<0.1	mg/kg	TM30/PM15
Chromium #	57.3	27.7	51.5	76.2	22.6						<0.5	mg/kg	TM30/PM15
Copper #	32	26	28	131	29						<1	mg/kg	TM30/PM15
Lead #	25	20	25	144	15						<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	0.1	0.5	<0.1						<0.1	mg/kg	TM30/PM15
Molybdenum #	4.8	3.4	5.5	8.3	3.0						<0.1	mg/kg	TM30/PM15
Nickel #	52.4	39.9	41.1	51.4	37.3						<0.7	mg/kg	TM30/PM15
Selenium #	2	1	2	3	1						<1	mg/kg	TM30/PM15
Zinc #	120	79	84	215	83						<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	0.06	<0.04						<0.04	mg/kg	TM4/PM8
Acenaphthylene	<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	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	0.10	<0.04						<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	0.03	1.09	<0.03						<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	0.15	<0.04						<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	0.06	0.07	1.11	<0.03						<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	0.06	0.07	0.97	<0.03						<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	0.46	<0.06						<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	0.56	<0.02						<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	0.68	<0.07						<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	0.45	<0.04						<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	0.22	<0.04						<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	0.07	<0.04						<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	0.22	<0.04						<0.04	mg/kg	TM4/PM8
Coronene	<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	2.68	<0.22						<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	6.14	<0.64						<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	0.49	<0.05						<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	0.19	<0.02						<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1						<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	94	95	101	100	96						<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30						<30	mg/kg	TM5/PM8/PM16

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8747

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						LOD/LOR	Units	Method No.
Sample ID	TP118	TP120	TP121	TP123	TP123								
Depth	0.50	0.50	0.50	0.50	1.50								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	17/05/2024	17/05/2024	17/05/2024	17/05/2024	17/05/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024								
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<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	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<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	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	<4	<4	<4	<4						<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<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	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<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	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<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	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<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	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7	<7	27	<7						<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26	27	<26						<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52						<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10	27	<10						<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
PCB 28#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 52#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 101#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 118#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 138#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 153#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 180#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35	<35	<35	<35						<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8747

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						LOD/LOR	Units	Method No.
Sample ID	TP118	TP120	TP121	TP123	TP123								
Depth	0.50	0.50	0.50	0.50	1.50								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	17/05/2024	17/05/2024	17/05/2024	17/05/2024	17/05/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024								
Natural Moisture Content	17.7	13.5	14.4	24.3	12.7						<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	15.0	11.9	12.6	18.3	11.3						<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3						<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	-	0.0082	-	-	0.0196						<0.0015	g/l	TM38/PM20
Chromium III	57.3	27.7	51.5	76.2	22.6						<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.64	0.45	0.75	3.36	0.33						<0.02	%	TM21/PM24
pH #	8.14	8.59	8.53	8.32	8.73						<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8747

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						LOD/LOR	Units	Method No.
Sample ID	TP118	TP120	TP121	TP123	TP123								
Depth	0.50	0.50	0.50	0.50	1.50								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	17/05/2024	17/05/2024	17/05/2024	17/05/2024	17/05/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024								
Dissolved Antimony #	<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	mg/kg	TM30/PM17
Dissolved Arsenic #	<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	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003	<0.003	<0.003	<0.003						<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03						<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<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	mg/kg	TM30/PM17
Dissolved Chromium #	<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	mg/kg	TM30/PM17
Dissolved Copper #	<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	mg/kg	TM30/PM17
Dissolved Lead #	<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	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.005	0.005	0.003	0.006	0.003						<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.05	0.05	0.03	0.06	0.03						<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<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	mg/kg	TM30/PM17
Dissolved Selenium #	<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	mg/kg	TM30/PM17
Dissolved Zinc #	<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	0.04	<0.03						<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001						<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<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	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	mg/kg	TM26/PM0
Fluoride	0.4	0.5	0.7	0.5	0.4						<0.3	mg/l	TM173/PM0
Fluoride	4	5	7	5	4						<3	mg/kg	TM173/PM0
Sulphate as SO4 #	8.8	0.5	1.0	0.7	2.7						<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	88	<5	10	7	27						<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1025	0.1069	0.1047	0.1131	0.1041							kg	NONE/PM17
Chloride #	<0.3	0.4	0.5	0.8	0.8						<0.3	mg/l	TM38/PM0
Chloride #	<3	4	5	8	8						<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09							kg	NONE/PM17
Dissolved Organic Carbon	2	<2	2	3	<2						<2	mg/l	TM60/PM0
Dissolved Organic Carbon	20	<20	20	30	<20						<20	mg/kg	TM60/PM0
pH	7.89	7.49	7.70	7.08	7.75						<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8747

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						LOD/LOR	Units	Method No.
Sample ID	TP118	TP120	TP121	TP123	TP123								
Depth	0.50	0.50	0.50	0.50	1.50								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	17/05/2024	17/05/2024	17/05/2024	17/05/2024	17/05/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024								
Total Dissolved Solids #	80	59	72	83	50						<35	mg/l	TM20/PM0
Total Dissolved Solids #	800	590	720	830	500						<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8747

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8	9-12	13-16	17-20						Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	TP118	TP120	TP121	TP123	TP123											
Depth	0.50	0.50	0.50	0.50	1.50											
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T											
Sample Date	17/05/2024	17/05/2024	17/05/2024	17/05/2024	17/05/2024											
Sample Type	Soil	Soil	Soil	Soil	Soil											
Batch Number	1	1	1	1	1											
Date of Receipt	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024											
Solid Waste Analysis																
Total Organic Carbon #	0.64	0.45	0.75	3.36	0.33						3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025						6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035						1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30						500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	2.68	<0.22						-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	6.14	<0.64						100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025						0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	<0.03	<0.03	<0.03						20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<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						0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<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						0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.05	0.05	0.03	0.06	0.03						0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<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						0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<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						0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	0.04	<0.03						4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	800	590	720	830	500						4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	20	<20	20	30	<20						500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1025	0.1069	0.1047	0.1131	0.1041						-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	88.0	84.3	86.1	79.3	86.4						-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.888	0.883	0.886	0.876	0.886						-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	13.6	18.6	16.1	26.2	15.8						-	-	-	<0.1	%	PM4/PM0
pH #	8.14	8.59	8.53	8.32	8.73						-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1						1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	4	5	7	5	4						10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	88	<5	10	7	27						1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	4	5	8	8						800	15000	25000	<3	mg/kg	TM38/PM0

Please include all sections of this report if it is reproduced

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

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/8747	1	TP118	0.50	1-4	No interpretation possible
24/8747	1	TP120	0.50	5-8	No interpretation possible
24/8747	1	TP121	0.50	9-12	No interpretation possible
24/8747	1	TP123	0.50	13-16	trace of possible PAHs
24/8747	1	TP123	1.50	17-20	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/8747	1	TP118	0.50	4	Catherine Coles	04/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	04/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	04/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/06/2024	**Asbestos Type**	NAD
24/8747	1	TP120	0.50	8	Michael Reilly	04/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	04/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	04/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	04/06/2024	**Asbestos Type**	NAD
24/8747	1	TP121	0.50	12	Michael Reilly	04/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	04/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	04/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	04/06/2024	**Asbestos Type**	NAD
24/8747	1	TP123	0.50	16	Simon Postlewhite	04/06/2024	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	04/06/2024	**Asbestos Fibres**	NAD
					Simon Postlewhite	04/06/2024	**Asbestos ACM**	NAD
					Simon Postlewhite	04/06/2024	**Asbestos Type**	NAD
24/8747	1	TP123	1.50	20	Catherine Coles	04/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	04/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	04/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/06/2024	**Asbestos Type**	NAD

Element Materials Technology

Notification of Deviating Samples

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/8747	1	TP118	0.50	1-4	EPH	Sample holding time exceeded
24/8747	1	TP120	0.50	5-8	EPH	Sample holding time exceeded
24/8747	1	TP123	0.50	13-16	EPH	Sample holding time exceeded
24/8747	1	TP123	1.50	17-20	EPH	Sample holding time exceeded

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.

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/8747

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/8747

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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

EMT Job No: 24/8747

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Please include all sections of this report if it is reproduced

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Tom McIntyre
Date :	17th June, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/8950 Batch 1
Location :	Cherry Orchard
Date samples received :	24th May, 2024
Status :	Final Report
Issue :	202406171449

Eight samples were received for analysis on 24th May, 2024 of which seven 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 - 37.793 kg of CO2

Scope 1&2&3 emissions - 89.314 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8950

Report : Solid

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

EMT Sample No.	1-4	5-8	9-12	17-20	21-24	25-28	29-32				LOD/LOR	Units	Method No.
Sample ID	TP24	TP29	TP39	TP44	TP45	TP47	TP48						
Depth	1.70	0.40	0.50	0.50	1.00	0.50	0.50						
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						
Sample Date	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024						
Antimony	2	3	3	2	2	3	2				<1	mg/kg	TM30/PM15
Arsenic #	8.0	12.7	10.3	7.9	9.3	9.7	10.2				<0.5	mg/kg	TM30/PM15
Barium #	36	63	71	29	55	81	49				<1	mg/kg	TM30/PM15
Cadmium #	0.7	1.4	1.0	0.8	2.0	1.9	1.9				<0.1	mg/kg	TM30/PM15
Chromium #	32.5	35.6	58.3	29.6	61.7	76.9	26.1				<0.5	mg/kg	TM30/PM15
Copper #	25	51	42	31	33	33	29				<1	mg/kg	TM30/PM15
Lead #	16	28	137	14	14	24	13				<5	mg/kg	TM30/PM15
Mercury #	<0.1	0.1	0.2	<0.1	0.2	<0.1	<0.1				<0.1	mg/kg	TM30/PM15
Molybdenum #	4.7	5.8	4.8	5.7	5.8	5.3	4.2				<0.1	mg/kg	TM30/PM15
Nickel #	39.6	72.4	33.9	42.2	39.5	49.5	39.0				<0.7	mg/kg	TM30/PM15
Selenium #	<1	2	<1	2	<1	1	<1				<1	mg/kg	TM30/PM15
Zinc #	48	122	121	52	88	102	98				<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	0.08	<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	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	0.29	<0.05	<0.05	<0.05	<0.05				<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	0.18	<0.04	<0.04	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	1.68	0.04	<0.03	<0.03	<0.03				<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	0.23	<0.04	<0.04	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	1.60	0.03	<0.03	<0.03	<0.03				<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	1.36	<0.03	<0.03	<0.03	<0.03				<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	0.57	<0.06	<0.06	<0.06	<0.06				<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	0.70	<0.02	<0.02	<0.02	<0.02				<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	0.89	<0.07	<0.07	<0.07	<0.07				<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	0.52	<0.04	<0.04	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	0.29	<0.04	<0.04	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	0.08	<0.04	<0.04	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	0.29	<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	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	3.59	<0.22	<0.22	<0.22	<0.22				<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	8.76	<0.64	<0.64	<0.64	<0.64				<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	0.64	<0.05	<0.05	<0.05	<0.05				<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	0.25	<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	mg/kg	TM4/PM8
PAH Surrogate % Recovery	97	97	98	103	91	98	99				<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30	<30	<30				<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8950

Report : Solid

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

EMT Sample No.	1-4	5-8	9-12	17-20	21-24	25-28	29-32				LOD/LOR	Units	Method No.
Sample ID	TP24	TP29	TP39	TP44	TP45	TP47	TP48						
Depth	1.70	0.40	0.50	0.50	1.00	0.50	0.50						
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						
Sample Date	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024						
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1				<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1				<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<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	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<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	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<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	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26	<26	<26	<26	<26				<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1				<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<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	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1				<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1				<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<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	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7	100	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	13	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	113	<26	<26	<26	<26				<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	113	<52	<52	<52	<52				<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1	<0.1 SV	<0.1				<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10	26	<10	<10	<10	<10				<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	81	<10	<10	<10	<10				<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5 SV	<5	<5 SV	<5	<5 SV	<5				<5	ug/kg	TM36/PM12
Benzene#	<5	<5 SV	<5	<5 SV	<5	<5 SV	<5				<5	ug/kg	TM36/PM12
Toluene#	<5	<5 SV	<5	<5 SV	<5	<5 SV	<5				<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5 SV	<5	<5 SV	<5	<5 SV	<5				<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5 SV	<5	<5 SV	<5	<5 SV	<5				<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5 SV	<5	<5 SV	<5	<5 SV	<5				<5	ug/kg	TM36/PM12
PCB 28#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 52#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 101#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 118#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 138#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 153#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 180#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35	<35	<35	<35	<35	<35				<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8950

Report : Solid

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

EMT Sample No.	1-4	5-8	9-12	17-20	21-24	25-28	29-32				LOD/LOR	Units	Method No.
Sample ID	TP24	TP29	TP39	TP44	TP45	TP47	TP48						
Depth	1.70	0.40	0.50	0.50	1.00	0.50	0.50						
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						
Sample Date	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024						
Natural Moisture Content	14.5	22.7	20.3	11.8	12.4	11.8	13.2				<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	12.7	18.5	16.9	10.6	11.1	10.6	11.6				<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3				<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	-	0.0484	-	-	-	-	0.0072				<0.0015	g/l	TM38/PM20
Chromium III	32.5	35.6	58.3	29.6	61.7	76.9	26.1				<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.30	0.93	1.42	0.82	0.36	0.52	0.22				<0.02	%	TM21/PM24
pH #	8.72	8.41	8.26	8.42	8.77	8.56	8.65				<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8950

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	17-20	21-24	25-28	29-32				LOD/LOR	Units	Method No.
Sample ID	TP24	TP29	TP39	TP44	TP45	TP47	TP48						
Depth	1.70	0.40	0.50	0.50	1.00	0.50	0.50						
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						
Sample Date	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024						
Dissolved Antimony #	<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	mg/kg	TM30/PM17
Dissolved Arsenic #	<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	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003	<0.003	0.008	<0.003	<0.003	<0.003				<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	0.08	<0.03	<0.03	<0.03				<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<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	mg/kg	TM30/PM17
Dissolved Chromium #	<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	mg/kg	TM30/PM17
Dissolved Copper #	<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	mg/kg	TM30/PM17
Dissolved Lead #	<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	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.009	0.003	0.005	0.013	0.012	0.011	0.008				<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.09	0.03	0.05	0.13	0.12	0.11	0.08				<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<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	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003	<0.003	0.015	<0.003	<0.003	<0.003				<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03	<0.03	0.15	<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	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<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	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<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	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	0.8	0.3	<0.3	<0.3	0.7	<0.3				<0.3	mg/l	TM173/PM0
Fluoride	<3	8	3	<3	<3	7	<3				<3	mg/kg	TM173/PM0
Sulphate as SO4 #	0.9	3.0	0.7	31.3	<0.5	6.3	0.5				<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	9	30	7	313	<5	63	<5				<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1068	0.1045	0.1145	0.1005	0.1035	0.1029	0.1014					kg	NONE/PM17
Chloride #	<0.3	<0.3	0.6	9.0	<0.3	0.4	<0.3				<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	6	90	<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					kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	<2	<2	<2	<2				<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20				<20	mg/kg	TM60/PM0
pH	8.15	8.21	8.15	8.00	7.95	7.81	7.90				<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8950

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	17-20	21-24	25-28	29-32				LOD/LOR	Units	Method No.
Sample ID	TP24	TP29	TP39	TP44	TP45	TP47	TP48						
Depth	1.70	0.40	0.50	0.50	1.00	0.50	0.50						
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						
Sample Date	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024						
Total Dissolved Solids #	44	72	<35	113	35	48	37				<35	mg/l	TM20/PM0
Total Dissolved Solids #	440	720	<350	1129	350	480	370				<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/8950

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8	9-12	17-20	21-24	25-28	29-32								
Sample ID	TP24	TP29	TP39	TP44	TP45	TP47	TP48								
Depth	1.70	0.40	0.50	0.50	1.00	0.50	0.50								
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								
Sample Date	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024	20/05/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1	1	1								
Date of Receipt	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024	24/05/2024				Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	0.30	0.93	1.42	0.82	0.36	0.52	0.22				3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025 SV	<0.025	<0.025 SV	<0.025	<0.025 SV	<0.025				6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035				1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30				500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	3.59	<0.22	<0.22	<0.22	<0.22				-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	8.76	<0.64	<0.64	<0.64	<0.64				100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025				0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	<0.03	0.08	<0.03	<0.03	<0.03				20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<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	<0.015				0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<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	<0.0001	<0.0001				0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.09	0.03	0.05	0.13	0.12	0.11	0.08				0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<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	<0.05				0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02				0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	0.15	<0.03	<0.03	<0.03				0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	440	720	<350	1129	350	480	370				4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20				500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1068	0.1045	0.1145	0.1005	0.1035	0.1029	0.1014				-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	84.3	85.7	78.9	89.5	87.1	87.3	88.4				-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.883	0.885	0.876	0.889	0.887	0.887	0.888				-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	18.7	16.7	26.7	11.7	14.8	14.5	13.1				-	-	-	<0.1	%	PM4/PM0
pH #	8.72	8.41	8.26	8.42	8.77	8.56	8.65				-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	8	3	<3	<3	7	<3				10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	9	30	7	313	<5	63	<5				1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	6	90	<3	4	<3				800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/8950	1	TP24	1.70	1-4	No interpretation possible
24/8950	1	TP29	0.40	5-8	No interpretation possible
24/8950	1	TP39	0.50	9-12	PAHs
24/8950	1	TP44	0.50	17-20	No interpretation possible
24/8950	1	TP45	1.00	21-24	No interpretation possible
24/8950	1	TP47	0.50	25-28	No interpretation possible
24/8950	1	TP48	0.50	29-32	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/8950	1	TP24	1.70	4	Catherine Coles	04/06/2024	**General Description (Bulk Analysis)**	BROWN SOI;L,STOEN
					Catherine Coles	04/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	04/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/06/2024	**Asbestos Type**	NAD
24/8950	1	TP29	0.40	8	Catherine Coles	04/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	04/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	04/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/06/2024	**Asbestos Type**	NAD
24/8950	1	TP39	0.50	12	Catherine Coles	03/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	03/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	03/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	03/06/2024	**Asbestos Type**	NAD
24/8950	1	TP44	0.50	20	Catherine Coles	04/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	04/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	04/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/06/2024	**Asbestos Type**	NAD
24/8950	1	TP45	1.00	24	Catherine Coles	05/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	05/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	05/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	05/06/2024	**Asbestos Type**	NAD
24/8950	1	TP47	0.50	28	Simon Postlewhite	04/06/2024	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	04/06/2024	**Asbestos Fibres**	NAD
					Simon Postlewhite	04/06/2024	**Asbestos ACM**	NAD
					Simon Postlewhite	04/06/2024	**Asbestos Type**	NAD
24/8950	1	TP48	0.50	32	Catherine Coles	04/06/2024	**General Description (Bulk Analysis)**	BROWN SOILSTONE
					Catherine Coles	04/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	04/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/06/2024	**Asbestos Type**	NAD

Element Materials Technology

Notification of Deviating Samples

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/8950	1	TP24	1.70	1-4	EPH	Sample holding time exceeded
24/8950	1	TP29	0.40	5-8	EPH	Sample holding time exceeded
24/8950	1	TP39	0.50	9-12	EPH	Sample holding time exceeded
24/8950	1	TP44	0.50	17-20	EPH	Sample holding time exceeded
24/8950	1	TP45	1.00	21-24	EPH	Sample holding time exceeded
24/8950	1	TP47	0.50	25-28	EPH	Sample holding time exceeded
24/8950	1	TP48	0.50	29-32	EPH	Sample holding time exceeded

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.

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/8950

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/8950

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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

EMT Job No: 24/8950

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Tom McIntyre
Date :	10th June, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/9106 Batch 1
Location :	Cherry Orchard
Date samples received :	28th May, 2024
Status :	Final Report
Issue :	202406101514

Twenty nine samples were received for analysis on 28th May, 2024 of which twenty seven 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 - 132.42 kg of CO2

Scope 1&2&3 emissions - 312.942 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	1-4	5-7	8-10,72	11-14	15-18	19-22	23-26	27-30	31-34	35-38	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS02	TP95	TP100	TP102	TP104	TP108	TP110	TP114			
Depth	0.50-0.90	0.90-1.40	1.00-1.40	2.00	2.50	1.50	1.50	2.50	2.00	1.50			
COC No / misc													
Containers	V J T	V J T	V T J	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/05/2024	22/05/2024	22/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
Antimony	2	<1	3	2	2	2	3	2	2	2	<1	mg/kg	TM30/PM15
Arsenic #	7.8	3.8	12.0	9.6	12.5	8.5	7.0	7.7	7.8	6.6	<0.5	mg/kg	TM30/PM15
Barium #	38	14	95	56	72	64	116	36	39	43	<1	mg/kg	TM30/PM15
Cadmium #	1.7	0.6	1.4	2.4	2.4	2.1	2.5	0.4	1.5	2.0	<0.1	mg/kg	TM30/PM15
Chromium #	33.7	15.1	77.1	23.6	25.5	43.7	36.0	24.1	25.8	40.8	<0.5	mg/kg	TM30/PM15
Copper #	20	6	42	34	36	30	28	22	32	30	<1	mg/kg	TM30/PM15
Lead #	12	<5	66	15	19	14	14	14	19	13	<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	1.3	0.3	0.2	0.3	<0.1	0.1	0.3	0.4	<0.1	mg/kg	TM30/PM15
Molybdenum #	3.4	1.5	6.3	3.9	4.8	5.0	7.8	3.3	4.4	4.1	<0.1	mg/kg	TM30/PM15
Nickel #	26.7	8.6	34.4	42.0	46.1	41.2	60.0	45.5	48.9	30.9	<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	1	1	1	1	2	1	<1	<1	<1	mg/kg	TM30/PM15
Zinc #	65	31	126	96	127	85	93	24	58	68	<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	0.11	<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 #	<0.03	<0.03	0.16	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	0.14	<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	0.09	<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	0.10	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	0.14	<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	0.08	<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	0.38	<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	0.82	<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	0.10	<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	0.04	<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	97	96	99	84	97	96	92	102	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

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	1-4	5-7	8-10,72	11-14	15-18	19-22	23-26	27-30	31-34	35-38	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS02	TP95	TP100	TP102	TP104	TP108	TP110	TP114			
Depth	0.50-0.90	0.90-1.40	1.00-1.40	2.00	2.50	1.50	1.50	2.50	2.00	1.50			
COC No / misc													
Containers	V J T	V J T	V T J	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/05/2024	22/05/2024	22/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
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/TM36/PM8/PM12/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/TM36/PM8/PM12/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/TM36/PM8/PM12/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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	1-4	5-7	8-10,72	11-14	15-18	19-22	23-26	27-30	31-34	35-38	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS02	TP95	TP100	TP102	TP104	TP108	TP110	TP114			
Depth	0.50-0.90	0.90-1.40	1.00-1.40	2.00	2.50	1.50	1.50	2.50	2.00	1.50			
COC No / misc													
Containers	V J T	V J T	V T J	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/05/2024	22/05/2024	22/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
Natural Moisture Content	7.1	3.0	25.7	10.9	13.0	11.7	12.7	14.3	19.3	14.0	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	6.7	2.9	20.4	9.8	11.5	10.5	11.3	12.5	16.2	12.3	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	-	0.0062	-	0.0187	0.0071	-	-	-	-	-	<0.0015	g/l	TM38/PM20
Chromium III	33.7	15.1	77.1	23.6	25.5	43.7	36.0	24.1	25.8	40.8	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	2.21	0.15	1.84	0.32	0.38	0.30	0.35	0.40	0.42	0.26	<0.02	%	TM21/PM24
pH #	8.46	8.83	8.12	8.80	8.82	8.75	8.66	8.72	8.74	8.81	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	39-42	43-45	46-49	50-52	53-56	57-59	60-63	64-67	68-71	76-79	LOD/LOR	Units	Method No.
Sample ID	TP118	TP121	TP124	TP125	TP125	TP127	TP135	TP135	WS02	WS03			
Depth	1.50	2.80	1.50	0.50	1.50	0.50	0.80	2.00	0.20-0.60	0.20-0.90			
COC No / misc													
Containers	V J T	V T	V J T	V T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	22/05/2024	22/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
Antimony	2	2	1	2	2	2	2	2	3	2	<1	mg/kg	TM30/PM15
Arsenic #	10.8	11.5	4.7	10.6	6.8	9.9	10.2	10.3	10.7	9.4	<0.5	mg/kg	TM30/PM15
Barium #	59	66	42	59	43	61	59	61	66	80	<1	mg/kg	TM30/PM15
Cadmium #	2.8	2.1	0.9	2.1	1.6	3.1	3.2	2.5	2.4	1.5	<0.1	mg/kg	TM30/PM15
Chromium #	25.8	43.1	24.3	26.6	30.5	35.2	41.9	21.9	54.4	39.1	<0.5	mg/kg	TM30/PM15
Copper #	37	34	17	34	22	33	33	33	38	129	<1	mg/kg	TM30/PM15
Lead #	20	19	9	13	11	15	15	15	30	32	<5	mg/kg	TM30/PM15
Mercury #	0.1	<0.1	0.4	<0.1	0.4	0.3	0.3	0.4	0.1	0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	3.8	5.4	3.6	3.7	3.6	3.3	4.4	3.9	5.9	3.9	<0.1	mg/kg	TM30/PM15
Nickel #	45.9	47.2	32.0	41.8	37.4	41.1	45.4	40.7	43.0	32.7	<0.7	mg/kg	TM30/PM15
Selenium #	1	1	<1	<1	1	<1	1	1	2	<1	<1	mg/kg	TM30/PM15
Zinc #	108	114	38	93	62	82	99	99	115	104	<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	0.06	<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	0.05	0.12	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.05	0.12	<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	0.09	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.09	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.14	<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	0.09	<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	0.06	<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	0.06	<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	0.47	<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	0.83	<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	0.10	<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	0.04	<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	104	103	101	101	90	100	100	98	97	99	<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

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	39-42	43-45	46-49	50-52	53-56	57-59	60-63	64-67	68-71	76-79	LOD/LOR	Units	Method No.
Sample ID	TP118	TP121	TP124	TP125	TP125	TP127	TP135	TP135	WS02	WS03			
Depth	1.50	2.80	1.50	0.50	1.50	0.50	0.80	2.00	0.20-0.60	0.20-0.90			
COC No / misc													
Containers	V J T	V T	V J T	V T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	22/05/2024	22/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
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/TM36/PM8/PM12/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/TM36/PM8/PM12/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/TM36/PM8/PM12/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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	39-42	43-45	46-49	50-52	53-56	57-59	60-63	64-67	68-71	76-79	LOD/LOR	Units	Method No.
Sample ID	TP118	TP121	TP124	TP125	TP125	TP127	TP135	TP135	WS02	WS03			
Depth	1.50	2.80	1.50	0.50	1.50	0.50	0.80	2.00	0.20-0.60	0.20-0.90			
COC No / misc													
Containers	V J T	V T	V J T	V T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	22/05/2024	22/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
Natural Moisture Content	11.7	11.1	14.4	9.4	16.7	10.6	12.3	12.7	14.0	10.6	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	10.5	10.0	12.6	8.6	14.3	9.6	10.9	11.2	12.3	9.6	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0351	-	-	0.0252	-	-	-	0.0195	-	0.0749	<0.0015	g/l	TM38/PM20
Chromium III	25.8	43.1	24.3	26.6	30.5	35.2	41.9	21.9	54.4	39.1	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.34	0.39	0.25	0.28	0.21	0.37	0.32	0.31	0.70	0.58	<0.02	%	TM21/PM24
pH #	8.63	8.63	8.81	8.76	8.81	8.69	8.64	8.64	8.32	8.20	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	80-82	83-86	87-89	90-93	94-97	101-103	104-107				LOD/LOR	Units	Method No.
Sample ID	WS03	WS04	WS04	WS05	WS05	TP131	TP131						
Depth	1.00-1.30	0.25-1.00	1.00-1.15	0.20-0.60	1.00-1.90	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						
Sample Date	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024	24/05/2024	24/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024						
Antimony	2	<1	2	3	4	4	2				<1	mg/kg	TM30/PM15
Arsenic #	9.4	5.3	8.6	14.9	14.1	16.1	11.4				<0.5	mg/kg	TM30/PM15
Barium #	82	32	62	79	128	100	52				<1	mg/kg	TM30/PM15
Cadmium #	1.6	0.7	1.4	2.2	1.1	1.7	2.0				<0.1	mg/kg	TM30/PM15
Chromium #	50.6	53.3	48.7	86.4	51.5	42.1	31.4				<0.5	mg/kg	TM30/PM15
Copper #	41	16	37	56	126	257 AA	33				<1	mg/kg	TM30/PM15
Lead #	31	11	15	75	120	143	14				<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	0.3	<0.1	0.5	<0.1				<0.1	mg/kg	TM30/PM15
Molybdenum #	5.2	5.2	4.7	9.9	3.4	4.8	4.1				<0.1	mg/kg	TM30/PM15
Nickel #	34.3	15.8	34.2	45.7	41.4	42.7	41.6				<0.7	mg/kg	TM30/PM15
Selenium #	1	<1	1	2	2	1	2				<1	mg/kg	TM30/PM15
Zinc #	102	48	93	187	202	266	89				<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<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	mg/kg	TM4/PM8
Acenaphthene #	<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	mg/kg	TM4/PM8
Phenanthrene #	<0.03	0.04	<0.03	0.11	0.09	0.24	<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	mg/kg	TM4/PM8
Fluoranthene #	0.04	0.05	0.04	0.15	0.15	0.30	<0.03				<0.03	mg/kg	TM4/PM8
Pyrene #	0.03	0.05	0.04	0.14	0.14	0.26	<0.03				<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	0.10	0.10	0.17	<0.06				<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	0.04	0.04	0.09	0.10	0.17	<0.02				<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	0.10	0.13	0.15	0.26	<0.07				<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	0.06	0.08	0.09	0.15	<0.04				<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	0.06	0.05	0.05	0.11	<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	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	0.06	0.05	0.06	0.13	<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	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	0.32	0.46	0.50	0.95	<0.22				<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	<0.64	0.90	0.93	1.79	<0.64				<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	0.07	0.09	0.11	0.19	<0.05				<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	0.03	0.04	0.04	0.07	<0.02				<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1				<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	95	96	93	95	99	97	96				<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	31	<30	<30	<30	<30	<30	<30				<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	80-82	83-86	87-89	90-93	94-97	101-103	104-107				LOD/LOR	Units	Method No.
Sample ID	WS03	WS04	WS04	WS05	WS05	TP131	TP131						
Depth	1.00-1.30	0.25-1.00	1.00-1.15	0.20-0.60	1.00-1.90	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						
Sample Date	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024	24/05/2024	24/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024						
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	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	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	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2	<0.2	<0.2 SV	<0.2	<0.2	<0.2	<0.2				<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	<4	<4 SV	<4	<4	<4	<4				<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7	<7 SV	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	31	<7	<7 SV	<7	15	<7	<7				<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7	<7 SV	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	31	<26	<26	<26	<26	<26	<26				<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1 SV	<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	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	31	<10	<10	<10	15	<10	<10				<10	mg/kg	TM5/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	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	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	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<0.2	<0.2	<0.2 SV	<0.2	<0.2	<0.2	<0.2				<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4	<4	<4 SV	<4	<4	<4	<4				<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7	<7 SV	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	85	<7	<7 SV	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	25	<7	<7 SV	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	110	<26	<26	<26	<26	<26	<26				<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	141	<52	<52	<52	<52	<52	<52				<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1 SV	<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 SV	<10	<10	<10	<10				<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	85	<10	<10 SV	<10	<10	<10	<10				<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5 SV	<5 SV	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
Benzene#	<5	<5 SV	<5 SV	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
Toluene#	<5	<5 SV	<5 SV	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5 SV	<5 SV	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5 SV	<5 SV	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5 SV	<5 SV	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
PCB 28#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 52#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 101#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 118#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 138#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 153#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
PCB 180#	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35	<35	<35	<35	<35	<35				<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : Solid

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

EMT Sample No.	80-82	83-86	87-89	90-93	94-97	101-103	104-107				LOD/LOR	Units	Method No.
Sample ID	WS03	WS04	WS04	WS05	WS05	TP131	TP131						
Depth	1.00-1.30	0.25-1.00	1.00-1.15	0.20-0.60	1.00-1.90	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						
Sample Date	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024	24/05/2024	24/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024						
Natural Moisture Content	10.6	4.4	10.4	13.8	28.1	18.9	11.6				<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	9.6	4.2	9.4	12.1	22.0	15.9	10.4				<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3				<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	-	-	-	-	0.1619	-	0.0276				<0.0015	g/l	TM38/PM20
Chromium III	50.6	53.3	48.7	86.4	51.5	42.1	31.4				<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.74	0.33	0.56	1.75	2.20	2.80	0.31				<0.02	%	TM21/PM24
pH #	8.58	8.49	8.51	8.29	7.92	7.88	8.70				<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : CEN 10:1 1 Batch

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

EMT Sample No.	1-4	5-7	8-10,72	11-14	15-18	19-22	23-26	27-30	31-34	35-38	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS02	TP95	TP100	TP102	TP104	TP108	TP110	TP114			
Depth	0.50-0.90	0.90-1.40	1.00-1.40	2.00	2.50	1.50	1.50	2.50	2.00	1.50			
COC No / misc													
Containers	V J T	V J T	V T J	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/05/2024	22/05/2024	22/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
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	0.0031	<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	0.031	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003	0.018	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	0.18	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<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 #	0.009	0.005	0.009	0.010	0.018	0.016	0.012	0.006	0.004	0.006	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.09	0.05	0.09	0.10	0.18	0.16	0.12	0.06	0.04	0.06	<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	0.004	<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	0.04	<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	0.4	0.3	0.5	<0.3	0.3	0.3	0.3	0.5	0.3	0.8	<0.3	mg/l	TM173/PM0
Fluoride	4	<3	5	<3	3	<3	3	5	3	8	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	0.7	1.0	24.5	3.0	1.2	1.4	0.5	0.6	0.5	2.7	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	7	10	245	30	12	14	5	6	5	27	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.0993	0.1001	0.1135	0.0966	0.1004	0.0966	0.0991	0.1043	0.1067	0.1025		kg	NONE/PM17
Chloride #	0.7	1.0	1.1	0.4	0.5	2.0	0.3	<0.3	0.4	0.3	<0.3	mg/l	TM38/PM0
Chloride #	7	10	11	4	5	20	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	<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	8.10	8.05	8.19	8.08	8.07	8.06	7.85	7.76	7.81	7.84	<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : CEN 10:1 1 Batch

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

EMT Sample No.	1-4	5-7	8-10,72	11-14	15-18	19-22	23-26	27-30	31-34	35-38	LOD/LOR	Units	Method No.
Sample ID	WS01	WS01	WS02	TP95	TP100	TP102	TP104	TP108	TP110	TP114			
Depth	0.50-0.90	0.90-1.40	1.00-1.40	2.00	2.50	1.50	1.50	2.50	2.00	1.50			
COC No / misc													
Containers	V J T	V J T	V T J	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	22/05/2024	22/05/2024	22/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
Total Dissolved Solids #	49	<35	135	42	36	43	37	41	44	39	<35	mg/l	TM20/PM0
Total Dissolved Solids #	490	<350	1350	420	360	430	370	410	440	390	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : CEN 10:1 1 Batch

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

EMT Sample No.	39-42	43-45	46-49	50-52	53-56	57-59	60-63	64-67	68-71	76-79	LOD/LOR	Units	Method No.
Sample ID	TP118	TP121	TP124	TP125	TP125	TP127	TP135	TP135	WS02	WS03			
Depth	1.50	2.80	1.50	0.50	1.50	0.50	0.80	2.00	0.20-0.60	0.20-0.90			
COC No / misc													
Containers	V J T	V T	V J T	V T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	22/05/2024	22/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
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	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.003	0.006	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	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 #	0.004	0.006	0.015	0.005	0.010	<0.002	0.004	0.010	0.011	0.010	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.04	0.06	0.15	0.05	0.10	<0.02	0.04	0.10	0.11	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	<0.003	<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	0.4	0.3	0.3	0.4	<0.3	0.5	0.4	<0.3	0.7	0.7	<0.3	mg/l	TM173/PM0
Fluoride	4	3	3	4	<3	5	4	<3	7	7	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	6.1	4.6	5.7	3.6	4.0	4.9	5.9	3.6	2.1	13.1	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	61	46	57	36	40	49	59	36	21	131	<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1011	0.1005	0.1078	0.1006	0.1125	0.0975	0.102	0.1022	0.1041	0.1037		kg	NONE/PM17
Chloride #	<0.3	4.5	<0.3	<0.3	0.3	0.5	0.5	<0.3	0.8	1.0	<0.3	mg/l	TM38/PM0
Chloride #	<3	45	<3	<3	3	5	5	<3	8	10	<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	7.92	8.42	8.17	8.10	7.99	7.93	7.74	8.11	8.29	8.18	<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : CEN 10:1 1 Batch

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

EMT Sample No.	39-42	43-45	46-49	50-52	53-56	57-59	60-63	64-67	68-71	76-79	LOD/LOR	Units	Method No.
Sample ID	TP118	TP121	TP124	TP125	TP125	TP127	TP135	TP135	WS02	WS03			
Depth	1.50	2.80	1.50	0.50	1.50	0.50	0.80	2.00	0.20-0.60	0.20-0.90			
COC No / misc													
Containers	V J T	V T	V J T	V T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	22/05/2024	22/05/2024			
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024			
Total Dissolved Solids #	58	47	46	42	39	52	48	46	62	79	<35	mg/l	TM20/PM0
Total Dissolved Solids #	580	470	460	420	390	520	480	460	620	790	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : CEN 10:1 1 Batch

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

EMT Sample No.	80-82	83-86	87-89	90-93	94-97	101-103	104-107				LOD/LOR	Units	Method No.
Sample ID	WS03	WS04	WS04	WS05	WS05	TP131	TP131						
Depth	1.00-1.30	0.25-1.00	1.00-1.15	0.20-0.60	1.00-1.90	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						
Sample Date	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024	24/05/2024	24/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024						
Dissolved Antimony #	<0.002	<0.002	<0.002	<0.002	<0.002	0.003	<0.002				<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<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	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025				<0.025	mg/kg	TM30/PM17
Dissolved Barium #	0.005	<0.003	0.004	0.005	0.013	0.007	<0.003				<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	0.05	<0.03	0.04	0.05	0.13	0.07	<0.03				<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<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	mg/kg	TM30/PM17
Dissolved Chromium #	<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	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007	<0.007	<0.007	<0.007	0.015	<0.007				<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07	<0.07	<0.07	<0.07	0.15	<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	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05				<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.010	0.012	0.019	0.007	0.008	0.004	0.011				<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.10	0.12	0.19	0.07	0.08	0.04	0.11				<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<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	mg/kg	TM30/PM17
Dissolved Selenium #	<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	mg/kg	TM30/PM17
Dissolved Zinc #	<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	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<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	mg/kg	TM61/PM0
Phenol	<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	mg/kg	TM26/PM0
Fluoride	0.5	1.0	0.8	0.8	0.4	0.5	0.3				<0.3	mg/l	TM173/PM0
Fluoride	5	10	8	8	4	5	<3				<3	mg/kg	TM173/PM0
Sulphate as SO4 #	10.1	9.0	6.6	0.8	13.9	9.3	5.2				<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	101	90	66	8	139	93	52				<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1009	0.1014	0.1006	0.1083	0.1127	0.1135	0.1015					kg	NONE/PM17
Chloride #	1.0	0.6	1.0	0.8	<0.3	0.3	<0.3				<0.3	mg/l	TM38/PM0
Chloride #	10	6	10	8	<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					kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	3	<2	5	<2				<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	30	<20	50	<20				<20	mg/kg	TM60/PM0
pH	8.19	8.06	8.17	8.23	8.23	8.18	8.18				<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : CEN 10:1 1 Batch

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

EMT Sample No.	80-82	83-86	87-89	90-93	94-97	101-103	104-107				LOD/LOR	Units	Method No.
Sample ID	WS03	WS04	WS04	WS05	WS05	TP131	TP131						
Depth	1.00-1.30	0.25-1.00	1.00-1.15	0.20-0.60	1.00-1.90	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						
Sample Date	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024	24/05/2024	24/05/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024						
Total Dissolved Solids #	69	66	59	80	115	71	55				<35	mg/l	TM20/PM0
Total Dissolved Solids #	690	660	590	800	1150	710	550				<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-7	8-10,72	11-14	15-18	19-22	23-26	27-30	31-34	35-38						
Sample ID	WS01	WS01	WS02	TP95	TP100	TP102	TP104	TP108	TP110	TP114						
Depth	0.50-0.90	0.90-1.40	1.00-1.40	2.00	2.50	1.50	1.50	2.50	2.00	1.50						
COC No / misc																
Containers	V J T	V J T	V T J	V J T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	22/05/2024	22/05/2024	22/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024						
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	2.21	0.15	1.84	0.32	0.38	0.30	0.35	0.40	0.42	0.26	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	0.38	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	0.82	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	0.031	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	0.18	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005	<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	<0.015	<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	<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	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.09	0.05	0.09	0.10	0.18	0.16	0.12	0.06	0.04	0.06	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	<0.02	<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	<0.05	<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	<0.02	<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	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	490	<350	1350	420	360	430	370	410	440	390	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	30	<20	<20	<20	<20	<20	<20	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.0993	0.1001	0.1135	0.0966	0.1004	0.0966	0.0991	0.1043	0.1067	0.1025	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	90.6	89.5	79.1	93.1	89.8	92.8	90.7	86.6	84.1	87.6	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.891	0.889	0.876	0.893	0.89	0.893	0.891	0.886	0.883	0.887	-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	10.4	11.7	26.4	7.5	11.3	7.7	10.3	15.4	18.9	14.2	-	-	-	<0.1	%	PM4/PM0
pH #	8.46	8.83	8.12	8.80	8.82	8.75	8.66	8.72	8.74	8.81	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	4	<3	5	<3	3	<3	3	5	3	8	10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	7	10	245	30	12	14	5	6	5	27	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	7	10	11	4	5	20	3	<3	4	<3	800	15000	25000	<3	mg/kg	TM38/PM0

Please include all sections of this report if it is reproduced

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

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	39-42	43-45	46-49	50-52	53-56	57-59	60-63	64-67	68-71	76-79	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	TP118	TP121	TP124	TP125	TP125	TP127	TP135	TP135	WS02	WS03						
Depth	1.50	2.80	1.50	0.50	1.50	0.50	0.80	2.00	0.20-0.60	0.20-0.90						
COC No / misc																
Containers	V J T	V T	V J T	V T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	22/05/2024	22/05/2024						
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	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024						
Solid Waste Analysis																
Total Organic Carbon #	0.34	0.39	0.25	0.28	0.21	0.37	0.32	0.31	0.70	0.58	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	0.47	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	0.83	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	0.06	20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005	<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	<0.015	<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	<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	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.04	0.06	0.15	0.05	0.10	<0.02	0.04	0.10	0.11	0.10	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	<0.02	<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	<0.05	<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	<0.02	<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	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	<0.03	<0.03	<0.03	0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	580	470	460	420	390	520	480	460	620	790	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1011	0.1005	0.1078	0.1006	0.1125	0.0975	0.102	0.1022	0.1041	0.1037	-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	88.7	89.1	83.3	89.2	80.1	92.4	88.3	87.9	86.2	86.4	-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.889	0.889	0.882	0.889	0.878	0.893	0.888	0.888	0.886	0.886	-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	12.7	12.3	20.0	12.1	24.8	8.2	13.3	13.7	16.0	15.8	-	-	-	<0.1	%	PM4/PM0
pH #	8.63	8.63	8.81	8.76	8.81	8.69	8.64	8.64	8.32	8.20	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	4	3	3	4	<3	5	4	<3	7	7	10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	61	46	57	36	40	49	59	36	21	131	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	45	<3	<3	3	5	5	<3	8	10	800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9106

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	80-82	83-86	87-89	90-93	94-97	101-103	104-107									
Sample ID	WS03	WS04	WS04	WS05	WS05	TP131	TP131									
Depth	1.00-1.30	0.25-1.00	1.00-1.15	0.20-0.60	1.00-1.90	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									
Sample Date	22/05/2024	22/05/2024	22/05/2024	22/05/2024	22/05/2024	24/05/2024	24/05/2024									
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1	1	1	1									
Date of Receipt	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024	28/05/2024									
											Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	0.74	0.33	0.56	1.75	2.20	2.80	0.31				3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025 SV	<0.025 SV	<0.025	<0.025	<0.025	<0.025				6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035				1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	31	<30	<30	<30	<30	<30	<30				500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	0.32	0.46	0.50	0.95	<0.22				-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	0.90	0.93	1.79	<0.64				100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025				0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	0.05	<0.03	0.04	0.05	0.13	0.07	<0.03				20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<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	<0.015				0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07	<0.07	<0.07	<0.07	0.15	<0.07				2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001				0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.10	0.12	0.19	0.07	0.08	0.04	0.11				0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<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	<0.05				0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02				0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	<0.03				4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	690	660	590	800	1150	710	550				4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	30	<20	50	<20				500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1009	0.1014	0.1006	0.1083	0.1127	0.1135	0.1015				-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	89.1	88.7	89.3	83.4	79.5	79.6	88.6				-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.889	0.889	0.889	0.882	0.877	0.877	0.888				-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	12.2	12.7	12.0	20.0	25.7	25.6	12.9				-	-	-	<0.1	%	PM4/PM0
pH #	8.58	8.49	8.51	8.29	7.92	7.88	8.70				-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	5	10	8	8	4	5	<3				10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	101	90	66	8	139	93	52				1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	10	6	10	8	<3	3	<3				800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/9106	1	WS01	0.50-0.90	1-4	No interpretation possible
24/9106	1	WS01	0.90-1.40	5-7	No interpretation possible
24/9106	1	WS02	1.00-1.40	8-10,72	No interpretation possible
24/9106	1	TP95	2.00	11-14	No interpretation possible
24/9106	1	TP100	2.50	15-18	No interpretation possible
24/9106	1	TP102	1.50	19-22	No interpretation possible
24/9106	1	TP104	1.50	23-26	No interpretation possible
24/9106	1	TP108	2.50	27-30	No interpretation possible
24/9106	1	TP110	2.00	31-34	No interpretation possible
24/9106	1	TP114	1.50	35-38	No interpretation possible
24/9106	1	TP118	1.50	39-42	No interpretation possible
24/9106	1	TP121	2.80	43-45	No interpretation possible
24/9106	1	TP124	1.50	46-49	No interpretation possible
24/9106	1	TP125	0.50	50-52	No interpretation possible
24/9106	1	TP125	1.50	53-56	No interpretation possible
24/9106	1	TP127	0.50	57-59	No interpretation possible
24/9106	1	TP135	0.80	60-63	No interpretation possible
24/9106	1	TP135	2.00	64-67	No interpretation possible
24/9106	1	WS02	0.20-0.60	68-71	No interpretation possible
24/9106	1	WS03	0.20-0.90	76-79	No interpretation possible
24/9106	1	WS03	1.00-1.30	80-82	Possible trace lubricating oil, possible Naturally occurring compounds
24/9106	1	WS04	0.25-1.00	83-86	No interpretation possible
24/9106	1	WS04	1.00-1.15	87-89	No interpretation possible
24/9106	1	WS05	0.20-0.60	90-93	No interpretation possible
24/9106	1	WS05	1.00-1.90	94-97	No interpretation possible
24/9106	1	TP131	0.50	101-103	No interpretation possible
24/9106	1	TP131	1.50	104-107	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/9106	1	WS01	0.50-0.90	4	Charlotte Taylor	05/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	05/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS01	0.90-1.40	6	Charlotte Taylor	05/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	05/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS02	1.00-1.40	10	Anthony Carman	05/06/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	05/06/2024	**Asbestos Fibres**	NAD
					Anthony Carman	05/06/2024	**Asbestos ACM**	NAD
					Anthony Carman	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP95	2.00	14	Michael Reilly	04/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	04/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	04/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	04/06/2024	**Asbestos Type**	NAD
24/9106	1	TP100	2.50	18	Michael Reilly	04/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	04/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	04/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	04/06/2024	**Asbestos Type**	NAD
24/9106	1	TP102	1.50	22	Anthony Carman	05/06/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	05/06/2024	**Asbestos Fibres**	NAD
					Anthony Carman	05/06/2024	**Asbestos ACM**	NAD
					Anthony Carman	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP104	1.50	26	Anthony Carman	05/06/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	05/06/2024	**Asbestos Fibres**	NAD
					Anthony Carman	05/06/2024	**Asbestos ACM**	NAD
					Anthony Carman	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP108	2.50	30	Remigiusz Blichowski	05/06/2024	**General Description (Bulk Analysis)**	Brown pale clay with some rock
					Remigiusz Blichowski	05/06/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos Type**	NAD

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/9106	1	TP110	2.00	34	Remigiusz Blichowski	05/06/2024	**General Description (Bulk Analysis)**	Brown pale clay with stone
					Remigiusz Blichowski	05/06/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP114	1.50	38	Michael Reilly	04/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	04/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	04/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	04/06/2024	**Asbestos Type**	NAD
24/9106	1	TP118	1.50	42	Remigiusz Blichowski	05/06/2024	**General Description (Bulk Analysis)**	Brown clay with pale sand
					Remigiusz Blichowski	05/06/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP121	2.80	45	Anthony Carman	05/06/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	05/06/2024	**Asbestos Fibres**	NAD
					Anthony Carman	05/06/2024	**Asbestos ACM**	NAD
					Anthony Carman	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP124	1.50	49	Remigiusz Blichowski	05/06/2024	**General Description (Bulk Analysis)**	Grey clay with roots and rock
					Remigiusz Blichowski	05/06/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP125	0.50	52	Catherine Coles	05/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	05/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	05/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP125	1.50	56	Catherine Coles	05/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	05/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	05/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP127	0.50	59	Michael Reilly	04/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	04/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	04/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	04/06/2024	**Asbestos Type**	NAD
24/9106	1	TP135	0.80	63	Remigiusz Blichowski	05/06/2024	**General Description (Bulk Analysis)**	Brown sand with clay
					Remigiusz Blichowski	05/06/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP135	2.00	67	Remigiusz Blichowski	05/06/2024	**General Description (Bulk Analysis)**	Brown claywith some rock and roots
					Remigiusz Blichowski	05/06/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS02	0.20-0.60	71	Charlotte Taylor	05/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	05/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos ACM**	NAD

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/9106	1	WS02	0.20-0.60	71	Charlotte Taylor	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS03	0.20-0.90	79	Michael Reilly	05/06/2024	**General Description (Bulk Analysis)**	Brown/grey soil, stones
					Michael Reilly	05/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	05/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS03	1.00-1.30	81	Charlotte Taylor	05/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	05/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS04	0.25-1.00	86	Charlotte Taylor	05/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	05/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS04	1.00-1.15	88	Michael Reilly	05/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	05/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	05/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS05	0.20-0.60	93	Charlotte Taylor	05/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	05/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	05/06/2024	**Asbestos Type**	NAD
24/9106	1	WS05	1.00-1.90	97	Anthony Carman	05/06/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	05/06/2024	**Asbestos Fibres**	NAD
					Anthony Carman	05/06/2024	**Asbestos ACM**	NAD
					Anthony Carman	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP131	0.50	102	Michael Reilly	05/06/2024	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	05/06/2024	**Asbestos Fibres**	NAD
					Michael Reilly	05/06/2024	**Asbestos ACM**	NAD
					Michael Reilly	05/06/2024	**Asbestos Type**	NAD
24/9106	1	TP131	1.50	107	Anthony Carman	05/06/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	05/06/2024	**Asbestos Fibres**	NAD
					Anthony Carman	05/06/2024	**Asbestos ACM**	NAD
					Anthony Carman	05/06/2024	**Asbestos Type**	NAD

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/9106	1	TP125	0.50	50-52	EPH	Sample received in inappropriate container
24/9106	1	WS03	1.00-1.30	80-82	PAH	Sample holding time exceeded
24/9106	1	WS04	1.00-1.15	87-89	PAH	Sample holding time exceeded

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.

Please include all sections of this report if it is reproduced

EMT Job No.: 24/9106

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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
AA	x5 Dilution

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: 24/9106

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/9106

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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

EMT Job No: 24/9106

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Tom McIntyre
Date :	19th June, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/9361 Batch 1
Location :	Cherry Orchard
Date samples received :	31st May, 2024
Status :	Final Report
Issue :	202406190815

Seven samples were received for analysis on 31st May, 2024 of which two were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

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

Scope 1&2 emissions - 9.774 kg of CO2

Scope 1&2&3 emissions - 23.099 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9361

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	5-8	21-24									LOD/LOR	Units	Method No.
Sample ID	TP54	TP75											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	24/05/2024	24/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	31/05/2024	31/05/2024											
Antimony	3	2									<1	mg/kg	TM30/PM15
Arsenic #	14.6	11.1									<0.5	mg/kg	TM30/PM15
Barium #	59	80									<1	mg/kg	TM30/PM15
Cadmium #	2.5	1.7									<0.1	mg/kg	TM30/PM15
Chromium #	25.2	61.2									<0.5	mg/kg	TM30/PM15
Copper #	35	23									<1	mg/kg	TM30/PM15
Lead #	17	20									<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1									<0.1	mg/kg	TM30/PM15
Molybdenum #	4.2	4.5									<0.1	mg/kg	TM30/PM15
Nickel #	43.6	35.0									<0.7	mg/kg	TM30/PM15
Selenium #	1	1									<1	mg/kg	TM30/PM15
Zinc #	97	106									<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03									<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05									<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03									<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03									<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03									<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06									<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02									<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07									<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22									<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64									<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05									<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02									<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1									<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	95	95									<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30									<30	mg/kg	TM5/PM8/PM16

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9361

Report : Solid

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

EMT Sample No.	5-8	21-24											
Sample ID	TP54	TP75											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	24/05/2024	24/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	31/05/2024	31/05/2024											
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1	<0.1											
>C6-C8 (HS_1D_AL)#	<0.1	<0.1											
>C8-C10 (HS_1D_AL)	<0.1	<0.1											
>C10-C12 (EH_CU_1D_AL)#	<0.2	<0.2											
>C12-C16 (EH_CU_1D_AL)#	<4	<4											
>C16-C21 (EH_CU_1D_AL)#	<7	<7											
>C21-C35 (EH_CU_1D_AL)#	<7	<7											
>C35-C40 (EH_CU_1D_AL)	<7	<7											
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26											
>C6-C10 (HS_1D_AL)	<0.1	<0.1											
>C10-C25 (EH_CU_1D_AL)	<10	<10											
>C25-C35 (EH_CU_1D_AL)	<10	<10											
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1	<0.1											
>EC7-EC8 (HS_1D_AR)#	<0.1	<0.1											
>EC8-EC10 (HS_1D_AR)#	<0.1	<0.1											
>EC10-EC12 (EH_CU_1D_AR)#	<0.2	<0.2											
>EC12-EC16 (EH_CU_1D_AR)#	<4	<4											
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7											
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7											
>EC35-EC40 (EH_CU_1D_AR)	<7	<7											
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26											
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52											
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1											
>EC10-EC25 (EH_CU_1D_AR)	<10	<10											
>EC25-EC35 (EH_CU_1D_AR)	<10	<10											
MTBE#	<5	<5											
Benzene#	<5	<5											
Toluene#	<5	<5											
Ethylbenzene#	<5	<5											
m/p-Xylene#	<5	<5											
o-Xylene#	<5	<5											
PCB 28#	<5	<5											
PCB 52#	<5	<5											
PCB 101#	<5	<5											
PCB 118#	<5	<5											
PCB 138#	<5	<5											
PCB 153#	<5	<5											
PCB 180#	<5	<5											
Total 7 PCBs#	<35	<35											

Please see attached notes for all abbreviations and acronyms

LOD/LOR	Units	Method No.
<0.1	mg/kg	TM36/PM12
<0.1	mg/kg	TM36/PM12
<0.1	mg/kg	TM36/PM12
<0.2	mg/kg	TM5/PM8/PM16
<4	mg/kg	TM5/PM8/PM16
<7	mg/kg	TM5/PM8/PM16
<7	mg/kg	TM5/PM8/PM16
<7	mg/kg	TM5/PM8/PM16
<26	mg/kg	TM5/TM36/PM8/PM12/PM16
<0.1	mg/kg	TM36/PM12
<10	mg/kg	TM5/PM8/PM16
<10	mg/kg	TM5/PM8/PM16
<0.1	mg/kg	TM36/PM12
<0.1	mg/kg	TM36/PM12
<0.1	mg/kg	TM36/PM12
<0.2	mg/kg	TM5/PM8/PM16
<4	mg/kg	TM5/PM8/PM16
<7	mg/kg	TM5/PM8/PM16
<7	mg/kg	TM5/PM8/PM16
<7	mg/kg	TM5/PM8/PM16
<26	mg/kg	TM5/TM36/PM8/PM12/PM16
<52	mg/kg	TM5/TM36/PM8/PM12/PM16
<0.1	mg/kg	TM36/PM12
<10	mg/kg	TM5/PM8/PM16
<10	mg/kg	TM5/PM8/PM16
<5	ug/kg	TM36/PM12
<5	ug/kg	TM36/PM12
<5	ug/kg	TM36/PM12
<5	ug/kg	TM36/PM12
<5	ug/kg	TM36/PM12
<5	ug/kg	TM36/PM12
<5	ug/kg	TM17/PM8
<5	ug/kg	TM17/PM8
<5	ug/kg	TM17/PM8
<5	ug/kg	TM17/PM8
<5	ug/kg	TM17/PM8
<5	ug/kg	TM17/PM8
<5	ug/kg	TM17/PM8
<35	ug/kg	TM17/PM8

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9361

Report : Solid

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

EMT Sample No.	5-8	21-24									LOD/LOR	Units	Method No.
Sample ID	TP54	TP75											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	24/05/2024	24/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	31/05/2024	31/05/2024											
Natural Moisture Content	9.7	21.6									<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	8.8	17.8									<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3									<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0086	-									<0.0015	g/l	TM38/PM20
Chromium III	25.2	61.2									<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.38	0.58									<0.02	%	TM21/PM24
pH #	8.71	8.56									<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9361

Report : CEN 10:1 1 Batch

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

EMT Sample No.	5-8	21-24									LOD/LOR	Units	Method No.
Sample ID	TP54	TP75											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	24/05/2024	24/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	31/05/2024	31/05/2024											
Dissolved Antimony #	<0.002	<0.002									<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02									<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025	<0.0025									<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025									<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005	<0.0005									<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005	<0.005									<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015									<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015	<0.015									<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007									<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07									<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	<0.005									<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05									<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.005	<0.002									<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.05	<0.02									<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002									<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02	<0.02									<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003	0.003									<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	0.03									<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001									<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001									<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01									<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1									<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	<0.3									<0.3	mg/l	TM173/PM0
Fluoride	<3	<3									<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5	0.7									<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5	7									<5	mg/kg	TM38/PM0
Mass of raw test portion	0.101	0.1046										kg	NONE/PM17
Chloride #	<0.3	0.3									<0.3	mg/l	TM38/PM0
Chloride #	<3	3									<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09										kg	NONE/PM17
Dissolved Organic Carbon	<2	2									<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	20									<20	mg/kg	TM60/PM0
pH	8.17	8.28									<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9361

Report : CEN 10:1 1 Batch

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

EMT Sample No.	5-8	21-24									LOD/LOR	Units	Method No.
Sample ID	TP54	TP75											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	24/05/2024	24/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	31/05/2024	31/05/2024											
Total Dissolved Solids #	42	63									<35	mg/l	TM20/PM0
Total Dissolved Solids #	420	630									<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9361

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	5-8	21-24									Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	TP54	TP75														
Depth	0.50	0.50														
COC No / misc																
Containers	V J T	V J T														
Sample Date	24/05/2024	24/05/2024														
Sample Type	Soil	Soil														
Batch Number	1	1														
Date of Receipt	31/05/2024	31/05/2024														
Solid Waste Analysis																
Total Organic Carbon #	0.38	0.58									3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025									6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035									1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30									500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22									-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64									100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025									0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03									20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005									0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015									0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07									2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001									0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.05	<0.02									0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02									0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05									0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02									0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03									0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	0.03									4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	420	630									4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	20									500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.101	0.1046									-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	89.2	86.2									-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.889	0.886									-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	12.1	16.0									-	-	-	<0.1	%	PM4/PM0
pH #	8.71	8.56									-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1									1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	<3									10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5	7									1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	3									800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/9361	1	TP54	0.50	5-8	No Interpretation Possible
24/9361	1	TP75	0.50	21-24	No Interpretation Possible

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/9361	1	TP54	0.50	8	Catherine Coles	11/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	11/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	11/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	11/06/2024	**Asbestos Type**	NAD
24/9361	1	TP75	0.50	24	Remigiusz Blichowski	11/06/2024	**General Description (Bulk Analysis)**	Grey brown sand with roots
					Remigiusz Blichowski	11/06/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	11/06/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	11/06/2024	**Asbestos Type**	NAD

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/9361	1	TP54	0.50	5-8	EPH, PAH, PCB	Sample holding time exceeded
24/9361	1	TP75	0.50	21-24	EPH, PAH, PCB	Sample holding time exceeded

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.

Please include all sections of this report if it is reproduced

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/9361

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/9361

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/9361

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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

EMT Job No: 24/9361

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Mike Sutton
Date :	26th June, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/10030 Batch 1
Location :	Cherry Orchard
Date samples received :	12th June, 2024
Status :	Final Report
Issue :	202406261413

Two samples were received for analysis on 12th June, 2024 of which two were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

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

Scope 1&2 emissions - 9.846 kg of CO2

Scope 1&2&3 emissions - 23.27 kg of CO2

Authorised By:

Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 24/10030

Report : Solid

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

EMT Sample No.	1-4	5-8											
Sample ID	Spoil Heap A	Spoil Heap B											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	07/06/2024	07/06/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	12/06/2024	12/06/2024											

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Antimony	2	2									<1	mg/kg	TM30/PM15
Arsenic #	11.7	9.8									<0.5	mg/kg	TM30/PM15
Barium #	79	46									<1	mg/kg	TM30/PM15
Cadmium #	1.4	1.8									<0.1	mg/kg	TM30/PM15
Chromium #	54.3	39.6									<0.5	mg/kg	TM30/PM15
Copper #	42	49									<1	mg/kg	TM30/PM15
Lead #	39	48									<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1									<0.1	mg/kg	TM30/PM15
Molybdenum #	5.0	4.0									<0.1	mg/kg	TM30/PM15
Nickel #	35.5	31.8									<0.7	mg/kg	TM30/PM15
Selenium #	2	2									<1	mg/kg	TM30/PM15
Zinc #	112	103									<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	0.04									<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05									<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.04	0.07									<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	0.08									<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.09	0.15									<0.03	mg/kg	TM4/PM8
Pyrene #	0.09	0.17									<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.09	0.13									<0.06	mg/kg	TM4/PM8
Chrysene #	0.08	0.14									<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	0.12	0.23									<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.07	0.14									<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.04	0.09									<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.05	0.10									<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
PAH 6 Total #	0.37	0.71									<0.22	mg/kg	TM4/PM8
PAH 17 Total	0.67	1.34									<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.09	0.17									<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.03	0.06									<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1									<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	87	92									<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	34	<30									<30	mg/kg	TM5/PM8/PM16

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 24/10030

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8									LOD/LOR	Units	Method No.
Sample ID	Spoil Heap A	Spoil Heap B											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	07/06/2024	07/06/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	12/06/2024	12/06/2024											
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2	<0.2									<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	<4									<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7									<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	34	<7									<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7									<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	34	<26									<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10									<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	25	<10									<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<0.2	<0.2									<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4	<4									<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7									<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	40	27									<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	10	<7									<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	50	27									<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	84	<52									<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1 SV	<0.1									<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10									<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	40	27									<10	mg/kg	TM5/PM8/PM16
MTBE#	<5 SV	<5									<5	ug/kg	TM36/PM12
Benzene#	<5 SV	<5									<5	ug/kg	TM36/PM12
Toluene#	<5 SV	<5									<5	ug/kg	TM36/PM12
Ethylbenzene#	<5 SV	<5									<5	ug/kg	TM36/PM12
m/p-Xylene#	<5 SV	<5									<5	ug/kg	TM36/PM12
o-Xylene#	<5 SV	<5									<5	ug/kg	TM36/PM12
PCB 28#	<5	<5									<5	ug/kg	TM17/PM8
PCB 52#	<5	<5									<5	ug/kg	TM17/PM8
PCB 101#	<5	<5									<5	ug/kg	TM17/PM8
PCB 118#	<5	<5									<5	ug/kg	TM17/PM8
PCB 138#	<5	<5									<5	ug/kg	TM17/PM8
PCB 153#	<5	<5									<5	ug/kg	TM17/PM8
PCB 180#	<5	<5									<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35									<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 24/10030

Report : Solid

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

EMT Sample No.	1-4	5-8											
Sample ID	Spoil Heap A	Spoil Heap B											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	07/06/2024	07/06/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	12/06/2024	12/06/2024											
Natural Moisture Content	9.2	9.3										<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	8.5	8.5										<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3										<0.3	mg/kg	TM38/PM20
Chromium III	54.3	39.6										<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.93	1.18										<0.02	%	TM21/PM24
pH #	8.57	8.37										<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 24/10030

Report : CEN 10:1 1 Batch

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8									LOD/LOR	Units	Method No.
Sample ID	Spoil Heap A	Spoil Heap B											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	07/06/2024	07/06/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	12/06/2024	12/06/2024											
Dissolved Antimony #	<0.002	<0.002									<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02									<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025	<0.0025									<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025									<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005	<0.0005									<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005	<0.005									<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015									<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015	<0.015									<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007									<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07									<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	<0.005									<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05									<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.007	0.004									<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.07	0.04									<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002									<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02	<0.02									<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001									<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001									<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01									<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1									<0.1	mg/kg	TM26/PM0
Fluoride	0.5	0.4									<0.3	mg/l	TM173/PM0
Fluoride	5	4									<3	mg/kg	TM173/PM0
Sulphate as SO4 #	3.0	0.5									<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	30	<5									<5	mg/kg	TM38/PM0
Mass of raw test portion	0.0955	0.0968										kg	NONE/PM17
Chloride #	0.5	<0.3									<0.3	mg/l	TM38/PM0
Chloride #	5	<3									<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09										kg	NONE/PM17
Dissolved Organic Carbon	2	<2									<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20									<20	mg/kg	TM60/PM0
pH	8.37	8.33									<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 24/10030

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											
Sample ID	Spoil Heap A	Spoil Heap B											
Depth	0.50	0.50											
COC No / misc													
Containers	V J T	V J T											
Sample Date	07/06/2024	07/06/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	12/06/2024	12/06/2024											
Total Dissolved Solids #	70	57										<35	mg/l	TM20/PM0
Total Dissolved Solids #	700	570										<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 24/10030

Report : **EN12457_2**

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8									Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	Spoil Heap A	Spoil Heap B														
Depth	0.50	0.50														
COC No / misc																
Containers	V J T	V J T														
Sample Date	07/06/2024	07/06/2024														
Sample Type	Soil	Soil														
Batch Number	1	1														
Date of Receipt	12/06/2024	12/06/2024														
Solid Waste Analysis																
Total Organic Carbon #	0.93	1.18									3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025 SV	<0.025									6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035									1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	34	<30									500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	0.37	0.71									-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	0.67	1.34									100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025									0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03									20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005									0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015									0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07									2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001									0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.07	0.04									0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02									0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05									0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02									0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03									0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03									4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	700	570									4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20									500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.0955	0.0968									-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	93.8	93.1									-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.894	0.893									-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	6.6	7.4									-	-	-	<0.1	%	PM4/PM0
pH #	8.57	8.37									-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1									1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	5	4									10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	30	<5									1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	5	<3									800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Mike Sutton

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/10030	1	Spoil Heap A	0.50	1-4	trace of possible Lubricating Oil, trace of possible Naturally Occurring Compounds
24/10030	1	Spoil Heap B	0.50	5-8	trace of possible Naturally Occurring Compounds

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/10030	1	Spoil Heap A	0.50	4	Charlotte Taylor	19/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	19/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	19/06/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	19/06/2024	**Asbestos Type**	NAD
24/10030	1	Spoil Heap B	0.50	8	Charlotte Taylor	19/06/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	19/06/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	19/06/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	19/06/2024	**Asbestos Type**	NAD

Element Materials Technology

Notification of Deviating Samples

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Mike Sutton

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 24/10030						

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.

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/10030

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/10030

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	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: 24/10030

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Mike Sutton
Date :	9th September, 2022
Your reference :	11956-6-22
Our reference :	Test Report 22/13979 Batch 1
Location :	Cherry Orchard
Date samples received :	30th August, 2022
Status :	Final Report
Issue :	1

Fourteen samples were received for analysis on 30th August, 2022 of which fourteen were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:

Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Client Name: Ground Investigations Ireland
Reference: 11956-6-22
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 22/13979

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	LOD/LOR	Units	Method No.
Sample ID	TP-03	TP-11	TP-01	TP-11	TP-09	TP-03	TP-10	TP-10	TP-14	TP-13			
Depth	0.50	1.50	0.50	0.50	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	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022			
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	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022			
Antimony	2	3	3	2	3	2	2	4	3	1	<1	mg/kg	TM30/PM15
Arsenic #	7.6	15.4	11.2	11.1	12.4	7.8	8.7	15.0	11.5	7.8	<0.5	mg/kg	TM30/PM15
Barium #	51	135	92	82	56	50	51	106	85	105	<1	mg/kg	TM30/PM15
Cadmium #	1.4	3.1	2.3	1.7	2.1	1.7	1.6	1.9	1.0	0.7	<0.1	mg/kg	TM30/PM15
Chromium #	31.5	73.9	70.7	42.7	32.7	33.2	42.1	51.8	47.7	42.8	<0.5	mg/kg	TM30/PM15
Copper #	23	43	26	31	33	25	28	59	153	27	<1	mg/kg	TM30/PM15
Lead #	12	93	60	25	16	13	12	51	85	20	<5	mg/kg	TM30/PM15
Mercury #	<0.1	0.4	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Molybdenum #	3.8	7.2	5.5	5.5	4.1	4.4	4.8	5.3	3.8	3.8	<0.1	mg/kg	TM30/PM15
Nickel #	33.7	49.1	44.1	42.0	45.8	35.8	40.4	56.1	43.1	34.7	<0.7	mg/kg	TM30/PM15
Selenium #	<1	2	1	1	1	<1	<1	2	1	1	<1	mg/kg	TM30/PM15
Zinc #	67	158	97	115	100	80	94	159	282	90	<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	0.11	<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	0.08	0.07	0.14	<0.03	<0.03	<0.03	0.04	0.12	0.08	<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	0.14	0.11	0.16	<0.03	<0.03	<0.03	0.07	0.21	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	0.13	0.10	0.13	<0.03	<0.03	<0.03	0.07	0.19	0.07	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	0.11	0.09	0.11	<0.06	<0.06	<0.06	0.08	0.14	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	0.09	0.08	0.07	<0.02	<0.02	<0.02	0.06	0.12	0.04	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	0.15	0.11	0.12	<0.07	<0.07	<0.07	0.09	0.22	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	0.07	0.06	0.05	<0.04	<0.04	<0.04	<0.04	0.11	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.09	<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	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.08	<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	0.46	0.28	0.33	<0.22	<0.22	<0.22	<0.22	0.71	<0.22	<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	0.87	<0.64	0.78	<0.64	<0.64	<0.64	<0.64	1.28	<0.64	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	0.11	0.08	0.09	<0.05	<0.05	<0.05	0.06	0.16	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	0.04	0.03	0.03	<0.02	<0.02	<0.02	0.03	0.06	<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	96	90	98	95	98	96	96	89	95	95	<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30	<30	<30	<30	<30	348	<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 11956-6-22
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 22/13979

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	LOD/LOR	Units	Method No.
Sample ID	TP-03	TP-11	TP-01	TP-11	TP-09	TP-03	TP-10	TP-10	TP-14	TP-13			
Depth	0.50	1.50	0.50	0.50	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	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022			
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	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022			
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	<0.1SV	<0.1SV	<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	<0.1SV	<0.1SV	<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	16	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7	<7	<7	<7	<7	158	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7	<7	<7	<7	23	174	<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_1D_AL)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH+HS_1D_AL)	<26	<26	<26	<26	<26	<26	<26	<26	<26	348	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1SV	<0.1SV	<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	256	<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	23	82	<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	<0.1SV	<0.1SV	<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	<0.1SV	<0.1SV	<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	<0.1SV	<0.1SV	<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	8	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7	<7	<7	<7	<7	<7	<7	<7	78	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7	<7	<7	11	<7	<7	<7	71	88	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_1D_AR)	<7	<7	<7	<7	9	<7	<7	<7	17	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH+HS_1D_AR)	<26	<26	<26	<26	<26	<26	<26	<26	88	174	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH+HS_CU_1D_Total)	<52	<52	<52	<52	<52	<52	<52	<52	88	522	<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1SV	<0.1SV	<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	127	<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	66	49	<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5	<5	<5	<5	<5	<5	<5	<5SV	<5SV	<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5	<5	<5	<5	<5	<5	<5SV	<5SV	<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5	<5	<5	<5	<5	<5	<5SV	5SV	<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5	<5	<5	<5	<5	<5	<5SV	<5SV	<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5	<5	<5	<5	<5	<5	<5SV	9SV	<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5	<5	<5	<5	<5	<5	<5SV	11SV	<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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 11956-6-22
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 22/13979

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	LOD/LOR	Units	Method No.
Sample ID	TP-03	TP-11	TP-01	TP-11	TP-09	TP-03	TP-10	TP-10	TP-14	TP-13			
Depth	0.50	1.50	0.50	0.50	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	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022			
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	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022			
Natural Moisture Content	10.2	21.8	16.9	6.3	7.3	11.9	8.7	9.4	10.5	8.5	<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	9.3	17.9	14.4	6.0	6.8	10.6	8.0	8.6	9.5	7.9	<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	1.0	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Chromium III	31.5	73.9	70.7	42.7	32.7	33.2	41.1	51.8	47.7	42.8	<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.26	1.75	0.91	0.53	0.41	0.21	0.27	1.00	0.96	0.66	<0.02	%	TM21/PM24
pH #	8.56	7.50	8.38	8.35	8.47	8.68	8.53	8.20	8.24	8.15	<0.01	pH units	TM73/PM11
Mass of raw test portion	0.0941	0.1042	0.0979	0.0953	0.0934	0.0978	0.0946	0.0952	0.0963	0.0935		kg	NONE/PM17
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

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 11956-6-22
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 22/13979

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							LOD/LOR	Units	Method No.
Sample ID	TP-06	TP-13	TP-12	TP-07									
Depth	0.50	0.50	0.50	0.50									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	23/08/2022	23/08/2022	23/08/2022	23/08/2022									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	30/08/2022	30/08/2022	30/08/2022	30/08/2022									
Antimony	3	4	2	2							<1	mg/kg	TM30/PM15
Arsenic #	12.6	9.8	8.9	8.6							<0.5	mg/kg	TM30/PM15
Barium #	91	94	51	41							<1	mg/kg	TM30/PM15
Cadmium #	1.7	2.3	1.1	1.6							<0.1	mg/kg	TM30/PM15
Chromium #	47.2	35.6	38.2	30.2							<0.5	mg/kg	TM30/PM15
Copper #	43	32	31	25							<1	mg/kg	TM30/PM15
Lead #	36	17	27	11							<5	mg/kg	TM30/PM15
Mercury #	0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM30/PM15
Molybdenum #	4.7	5.8	3.3	3.6							<0.1	mg/kg	TM30/PM15
Nickel #	49.7	51.1	32.5	33.7							<0.7	mg/kg	TM30/PM15
Selenium #	2	2	<1	<1							<1	mg/kg	TM30/PM15
Zinc #	124	105	126	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 #	0.04	<0.03	0.05	<0.03							<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.06	<0.03	0.07	<0.03							<0.03	mg/kg	TM4/PM8
Pyrene #	0.04	<0.03	0.06	<0.03							<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	0.07	<0.06							<0.06	mg/kg	TM4/PM8
Chrysene #	0.04	<0.02	0.05	<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	69	86	88	92							<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30							<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 11956-6-22
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 22/13979

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									
Sample ID	TP-06	TP-13	TP-12	TP-07									
Depth	0.50	0.50	0.50	0.50									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	23/08/2022	23/08/2022	23/08/2022	23/08/2022									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	30/08/2022	30/08/2022	30/08/2022	30/08/2022									

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1+	<0.1+	<0.1+	<0.1+							<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1	<0.1	<0.1SV	<0.1							<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1SV	<0.1							<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	22	<7							<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_1D_AL)	<7	<7	<7	<7							<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH+HS_1D_AL)	<26	<26	<26	<26							<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1SV	<0.1							<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_1D_AL)	<10	<10	<10	<10							<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_1D_AL)	<10	<10	22	<10							<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1	<0.1	<0.1SV	<0.1							<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1	<0.1	<0.1SV	<0.1							<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1	<0.1	<0.1SV	<0.1							<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	8	<7							<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7	90	<7							<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_1D_AR)	<7	<7	18	<7							<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH+HS_1D_AR)	<26	<26	116	<26							<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH+HS_CU_1D_Total)	<52	<52	116	<52							<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1	<0.1SV	<0.1							<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_1D_AR)	<10	<10	17	<10							<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_1D_AR)	<10	<10	74	<10							<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5	<5SV	<5							<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5SV	<5							<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5SV	<5							<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5SV	<5							<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5SV	<5							<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5SV	<5							<5	ug/kg	TM36/PM12
PCB 28#	<5SV	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 52#	<5SV	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 101#	<5SV	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 118#	<5SV	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 138#	<5SV	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 153#	<5SV	<5	<5	<5							<5	ug/kg	TM17/PM8
PCB 180#	<5SV	<5	<5	<5							<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35SV	<35	<35	<35							<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 11956-6-22
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 22/13979

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							LOD/LOR	Units	Method No.
Sample ID	TP-06	TP-13	TP-12	TP-07									
Depth	0.50	0.50	0.50	0.50									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	23/08/2022	23/08/2022	23/08/2022	23/08/2022									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	30/08/2022	30/08/2022	30/08/2022	30/08/2022									
Natural Moisture Content	13.3	9.1	4.6	7.5							<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	11.7	8.3	4.4	7.0							<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3							<0.3	mg/kg	TM38/PM20
Chromium III	47.2	35.6	38.2	30.2							<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.91	0.24	0.55	0.34							<0.02	%	TM21/PM24
pH #	8.03	8.43	8.30	8.59							<0.01	pH units	TM73/PM11
Mass of raw test portion	0.0926	0.0946	0.0922	0.0929								kg	NONE/PM17
Mass of dried test portion	0.09	0.09	0.09	0.09								kg	NONE/PM17

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 11956-6-22
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 22/13979

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	LOD/LOR	Units	Method No.
Sample ID	TP-03	TP-11	TP-01	TP-11	TP-09	TP-03	TP-10	TP-10	TP-14	TP-13			
Depth	0.50	1.50	0.50	0.50	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	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022			
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	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022			
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	0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.015	0.013	<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.15	0.13	<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	<0.002	<0.002	0.008	<0.002	0.013	0.004	0.005	0.010	0.010	<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.05	<0.02	<0.02	0.08	<0.02	0.13	0.04	0.05	0.10	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	<0.003	<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	0.006	<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	0.06	<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	0.4	0.5	0.5	<0.3	<0.3	0.5	0.8	0.5	<0.3	mg/l	TM173/PM0
Fluoride	3	<3	4	5	5	<3	<3	5	8	5	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	0.8	13.0	0.6	1.0	0.7	0.9	5.8	14.4	10.9	58.2	<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	8	130	6	10	7	9	58	144	109	582	<5	mg/kg	TM38/PM0
Chloride #	0.5	0.6	0.4	0.6	0.5	0.7	0.4	0.5	0.9	0.5	<0.3	mg/l	TM38/PM0
Chloride #	5	6	4	6	5	7	4	5	9	5	<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	2	4	3	3	2	3	<2	4	3	2	<2	mg/l	TM60/PM0
Dissolved Organic Carbon	20	40	30	30	20	30	<20	40	30	<20	<20	mg/kg	TM60/PM0
pH	8.16	8.04	8.30	8.31	8.37	8.22	8.13	8.23	8.34	8.13	<0.01	pH units	TM73/PM0
Total Dissolved Solids #	48	74	65	52	46	39	54	67	70	121	<35	mg/l	TM20/PM0
Total Dissolved Solids #	480	740	650	520	460	390	540	670	700	1209	<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 11956-6-22
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 22/13979

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							LOD/LOR	Units	Method No.
Sample ID	TP-06	TP-13	TP-12	TP-07									
Depth	0.50	0.50	0.50	0.50									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	23/08/2022	23/08/2022	23/08/2022	23/08/2022									
Sample Type	Soil	Soil	Soil	Soil									
Batch Number	1	1	1	1									
Date of Receipt	30/08/2022	30/08/2022	30/08/2022	30/08/2022									
Dissolved Antimony #	<0.002	<0.002	0.003	<0.002							<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02	0.03	<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 #	<0.003	<0.003	<0.003	<0.003							<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	<0.03							<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 #	0.002	0.007	0.008	0.006							<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	<0.02	0.07	0.08	0.06							<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 CVAF #	<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	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	0.4	0.5	0.3							<0.3	mg/l	TM173/PM0
Fluoride	4	4	5	<3							<3	mg/kg	TM173/PM0
Sulphate as SO4 #	22.0	1.2	1.9	<0.5							<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	220	12	19	<5							<5	mg/kg	TM38/PM0
Chloride #	0.6	0.5	0.6	<0.3							<0.3	mg/l	TM38/PM0
Chloride #	6	5	6	<3							<3	mg/kg	TM38/PM0
Dissolved Organic Carbon	3	<2	3	<2							<2	mg/l	TM60/PM0
Dissolved Organic Carbon	30	<20	30	<20							<20	mg/kg	TM60/PM0
pH	8.29	8.33	8.40	8.26							<0.01	pH units	TM73/PM0
Total Dissolved Solids #	82	39	45	56							<35	mg/l	TM20/PM0
Total Dissolved Solids #	820	390	450	560							<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 11956-6-22
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 22/13979

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40						
Sample ID	TP-03	TP-11	TP-01	TP-11	TP-09	TP-03	TP-10	TP-10	TP-14	TP-13						
Depth	0.50	1.50	0.50	0.50	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	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022						
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	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	30/08/2022	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																
Total Organic Carbon #	0.26	1.75	0.91	0.53	0.41	0.21	0.27	1.00	0.96	0.66	3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025 SV	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	<0.035	<0.035	<0.035	<0.035	1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	348	500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	0.46	0.28	0.33	<0.22	<0.22	<0.22	<0.22	0.71	<0.22	-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	0.87	<0.64	0.78	<0.64	<0.64	<0.64	<0.64	1.28	<0.64	100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.15	0.13	20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005	<0.005	<0.005	<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	<0.015	<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	<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	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.05	<0.02	<0.02	0.08	<0.02	0.13	0.04	0.05	0.10	0.10	0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02	<0.02	<0.02	<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	<0.05	<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	<0.02	<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	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.06	<0.03	4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	480	740	650	520	460	390	540	670	700	1209	4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	20	40	30	30	20	30	<20	40	30	<20	500	800	1000	<20	mg/kg	TM60/PM0
Dry Matter Content Ratio	95.7	86.1	91.7	94.7	96.6	92.3	95.2	94.5	93.3	96.2	-	-	-	<0.1	%	NONE/PM4
Moisture Content 105C (% Dry Weight)	4.5	16.2	9.1	5.6	3.6	8.4	5.1	5.8	7.2	4.0	-	-	-	<0.1	%	PM4/PM0
pH #	8.56	7.50	8.38	8.35	8.47	8.68	8.53	8.20	8.24	8.15	-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	3	<3	4	5	5	<3	<3	5	8	5	10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	8	130	6	10	7	9	58	144	109	582	1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	5	6	4	6	5	7	4	5	9	5	800	15000	25000	<3	mg/kg	TM38/PM0

Please include all sections of this report if it is reproduced

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

Client Name: Ground Investigations Ireland
Reference: 11956-6-22
Location: Cherry Orchard
Contact: Mike Sutton
EMT Job No: 22/13979

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	41-44	45-48	49-52	53-56							Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	TP-06	TP-13	TP-12	TP-07												
Depth	0.50	0.50	0.50	0.50												
COC No / misc																
Containers	V J T	V J T	V J T	V J T												
Sample Date	23/08/2022	23/08/2022	23/08/2022	23/08/2022												
Sample Type	Soil	Soil	Soil	Soil												
Batch Number	1	1	1	1												
Date of Receipt	30/08/2022	30/08/2022	30/08/2022	30/08/2022												
Solid Waste Analysis																
Total Organic Carbon #	0.91	0.24	0.55	0.34							3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025 SV	<0.025							6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035 SV	<0.035	<0.035	<0.035							1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30							500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	<0.22							-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64							100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025							0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	<0.03	<0.03							20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<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							0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<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							0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	<0.02	0.07	0.08	0.06							0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<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							0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02	0.03	<0.02							0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03	<0.03	<0.03							0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	<0.03	<0.03							4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	820	390	450	560							4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	30	<20	30	<20							500	800	1000	<20	mg/kg	TM60/PM0
Dry Matter Content Ratio	96.8	95.0	97.7	97.3							-	-	-	<0.1	%	NONE/PM4
Moisture Content 105C (% Dry Weight)	3.3	5.3	2.3	2.8							-	-	-	<0.1	%	PM4/PM0
pH #	8.03	8.43	8.30	8.59							-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1							1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	4	4	5	<3							10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	220	12	19	<5							1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	6	5	6	<3							800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 11956-6-22

Location: Cherry Orchard

Contact: Mike Sutton

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
22/13979	1	TP-03	0.50	1-4	No interpretation possible
22/13979	1	TP-11	1.50	5-8	No interpretation possible
22/13979	1	TP-01	0.50	9-12	No interpretation possible
22/13979	1	TP-11	0.50	13-16	No interpretation possible
22/13979	1	TP-09	0.50	17-20	No interpretation possible
22/13979	1	TP-03	1.50	21-24	No interpretation possible
22/13979	1	TP-10	0.50	25-28	No interpretation possible
22/13979	1	TP-10	1.50	29-32	No interpretation possible
22/13979	1	TP-14	0.50	33-36	Possible lubricating oil & naturally occurring compounds
22/13979	1	TP-13	1.50	37-40	Possible degraded diesel, lubricating oil & naturally occurring compounds
22/13979	1	TP-06	0.50	41-44	No interpretation possible
22/13979	1	TP-13	0.50	45-48	No interpretation possible
22/13979	1	TP-12	0.50	49-52	Possible lubricating oil & naturally occurring compounds
22/13979	1	TP-07	0.50	53-56	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 11956-6-22
Location: Cherry Orchard
Contact: Mike Sutton

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
22/13979	1	TP-03	0.50	4	Simon Postlewhite	01/09/2022	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	01/09/2022	**Asbestos Fibres**	NAD
					Simon Postlewhite	01/09/2022	**Asbestos ACM**	NAD
					Simon Postlewhite	01/09/2022	**Asbestos Type**	NAD
22/13979	1	TP-11	1.50	8	Rebecca Collins	01/09/2022	**General Description (Bulk Analysis)**	brown soil and stone
					Rebecca Collins	01/09/2022	**Asbestos Fibres**	NAD
					Rebecca Collins	01/09/2022	**Asbestos ACM**	NAD
					Rebecca Collins	01/09/2022	**Asbestos Type**	NAD
22/13979	1	TP-01	0.50	12	Anthony Carman	01/09/2022	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	01/09/2022	**Asbestos Fibres**	NAD
					Anthony Carman	01/09/2022	**Asbestos ACM**	NAD
					Anthony Carman	01/09/2022	**Asbestos Type**	NAD
22/13979	1	TP-11	0.50	16	Rebecca Collins	01/09/2022	**General Description (Bulk Analysis)**	brown soil and stone
					Rebecca Collins	01/09/2022	**Asbestos Fibres**	NAD
					Rebecca Collins	01/09/2022	**Asbestos ACM**	NAD
					Rebecca Collins	01/09/2022	**Asbestos Type**	NAD
22/13979	1	TP-09	0.50	20	Catherine Coles	01/09/2022	**General Description (Bulk Analysis)**	soil,stone
					Catherine Coles	01/09/2022	**Asbestos Fibres**	NAD
					Catherine Coles	01/09/2022	**Asbestos ACM**	NAD
					Catherine Coles	01/09/2022	**Asbestos Type**	NAD
22/13979	1	TP-03	1.50	24	Rebecca Collins	01/09/2022	**General Description (Bulk Analysis)**	brown soil and stone
					Rebecca Collins	01/09/2022	**Asbestos Fibres**	NAD
					Rebecca Collins	01/09/2022	**Asbestos ACM**	NAD
					Rebecca Collins	01/09/2022	**Asbestos Type**	NAD
22/13979	1	TP-10	0.50	28	Rebecca Collins	01/09/2022	**General Description (Bulk Analysis)**	brown soil and stone
					Rebecca Collins	01/09/2022	**Asbestos Fibres**	NAD
					Rebecca Collins	01/09/2022	**Asbestos ACM**	NAD
					Rebecca Collins	01/09/2022	**Asbestos Type**	NAD
22/13979	1	TP-10	1.50	32	Rebecca Collins	01/09/2022	**General Description (Bulk Analysis)**	brown soil and stone
					Rebecca Collins	01/09/2022	**Asbestos Fibres**	NAD
					Rebecca Collins	01/09/2022	**Asbestos ACM**	NAD
					Rebecca Collins	01/09/2022	**Asbestos Type**	NAD

Client Name: Ground Investigations Ireland
Reference: 11956-6-22
Location: Cherry Orchard
Contact: Mike Sutton

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
22/13979	1	TP-14	0.50	36	Catherine Coles	01/09/2022	**General Description (Bulk Analysis)**	soil,stone
					Catherine Coles	01/09/2022	**Asbestos Fibres**	NAD
					Catherine Coles	01/09/2022	**Asbestos ACM**	NAD
					Catherine Coles	01/09/2022	**Asbestos Type**	NAD
22/13979	1	TP-13	1.50	40	Catherine Coles	01/09/2022	**General Description (Bulk Analysis)**	soil,stone
					Catherine Coles	01/09/2022	**Asbestos Fibres**	NAD
					Catherine Coles	01/09/2022	**Asbestos ACM**	NAD
					Catherine Coles	01/09/2022	**Asbestos Type**	NAD
22/13979	1	TP-06	0.50	44	Catherine Coles	01/09/2022	**General Description (Bulk Analysis)**	light brown soil/sand
					Catherine Coles	01/09/2022	**Asbestos Fibres**	NAD
					Catherine Coles	01/09/2022	**Asbestos ACM**	NAD
					Catherine Coles	01/09/2022	**Asbestos Type**	NAD
22/13979	1	TP-13	0.50	48	Rebecca Collins	01/09/2022	**General Description (Bulk Analysis)**	brown soil and stone
					Rebecca Collins	01/09/2022	**Asbestos Fibres**	NAD
					Rebecca Collins	01/09/2022	**Asbestos ACM**	NAD
					Rebecca Collins	01/09/2022	**Asbestos Type**	NAD
22/13979	1	TP-12	0.50	52	Rebecca Collins	01/09/2022	**General Description (Bulk Analysis)**	brown soil and stone
					Rebecca Collins	01/09/2022	**Asbestos Fibres**	NAD
					Rebecca Collins	01/09/2022	**Asbestos ACM**	NAD
					Rebecca Collins	01/09/2022	**Asbestos Type**	NAD
22/13979	1	TP-07	0.50	56	Simon Postlewhite	01/09/2022	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	01/09/2022	**Asbestos Fibres**	NAD
					Simon Postlewhite	01/09/2022	**Asbestos ACM**	NAD
					Simon Postlewhite	01/09/2022	**Asbestos Type**	NAD

Client Name: Ground Investigations Ireland

Reference: 11956-6-22

Location: Cherry Orchard

Contact: Mike Sutton

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
22/13979	1	TP-03	1.50	21-24	PCB	Sample holding time exceeded

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.

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 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

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

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

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

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of 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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil or Fats, Oils and Grease is 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 UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
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.

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 calibration range, the result should be considered the minimum value. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
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: 22/13979

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes

EMT Job No: 22/13979

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	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: 22/13979

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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.			AR	
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Please include all sections of this report if it is reproduced

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Tom McIntyre
Date :	16th July, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/9113 Batch 1
Location :	Cherry Orchard
Date samples received :	28th May, 2024
Status :	Final Report
Issue :	202407161111

Five samples were received for analysis on 28th May, 2024 of which two were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

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

Scope 1&2 emissions - 9.629 kg of CO2

Scope 1&2&3 emissions - 22.756 kg of CO2

Authorised By:

Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9113

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	5-8	17-20									LOD/LOR	Units	Method No.
Sample ID	TP85	TP89											
Depth	0.60	1.60											
COC No / misc													
Containers	V J T	V J T											
Sample Date	21/05/2024	21/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	28/05/2024	28/05/2024											
Antimony	1	2									<1	mg/kg	TM30/PM15
Arsenic #	8.0	9.9									<0.5	mg/kg	TM30/PM15
Barium #	39	47									<1	mg/kg	TM30/PM15
Cadmium #	1.4	2.1									<0.1	mg/kg	TM30/PM15
Chromium #	71.5	40.0									<0.5	mg/kg	TM30/PM15
Copper #	15	37									<1	mg/kg	TM30/PM15
Lead #	12	14									<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1									<0.1	mg/kg	TM30/PM15
Molybdenum #	16.8	4.0									<0.1	mg/kg	TM30/PM15
Nickel #	23.4	44.7									<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1									<1	mg/kg	TM30/PM15
Zinc #	65	106									<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03									<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05									<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03									<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03									<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03									<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06									<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02									<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07									<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22									<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64									<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05									<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02									<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1									<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	93	95									<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30									<30	mg/kg	TM5/PM8/PM16

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9113

Report : Solid

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

EMT Sample No.	5-8	17-20									LOD/LOR	Units	Method No.
Sample ID	TP85	TP89											
Depth	0.60	1.60											
COC No / misc													
Containers	V J T	V J T											
Sample Date	21/05/2024	21/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	28/05/2024	28/05/2024											
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2	<0.2									<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4	<4									<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7									<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	<7									<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7									<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26									<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10	<10									<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10	<10									<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<0.2	<0.2									<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4	<4									<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7									<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7									<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7									<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26									<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52									<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10	<10									<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10									<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5									<5	ug/kg	TM36/PM12
Benzene#	<5	<5									<5	ug/kg	TM36/PM12
Toluene#	<5	<5									<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5									<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5									<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5									<5	ug/kg	TM36/PM12
PCB 28#	<5	<5									<5	ug/kg	TM17/PM8
PCB 52#	<5	<5									<5	ug/kg	TM17/PM8
PCB 101#	<5	<5									<5	ug/kg	TM17/PM8
PCB 118#	<5	<5									<5	ug/kg	TM17/PM8
PCB 138#	<5	<5									<5	ug/kg	TM17/PM8
PCB 153#	<5	<5									<5	ug/kg	TM17/PM8
PCB 180#	<5	<5									<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35									<35	ug/kg	TM17/PM8

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9113

Report : Solid

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

EMT Sample No.	5-8	17-20									LOD/LOR	Units	Method No.
Sample ID	TP85	TP89											
Depth	0.60	1.60											
COC No / misc													
Containers	V J T	V J T											
Sample Date	21/05/2024	21/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	28/05/2024	28/05/2024											
Natural Moisture Content	8.1	11.8									<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	7.5	10.6									<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3									<0.3	mg/kg	TM38/PM20
Chromium III	71.5	40.0									<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.25	0.48									<0.02	%	TM21/PM24
pH #	8.67	8.87									<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced

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

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9113

Report : CEN 10:1 1 Batch

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

EMT Sample No.	5-8	17-20									LOD/LOR	Units	Method No.
Sample ID	TP85	TP89											
Depth	0.60	1.60											
COC No / misc													
Containers	V J T	V J T											
Sample Date	21/05/2024	21/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	28/05/2024	28/05/2024											
Dissolved Antimony #	<0.002	<0.002									<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02									<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025	<0.0025									<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025									<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005	<0.0005									<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005	<0.005									<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015	<0.0015									<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015	<0.015									<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007	<0.007									<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07	<0.07									<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005	<0.005									<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05	<0.05									<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	<0.002	0.002									<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	<0.02	0.02									<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002	<0.002									<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02	<0.02									<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	<0.003	<0.003									<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	<0.03									<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001	<0.00001									<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001	<0.0001									<0.0001	mg/kg	TM61/PM0
Phenol	<0.01	<0.01									<0.01	mg/l	TM26/PM0
Phenol	<0.1	<0.1									<0.1	mg/kg	TM26/PM0
Fluoride	<0.3	<0.3									<0.3	mg/l	TM173/PM0
Fluoride	<3	<3									<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5	0.6									<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5	6									<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1013	0.1015										kg	NONE/PM17
Chloride #	<0.3	0.3									<0.3	mg/l	TM38/PM0
Chloride #	<3	3									<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09	0.09										kg	NONE/PM17
Dissolved Organic Carbon	<2	<2									<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20									<20	mg/kg	TM60/PM0
pH	8.30	7.64									<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced

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

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9113

Report : CEN 10:1 1 Batch

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

EMT Sample No.	5-8	17-20											
Sample ID	TP85	TP89											
Depth	0.60	1.60									Please see attached notes for all abbreviations and acronyms		
COC No / misc													
Containers	V J T	V J T											
Sample Date	21/05/2024	21/05/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	28/05/2024	28/05/2024											
											LOD/LOR	Units	Method No.
Total Dissolved Solids #	43	<35									<35	mg/l	TM20/PM0
Total Dissolved Solids #	430	<350									<350	mg/kg	TM20/PM0

Please include all sections of this report if it is reproduced

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

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9113

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	5-8	17-20									Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	TP85	TP89														
Depth	0.60	1.60														
COC No / misc																
Containers	V J T	V J T														
Sample Date	21/05/2024	21/05/2024														
Sample Type	Soil	Soil														
Batch Number	1	1														
Date of Receipt	28/05/2024	28/05/2024														
Solid Waste Analysis																
Total Organic Carbon #	0.25	0.48									3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025									6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035									1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30									500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22									-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64									100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025									0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03									20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005	<0.005									0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015	<0.015									0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07	<0.07									2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001	<0.0001									0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	<0.02	0.02									0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02	<0.02									0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05	<0.05									0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02	<0.02									0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03	<0.03									0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03									4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	430	<350									4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20									500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1013	0.1015									-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	88.5	88.9									-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.888	0.889									-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	13.0	12.4									-	-	-	<0.1	%	PM4/PM0
pH #	8.67	8.87									-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1									1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	<3									10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5	6									1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	3									800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/9113	1	TP85	0.60	5-8	No interpretation possible
24/9113	1	TP89	1.60	17-20	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/9113	1	TP85	0.60	8	Catherine Coles	11/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	11/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	11/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	11/06/2024	**Asbestos Type**	NAD
24/9113	1	TP89	1.60	20	Anthony Carman	10/07/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	10/07/2024	**Asbestos Fibres**	NAD
					Anthony Carman	10/07/2024	**Asbestos ACM**	NAD
					Anthony Carman	10/07/2024	**Asbestos Type**	NAD

Element Materials Technology

Notification of Deviating Samples

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/9113	1	TP85	0.60	5-8	EPH, GRO, PAH, PCB	Sample holding time exceeded
24/9113	1	TP89	1.60	17-20	Cr VI, EPH, GRO, Metals, PAH, PCB, pH, TOC	Sample holding time exceeded

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.: 24/9113

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/9113

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/9113

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	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: 24/9113

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Tom McIntyre
Date :	16th July, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/9666 Batch 1
Location :	Cherry Orchard
Date samples received :	6th June, 2024
Status :	Final Report
Issue :	202407161134

Seventeen samples were received for analysis on 6th June, 2024 of which 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 - 31.639 kg of CO2

Scope 1&2&3 emissions - 74.771 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9666

Report : Solid

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

EMT Sample No.	1-4	5-8	17-20	21-24	41-44	53-56					LOD/LOR	Units	Method No.
Sample ID	TP33	TP33	TP50	TP50	TP71	TP78							
Depth	0.50	1.50	0.50	1.50	0.50	0.50							
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T							
Sample Date	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024							
Antimony	2	1	2	2	2	1					<1	mg/kg	TM30/PM15
Arsenic #	8.2	7.1	9.4	10.1	10.0	6.7					<0.5	mg/kg	TM30/PM15
Barium #	41	49	52	71	56	35					<1	mg/kg	TM30/PM15
Cadmium #	2.0	1.8	2.0	2.5	2.6	1.8					<0.1	mg/kg	TM30/PM15
Chromium #	70.5	21.5	28.6	44.0	23.6	21.7					<0.5	mg/kg	TM30/PM15
Copper #	28	22	27	35	30	24					<1	mg/kg	TM30/PM15
Lead #	13	12	12	13	16	10					<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM30/PM15
Molybdenum #	6.8	3.4	3.4	5.0	3.4	2.2					<0.1	mg/kg	TM30/PM15
Nickel #	31.4	28.8	33.5	43.7	42.9	30.1					<0.7	mg/kg	TM30/PM15
Selenium #	1	<1	<1	1	<1	<1					<1	mg/kg	TM30/PM15
Zinc #	79	68	81	96	90	57					<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<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	mg/kg	TM4/PM8
Acenaphthene #	<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	mg/kg	TM4/PM8
Phenanthrene #	<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	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	<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	<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	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<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	<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	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<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	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<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	mg/kg	TM4/PM8
PAH 6 Total #	<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	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<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	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1					<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	90	85	93	86	108	92					<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30	<30					<30	mg/kg	TM5/PM8/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9666

Report : Solid

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

EMT Sample No.	1-4	5-8	17-20	21-24	41-44	53-56					LOD/LOR	Units	Method No.
Sample ID	TP33	TP33	TP50	TP50	TP71	TP78							
Depth	0.50	1.50	0.50	1.50	0.50	0.50							
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T							
Sample Date	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024							
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<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	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<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	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)#	<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	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26	<26	<26	<26	<26					<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<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	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<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	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<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	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)#	<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	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	<26	<26	<26	<26					<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52	<52					<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	<10	<10	<10	<10					<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5	<5	<5	<5					<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

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9666

Report : Solid

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

EMT Sample No.	1-4	5-8	17-20	21-24	41-44	53-56					LOD/LOR	Units	Method No.
Sample ID	TP33	TP33	TP50	TP50	TP71	TP78							
Depth	0.50	1.50	0.50	1.50	0.50	0.50							
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T							
Sample Date	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024							
Natural Moisture Content	8.8	8.4	13.7	16.4	11.9	8.8					<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	8.1	7.7	12.1	14.1	10.7	8.0					<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3					<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	-	0.0100	0.0193	-	0.0077	0.0054					<0.0015	g/l	TM38/PM20
Chromium III	70.5	21.5	28.6	44.0	23.6	21.7					<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.54	0.33	0.34	0.37	0.34	0.27					<0.02	%	TM21/PM24
pH #	8.39	8.66	8.76	8.84	8.69	8.69					<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9666

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	17-20	21-24	41-44	53-56					LOD/LOR	Units	Method No.
Sample ID	TP33	TP33	TP50	TP50	TP71	TP78							
Depth	0.50	1.50	0.50	1.50	0.50	0.50							
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T							
Sample Date	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024							
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 #	<0.0025	<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	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003	0.004	<0.003	<0.003	<0.003					<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	0.04	<0.03	<0.03	<0.03					<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 #	<0.002	0.006	0.009	0.014	0.008	0.004					<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	<0.02	0.06	0.09	0.14	0.08	0.04					<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	<0.003					<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03					<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	0.003	<0.003	0.005	0.004	<0.003	<0.003					<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	<0.03	<0.03	0.05	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	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<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	mg/l	TM26/PM0
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	mg/kg	TM26/PM0
Fluoride	0.5	<0.3	0.4	<0.3	0.3	0.4					<0.3	mg/l	TM173/PM0
Fluoride	5	<3	4	<3	3	4					<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5	<0.5	1.2	<0.5	<0.5	<0.5					<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5	<5	12	<5	<5	<5					<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1002	0.1	0.1026	0.1042	0.1026	0.0999						kg	NONE/PM17
Chloride #	<0.3	0.3	0.6	<0.3	0.4	<0.3					<0.3	mg/l	TM38/PM0
Chloride #	<3	<3	6	<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						kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	<2	<2	<2					<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20					<20	mg/kg	TM60/PM0
pH	8.12	7.96	8.05	8.09	7.95	8.10					<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9666

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	17-20	21-24	41-44	53-56					LOD/LOR	Units	Method No.
Sample ID	TP33	TP33	TP50	TP50	TP71	TP78							
Depth	0.50	1.50	0.50	1.50	0.50	0.50							
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T							
Sample Date	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024							
Total Dissolved Solids #	38	<35	61	35	51	43					<35	mg/l	TM20/PM0
Total Dissolved Solids #	380	<350	610	<350	510	430					<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre
EMT Job No: 24/9666

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8	17-20	21-24	41-44	53-56										
Sample ID	TP33	TP33	TP50	TP50	TP71	TP78										
Depth	0.50	1.50	0.50	1.50	0.50	0.50										
COC No / misc																
Containers	V J T	V J T	V J T	V J T	V J T	V J T										
Sample Date	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024	31/05/2024										
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil										
Batch Number	1	1	1	1	1	1										
Date of Receipt	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024	06/06/2024										
Solid Waste Analysis											Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Total Organic Carbon #	0.54	0.33	0.34	0.37	0.34	0.27					3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025					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	<30	<30	<30	<30	<30	<30					500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22					-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64					100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025					0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	0.04	<0.03	<0.03	<0.03					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	<0.0001					0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	<0.02	0.06	0.09	0.14	0.08	0.04					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	<0.03					0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	<0.03	<0.03	0.05	0.04	<0.03	<0.03					4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	380	<350	610	<350	510	430					4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20					500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1002	0.1	0.1026	0.1042	0.1026	0.0999					-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	89.4	90.0	87.9	86.8	87.3	90.2					-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.889	0.89	0.888	0.886	0.887	0.89					-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	11.8	11.1	13.8	15.3	14.5	10.9					-	-	-	<0.1	%	PM4/PM0
pH #	8.39	8.66	8.76	8.84	8.69	8.69					-	-	-	<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	5	<3	4	<3	3	4					10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5	<5	12	<5	<5	<5					1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	6	<3	4	<3					800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/9666	1	TP33	0.50	1-4	No interpretation possible
24/9666	1	TP33	1.50	5-8	No interpretation possible
24/9666	1	TP50	0.50	17-20	No interpretation possible
24/9666	1	TP50	1.50	21-24	No interpretation possible
24/9666	1	TP71	0.50	41-44	No interpretation possible
24/9666	1	TP78	0.50	53-56	No interpretation possible

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard
Contact: Tom McIntyre

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/9666	1	TP33	0.50	4	Catherine Coles	12/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	12/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	12/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	12/06/2024	**Asbestos Type**	NAD
24/9666	1	TP33	1.50	8	Emily Anderton	12/06/2024	**General Description (Bulk Analysis)**	Brown soil with stones and clay
					Emily Anderton	12/06/2024	**Asbestos Fibres**	NAD
					Emily Anderton	12/06/2024	**Asbestos ACM**	NAD
					Emily Anderton	12/06/2024	**Asbestos Type**	NAD
24/9666	1	TP50	0.50	20	Catherine Coles	12/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE.
					Catherine Coles	12/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	12/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	12/06/2024	**Asbestos Type**	NAD
24/9666	1	TP50	1.50	24	Catherine Coles	12/06/2024	**General Description (Bulk Analysis)**	BROWN SOIL,STONE
					Catherine Coles	12/06/2024	**Asbestos Fibres**	NAD
					Catherine Coles	12/06/2024	**Asbestos ACM**	NAD
					Catherine Coles	12/06/2024	**Asbestos Type**	NAD
24/9666	1	TP71	0.50	44	Simon Postlewhite	11/07/2024	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	11/07/2024	**Asbestos Fibres**	NAD
					Simon Postlewhite	11/07/2024	**Asbestos ACM**	NAD
					Simon Postlewhite	11/07/2024	**Asbestos Type**	NAD
24/9666	1	TP78	0.50	56	Emily Anderton	12/06/2024	**General Description (Bulk Analysis)**	Brown soil with stones
					Emily Anderton	12/06/2024	**Asbestos Fibres**	NAD
					Emily Anderton	12/06/2024	**Asbestos ACM**	NAD
					Emily Anderton	12/06/2024	**Asbestos Type**	NAD

Element Materials Technology

Notification of Deviating Samples

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: Cherry Orchard

Contact: Tom McIntyre

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/9666	1	TP33	1.50	5-8	PCB	Sample holding time exceeded
24/9666	1	TP50	1.50	21-24	PCB	Sample holding time exceeded
24/9666	1	TP71	0.50	41-44	Cr VI, EPH, GRO, Metals, PAH, PCB, pH, Sulphate, TOC	Sample holding time exceeded

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.: 24/9666

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/9666

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/9666

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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

EMT Job No: 24/9666

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Conor Finnerty
Date :	22nd July, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/11729 Batch 1
Location :	CHERRY ORCHARD SITE 4&5
Date samples received :	8th July, 2024
Status :	Final Report
Issue :	202407221458

Five samples were received for analysis on 8th July, 2024 of which five 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 - 26.716 kg of CO2

Scope 1&2&3 emissions - 63.136 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: CHERRY ORCHARD SITE 4&5
Contact: Conor Finnerty
EMT Job No: 24/11729

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-2	3-5	6-7	8-9	10-13							
Sample ID	TP23	TP23	TP99	TP116	TP116							
Depth	0.5	1.5	0.50	0.50	1.5							
COC No / misc												
Containers	T	J T	J T	T	V J T							
Sample Date	03/07/2024	03/07/2024	02/07/2024	02/07/2024	03/07/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	08/07/2024	08/07/2024	08/07/2024	08/07/2024	08/07/2024							
											LOD/LOR	Units	Method No.
Antimony	1	2	3	2	2						<1	mg/kg	TM30/PM15
Arsenic #	9.3	7.3	12.4	11.3	8.8						<0.5	mg/kg	TM30/PM15
Barium #	49	109	95	51	44						<1	mg/kg	TM30/PM15
Cadmium #	1.1	1.6	1.8	2.0	2.6						<0.1	mg/kg	TM30/PM15
Chromium #	29.2	19.1	42.6	29.1	22.5						<0.5	mg/kg	TM30/PM15
Copper #	23	28	55	35	29						<1	mg/kg	TM30/PM15
Lead #	16	14	49	20	13						<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	mg/kg	TM30/PM15
Molybdenum #	3.3	3.3	4.6	3.8	3.7						<0.1	mg/kg	TM30/PM15
Nickel #	35.8	36.5	44.1	46.1	37.1						<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	1	2	1						<1	mg/kg	TM30/PM15
Zinc #	100	75	169	98	95						<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<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	mg/kg	TM4/PM8
Acenaphthene #	<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	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	0.10	<0.03	<0.03						<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	0.14	<0.03	<0.03						<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	0.13	<0.03	<0.03						<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	0.11	<0.06	<0.06						<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	0.11	<0.02	<0.02						<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	0.16	<0.07	<0.07						<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	0.08	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	0.06	<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	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	0.06	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22	<0.22	0.50	<0.22	<0.22						<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64	<0.64	0.95	<0.64	<0.64						<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	0.12	<0.05	<0.05						<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	0.04	<0.02	<0.02						<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1	<1	<1	<1	<1						<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	91	88	90	83	105						<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30	<30	<30	<30	<30						<30	mg/kg	TM5/PM8/PM16

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: CHERRY ORCHARD SITE 4&5
Contact: Conor Finnerty
EMT Job No: 24/11729

Report : Solid

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

EMT Sample No.	1-2	3-5	6-7	8-9	10-13							
Sample ID	TP23	TP23	TP99	TP116	TP116							
Depth	0.5	1.5	0.50	0.50	1.5							
COC No / misc												
Containers	T	J T	J T	T	V J T							
Sample Date	03/07/2024	03/07/2024	02/07/2024	02/07/2024	03/07/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	08/07/2024	08/07/2024	08/07/2024	08/07/2024	08/07/2024							

Please see attached notes for all abbreviations and acronyms

											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	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<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	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<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	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<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	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<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	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<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	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<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	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7	<7	<7	<7	<7						<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7	<7	34	<7	<7						<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7	8	<7	<7						<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26	<26	42	<26	<26						<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	<52	<52	<52	<52						<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<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	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10	<10	34	<10	<10						<10	mg/kg	TM5/PM8/PM16
MTBE#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Benzene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Toluene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
Ethylbenzene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
m/p-Xylene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
o-Xylene#	<5	<5	<5	<5	<5						<5	ug/kg	TM36/PM12
PCB 28#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 52#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 101#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 118#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 138#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 153#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
PCB 180#	<5	<5	<5	<5	<5						<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35	<35	<35	<35	<35						<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: CHERRY ORCHARD SITE 4&5
Contact: Conor Finnerty
EMT Job No: 24/11729

Report : Solid

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

EMT Sample No.	1-2	3-5	6-7	8-9	10-13							
Sample ID	TP23	TP23	TP99	TP116	TP116							
Depth	0.5	1.5	0.50	0.50	1.5							
COC No / misc												
Containers	T	J T	J T	T	V J T							
Sample Date	03/07/2024	03/07/2024	02/07/2024	02/07/2024	03/07/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	08/07/2024	08/07/2024	08/07/2024	08/07/2024	08/07/2024							

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Natural Moisture Content	19.0	14.8	19.7	16.1	10.5						<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	16.0	12.9	16.5	13.9	9.5						<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3						<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0093	0.0114	0.0170	0.0820	0.0144						<0.0015	g/l	TM38/PM20
Chromium III	29.2	19.1	42.6	29.1	22.5						<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.32	0.34	1.35	0.71	0.35						<0.02	%	TM21/PM24
pH #	8.69	8.73	8.70	8.44	8.79						<0.01	pH units	TM73/PM11

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: CHERRY ORCHARD SITE 4&5
Contact: Conor Finnerty
EMT Job No: 24/11729

Report : CEN 10:1 1 Batch

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

EMT Sample No.	1-2	3-5	6-7	8-9	10-13							
Sample ID	TP23	TP23	TP99	TP116	TP116							
Depth	0.5	1.5	0.50	0.50	1.5							
COC No / misc												
Containers	T	J T	J T	T	V J T							
Sample Date	03/07/2024	03/07/2024	02/07/2024	02/07/2024	03/07/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	08/07/2024	08/07/2024	08/07/2024	08/07/2024	08/07/2024							

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Dissolved Antimony #	<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	mg/kg	TM30/PM17
Dissolved Arsenic #	<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	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	<0.003	<0.003	<0.003	<0.003						<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03	<0.03	<0.03	<0.03	<0.03						<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<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	mg/kg	TM30/PM17
Dissolved Chromium #	<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	mg/kg	TM30/PM17
Dissolved Copper #	<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	mg/kg	TM30/PM17
Dissolved Lead #	<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	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.007	0.015	0.008	0.003	0.004						<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.07	0.15	0.08	0.03	0.04						<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<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	mg/kg	TM30/PM17
Dissolved Selenium #	<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	mg/kg	TM30/PM17
Dissolved Zinc #	0.004	<0.003	0.005	0.005	0.004						<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	0.04	<0.03	0.05	0.05	0.04						<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<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	mg/kg	TM61/PM0
Phenol	<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	mg/kg	TM26/PM0
Fluoride	<0.3	0.3	0.3	0.5	<0.3						<0.3	mg/l	TM173/PM0
Fluoride	<3	<3	3	5	<3						<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5	<0.5	1.0	16.4	2.4						<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5	<5	10	164	24						<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1055	0.1047	0.104	0.1059	0.0996							kg	NONE/PM17
Chloride #	<0.3	<0.3	<0.3	<0.3	<0.3						<0.3	mg/l	TM38/PM0
Chloride #	<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							kg	NONE/PM17
Dissolved Organic Carbon	<2	<2	<2	<2	<2						<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20						<20	mg/kg	TM60/PM0
pH	8.05	8.26	8.11	8.06	8.11						<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: CHERRY ORCHARD SITE 4&5
Contact: Conor Finnerty
EMT Job No: 24/11729

Report : CEN 10:1 1 Batch

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

EMT Sample No.	1-2	3-5	6-7	8-9	10-13							
Sample ID	TP23	TP23	TP99	TP116	TP116							
Depth	0.5	1.5	0.50	0.50	1.5							
COC No / misc												
Containers	T	J T	J T	T	V J T							
Sample Date	03/07/2024	03/07/2024	02/07/2024	02/07/2024	03/07/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	08/07/2024	08/07/2024	08/07/2024	08/07/2024	08/07/2024							
Total Dissolved Solids #	40	<35	51	65	<35						<35	mg/l	TM20/PM0
Total Dissolved Solids #	400	<350	510	650	<350						<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: CHERRY ORCHARD SITE 4&5
Contact: Conor Finnerty
EMT Job No: 24/11729

Report : EN12457_2

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-2	3-5	6-7	8-9	10-13						Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Sample ID	TP23	TP23	TP99	TP116	TP116											
Depth	0.5	1.5	0.50	0.50	1.5											
COC No / misc																
Containers	T	J T	J T	T	V J T											
Sample Date	03/07/2024	03/07/2024	02/07/2024	02/07/2024	03/07/2024											
Sample Type	Soil	Soil	Soil	Soil	Soil											
Batch Number	1	1	1	1	1											
Date of Receipt	08/07/2024	08/07/2024	08/07/2024	08/07/2024	08/07/2024											
Solid Waste Analysis																
Total Organic Carbon #	0.32	0.34	1.35	0.71	0.35						3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025						6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035	<0.035	<0.035	<0.035	<0.035						1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30	<30	<30	<30	<30						500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22	<0.22	0.50	<0.22	<0.22						-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64	<0.64	0.95	<0.64	<0.64						100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																
Arsenic #	<0.025	<0.025	<0.025	<0.025	<0.025						0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03	<0.03	<0.03	<0.03	<0.03						20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<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						0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<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						0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.07	0.15	0.08	0.03	0.04						0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<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						0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<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						0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	0.04	<0.03	0.05	0.05	0.04						4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	400	<350	510	650	<350						4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20	<20	<20	<20	<20						500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1055	0.1047	0.104	0.1059	0.0996						-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	85.6	85.9	86.5	85.0	89.9						-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.885	0.885	0.886	0.884	0.89						-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	16.8	16.5	15.6	17.7	11.2						-	-	-	<0.1	%	PM4/PM0
pH #	8.69	8.73	8.70	8.44	8.79						-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1						1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	<3	<3	3	5	<3						10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5	<5	10	164	24						1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3	<3	<3	<3	<3						800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland

Reference: 13687-03-24

Location: CHERRY ORCHARD SITE 4&5

Contact: Conor Finnerty

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/11729	1	TP23	0.5	1-2	No interpretation Possible
24/11729	1	TP23	1.5	3-5	No interpretation Possible
24/11729	1	TP99	0.50	6-7	No interpretation Possible
24/11729	1	TP116	0.50	8-9	No interpretation Possible
24/11729	1	TP116	1.5	10-13	No interpretation Possible

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: CHERRY ORCHARD SITE 4&5
Contact: Conor Finnerty

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.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/11729	1	TP23	0.5	1	Remigiusz Blichowski	12/07/2024	**General Description (Bulk Analysis)**	Brown sand with rock and root
					Remigiusz Blichowski	12/07/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	12/07/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	12/07/2024	**Asbestos Type**	NAD
24/11729	1	TP23	1.5	5	Simon Postlewhite	12/07/2024	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	12/07/2024	**Asbestos Fibres**	NAD
					Simon Postlewhite	12/07/2024	**Asbestos ACM**	NAD
					Simon Postlewhite	12/07/2024	**Asbestos Type**	NAD
24/11729	1	TP99	0.50	6	Remigiusz Blichowski	12/07/2024	**General Description (Bulk Analysis)**	Brown sand with rock and root
					Remigiusz Blichowski	12/07/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	12/07/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	12/07/2024	**Asbestos Type**	NAD
24/11729	1	TP116	0.50	8	Remigiusz Blichowski	12/07/2024	**General Description (Bulk Analysis)**	Brown sand with rock and root
					Remigiusz Blichowski	12/07/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	12/07/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	12/07/2024	**Asbestos Type**	NAD
24/11729	1	TP116	1.5	13	Simon Postlewhite	12/07/2024	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	12/07/2024	**Asbestos Fibres**	NAD
					Simon Postlewhite	12/07/2024	**Asbestos ACM**	NAD
					Simon Postlewhite	12/07/2024	**Asbestos Type**	NAD

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: CHERRY ORCHARD SITE 4&5

Contact: Conor Finnerty

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/11729	1	TP23	0.5	1-2	EPH	Sample received in inappropriate container
24/11729	1	TP116	0.50	8-9	EPH	Sample received in inappropriate container

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.

Please include all sections of this report if it is reproduced

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/11729

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/11729

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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

EMT Job No: 24/11729

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

Please include all sections of this report if it is reproduced

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Conor Finnerty
Date :	19th July, 2024
Your reference :	13687-03-24
Our reference :	Test Report 24/11778 Batch 1
Location :	Cherry Orchard Site 4&5
Date samples received :	8th July, 2024
Status :	Final Report
Issue :	202407191220

Six samples were received for analysis on 8th July, 2024 of which one was 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 - 4.851 kg of CO2

Scope 1&2&3 emissions - 11.464 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard Site 4&5
Contact: Conor Finnerty
EMT Job No: 24/11778

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	4-7										LOD/LOR	Units	Method No.
Sample ID	TP24												
Depth	0.50												
COC No / misc													
Containers	V J T												
Sample Date	21/06/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	08/07/2024												
Antimony	2										<1	mg/kg	TM30/PM15
Arsenic #	11.1										<0.5	mg/kg	TM30/PM15
Barium #	62										<1	mg/kg	TM30/PM15
Cadmium #	2.7										<0.1	mg/kg	TM30/PM15
Chromium #	29.4										<0.5	mg/kg	TM30/PM15
Copper #	36										<1	mg/kg	TM30/PM15
Lead #	17										<5	mg/kg	TM30/PM15
Mercury #	<0.1										<0.1	mg/kg	TM30/PM15
Molybdenum #	3.7										<0.1	mg/kg	TM30/PM15
Nickel #	56.3										<0.7	mg/kg	TM30/PM15
Selenium #	1										<1	mg/kg	TM30/PM15
Zinc #	97										<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04										<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03										<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05										<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04										<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03										<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04										<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03										<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03										<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06										<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02										<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07										<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04										<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04										<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04										<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04										<0.04	mg/kg	TM4/PM8
Coronene	<0.04										<0.04	mg/kg	TM4/PM8
PAH 6 Total #	<0.22										<0.22	mg/kg	TM4/PM8
PAH 17 Total	<0.64										<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05										<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02										<0.02	mg/kg	TM4/PM8
Benzo(j)fluoranthene	<1										<1	mg/kg	TM4/PM8
PAH Surrogate % Recovery	91										<0	%	TM4/PM8
Mineral Oil (C10-C40) (EH_CU_1D_AL)	<30										<30	mg/kg	TM5/PM8/PM16

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard Site 4&5
Contact: Conor Finnerty
EMT Job No: 24/11778

Report : Solid

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	4-7										LOD/LOR	Units	Method No.
Sample ID	TP24												
Depth	0.50												
COC No / misc													
Containers	V J T												
Sample Date	21/06/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	08/07/2024												
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1										<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1										<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1										<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2										<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4										<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7										<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	<7										<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7										<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26										<26	mg/kg	TM5/TM36/PM8/PM12/PM16
>C6-C10 (HS_1D_AL)	<0.1										<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_CU_1D_AL)	<10										<10	mg/kg	TM5/PM8/PM16
>C25-C35 (EH_CU_1D_AL)	<10										<10	mg/kg	TM5/PM8/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<0.2										<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	<4										<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	<7										<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	<7										<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7										<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<26										<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52										<52	mg/kg	TM5/TM36/PM8/PM12/PM16
>EC6-EC10 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_CU_1D_AR)	<10										<10	mg/kg	TM5/PM8/PM16
>EC25-EC35 (EH_CU_1D_AR)	<10										<10	mg/kg	TM5/PM8/PM16
MTBE#	<5										<5	ug/kg	TM36/PM12
Benzene#	<5										<5	ug/kg	TM36/PM12
Toluene#	<5										<5	ug/kg	TM36/PM12
Ethylbenzene#	<5										<5	ug/kg	TM36/PM12
m/p-Xylene#	<5										<5	ug/kg	TM36/PM12
o-Xylene#	<5										<5	ug/kg	TM36/PM12
PCB 28#	<5										<5	ug/kg	TM17/PM8
PCB 52#	<5										<5	ug/kg	TM17/PM8
PCB 101#	<5										<5	ug/kg	TM17/PM8
PCB 118#	<5										<5	ug/kg	TM17/PM8
PCB 138#	<5										<5	ug/kg	TM17/PM8
PCB 153#	<5										<5	ug/kg	TM17/PM8
PCB 180#	<5										<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35										<35	ug/kg	TM17/PM8

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard Site 4&5
Contact: Conor Finnerty
EMT Job No: 24/11778

Report : Solid

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

EMT Sample No.	4-7										LOD/LOR	Units	Method No.
Sample ID	TP24												
Depth	0.50												
COC No / misc													
Containers	V J T												
Sample Date	21/06/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	08/07/2024												
Natural Moisture Content	16.4										<0.1	%	PM4/PM0
Moisture Content (% Wet Weight)	14.1										<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3										<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0234										<0.0015	g/l	TM38/PM20
Chromium III	29.4										<0.5	mg/kg	NONE/NONE
Total Organic Carbon #	0.64										<0.02	%	TM21/PM24
pH #	8.87										<0.01	pH units	TM73/PM11
Asbestos Type*	NAD											None	Subcontracted

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard Site 4&5
Contact: Conor Finnerty
EMT Job No: 24/11778

Report : CEN 10:1 1 Batch

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	4-7										LOD/LOR	Units	Method No.
Sample ID	TP24												
Depth	0.50												
COC No / misc													
Containers	V J T												
Sample Date	21/06/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	08/07/2024												
Dissolved Antimony #	<0.002										<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02										<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025										<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025										<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003										<0.003	mg/l	TM30/PM17
Dissolved Barium (A10) #	<0.03										<0.03	mg/kg	TM30/PM17
Dissolved Cadmium #	<0.0005										<0.0005	mg/l	TM30/PM17
Dissolved Cadmium (A10) #	<0.005										<0.005	mg/kg	TM30/PM17
Dissolved Chromium #	<0.0015										<0.0015	mg/l	TM30/PM17
Dissolved Chromium (A10) #	<0.015										<0.015	mg/kg	TM30/PM17
Dissolved Copper #	<0.007										<0.007	mg/l	TM30/PM17
Dissolved Copper (A10) #	<0.07										<0.07	mg/kg	TM30/PM17
Dissolved Lead #	<0.005										<0.005	mg/l	TM30/PM17
Dissolved Lead (A10) #	<0.05										<0.05	mg/kg	TM30/PM17
Dissolved Molybdenum #	0.003										<0.002	mg/l	TM30/PM17
Dissolved Molybdenum (A10) #	0.03										<0.02	mg/kg	TM30/PM17
Dissolved Nickel #	<0.002										<0.002	mg/l	TM30/PM17
Dissolved Nickel (A10) #	<0.02										<0.02	mg/kg	TM30/PM17
Dissolved Selenium #	<0.003										<0.003	mg/l	TM30/PM17
Dissolved Selenium (A10) #	<0.03										<0.03	mg/kg	TM30/PM17
Dissolved Zinc #	0.004										<0.003	mg/l	TM30/PM17
Dissolved Zinc (A10) #	0.04										<0.03	mg/kg	TM30/PM17
Mercury Dissolved by CVAF #	<0.00001										<0.00001	mg/l	TM61/PM0
Mercury Dissolved by CVAF #	<0.0001										<0.0001	mg/kg	TM61/PM0
Phenol	<0.01										<0.01	mg/l	TM26/PM0
Phenol	<0.1										<0.1	mg/kg	TM26/PM0
Fluoride	0.5										<0.3	mg/l	TM173/PM0
Fluoride	5										<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<0.5										<0.5	mg/l	TM38/PM0
Sulphate as SO4 #	<5										<5	mg/kg	TM38/PM0
Mass of raw test portion	0.1064											kg	NONE/PM17
Chloride #	<0.3										<0.3	mg/l	TM38/PM0
Chloride #	<3										<3	mg/kg	TM38/PM0
Mass of dried test portion	0.09											kg	NONE/PM17
Dissolved Organic Carbon	<2										<2	mg/l	TM60/PM0
Dissolved Organic Carbon	<20										<20	mg/kg	TM60/PM0
pH	8.17										<0.01	pH units	TM73/PM0

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard Site 4&5
Contact: Conor Finnerty
EMT Job No: 24/11778

Report : CEN 10:1 1 Batch

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

EMT Sample No.	4-7												
Sample ID	TP24												
Depth	0.50												
COC No / misc													
Containers	V J T												
Sample Date	21/06/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	08/07/2024												
Total Dissolved Solids #	48											<35	mg/l	TM20/PM0
Total Dissolved Solids #	480											<350	mg/kg	TM20/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard Site 4&5
Contact: Conor Finnerty
EMT Job No: 24/11778

Report : **EN12457_2**

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

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	4-7																
Sample ID	TP24																
Depth	0.50																
COC No / misc																	
Containers	V J T																
Sample Date	21/06/2024																
Sample Type	Soil																
Batch Number	1																
Date of Receipt	08/07/2024																
												Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
Solid Waste Analysis																	
Total Organic Carbon #	0.64											3	5	6	<0.02	%	TM21/PM24
Sum of BTEX	<0.025											6	-	-	<0.025	mg/kg	TM36/PM12
Sum of 7 PCBs #	<0.035											1	-	-	<0.035	mg/kg	TM17/PM8
Mineral Oil	<30											500	-	-	<30	mg/kg	TM5/PM8/PM16
PAH Sum of 6 #	<0.22											-	-	-	<0.22	mg/kg	TM4/PM8
PAH Sum of 17	<0.64											100	-	-	<0.64	mg/kg	TM4/PM8
CEN 10:1 Leachate																	
Arsenic #	<0.025											0.5	2	25	<0.025	mg/kg	TM30/PM17
Barium #	<0.03											20	100	300	<0.03	mg/kg	TM30/PM17
Cadmium #	<0.005											0.04	1	5	<0.005	mg/kg	TM30/PM17
Chromium #	<0.015											0.5	10	70	<0.015	mg/kg	TM30/PM17
Copper #	<0.07											2	50	100	<0.07	mg/kg	TM30/PM17
Mercury #	<0.0001											0.01	0.2	2	<0.0001	mg/kg	TM61/PM0
Molybdenum #	0.03											0.5	10	30	<0.02	mg/kg	TM30/PM17
Nickel #	<0.02											0.4	10	40	<0.02	mg/kg	TM30/PM17
Lead #	<0.05											0.5	10	50	<0.05	mg/kg	TM30/PM17
Antimony #	<0.02											0.06	0.7	5	<0.02	mg/kg	TM30/PM17
Selenium #	<0.03											0.1	0.5	7	<0.03	mg/kg	TM30/PM17
Zinc #	0.04											4	50	200	<0.03	mg/kg	TM30/PM17
Total Dissolved Solids #	480											4000	60000	100000	<350	mg/kg	TM20/PM0
Dissolved Organic Carbon	<20											500	800	1000	<20	mg/kg	TM60/PM0
Mass of raw test portion	0.1064											-	-	-		kg	NONE/PM17
Dry Matter Content Ratio	84.9											-	-	-	<0.1	%	NONE/PM4
Leachant Volume	0.884											-	-	-		l	NONE/PM17
Moisture Content 105C (% Dry Weight)	17.8											-	-	-	<0.1	%	PM4/PM0
pH #	8.87											-	-	-	<0.01	pH units	TM73/PM11
Phenol	<0.1											1	-	-	<0.1	mg/kg	TM26/PM0
Fluoride	5											10	150	500	<3	mg/kg	TM173/PM0
Sulphate as SO4 #	<5											1000	20000	50000	<5	mg/kg	TM38/PM0
Chloride #	<3											800	15000	25000	<3	mg/kg	TM38/PM0

Client Name: Ground Investigations Ireland
Reference: 13687-03-24
Location: Cherry Orchard Site 4&5
Contact: Conor Finnerty

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/11778	1	TP24	0.50	4-7	No Interpretation Possible

Client Name: Ground Investigations Ireland

Matrix : Solid

Reference: 13687-03-24

Location: Cherry Orchard Site 4&5

Contact: Conor Finnerty

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
24/11778	1	TP24	0.50	4-7	EPH, GRO, PAH, PCB	Sample holding time exceeded prior to receipt

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.

Please include all sections of this report if it is reproduced

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 overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitively, 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: 24/11778

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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°C or 105°C. 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: 24/11778

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 °C. 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 °C. 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 GCFID 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 GCFID 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: 2013I	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: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
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: 2013I	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

EMT Job No: 24/11778

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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
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°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	
Subcontracted	See attached subcontractor report for accreditation status and provider.					AR	

APPENDIX 5 – HazWasteOnLine™ Report

GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

HazWasteOnline™

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

H1MMM-ZCV9U-2I1M6

Job name

Cherry Orchard Sites 4 & 5 Phase 2

Description/Comments

Project

13687-03-24

Site

Cherry Orchard Sites 4 & 5 Phase 2

Classified by

Name:
Barry Sexton
Date:
04 Jul 2024 09:29 GMT
Telephone:
353 (0)1 601 5175 / 5176

Company:
Ground Investigations Ireland Ltd
Catherinestown House, Hazelhatch Road, Newcastle, Co. Dublin.

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: **CERTIFIED**

Course	Date
Hazardous Waste Classification	10 Apr 2019
Most recent 3 year Refresher	19 Apr 2022

Next 3 year Refresher due by Apr 2025

Purpose of classification

7 - Disposal of Waste

Address of the waste

Cherry Orchard **Post Code** N/A

Description of industry/producer giving rise to the waste

Construction - Residential

Description of the specific process, sub-process and/or activity that created the waste

Foundation Excavation and Site Levelling

Description of the waste

Made Ground and Soil & Stone

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	WAC Results		Page
					Inert	Non Haz	
1	TP-03-23/08/2022-0.50m		Non Hazardous		Pass	Pass	4
2	TP-11-23/08/2022-1.50m		Non Hazardous		Pass	Pass	7
3	TP-01-23/08/2022-0.50m		Non Hazardous		Pass	Pass	10
4	TP-11-23/08/2022-0.50m		Non Hazardous		Pass	Pass	13
5	TP-09-23/08/2022-0.50m		Non Hazardous		Pass	Pass	16
6	TP-03-23/08/2022-1.50m		Non Hazardous		Pass	Pass	19
7	TP-10-23/08/2022-0.50m		Non Hazardous		Pass	Pass	22
8	TP-10-23/08/2022-1.50m		Non Hazardous		Pass	Pass	25
9	TP-14-23/08/2022-0.50m		Non Hazardous		Pass	Pass	28
10	TP-13-23/08/2022-1.50m		Non Hazardous		Pass	Pass	32
11	TP-06-23/08/2022-0.50m		Non Hazardous		Pass	Pass	36
12	TP-13-23/08/2022-0.50m		Non Hazardous		Pass	Pass	39
13	TP-12-23/08/2022-0.50m		Non Hazardous		Pass	Pass	42
14	TP-07-23/08/2022-0.50m		Non Hazardous		Pass	Pass	46
15	Spoil Heap A-07/06/2024-0.50m		Non Hazardous		Pass	Pass	49
16	Spoil Heap B-07/06/2024-0.50m		Non Hazardous		Pass	Pass	53
17	TP33-31/05/2024-0.50m		Non Hazardous		Pass	Pass	56
18	TP33-31/05/2024-1.50m		Non Hazardous		Pass	Pass	59
19	TP50-31/05/2024-0.50m		Non Hazardous		Pass	Pass	62
20	TP50-31/05/2024-1.50m		Non Hazardous		Pass	Pass	65
21	TP78-31/05/2024-0.50m		Non Hazardous		Pass	Pass	68
22	TP54-24/05/2024-0.50m		Non Hazardous		Pass	Pass	71
23	TP75-24/05/2024-0.50m		Non Hazardous		Pass	Pass	74
24	TP85-21/05/2024-0.60m		Non Hazardous		Pass	Pass	77
25	WS01-22/05/2024-0.50-0.90m		Non Hazardous		Pass	Pass	80
26	WS01-22/05/2024-0.90-1.40m		Non Hazardous		Pass	Pass	83
27	WS02-22/05/2024-1.00-1.40m		Non Hazardous		Pass	Pass	86
28	TP95-23/05/2024-2.00m		Non Hazardous		Pass	Pass	89
29	TP100-23/05/2024-2.50m		Non Hazardous		Pass	Pass	92
30	TP102-23/05/2024-1.50m		Non Hazardous		Pass	Pass	95
31	TP104-23/05/2024-1.50m		Non Hazardous		Pass	Pass	98
32	TP108-23/05/2024-2.50m		Non Hazardous		Pass	Pass	101
33	TP110-23/05/2024-2.00m		Non Hazardous		Pass	Pass	104
34	TP114-23/05/2024-1.50m		Non Hazardous		Pass	Pass	107
35	TP118-23/05/2024-1.50m		Non Hazardous		Pass	Pass	110
36	TP121-23/05/2024-2.80m		Non Hazardous		Pass	Pass	113
37	TP124-23/05/2024-1.50m		Non Hazardous		Pass	Pass	116
38	TP125-23/05/2024-0.50m		Non Hazardous		Pass	Pass	119
39	TP125-23/05/2024-1.50m		Non Hazardous		Pass	Pass	122
40	TP127-23/05/2024-0.50m		Non Hazardous		Pass	Pass	125
41	TP135-23/05/2024-0.80m		Non Hazardous		Pass	Pass	128
42	TP135-23/05/2024-2.00m		Non Hazardous		Pass	Pass	131
43	WS02-22/05/2024-0.20-0.60m		Non Hazardous		Pass	Pass	134
44	WS03-22/05/2024-0.20-0.90m		Non Hazardous		Pass	Pass	137
45	WS03-22/05/2024-1.00-1.30m		Non Hazardous		Pass	Pass	140
46	WS04-22/05/2024-0.25-1.00m		Non Hazardous		Fail	Pass	144
47	WS04-22/05/2024-1.00-1.15m		Non Hazardous		Pass	Pass	147
48	WS05-22/05/2024-0.20-0.60m		Non Hazardous		Pass	Pass	150
49	WS05-22/05/2024-1.00-1.90m		Non Hazardous		Pass	Pass	153
50	TP131-24/05/2024-0.50m		Non Hazardous		Pass	Pass	156
51	TP131-24/05/2024-1.50m		Non Hazardous		Pass	Pass	159
52	TP24-20/05/2024-1.70m		Non Hazardous		Pass	Pass	162
53	TP29-20/05/2024-0.40m		Non Hazardous		Pass	Pass	165
54	TP39-20/05/2024-0.50m		Non Hazardous		Pass	Pass	168
55	TP44-20/05/2024-0.50m		Non Hazardous		Fail	Pass	172
56	TP45-20/05/2024-1.00m		Non Hazardous		Pass	Pass	175
57	TP47-20/05/2024-0.50m		Non Hazardous		Pass	Pass	178
58	TP48-20/05/2024-0.50m		Non Hazardous		Pass	Pass	181
59	TP118-17/05/2024-0.50m		Non Hazardous		Pass	Pass	184
60	TP120-17/05/2024-0.50m		Non Hazardous		Pass	Pass	187
61	TP121-17/05/2024-0.50m		Non Hazardous		Pass	Pass	190
62	TP123-17/05/2024-0.50m		Non Hazardous		Fail	Pass	193

#	Sample name	Depth [m]	Classification Result	Hazard properties	WAC Results		Page
					Inert	Non Haz	
63	TP123-17/05/2024-1.50m		Non Hazardous		Pass	Pass	196

Related documents

#	Name	Description
1	MT-22-13979-Batch-1-Report-202209091114..HWOL	Element .hwol file used to populate the Job
2	EMT-24-10030-Batch-1-202406261413.HWOL	Element .hwol file used to populate the Job
3	EMT-24-9666-Batch-1-202406201024.HWOL	Element .hwol file used to populate the Job
4	EMT-24-9361-Batch-1-202406190815.HWOL	Element .hwol file used to populate the Job
5	EMT-24-9113-Batch-1-202406191152.HWOL	Element .hwol file used to populate the Job
6	EMT-24-9106-Batch-1-202406101514.HWOL	Element .hwol file used to populate the Job
7	EMT-24-8950-Batch-1-202406171449.HWOL	Element .hwol file used to populate the Job
8	EMT-24-8747-Batch-1-202406130959.HWOL	Element .hwol file used to populate the Job
9	Example waste stream template for contaminated soils	waste stream template used to create this Job

WAC results

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate the samples in this Job: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

Report

Created by: Barry Sexton

Created date: 04 Jul 2024 09:29 GMT

Appendices	Page
Appendix A: Classifier defined and non EU CLP determinands	199
Appendix B: Rationale for selection of metal species	200
Appendix C: Version	201

Classification of sample: TP-03-23/08/2022-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-03-23/08/2022-0.50m
Moisture content:
9.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.3% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.172 mg/kg	0.000217 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.6 mg/kg	1.32	9.101 mg/kg	0.00091 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.4 mg/kg	1.142	1.451 mg/kg	0.000145 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		31.5 mg/kg	1.462	41.757 mg/kg	0.00418 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		23 mg/kg	1.126	23.487 mg/kg	0.00235 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	12 mg/kg	1.56	16.977 mg/kg	0.00109 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.8 mg/kg	1.5	5.171 mg/kg	0.000517 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		33.7 mg/kg	2.976	90.972 mg/kg	0.0091 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		67 mg/kg	2.774	168.582 mg/kg	0.0169 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.56	pH		8.56	pH	8.56 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		51	mg/kg	1.117	51.646	mg/kg	0.00516 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0462 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP-03-23/08/2022-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.26	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.56	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.05	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	5	800	15,000
22	fluoride	mg/kg	3	10	150
23	sulphate	mg/kg	8	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	20	500	800
26	TDS (total dissolved solids)	mg/kg	480	4,000	60,000

Key

User supplied data

Classification of sample: TP-11-23/08/2022-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-11-23/08/2022-1.50m
Moisture content:
17.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 17.9% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	2.948 mg/kg	0.000295 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		15.4 mg/kg	1.32	16.693 mg/kg	0.00167 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		3.1 mg/kg	1.142	2.907 mg/kg	0.000291 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		73.9 mg/kg	1.462	88.675 mg/kg	0.00887 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		43 mg/kg	1.126	39.747 mg/kg	0.00397 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	93 mg/kg	1.56	119.097 mg/kg	0.00764 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.4 mg/kg	1.353	0.444 mg/kg	0.0000444 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		7.2 mg/kg	1.5	8.868 mg/kg	0.000887 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		49.1 mg/kg	2.976	119.977 mg/kg	0.012 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	4.193 mg/kg	0.000419 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		158 mg/kg	2.774	359.857 mg/kg	0.036 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		7.5	pH		7.5	pH	7.5 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		0.08	mg/kg		0.0657	mg/kg	0.00000657 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		0.14	mg/kg		0.115	mg/kg	0.0000115 %	✓	
27		pyrene		204-927-3	129-00-0		0.13	mg/kg		0.107	mg/kg	0.0000107 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.11	mg/kg		0.0903	mg/kg	0.00000903 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.09	mg/kg		0.0739	mg/kg	0.00000739 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.11	mg/kg		0.0903	mg/kg	0.00000903 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.04	mg/kg		0.0328	mg/kg	0.00000328 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.07	mg/kg		0.0575	mg/kg	0.00000575 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		0.05	mg/kg		0.041	mg/kg	0.0000041 %	✓	
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		0.05	mg/kg		0.041	mg/kg	0.0000041 %	✓	
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		135	mg/kg	1.117	123.748	mg/kg	0.0124 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0899 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP-11-23/08/2022-1.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	1.75	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	0.87	100	-
7	pH	pH	7.5	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	0.05	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.02	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	6	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	130	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	40	500	800
26	TDS (total dissolved solids)	mg/kg	740	4,000	60,000

Key

User supplied data

Classification of sample: TP-01-23/08/2022-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-01-23/08/2022-0.50m
Moisture content:
14.4%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 14.4% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	3.074 mg/kg	0.000307 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11.2 mg/kg	1.32	12.658 mg/kg	0.00127 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.3 mg/kg	1.142	2.249 mg/kg	0.000225 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		70.7 mg/kg	1.462	88.452 mg/kg	0.00885 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		26 mg/kg	1.126	25.058 mg/kg	0.00251 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	60 mg/kg	1.56	80.112 mg/kg	0.00514 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.116 mg/kg	0.0000116 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.5 mg/kg	1.5	7.063 mg/kg	0.000706 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		44.1 mg/kg	2.976	112.353 mg/kg	0.0112 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.186 mg/kg	0.000219 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		97 mg/kg	2.774	230.343 mg/kg	0.023 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.38	pH		8.38	pH	8.38 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		0.07	mg/kg		0.0599	mg/kg	0.00000599 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		0.11	mg/kg		0.0942	mg/kg	0.00000942 %	✓	
27		pyrene		204-927-3	129-00-0		0.1	mg/kg		0.0856	mg/kg	0.00000856 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.09	mg/kg		0.077	mg/kg	0.0000077 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.08	mg/kg		0.0685	mg/kg	0.00000685 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.08	mg/kg		0.0685	mg/kg	0.00000685 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.03	mg/kg		0.0257	mg/kg	0.00000257 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.06	mg/kg		0.0514	mg/kg	0.00000514 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		92	mg/kg	1.117	87.927	mg/kg	0.00879 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0677 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP-01-23/08/2022-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.91	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.38	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.02	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	4	800	15,000
22	fluoride	mg/kg	4	10	150
23	sulphate	mg/kg	6	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	30	500	800
26	TDS (total dissolved solids)	mg/kg	650	4,000	60,000

Key

User supplied data

Classification of sample: TP-11-23/08/2022-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-11-23/08/2022-0.50m
Moisture content:
6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.251 mg/kg	0.000225 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11.1 mg/kg	1.32	13.776 mg/kg	0.00138 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.7 mg/kg	1.142	1.825 mg/kg	0.000183 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		42.7 mg/kg	1.462	58.664 mg/kg	0.00587 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		31 mg/kg	1.126	32.808 mg/kg	0.00328 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	25 mg/kg	1.56	36.656 mg/kg	0.00235 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.5 mg/kg	1.5	7.756 mg/kg	0.000776 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		42 mg/kg	2.976	117.503 mg/kg	0.0118 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.401 mg/kg	0.00024 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		115 mg/kg	2.774	299.885 mg/kg	0.03 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.35	pH		8.35	pH	8.35 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		0.14	mg/kg		0.132	mg/kg	0.0000132 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		0.16	mg/kg		0.15	mg/kg	0.000015 %	✓	
27		pyrene		204-927-3	129-00-0		0.13	mg/kg		0.122	mg/kg	0.0000122 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.11	mg/kg		0.103	mg/kg	0.0000103 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.07	mg/kg		0.0658	mg/kg	0.00000658 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.09	mg/kg		0.0846	mg/kg	0.00000846 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.03	mg/kg		0.0282	mg/kg	0.00000282 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.05	mg/kg		0.047	mg/kg	0.0000047 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		82	mg/kg	1.117	86.06	mg/kg	0.00861 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0701 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP-11-23/08/2022-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.53	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	0.78	100	-
7	pH	pH	8.35	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.08	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	6	800	15,000
22	fluoride	mg/kg	5	10	150
23	sulphate	mg/kg	10	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	30	500	800
26	TDS (total dissolved solids)	mg/kg	520	4,000	60,000

Key

User supplied data

Classification of sample: TP-09-23/08/2022-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-09-23/08/2022-0.50m
Moisture content:
6.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 6.8% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	3.347 mg/kg	0.000335 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12.4 mg/kg	1.32	15.259 mg/kg	0.00153 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.1 mg/kg	1.142	2.236 mg/kg	0.000224 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		32.7 mg/kg	1.462	44.543 mg/kg	0.00445 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		33 mg/kg	1.126	34.628 mg/kg	0.00346 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	16 mg/kg	1.56	23.26 mg/kg	0.00149 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.1 mg/kg	1.5	5.733 mg/kg	0.000573 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		45.8 mg/kg	2.976	127.044 mg/kg	0.0127 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.38 mg/kg	0.000238 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		100 mg/kg	2.774	258.55 mg/kg	0.0259 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.47	pH		8.47	pH	8.47 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		56	mg/kg	1.117	58.273	mg/kg	0.00583 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0621 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP-09-23/08/2022-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.41	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.47	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.02	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	5	800	15,000
22	fluoride	mg/kg	5	10	150
23	sulphate	mg/kg	7	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	20	500	800
26	TDS (total dissolved solids)	mg/kg	460	4,000	60,000

Key

User supplied data

Classification of sample: TP-03-23/08/2022-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-03-23/08/2022-1.50m
Moisture content:
10.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 10.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.14 mg/kg	0.000214 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.8 mg/kg	1.32	9.207 mg/kg	0.000921 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.7 mg/kg	1.142	1.736 mg/kg	0.000174 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		33.2 mg/kg	1.462	43.38 mg/kg	0.00434 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	25.164 mg/kg	0.00252 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	13 mg/kg	1.56	18.128 mg/kg	0.00116 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.4 mg/kg	1.5	5.901 mg/kg	0.00059 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		35.8 mg/kg	2.976	95.256 mg/kg	0.00953 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		80 mg/kg	2.774	198.407 mg/kg	0.0198 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17	●	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19	●	pH			PH		8.68	pH		8.68	pH	8.68 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21	●	acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22	●	acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23	●	fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24	●	phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25	●	anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26	●	fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27	●	pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33	●	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35	●	benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36	●	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { ● barium oxide }		215-127-9	1304-28-5		50	mg/kg	1.117	49.908	mg/kg	0.00499 %	✓	
38	●	coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.05 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP-03-23/08/2022-1.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.21	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.68	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.13	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	7	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	9	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	30	500	800
26	TDS (total dissolved solids)	mg/kg	390	4,000	60,000

Key

User supplied data

Classification of sample: TP-10-23/08/2022-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-10-23/08/2022-0.50m
Moisture content:
8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.203 mg/kg	0.00022 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.7 mg/kg	1.32	10.568 mg/kg	0.00106 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.6 mg/kg	1.142	1.682 mg/kg	0.000168 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		41.1 mg/kg	1.462	55.264 mg/kg	0.00553 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				1 mg/kg	2.27	2.088 mg/kg	0.000209 %	✓	
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		28 mg/kg	1.126	29.003 mg/kg	0.0029 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	12 mg/kg	1.56	17.22 mg/kg	0.0011 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.8 mg/kg	1.5	6.625 mg/kg	0.000662 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		40.4 mg/kg	2.976	110.622 mg/kg	0.0111 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		94 mg/kg	2.774	239.908 mg/kg	0.024 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.53	pH		8.53	pH	8.53 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		51	mg/kg	1.117	52.386	mg/kg	0.00524 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0578 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP-10-23/08/2022-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.27	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.53	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.04	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	4	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	58	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	540	4,000	60,000

Key

User supplied data

Classification of sample: TP-10-23/08/2022-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-10-23/08/2022-1.50m
Moisture content:
8.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		4 mg/kg	1.197	4.377 mg/kg	0.000438 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		15 mg/kg	1.32	18.102 mg/kg	0.00181 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.9 mg/kg	1.142	1.984 mg/kg	0.000198 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		51.8 mg/kg	1.462	69.198 mg/kg	0.00692 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		59 mg/kg	1.126	60.715 mg/kg	0.00607 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	51 mg/kg	1.56	72.709 mg/kg	0.00466 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.3 mg/kg	1.5	7.267 mg/kg	0.000727 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		56.1 mg/kg	2.976	152.609 mg/kg	0.0153 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	4.668 mg/kg	0.000467 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		159 mg/kg	2.774	403.156 mg/kg	0.0403 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.2	pH		8.2	pH	8.2 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		0.04	mg/kg		0.0366	mg/kg	0.00000366 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		0.07	mg/kg		0.064	mg/kg	0.0000064 %	✓	
27		pyrene		204-927-3	129-00-0		0.07	mg/kg		0.064	mg/kg	0.0000064 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.08	mg/kg		0.0731	mg/kg	0.00000731 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.06	mg/kg		0.0548	mg/kg	0.00000548 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.06	mg/kg		0.0548	mg/kg	0.00000548 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.03	mg/kg		0.0274	mg/kg	0.00000274 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		106	mg/kg	1.117	108.172	mg/kg	0.0108 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0932 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP-10-23/08/2022-1.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	1	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.2	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.05	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	5	800	15,000
22	fluoride	mg/kg	5	10	150
23	sulphate	mg/kg	144	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	40	500	800
26	TDS (total dissolved solids)	mg/kg	670	4,000	60,000

Key

User supplied data

Classification of sample: TP-14-23/08/2022-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-14-23/08/2022-0.50m
Moisture content:
9.5%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.5% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	3.25 mg/kg	0.000325 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11.5 mg/kg	1.32	13.741 mg/kg	0.00137 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1 mg/kg	1.142	1.034 mg/kg	0.000103 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		47.7 mg/kg	1.462	63.093 mg/kg	0.00631 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		153 mg/kg	1.126	155.896 mg/kg	0.0156 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	85 mg/kg	1.56	119.989 mg/kg	0.00769 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.8 mg/kg	1.5	5.159 mg/kg	0.000516 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		43.1 mg/kg	2.976	116.091 mg/kg	0.0116 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.311 mg/kg	0.000231 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		282 mg/kg	2.774	707.99 mg/kg	0.0708 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		88 mg/kg		79.64 mg/kg	0.00796 %	✓	
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.24	pH		8.24	pH	8.24 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		0.12	mg/kg		0.109	mg/kg	0.0000109 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		0.21	mg/kg		0.19	mg/kg	0.000019 %	✓	
27		pyrene		204-927-3	129-00-0		0.19	mg/kg		0.172	mg/kg	0.0000172 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.14	mg/kg		0.127	mg/kg	0.0000127 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.12	mg/kg		0.109	mg/kg	0.0000109 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.16	mg/kg		0.145	mg/kg	0.0000145 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.06	mg/kg		0.0543	mg/kg	0.00000543 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.11	mg/kg		0.0995	mg/kg	0.00000995 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		0.09	mg/kg		0.0814	mg/kg	0.00000814 %	✓	
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		0.08	mg/kg		0.0724	mg/kg	0.00000724 %	✓	
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		85	mg/kg	1.117	85.887	mg/kg	0.00859 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.131 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Solid waste without liquid phase

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00796%)

WAC results for sample: TP-14-23/08/2022-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.96	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	1.28	100	-
7	pH	pH	8.24	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	0.15	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.1	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	0.06	4	50
21	chloride	mg/kg	9	800	15,000
22	fluoride	mg/kg	8	10	150
23	sulphate	mg/kg	109	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	30	500	800
26	TDS (total dissolved solids)	mg/kg	700	4,000	60,000

Key

User supplied data

Classification of sample: TP-13-23/08/2022-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-13-23/08/2022-1.50m
Moisture content:
7.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 7.9% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		1 mg/kg	1.197	1.103 mg/kg	0.00011 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.8 mg/kg	1.32	9.485 mg/kg	0.000948 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.736 mg/kg	0.0000736 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		42.8 mg/kg	1.462	57.613 mg/kg	0.00576 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		27 mg/kg	1.126	27.997 mg/kg	0.0028 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20 mg/kg	1.56	28.732 mg/kg	0.00184 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.8 mg/kg	1.5	5.25 mg/kg	0.000525 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		34.7 mg/kg	2.976	95.118 mg/kg	0.00951 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.352 mg/kg	0.000235 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		90 mg/kg	2.774	229.949 mg/kg	0.023 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		522 mg/kg		480.762 mg/kg	0.0481 %	✓	
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		0.005 mg/kg		0.0046 mg/kg	0.000000461 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		0.02	mg/kg		0.0184	mg/kg	0.00000184 %	✓	
19		pH			PH		8.15	pH		8.15	pH	8.15 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		0.11	mg/kg		0.101	mg/kg	0.0000101 %	✓	
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		0.08	mg/kg		0.0737	mg/kg	0.00000737 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		0.07	mg/kg		0.0645	mg/kg	0.00000645 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.04	mg/kg		0.0368	mg/kg	0.00000368 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		105	mg/kg	1.117	107.972	mg/kg	0.0108 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.104 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Solid waste without liquid phase

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

toluene: (conc.: 4.61e-07%)

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.0481%)
xylene: (conc.: 1.84e-06%)

WAC results for sample: TP-13-23/08/2022-1.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.66	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	348	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.15	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	0.13	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.1	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	5	800	15,000
22	fluoride	mg/kg	5	10	150
23	sulphate	mg/kg	582	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	1209	4,000	60,000

Key

User supplied data

Classification of sample: TP-06-23/08/2022-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-06-23/08/2022-0.50m
Moisture content:
11.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11.7% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	3.171 mg/kg	0.000317 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12.6 mg/kg	1.32	14.69 mg/kg	0.00147 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.7 mg/kg	1.142	1.715 mg/kg	0.000171 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		47.2 mg/kg	1.462	60.914 mg/kg	0.00609 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		43 mg/kg	1.126	42.749 mg/kg	0.00427 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	36 mg/kg	1.56	49.583 mg/kg	0.00318 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.12 mg/kg	0.000012 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.7 mg/kg	1.5	6.226 mg/kg	0.000623 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		49.7 mg/kg	2.976	130.614 mg/kg	0.0131 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	4.51 mg/kg	0.000451 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		124 mg/kg	2.774	303.747 mg/kg	0.0304 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.03	pH		8.03	pH	8.03 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		0.04	mg/kg		0.0353	mg/kg	0.00000353 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		0.06	mg/kg		0.053	mg/kg	0.0000053 %	✓	
27		pyrene		204-927-3	129-00-0		0.04	mg/kg		0.0353	mg/kg	0.00000353 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.04	mg/kg		0.0353	mg/kg	0.00000353 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		91	mg/kg	1.117	89.715	mg/kg	0.00897 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0744 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP-06-23/08/2022-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.91	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.03	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.02	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	6	800	15,000
22	fluoride	mg/kg	4	10	150
23	sulphate	mg/kg	220	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	30	500	800
26	TDS (total dissolved solids)	mg/kg	820	4,000	60,000

Key

User supplied data

Classification of sample: TP-13-23/08/2022-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-13-23/08/2022-0.50m
Moisture content:
8.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8.3% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		4 mg/kg	1.197	4.391 mg/kg	0.000439 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.8 mg/kg	1.32	11.865 mg/kg	0.00119 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.3 mg/kg	1.142	2.409 mg/kg	0.000241 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		35.6 mg/kg	1.462	47.713 mg/kg	0.00477 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		32 mg/kg	1.126	33.038 mg/kg	0.0033 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	17 mg/kg	1.56	24.316 mg/kg	0.00156 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.8 mg/kg	1.5	7.979 mg/kg	0.000798 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		51.1 mg/kg	2.976	139.464 mg/kg	0.0139 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	4.684 mg/kg	0.000468 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		105 mg/kg	2.774	267.109 mg/kg	0.0267 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.43	pH		8.43	pH	8.43 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				94	mg/kg	1.117	96.241	mg/kg	0.00962 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0685 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP-13-23/08/2022-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.24	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.43	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.07	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	5	800	15,000
22	fluoride	mg/kg	4	10	150
23	sulphate	mg/kg	12	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	390	4,000	60,000

Key

User supplied data

Classification of sample: TP-12-23/08/2022-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-12-23/08/2022-0.50m
Moisture content:
4.4%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 4.4% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.289 mg/kg	0.000229 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.9 mg/kg	1.32	11.234 mg/kg	0.00112 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.1 mg/kg	1.142	1.201 mg/kg	0.00012 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		38.2 mg/kg	1.462	53.375 mg/kg	0.00534 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		31 mg/kg	1.126	33.367 mg/kg	0.00334 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	27 mg/kg	1.56	40.262 mg/kg	0.00258 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.3 mg/kg	1.5	4.733 mg/kg	0.000473 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		32.5 mg/kg	2.976	92.473 mg/kg	0.00925 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		126 mg/kg	2.774	334.163 mg/kg	0.0334 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		116 mg/kg		110.896 mg/kg	0.0111 %	✓	
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.3	pH		8.3	pH	8.3 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		0.05	mg/kg		0.0478	mg/kg	0.00000478 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		0.07	mg/kg		0.0669	mg/kg	0.00000669 %	✓	
27		pyrene		204-927-3	129-00-0		0.06	mg/kg		0.0574	mg/kg	0.00000574 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.07	mg/kg		0.0669	mg/kg	0.00000669 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.05	mg/kg		0.0478	mg/kg	0.00000478 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.05	mg/kg		0.0478	mg/kg	0.00000478 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		51	mg/kg	1.117	54.436	mg/kg	0.00544 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0729 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Solid waste without liquid phase

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0111%)

WAC results for sample: TP-12-23/08/2022-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.55	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.3	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.08	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	0.03	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	6	800	15,000
22	fluoride	mg/kg	5	10	150
23	sulphate	mg/kg	19	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	30	500	800
26	TDS (total dissolved solids)	mg/kg	450	4,000	60,000

Key

User supplied data

Classification of sample: TP-07-23/08/2022-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP-07-23/08/2022-0.50m
Moisture content:
7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 7% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.227 mg/kg	0.000223 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.6 mg/kg	1.32	10.56 mg/kg	0.00106 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.6 mg/kg	1.142	1.7 mg/kg	0.00017 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		30.2 mg/kg	1.462	41.049 mg/kg	0.0041 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	26.177 mg/kg	0.00262 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	11 mg/kg	1.56	15.957 mg/kg	0.00102 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.6 mg/kg	1.5	5.023 mg/kg	0.000502 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		33.7 mg/kg	2.976	93.279 mg/kg	0.00933 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		72 mg/kg	2.774	185.757 mg/kg	0.0186 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.59	pH		8.59	pH	8.59 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		41	mg/kg	1.117	42.572	mg/kg	0.00426 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0476 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP-07-23/08/2022-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.34	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.59	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.06	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	<5	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	560	4,000	60,000

Key

User supplied data

Classification of sample: Spoil Heap A-07/06/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
Spoil Heap A-07/06/2024-0.50m
Moisture content:
8.5%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8.5% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.191 mg/kg	0.000219 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11.7 mg/kg	1.32	14.135 mg/kg	0.00141 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.4 mg/kg	1.142	1.463 mg/kg	0.000146 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		54.3 mg/kg	1.462	72.617 mg/kg	0.00726 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		42 mg/kg	1.126	43.268 mg/kg	0.00433 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	39 mg/kg	1.56	55.662 mg/kg	0.00357 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5 mg/kg	1.5	6.863 mg/kg	0.000686 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		35.5 mg/kg	2.976	96.677 mg/kg	0.00967 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	4.674 mg/kg	0.000467 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		112 mg/kg	2.774	284.295 mg/kg	0.0284 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		84 mg/kg		76.86 mg/kg	0.00769 %	✓	
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.57	pH		8.57	pH	8.57 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		0.04	mg/kg		0.0366	mg/kg	0.00000366 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		0.09	mg/kg		0.0823	mg/kg	0.00000823 %	✓	
27		pyrene		204-927-3	129-00-0		0.09	mg/kg		0.0823	mg/kg	0.00000823 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.09	mg/kg		0.0823	mg/kg	0.00000823 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.08	mg/kg		0.0732	mg/kg	0.00000732 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.09	mg/kg		0.0823	mg/kg	0.00000823 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.03	mg/kg		0.0275	mg/kg	0.00000275 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.07	mg/kg		0.0641	mg/kg	0.00000641 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		0.04	mg/kg		0.0366	mg/kg	0.00000366 %	✓	
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		0.05	mg/kg		0.0457	mg/kg	0.00000457 %	✓	
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		79	mg/kg	1.117	80.707	mg/kg	0.00807 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0722 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Solid waste without liquid phase

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00769%)

WAC results for sample: Spoil Heap A-07/06/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.93	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	34	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	0.67	100	-
7	pH	pH	8.57	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.07	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	5	800	15,000
22	fluoride	mg/kg	5	10	150
23	sulphate	mg/kg	30	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	700	4,000	60,000

Key

User supplied data

Classification of sample: Spoil Heap B-07/06/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
Spoil Heap B-07/06/2024-0.50m
Moisture content:
8.5%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8.5% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.191 mg/kg	0.000219 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.8 mg/kg	1.32	11.839 mg/kg	0.00118 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.8 mg/kg	1.142	1.881 mg/kg	0.000188 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		39.6 mg/kg	1.462	52.958 mg/kg	0.0053 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		49 mg/kg	1.126	50.479 mg/kg	0.00505 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	48 mg/kg	1.56	68.507 mg/kg	0.00439 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4 mg/kg	1.5	5.491 mg/kg	0.000549 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		31.8 mg/kg	2.976	86.6 mg/kg	0.00866 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	4.674 mg/kg	0.000467 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		103 mg/kg	2.774	261.449 mg/kg	0.0261 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.37	pH		8.37	pH	8.37 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		0.04	mg/kg		0.0366	mg/kg	0.00000366 %	✓	
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		0.07	mg/kg		0.0641	mg/kg	0.00000641 %	✓	
25		anthracene		204-371-1	120-12-7		0.08	mg/kg		0.0732	mg/kg	0.00000732 %	✓	
26		fluoranthene		205-912-4	206-44-0		0.15	mg/kg		0.137	mg/kg	0.0000137 %	✓	
27		pyrene		204-927-3	129-00-0		0.17	mg/kg		0.156	mg/kg	0.0000156 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.13	mg/kg		0.119	mg/kg	0.0000119 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.14	mg/kg		0.128	mg/kg	0.0000128 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.17	mg/kg		0.156	mg/kg	0.0000156 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.06	mg/kg		0.0549	mg/kg	0.00000549 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.14	mg/kg		0.128	mg/kg	0.0000128 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		0.09	mg/kg		0.0823	mg/kg	0.00000823 %	✓	
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		0.1	mg/kg		0.0915	mg/kg	0.00000915 %	✓	
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		46	mg/kg	1.117	46.994	mg/kg	0.0047 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0624 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: Spoil Heap B-07/06/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	1.18	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	1.34	100	-
7	pH	pH	8.37	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.04	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	4	10	150
23	sulphate	mg/kg	<5	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	570	4,000	60,000

Key

User supplied data

Classification of sample: TP33-31/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP33-31/05/2024-0.50m
Moisture content:
8.1%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8.1% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.2 mg/kg	0.00022 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.2 mg/kg	1.32	9.95 mg/kg	0.000995 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2 mg/kg	1.142	2.1 mg/kg	0.00021 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		70.5 mg/kg	1.462	94.693 mg/kg	0.00947 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		28 mg/kg	1.126	28.971 mg/kg	0.0029 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	13 mg/kg	1.56	18.635 mg/kg	0.00119 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		6.8 mg/kg	1.5	9.375 mg/kg	0.000937 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		31.4 mg/kg	2.976	85.885 mg/kg	0.00859 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.347 mg/kg	0.000235 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		79 mg/kg	2.774	201.406 mg/kg	0.0201 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17	●	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19	●	pH			PH		8.39	pH		8.39	pH	8.39 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21	●	acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22	●	acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23	●	fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24	●	phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25	●	anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26	●	fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27	●	pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33	●	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35	●	benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36	●	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { ● barium oxide }		215-127-9	1304-28-5		41	mg/kg	1.117	42.069	mg/kg	0.00421 %	✓	
38	●	coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0545 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP33-31/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.54	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.39	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.02	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	5	10	150
23	sulphate	mg/kg	<5	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	380	4,000	60,000

Key

User supplied data

Classification of sample: TP33-31/05/2024-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP33-31/05/2024-1.50m
Moisture content:
7.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 7.7% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		1 mg/kg	1.197	1.105 mg/kg	0.00011 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.1 mg/kg	1.32	8.652 mg/kg	0.000865 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.8 mg/kg	1.142	1.898 mg/kg	0.00019 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		21.5 mg/kg	1.462	29.004 mg/kg	0.0029 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		22 mg/kg	1.126	22.862 mg/kg	0.00229 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	12 mg/kg	1.56	17.277 mg/kg	0.00111 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.4 mg/kg	1.5	4.708 mg/kg	0.000471 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		28.8 mg/kg	2.976	79.116 mg/kg	0.00791 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		68 mg/kg	2.774	174.117 mg/kg	0.0174 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.66	pH		8.66	pH	8.66 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		49	mg/kg	1.117	50.496	mg/kg	0.00505 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.044 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP33-31/05/2024-1.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.33	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.66	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.06	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	<5	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	<350	4,000	60,000

Key

User supplied data

Classification of sample: TP50-31/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP50-31/05/2024-0.50m
Moisture content:
12.1%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.1% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.105 mg/kg	0.00021 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.4 mg/kg	1.32	10.909 mg/kg	0.00109 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2 mg/kg	1.142	2.008 mg/kg	0.000201 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		28.6 mg/kg	1.462	36.743 mg/kg	0.00367 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		27 mg/kg	1.126	26.721 mg/kg	0.00267 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	12 mg/kg	1.56	16.453 mg/kg	0.00105 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.4 mg/kg	1.5	4.483 mg/kg	0.000448 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		33.5 mg/kg	2.976	87.641 mg/kg	0.00876 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		81 mg/kg	2.774	197.516 mg/kg	0.0198 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.76	pH		8.76	pH	8.76 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				52	mg/kg	1.117	51.033	mg/kg	0.0051 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0487 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP50-31/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.34	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.76	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	0.04	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.09	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	0.05	4	50
21	chloride	mg/kg	6	800	15,000
22	fluoride	mg/kg	4	10	150
23	sulphate	mg/kg	12	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	610	4,000	60,000

Key

User supplied data

Classification of sample: TP50-31/05/2024-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP50-31/05/2024-1.50m
Moisture content:
14.1%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 14.1% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.057 mg/kg	0.000206 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.1 mg/kg	1.32	11.455 mg/kg	0.00115 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.5 mg/kg	1.142	2.453 mg/kg	0.000245 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		44 mg/kg	1.462	55.241 mg/kg	0.00552 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		35 mg/kg	1.126	33.85 mg/kg	0.00338 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	13 mg/kg	1.56	17.418 mg/kg	0.00112 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5 mg/kg	1.5	6.443 mg/kg	0.000644 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		43.7 mg/kg	2.976	111.724 mg/kg	0.0112 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.194 mg/kg	0.000219 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		96 mg/kg	2.774	228.767 mg/kg	0.0229 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.84	pH		8.84	pH	8.84 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		71	mg/kg	1.117	68.095	mg/kg	0.00681 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0588 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP50-31/05/2024-1.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.37	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.84	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.14	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	0.04	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	<5	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	<350	4,000	60,000

Key

User supplied data

Classification of sample: TP78-31/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP78-31/05/2024-0.50m
Moisture content:
8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		1 mg/kg	1.197	1.101 mg/kg	0.00011 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.7 mg/kg	1.32	8.138 mg/kg	0.000814 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.8 mg/kg	1.142	1.892 mg/kg	0.000189 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		21.7 mg/kg	1.462	29.178 mg/kg	0.00292 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		24 mg/kg	1.126	24.86 mg/kg	0.00249 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	10 mg/kg	1.56	14.35 mg/kg	0.00092 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		2.2 mg/kg	1.5	3.036 mg/kg	0.000304 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		30.1 mg/kg	2.976	82.419 mg/kg	0.00824 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		57 mg/kg	2.774	145.476 mg/kg	0.0145 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.69	pH		8.69	pH	8.69 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		35	mg/kg	1.117	35.951	mg/kg	0.0036 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0398 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP78-31/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.27	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.69	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.04	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	4	10	150
23	sulphate	mg/kg	<5	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	430	4,000	60,000

Key

User supplied data

Classification of sample: TP54-24/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP54-24/05/2024-0.50m
Moisture content:
8.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8.8% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	3.275 mg/kg	0.000328 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		14.6 mg/kg	1.32	17.58 mg/kg	0.00176 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.5 mg/kg	1.142	2.605 mg/kg	0.00026 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		25.2 mg/kg	1.462	33.59 mg/kg	0.00336 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		35 mg/kg	1.126	35.938 mg/kg	0.00359 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	17 mg/kg	1.56	24.183 mg/kg	0.00155 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.2 mg/kg	1.5	5.746 mg/kg	0.000575 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		43.6 mg/kg	2.976	118.346 mg/kg	0.0118 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.329 mg/kg	0.000233 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		97 mg/kg	2.774	245.412 mg/kg	0.0245 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.71	pH		8.71	pH	8.71 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		59	mg/kg	1.117	60.077	mg/kg	0.00601 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0595 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP54-24/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.38	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.71	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.05	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	<5	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	420	4,000	60,000

Key

User supplied data

Classification of sample: TP75-24/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP75-24/05/2024-0.50m
Moisture content:
17.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 17.8% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	1.968 mg/kg	0.000197 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11.1 mg/kg	1.32	12.047 mg/kg	0.0012 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.7 mg/kg	1.142	1.596 mg/kg	0.00016 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		61.2 mg/kg	1.462	73.526 mg/kg	0.00735 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		23 mg/kg	1.126	21.286 mg/kg	0.00213 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20 mg/kg	1.56	25.643 mg/kg	0.00164 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.5 mg/kg	1.5	5.549 mg/kg	0.000555 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		35 mg/kg	2.976	85.627 mg/kg	0.00856 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.099 mg/kg	0.00021 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		106 mg/kg	2.774	241.717 mg/kg	0.0242 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17	●	ethylbenzene	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4											
18		xylene	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9											
19	●	pH		PH		8.56	pH		8.56	pH	8.56 pH		
20		naphthalene	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2											
21	●	acenaphthylene	205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22	●	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23	●	fluorene	201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24	●	phenanthrene	201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25	●	anthracene	204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26	●	fluoranthene	205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27	●	pyrene	204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9											
29		chrysene	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0											
30		benzo[b]fluoranthene	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4											
31		benzo[k]fluoranthene	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5											
32		benzo[a]pyrene; benzo[def]chrysene	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3											
33	●	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2											
35	●	benzo[ghi]perylene	205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36	●	polychlorobiphenyls; PCB	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4											
37		barium { ● barium oxide }	215-127-9	1304-28-5		80	mg/kg	1.117	73.421	mg/kg	0.00734 %	✓	
38	●	coronene	205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X											
										Total:	0.059 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP75-24/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.58	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.56	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.02	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	0.03	4	50
21	chloride	mg/kg	3	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	7	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	20	500	800
26	TDS (total dissolved solids)	mg/kg	630	4,000	60,000

Key

User supplied data

Classification of sample: TP85-21/05/2024-0.60m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP85-21/05/2024-0.60m
Moisture content:
7.5%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 7.5% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		1 mg/kg	1.197	1.107 mg/kg	0.000111 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8 mg/kg	1.32	9.77 mg/kg	0.000977 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.4 mg/kg	1.142	1.479 mg/kg	0.000148 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		71.5 mg/kg	1.462	96.664 mg/kg	0.00967 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		15 mg/kg	1.126	15.622 mg/kg	0.00156 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	12 mg/kg	1.56	17.314 mg/kg	0.00111 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		16.8 mg/kg	1.5	23.313 mg/kg	0.00233 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		23.4 mg/kg	2.976	64.421 mg/kg	0.00644 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		65 mg/kg	2.774	166.796 mg/kg	0.0167 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.67	pH		8.67	pH	8.67 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		39	mg/kg	1.117	40.278	mg/kg	0.00403 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0488 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP85-21/05/2024-0.60m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.25	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.67	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.02	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	<5	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	430	4,000	60,000

Key

User supplied data

Classification of sample: WS01-22/05/2024-0.50-0.90m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS01-22/05/2024-0.50-0.90m
Moisture content:
6.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 6.7% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.234 mg/kg	0.000223 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.8 mg/kg	1.32	9.609 mg/kg	0.000961 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.7 mg/kg	1.142	1.812 mg/kg	0.000181 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		33.7 mg/kg	1.462	45.954 mg/kg	0.0046 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		20 mg/kg	1.126	21.009 mg/kg	0.0021 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	12 mg/kg	1.56	17.464 mg/kg	0.00112 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.4 mg/kg	1.5	4.759 mg/kg	0.000476 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		26.7 mg/kg	2.976	74.142 mg/kg	0.00741 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		65 mg/kg	2.774	168.238 mg/kg	0.0168 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.46	pH		8.46	pH	8.46 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		38	mg/kg	1.117	39.585	mg/kg	0.00396 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0436 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: WS01-22/05/2024-0.50-0.90m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	2.21	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.46	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.09	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	7	800	15,000
22	fluoride	mg/kg	4	10	150
23	sulphate	mg/kg	7	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	490	4,000	60,000

Key

User supplied data

Classification of sample: WS01-22/05/2024-0.90-1.40m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS01-22/05/2024-0.90-1.40m
Moisture content:
2.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 2.9% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<1 mg/kg	1.197	<1.197 mg/kg	<0.00012 %		<**LOD**
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		3.8 mg/kg	1.32	4.872 mg/kg	0.000487 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.6 mg/kg	1.142	0.666 mg/kg	0.0000666 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		15.1 mg/kg	1.462	21.429 mg/kg	0.00214 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		6 mg/kg	1.126	6.559 mg/kg	0.000656 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	<5 mg/kg	1.56	<7.799 mg/kg	<0.0005 %		<**LOD**
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		1.5 mg/kg	1.5	2.185 mg/kg	0.000219 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		8.6 mg/kg	2.976	24.854 mg/kg	0.00249 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		31 mg/kg	2.774	83.505 mg/kg	0.00835 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.83	pH		8.83	pH	8.83 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		14	mg/kg	1.117	15.178	mg/kg	0.00152 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0223 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: WS01-22/05/2024-0.90-1.40m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.15	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.83	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.05	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	10	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	10	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	<350	4,000	60,000

Key

User supplied data

Classification of sample: WS02-22/05/2024-1.00-1.40m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS02-22/05/2024-1.00-1.40m
Moisture content:
20.4%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 20.4% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	2.859 mg/kg	0.000286 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12 mg/kg	1.32	12.612 mg/kg	0.00126 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.4 mg/kg	1.142	1.273 mg/kg	0.000127 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		77.1 mg/kg	1.462	89.698 mg/kg	0.00897 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		42 mg/kg	1.126	37.641 mg/kg	0.00376 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	66 mg/kg	1.56	81.946 mg/kg	0.00525 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.3 mg/kg	1.353	1.401 mg/kg	0.00014 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		6.3 mg/kg	1.5	7.523 mg/kg	0.000752 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		34.4 mg/kg	2.976	81.497 mg/kg	0.00815 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.033 mg/kg	0.000203 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		126 mg/kg	2.774	278.236 mg/kg	0.0278 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.12	pH		8.12	pH	8.12 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		0.11	mg/kg		0.0876	mg/kg	0.00000876 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		0.16	mg/kg		0.127	mg/kg	0.0000127 %	✓	
27		pyrene		204-927-3	129-00-0		0.14	mg/kg		0.111	mg/kg	0.0000111 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.09	mg/kg		0.0716	mg/kg	0.00000716 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.1	mg/kg		0.0796	mg/kg	0.00000796 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.1	mg/kg		0.0796	mg/kg	0.00000796 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.04	mg/kg		0.0318	mg/kg	0.00000318 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.08	mg/kg		0.0637	mg/kg	0.00000637 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		95	mg/kg	1.117	84.43	mg/kg	0.00844 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0706 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: WS02-22/05/2024-1.00-1.40m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	1.84	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	0.82	100	-
7	pH	pH	8.12	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	0.031	0.5	2
10	barium	mg/kg	0.18	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.09	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	0.04	4	50
21	chloride	mg/kg	11	800	15,000
22	fluoride	mg/kg	5	10	150
23	sulphate	mg/kg	245	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	30	500	800
26	TDS (total dissolved solids)	mg/kg	1350	4,000	60,000

Key

User supplied data

Classification of sample: TP95-23/05/2024-2.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP95-23/05/2024-2.00m
Moisture content:
9.8%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.8% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.16 mg/kg	0.000216 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.6 mg/kg	1.32	11.433 mg/kg	0.00114 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.4 mg/kg	1.142	2.473 mg/kg	0.000247 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		23.6 mg/kg	1.462	31.112 mg/kg	0.00311 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		34 mg/kg	1.126	34.529 mg/kg	0.00345 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	21.104 mg/kg	0.00135 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.3 mg/kg	1.353	0.366 mg/kg	0.0000366 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.9 mg/kg	1.5	5.277 mg/kg	0.000528 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		42 mg/kg	2.976	112.753 mg/kg	0.0113 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.304 mg/kg	0.00023 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		96 mg/kg	2.774	240.219 mg/kg	0.024 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.8	pH		8.8	pH	8.8 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				56	mg/kg	1.117	56.397	mg/kg	0.00564 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0567 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP95-23/05/2024-2.00m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.32	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.8	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.1	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	4	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	30	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	420	4,000	60,000

Key

User supplied data

Classification of sample: TP100-23/05/2024-2.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP100-23/05/2024-2.50m
Moisture content:
11.5%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11.5% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.119 mg/kg	0.000212 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12.5 mg/kg	1.32	14.606 mg/kg	0.00146 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.4 mg/kg	1.142	2.426 mg/kg	0.000243 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		25.5 mg/kg	1.462	32.984 mg/kg	0.0033 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		36 mg/kg	1.126	35.871 mg/kg	0.00359 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	19 mg/kg	1.56	26.228 mg/kg	0.00168 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2 mg/kg	1.353	0.24 mg/kg	0.000024 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.8 mg/kg	1.5	6.373 mg/kg	0.000637 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		46.1 mg/kg	2.976	121.427 mg/kg	0.0121 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.26 mg/kg	0.000226 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		127 mg/kg	2.774	311.8 mg/kg	0.0312 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.82	pH		8.82	pH	8.82 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		72	mg/kg	1.117	71.144	mg/kg	0.00711 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0672 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP100-23/05/2024-2.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.38	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.82	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.18	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	5	800	15,000
22	fluoride	mg/kg	3	10	150
23	sulphate	mg/kg	12	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	360	4,000	60,000

Key

User supplied data

Classification of sample: TP102-23/05/2024-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP102-23/05/2024-1.50m
Moisture content:
10.5%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 10.5% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.143 mg/kg	0.000214 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.5 mg/kg	1.32	10.044 mg/kg	0.001 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.1 mg/kg	1.142	2.147 mg/kg	0.000215 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		43.7 mg/kg	1.462	57.164 mg/kg	0.00572 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		30 mg/kg	1.126	30.23 mg/kg	0.00302 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	14 mg/kg	1.56	19.544 mg/kg	0.00125 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.3 mg/kg	1.353	0.363 mg/kg	0.0000363 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5 mg/kg	1.5	6.713 mg/kg	0.000671 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		41.2 mg/kg	2.976	109.747 mg/kg	0.011 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.286 mg/kg	0.000229 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		85 mg/kg	2.774	211.043 mg/kg	0.0211 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.75	pH		8.75	pH	8.75 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		64	mg/kg	1.117	63.953	mg/kg	0.0064 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0563 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP102-23/05/2024-1.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.3	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.75	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.16	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	20	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	14	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	430	4,000	60,000

Key

User supplied data

Classification of sample: TP104-23/05/2024-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP104-23/05/2024-1.50m
Moisture content:
11.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11.3% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	3.185 mg/kg	0.000319 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7 mg/kg	1.32	8.198 mg/kg	0.00082 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.5 mg/kg	1.142	2.533 mg/kg	0.000253 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		36 mg/kg	1.462	46.67 mg/kg	0.00467 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		28 mg/kg	1.126	27.963 mg/kg	0.0028 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	14 mg/kg	1.56	19.37 mg/kg	0.00124 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		7.8 mg/kg	1.5	10.379 mg/kg	0.00104 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		60 mg/kg	2.976	158.397 mg/kg	0.0158 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	4.531 mg/kg	0.000453 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		93 mg/kg	2.774	228.842 mg/kg	0.0229 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.66	pH		8.66	pH	8.66 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		116	mg/kg	1.117	114.88	mg/kg	0.0115 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0673 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP104-23/05/2024-1.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.35	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.66	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.12	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	3	800	15,000
22	fluoride	mg/kg	3	10	150
23	sulphate	mg/kg	5	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	370	4,000	60,000

Key

User supplied data

Classification of sample: TP108-23/05/2024-2.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP108-23/05/2024-2.50m
Moisture content:
12.5%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.5% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.095 mg/kg	0.000209 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.7 mg/kg	1.32	8.896 mg/kg	0.00089 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4 mg/kg	1.142	0.4 mg/kg	0.00004 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		24.1 mg/kg	1.462	30.821 mg/kg	0.00308 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		22 mg/kg	1.126	21.673 mg/kg	0.00217 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	14 mg/kg	1.56	19.108 mg/kg	0.00123 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.118 mg/kg	0.0000118 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.3 mg/kg	1.5	4.332 mg/kg	0.000433 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		45.5 mg/kg	2.976	118.493 mg/kg	0.0118 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.235 mg/kg	0.000223 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		24 mg/kg	2.774	58.257 mg/kg	0.00583 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.72	pH		8.72	pH	8.72 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		36	mg/kg	1.117	35.17	mg/kg	0.00352 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0349 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP108-23/05/2024-2.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.4	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.72	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.06	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	5	10	150
23	sulphate	mg/kg	6	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	410	4,000	60,000

Key

User supplied data

Classification of sample: TP110-23/05/2024-2.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP110-23/05/2024-2.00m
Moisture content:
16.2%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 16.2% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.006 mg/kg	0.000201 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.8 mg/kg	1.32	8.63 mg/kg	0.000863 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.5 mg/kg	1.142	1.436 mg/kg	0.000144 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		25.8 mg/kg	1.462	31.599 mg/kg	0.00316 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		32 mg/kg	1.126	30.192 mg/kg	0.00302 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	19 mg/kg	1.56	24.835 mg/kg	0.00159 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.3 mg/kg	1.353	0.34 mg/kg	0.000034 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.4 mg/kg	1.5	5.531 mg/kg	0.000553 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		48.9 mg/kg	2.976	121.962 mg/kg	0.0122 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		58 mg/kg	2.774	134.835 mg/kg	0.0135 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.74	pH		8.74	pH	8.74 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		39	mg/kg	1.117	36.49	mg/kg	0.00365 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0446 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP110-23/05/2024-2.00m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.42	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.74	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.04	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	4	800	15,000
22	fluoride	mg/kg	3	10	150
23	sulphate	mg/kg	5	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	440	4,000	60,000

Key

User supplied data

Classification of sample: TP114-23/05/2024-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP114-23/05/2024-1.50m
Moisture content:
12.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.3% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.1 mg/kg	0.00021 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.6 mg/kg	1.32	7.642 mg/kg	0.000764 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2 mg/kg	1.142	2.004 mg/kg	0.0002 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		40.8 mg/kg	1.462	52.297 mg/kg	0.00523 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		30 mg/kg	1.126	29.622 mg/kg	0.00296 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	13 mg/kg	1.56	17.783 mg/kg	0.00114 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.4 mg/kg	1.353	0.475 mg/kg	0.0000475 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.1 mg/kg	1.5	5.394 mg/kg	0.000539 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		30.9 mg/kg	2.976	80.655 mg/kg	0.00807 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		68 mg/kg	2.774	165.439 mg/kg	0.0165 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.81	pH		8.81	pH	8.81 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		43	mg/kg	1.117	42.105	mg/kg	0.00421 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0456 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP114-23/05/2024-1.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.26	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.81	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.06	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	8	10	150
23	sulphate	mg/kg	27	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	390	4,000	60,000

Key

User supplied data

Classification of sample: TP118-23/05/2024-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP118-23/05/2024-1.50m
Moisture content:
10.5%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 10.5% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.143 mg/kg	0.000214 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.8 mg/kg	1.32	12.762 mg/kg	0.00128 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.8 mg/kg	1.142	2.863 mg/kg	0.000286 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		25.8 mg/kg	1.462	33.749 mg/kg	0.00337 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		37 mg/kg	1.126	37.284 mg/kg	0.00373 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20 mg/kg	1.56	27.921 mg/kg	0.00179 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.121 mg/kg	0.0000121 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.8 mg/kg	1.5	5.102 mg/kg	0.00051 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		45.9 mg/kg	2.976	122.266 mg/kg	0.0122 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.286 mg/kg	0.000229 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		108 mg/kg	2.774	268.149 mg/kg	0.0268 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.63	pH		8.63	pH	8.63 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		59	mg/kg	1.117	58.957	mg/kg	0.0059 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0618 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP118-23/05/2024-1.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.34	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.63	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.04	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	4	10	150
23	sulphate	mg/kg	61	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	580	4,000	60,000

Key

User supplied data

Classification of sample: TP121-23/05/2024-2.80m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP121-23/05/2024-2.80m
Moisture content:
10%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 10% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.155 mg/kg	0.000215 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11.5 mg/kg	1.32	13.665 mg/kg	0.00137 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.1 mg/kg	1.142	2.159 mg/kg	0.000216 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		43.1 mg/kg	1.462	56.694 mg/kg	0.00567 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		34 mg/kg	1.126	34.452 mg/kg	0.00345 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	19 mg/kg	1.56	26.673 mg/kg	0.00171 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.4 mg/kg	1.5	7.291 mg/kg	0.000729 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		47.2 mg/kg	2.976	126.432 mg/kg	0.0126 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.298 mg/kg	0.00023 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		114 mg/kg	2.774	284.627 mg/kg	0.0285 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.63	pH		8.63	pH	8.63 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		66	mg/kg	1.117	66.32	mg/kg	0.00663 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0668 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP121-23/05/2024-2.80m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.39	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.63	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.06	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	45	800	15,000
22	fluoride	mg/kg	3	10	150
23	sulphate	mg/kg	46	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	470	4,000	60,000

Key

User supplied data

Classification of sample: TP124-23/05/2024-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP124-23/05/2024-1.50m
Moisture content:
12.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		1 mg/kg	1.197	1.046 mg/kg	0.000105 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		4.7 mg/kg	1.32	5.424 mg/kg	0.000542 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.9 mg/kg	1.142	0.899 mg/kg	0.0000899 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		24.3 mg/kg	1.462	31.041 mg/kg	0.0031 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		17 mg/kg	1.126	16.728 mg/kg	0.00167 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	9 mg/kg	1.56	12.27 mg/kg	0.000787 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.4 mg/kg	1.353	0.473 mg/kg	0.0000473 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.6 mg/kg	1.5	4.72 mg/kg	0.000472 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		32 mg/kg	2.976	83.24 mg/kg	0.00832 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		38 mg/kg	2.774	92.135 mg/kg	0.00921 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.81	pH		8.81	pH	8.81 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		42	mg/kg	1.117	40.985	mg/kg	0.0041 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0341 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP124-23/05/2024-1.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.25	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.81	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.15	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	3	10	150
23	sulphate	mg/kg	57	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	460	4,000	60,000

Key

User supplied data

Classification of sample: TP125-23/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP125-23/05/2024-0.50m
Moisture content:
8.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.188 mg/kg	0.000219 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.6 mg/kg	1.32	12.792 mg/kg	0.00128 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.1 mg/kg	1.142	2.193 mg/kg	0.000219 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		26.6 mg/kg	1.462	35.534 mg/kg	0.00355 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		34 mg/kg	1.126	34.988 mg/kg	0.0035 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	13 mg/kg	1.56	18.534 mg/kg	0.00119 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.7 mg/kg	1.5	5.073 mg/kg	0.000507 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		41.8 mg/kg	2.976	113.709 mg/kg	0.0114 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		93 mg/kg	2.774	235.808 mg/kg	0.0236 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.76	pH		8.76	pH	8.76 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		59	mg/kg	1.117	60.209	mg/kg	0.00602 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0571 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP125-23/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.28	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.76	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.05	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	4	10	150
23	sulphate	mg/kg	36	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	420	4,000	60,000

Key

User supplied data

Classification of sample: TP125-23/05/2024-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP125-23/05/2024-1.50m
Moisture content:
14.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 14.3% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.052 mg/kg	0.000205 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.8 mg/kg	1.32	7.694 mg/kg	0.000769 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.6 mg/kg	1.142	1.566 mg/kg	0.000157 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		30.5 mg/kg	1.462	38.203 mg/kg	0.00382 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		22 mg/kg	1.126	21.227 mg/kg	0.00212 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	11 mg/kg	1.56	14.704 mg/kg	0.000943 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.4 mg/kg	1.353	0.464 mg/kg	0.0000464 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.6 mg/kg	1.5	4.628 mg/kg	0.000463 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		37.4 mg/kg	2.976	95.395 mg/kg	0.00954 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.189 mg/kg	0.000219 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		62 mg/kg	2.774	147.402 mg/kg	0.0147 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.81	pH		8.81	pH	8.81 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		43	mg/kg	1.117	41.144	mg/kg	0.00411 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0426 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP125-23/05/2024-1.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.21	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.81	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.1	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	3	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	40	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	390	4,000	60,000

Key

User supplied data

Classification of sample: TP127-23/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP127-23/05/2024-0.50m
Moisture content:
9.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.164 mg/kg	0.000216 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.9 mg/kg	1.32	11.816 mg/kg	0.00118 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		3.1 mg/kg	1.142	3.201 mg/kg	0.00032 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		35.2 mg/kg	1.462	46.508 mg/kg	0.00465 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		33 mg/kg	1.126	33.588 mg/kg	0.00336 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	21.151 mg/kg	0.00136 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.3 mg/kg	1.353	0.367 mg/kg	0.0000367 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.3 mg/kg	1.5	4.475 mg/kg	0.000448 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		41.1 mg/kg	2.976	110.581 mg/kg	0.0111 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		82 mg/kg	2.774	205.642 mg/kg	0.0206 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.69	pH		8.69	pH	8.69 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				61	mg/kg	1.117	61.569	mg/kg	0.00616 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.055 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP127-23/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.37	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.69	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	<0.02	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	0.03	4	50
21	chloride	mg/kg	5	800	15,000
22	fluoride	mg/kg	5	10	150
23	sulphate	mg/kg	49	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	520	4,000	60,000

Key

User supplied data

Classification of sample: TP135-23/05/2024-0.80m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP135-23/05/2024-0.80m
Moisture content:
10.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 10.9% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.133 mg/kg	0.000213 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.2 mg/kg	1.32	11.999 mg/kg	0.0012 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		3.2 mg/kg	1.142	3.257 mg/kg	0.000326 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		41.9 mg/kg	1.462	54.564 mg/kg	0.00546 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		33 mg/kg	1.126	33.104 mg/kg	0.00331 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	20.847 mg/kg	0.00134 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.3 mg/kg	1.353	0.362 mg/kg	0.0000362 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.4 mg/kg	1.5	5.881 mg/kg	0.000588 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		45.4 mg/kg	2.976	120.394 mg/kg	0.012 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.275 mg/kg	0.000228 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		99 mg/kg	2.774	244.705 mg/kg	0.0245 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.64	pH		8.64	pH	8.64 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				59	mg/kg	1.117	58.694	mg/kg	0.00587 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0605 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP135-23/05/2024-0.80m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.32	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.64	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.04	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	5	800	15,000
22	fluoride	mg/kg	4	10	150
23	sulphate	mg/kg	59	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	480	4,000	60,000

Key

User supplied data

Classification of sample: TP135-23/05/2024-2.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP135-23/05/2024-2.00m

Moisture content:
11.2%
(wet weight correction)

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11.2% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.126 mg/kg	0.000213 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.3 mg/kg	1.32	12.076 mg/kg	0.00121 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.5 mg/kg	1.142	2.536 mg/kg	0.000254 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		21.9 mg/kg	1.462	28.423 mg/kg	0.00284 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		33 mg/kg	1.126	32.993 mg/kg	0.0033 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	20.777 mg/kg	0.00133 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.4 mg/kg	1.353	0.481 mg/kg	0.0000481 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.9 mg/kg	1.5	5.195 mg/kg	0.00052 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		40.7 mg/kg	2.976	107.567 mg/kg	0.0108 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.268 mg/kg	0.000227 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		99 mg/kg	2.774	243.881 mg/kg	0.0244 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.64	pH		8.64	pH	8.64 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				61	mg/kg	1.117	60.479	mg/kg	0.00605 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0566 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP135-23/05/2024-2.00m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.31	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.64	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.1	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	36	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	460	4,000	60,000

Key

User supplied data

Classification of sample: WS02-22/05/2024-0.20-0.60m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS02-22/05/2024-0.20-0.60m
Moisture content:
12.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.3% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	3.15 mg/kg	0.000315 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.7 mg/kg	1.32	12.39 mg/kg	0.00124 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.4 mg/kg	1.142	2.404 mg/kg	0.00024 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		54.4 mg/kg	1.462	69.729 mg/kg	0.00697 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		38 mg/kg	1.126	37.521 mg/kg	0.00375 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	30 mg/kg	1.56	41.039 mg/kg	0.00263 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.119 mg/kg	0.0000119 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.9 mg/kg	1.5	7.762 mg/kg	0.000776 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		43 mg/kg	2.976	112.238 mg/kg	0.0112 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	4.479 mg/kg	0.000448 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		115 mg/kg	2.774	279.787 mg/kg	0.028 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.32	pH		8.32	pH	8.32 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		0.05	mg/kg		0.0439	mg/kg	0.00000439 %	✓	
27		pyrene		204-927-3	129-00-0		0.05	mg/kg		0.0439	mg/kg	0.00000439 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.03	mg/kg		0.0263	mg/kg	0.00000263 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		66	mg/kg	1.117	64.626	mg/kg	0.00646 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0675 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: WS02-22/05/2024-0.20-0.60m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.7	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.32	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.11	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	8	800	15,000
22	fluoride	mg/kg	7	10	150
23	sulphate	mg/kg	21	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	620	4,000	60,000

Key

User supplied data

Classification of sample: WS03-22/05/2024-0.20-0.90m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS03-22/05/2024-0.20-0.90m
Moisture content:
9.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.164 mg/kg	0.000216 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.4 mg/kg	1.32	11.22 mg/kg	0.00112 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.5 mg/kg	1.142	1.549 mg/kg	0.000155 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		39.1 mg/kg	1.462	51.661 mg/kg	0.00517 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		129 mg/kg	1.126	131.297 mg/kg	0.0131 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	32 mg/kg	1.56	45.122 mg/kg	0.00289 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.122 mg/kg	0.0000122 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.9 mg/kg	1.5	5.289 mg/kg	0.000529 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		32.7 mg/kg	2.976	87.981 mg/kg	0.0088 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		104 mg/kg	2.774	260.814 mg/kg	0.0261 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.2	pH		8.2	pH	8.2 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		0.06	mg/kg		0.0542	mg/kg	0.00000542 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		0.12	mg/kg		0.108	mg/kg	0.0000108 %	✓	
27		pyrene		204-927-3	129-00-0		0.12	mg/kg		0.108	mg/kg	0.0000108 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.09	mg/kg		0.0814	mg/kg	0.00000814 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.09	mg/kg		0.0814	mg/kg	0.00000814 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.1	mg/kg		0.0904	mg/kg	0.00000904 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.04	mg/kg		0.0362	mg/kg	0.00000362 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.09	mg/kg		0.0814	mg/kg	0.00000814 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		0.06	mg/kg		0.0542	mg/kg	0.00000542 %	✓	
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		0.06	mg/kg		0.0542	mg/kg	0.00000542 %	✓	
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		80	mg/kg	1.117	80.746	mg/kg	0.00807 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0719 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: WS03-22/05/2024-0.20-0.90m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.58	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	0.83	100	-
7	pH	pH	8.2	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	0.06	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.1	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	0.03	4	50
21	chloride	mg/kg	10	800	15,000
22	fluoride	mg/kg	7	10	150
23	sulphate	mg/kg	131	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	790	4,000	60,000

Key

User supplied data

Classification of sample: WS03-22/05/2024-1.00-1.30m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS03-22/05/2024-1.00-1.30m
Moisture content:
9.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.164 mg/kg	0.000216 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.4 mg/kg	1.32	11.22 mg/kg	0.00112 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.6 mg/kg	1.142	1.652 mg/kg	0.000165 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		50.6 mg/kg	1.462	66.855 mg/kg	0.00669 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		41 mg/kg	1.126	41.73 mg/kg	0.00417 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	31 mg/kg	1.56	43.712 mg/kg	0.0028 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.2 mg/kg	1.5	7.052 mg/kg	0.000705 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		34.3 mg/kg	2.976	92.286 mg/kg	0.00923 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.309 mg/kg	0.000231 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		102 mg/kg	2.774	255.799 mg/kg	0.0256 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		141 mg/kg		127.464 mg/kg	0.0127 %	✓	
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.58	pH		8.58	pH	8.58 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		0.04	mg/kg		0.0362	mg/kg	0.00000362 %	✓	
27		pyrene		204-927-3	129-00-0		0.03	mg/kg		0.0271	mg/kg	0.00000271 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		82	mg/kg	1.117	82.764	mg/kg	0.00828 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0722 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Solid waste without liquid phase

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0127%)

WAC results for sample: WS03-22/05/2024-1.00-1.30m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.74	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	31	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.58	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	0.05	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.1	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	10	800	15,000
22	fluoride	mg/kg	5	10	150
23	sulphate	mg/kg	101	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	690	4,000	60,000

Key

User supplied data

Classification of sample: WS04-22/05/2024-0.25-1.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS04-22/05/2024-0.25-1.00m
Moisture content:
4.2%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 4.2% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<1 mg/kg	1.197	<1.197 mg/kg	<0.00012 %		<LOD
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.3 mg/kg	1.32	6.704 mg/kg	0.00067 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.766 mg/kg	0.0000766 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		53.3 mg/kg	1.462	74.629 mg/kg	0.00746 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		16 mg/kg	1.126	17.258 mg/kg	0.00173 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	11 mg/kg	1.56	16.437 mg/kg	0.00105 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.2 mg/kg	1.5	7.473 mg/kg	0.000747 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		15.8 mg/kg	2.976	45.05 mg/kg	0.0045 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		48 mg/kg	2.774	127.566 mg/kg	0.0128 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.49	pH		8.49	pH	8.49 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		0.04	mg/kg		0.0383	mg/kg	0.00000383 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		0.05	mg/kg		0.0479	mg/kg	0.00000479 %	✓	
27		pyrene		204-927-3	129-00-0		0.05	mg/kg		0.0479	mg/kg	0.00000479 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.04	mg/kg		0.0383	mg/kg	0.00000383 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		32	mg/kg	1.117	34.228	mg/kg	0.00342 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0383 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: WS04-22/05/2024-0.25-1.00m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.33	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.49	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.12	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	6	800	15,000
22	fluoride	mg/kg	10	10	150
23	sulphate	mg/kg	90	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	660	4,000	60,000

Key

	User supplied data
	Inert WAC criteria fail

Classification of sample: WS04-22/05/2024-1.00-1.15m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS04-22/05/2024-1.00-1.15m
Moisture content:
9.4%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 9.4% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.169 mg/kg	0.000217 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.6 mg/kg	1.32	10.287 mg/kg	0.00103 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.4 mg/kg	1.142	1.449 mg/kg	0.000145 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		48.7 mg/kg	1.462	64.487 mg/kg	0.00645 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		37 mg/kg	1.126	37.742 mg/kg	0.00377 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	21.198 mg/kg	0.00136 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.7 mg/kg	1.5	6.388 mg/kg	0.000639 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		34.2 mg/kg	2.976	92.22 mg/kg	0.00922 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.314 mg/kg	0.000231 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		93 mg/kg	2.774	233.744 mg/kg	0.0234 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.51	pH		8.51	pH	8.51 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				0.04	mg/kg		0.0362	mg/kg	0.00000362 %	✓	
			205-912-4	206-44-0									
27		pyrene				0.04	mg/kg		0.0362	mg/kg	0.00000362 %	✓	
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.04	mg/kg		0.0362	mg/kg	0.00000362 %	✓	
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.07	mg/kg		0.0634	mg/kg	0.00000634 %	✓	
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.03	mg/kg		0.0272	mg/kg	0.00000272 %	✓	
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.06	mg/kg		0.0544	mg/kg	0.00000544 %	✓	
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				0.06	mg/kg		0.0544	mg/kg	0.00000544 %	✓	
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				0.06	mg/kg		0.0544	mg/kg	0.00000544 %	✓	
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				62	mg/kg	1.117	62.716	mg/kg	0.00627 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0582 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: WS04-22/05/2024-1.00-1.15m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.56	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.51	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	0.04	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.19	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	10	800	15,000
22	fluoride	mg/kg	8	10	150
23	sulphate	mg/kg	66	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	590	4,000	60,000

Key

User supplied data

Classification of sample: WS05-22/05/2024-0.20-0.60m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS05-22/05/2024-0.20-0.60m
Moisture content:
12.1%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.1% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	3.157 mg/kg	0.000316 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		14.9 mg/kg	1.32	17.292 mg/kg	0.00173 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.2 mg/kg	1.142	2.209 mg/kg	0.000221 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		86.4 mg/kg	1.462	110.999 mg/kg	0.0111 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		56 mg/kg	1.126	55.421 mg/kg	0.00554 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	75 mg/kg	1.56	102.831 mg/kg	0.00659 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.3 mg/kg	1.353	0.357 mg/kg	0.0000357 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		9.9 mg/kg	1.5	13.055 mg/kg	0.00131 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		45.7 mg/kg	2.976	119.557 mg/kg	0.012 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	4.49 mg/kg	0.000449 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		187 mg/kg	2.774	455.995 mg/kg	0.0456 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.29	pH		8.29	pH	8.29 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		0.11	mg/kg		0.0967	mg/kg	0.00000967 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		0.15	mg/kg		0.132	mg/kg	0.0000132 %	✓	
27		pyrene		204-927-3	129-00-0		0.14	mg/kg		0.123	mg/kg	0.0000123 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.1	mg/kg		0.0879	mg/kg	0.00000879 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.09	mg/kg		0.0791	mg/kg	0.00000791 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.09	mg/kg		0.0791	mg/kg	0.00000791 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.04	mg/kg		0.0352	mg/kg	0.00000352 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.08	mg/kg		0.0703	mg/kg	0.00000703 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		0.05	mg/kg		0.044	mg/kg	0.0000044 %	✓	
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		0.05	mg/kg		0.044	mg/kg	0.0000044 %	✓	
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		79	mg/kg	1.117	77.531	mg/kg	0.00775 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0981 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: WS05-22/05/2024-0.20-0.60m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	1.75	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	0.9	100	-
7	pH	pH	8.29	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	0.05	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.07	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	8	800	15,000
22	fluoride	mg/kg	8	10	150
23	sulphate	mg/kg	8	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	30	500	800
26	TDS (total dissolved solids)	mg/kg	800	4,000	60,000

Key

User supplied data

Classification of sample: WS05-22/05/2024-1.00-1.90m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
WS05-22/05/2024-1.00-1.90m
Moisture content:
22%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 22% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		4 mg/kg	1.197	3.735 mg/kg	0.000373 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		14.1 mg/kg	1.32	14.521 mg/kg	0.00145 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.1 mg/kg	1.142	0.98 mg/kg	0.000098 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		51.5 mg/kg	1.462	58.711 mg/kg	0.00587 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		126 mg/kg	1.126	110.652 mg/kg	0.0111 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	120 mg/kg	1.56	145.999 mg/kg	0.00936 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.4 mg/kg	1.5	3.979 mg/kg	0.000398 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		41.4 mg/kg	2.976	96.11 mg/kg	0.00961 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	3.984 mg/kg	0.000398 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		202 mg/kg	2.774	437.095 mg/kg	0.0437 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				7.92	pH		7.92	pH	7.92 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				0.09	mg/kg		0.0702	mg/kg	0.00000702 %	✓	
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				0.15	mg/kg		0.117	mg/kg	0.0000117 %	✓	
			205-912-4	206-44-0									
27		pyrene				0.14	mg/kg		0.109	mg/kg	0.0000109 %	✓	
			204-927-3	129-00-0									
28		benzo[a]anthracene				0.1	mg/kg		0.078	mg/kg	0.0000078 %	✓	
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				0.1	mg/kg		0.078	mg/kg	0.0000078 %	✓	
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				0.11	mg/kg		0.0858	mg/kg	0.00000858 %	✓	
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				0.04	mg/kg		0.0312	mg/kg	0.00000312 %	✓	
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				0.09	mg/kg		0.0702	mg/kg	0.00000702 %	✓	
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				0.05	mg/kg		0.039	mg/kg	0.0000039 %	✓	
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				0.06	mg/kg		0.0468	mg/kg	0.00000468 %	✓	
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				128	mg/kg	1.117	111.472	mg/kg	0.0111 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.099 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: WS05-22/05/2024-1.00-1.90m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	2.2	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	0.93	100	-
7	pH	pH	7.92	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	0.13	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.08	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	4	10	150
23	sulphate	mg/kg	139	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	1150	4,000	60,000

Key

User supplied data

Classification of sample: TP131-24/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP131-24/05/2024-0.50m
Moisture content:
15.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 15.9% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		4 mg/kg	1.197	4.027 mg/kg	0.000403 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16.1 mg/kg	1.32	17.877 mg/kg	0.00179 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.7 mg/kg	1.142	1.633 mg/kg	0.000163 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		42.1 mg/kg	1.462	51.748 mg/kg	0.00517 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		257 mg/kg	1.126	243.346 mg/kg	0.0243 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	143 mg/kg	1.56	187.588 mg/kg	0.012 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.5 mg/kg	1.353	0.569 mg/kg	0.0000569 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.8 mg/kg	1.5	6.056 mg/kg	0.000606 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		42.7 mg/kg	2.976	106.88 mg/kg	0.0107 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.148 mg/kg	0.000215 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		266 mg/kg	2.774	620.593 mg/kg	0.0621 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		7.88	pH		7.88	pH	7.88 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		0.24	mg/kg		0.202	mg/kg	0.0000202 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		0.3	mg/kg		0.252	mg/kg	0.0000252 %	✓	
27		pyrene		204-927-3	129-00-0		0.26	mg/kg		0.219	mg/kg	0.0000219 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.17	mg/kg		0.143	mg/kg	0.0000143 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.17	mg/kg		0.143	mg/kg	0.0000143 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.19	mg/kg		0.16	mg/kg	0.000016 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.07	mg/kg		0.0589	mg/kg	0.00000589 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.15	mg/kg		0.126	mg/kg	0.0000126 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		0.11	mg/kg		0.0925	mg/kg	0.00000925 %	✓	
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		0.13	mg/kg		0.109	mg/kg	0.0000109 %	✓	
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		100	mg/kg	1.117	93.898	mg/kg	0.00939 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.132 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP131-24/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	2.8	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	1.79	100	-
7	pH	pH	7.88	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	0.07	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	0.15	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.04	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	0.03	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	0.03	4	50
21	chloride	mg/kg	3	800	15,000
22	fluoride	mg/kg	5	10	150
23	sulphate	mg/kg	93	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	50	500	800
26	TDS (total dissolved solids)	mg/kg	710	4,000	60,000

Key

User supplied data

Classification of sample: TP131-24/05/2024-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP131-24/05/2024-1.50m

Moisture content:
10.4%
(wet weight correction)

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 10.4% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.145 mg/kg	0.000215 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11.4 mg/kg	1.32	13.486 mg/kg	0.00135 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2 mg/kg	1.142	2.047 mg/kg	0.000205 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		31.4 mg/kg	1.462	41.12 mg/kg	0.00411 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		33 mg/kg	1.126	33.29 mg/kg	0.00333 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	14 mg/kg	1.56	19.566 mg/kg	0.00125 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.1 mg/kg	1.5	5.511 mg/kg	0.000551 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		41.6 mg/kg	2.976	110.936 mg/kg	0.0111 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	4.576 mg/kg	0.000458 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		89 mg/kg	2.774	221.222 mg/kg	0.0221 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
17		ethylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		pH				8.7	pH		8.7	pH	8.7 pH		
				PH									
20		naphthalene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-883-8	191-24-2									
36		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
37		barium { barium oxide }				52	mg/kg	1.117	52.02	mg/kg	0.0052 %	✓	
			215-127-9	1304-28-5									
38		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									
39		benzo[j]fluoranthene				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		601-035-00-X	205-910-3	205-82-3									
										Total:	0.0553 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP131-24/05/2024-1.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.31	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.7	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.11	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	52	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	550	4,000	60,000

Key

User supplied data

Classification of sample: TP24-20/05/2024-1.70m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP24-20/05/2024-1.70m
Moisture content:
12.7%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.7% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.09 mg/kg	0.000209 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8 mg/kg	1.32	9.221 mg/kg	0.000922 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.698 mg/kg	0.0000698 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		32.5 mg/kg	1.462	41.468 mg/kg	0.00415 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	24.573 mg/kg	0.00246 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	16 mg/kg	1.56	21.787 mg/kg	0.0014 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.7 mg/kg	1.5	6.155 mg/kg	0.000616 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		39.6 mg/kg	2.976	102.892 mg/kg	0.0103 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		48 mg/kg	2.774	116.248 mg/kg	0.0116 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17	●	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19	●	pH			PH		8.72	pH		8.72	pH	8.72 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21	●	acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22	●	acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23	●	fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24	●	phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25	●	anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26	●	fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27	●	pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33	●	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35	●	benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36	●	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { ● barium oxide }		215-127-9	1304-28-5		36	mg/kg	1.117	35.09	mg/kg	0.00351 %	✓	
38	●	coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0409 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP24-20/05/2024-1.70m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.3	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.72	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.09	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	9	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	440	4,000	60,000

Key

User supplied data

Classification of sample: TP29-20/05/2024-0.40m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP29-20/05/2024-0.40m
Moisture content:
18.5%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18.5% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	2.927 mg/kg	0.000293 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12.7 mg/kg	1.32	13.666 mg/kg	0.00137 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.4 mg/kg	1.142	1.303 mg/kg	0.00013 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		35.6 mg/kg	1.462	42.406 mg/kg	0.00424 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		51 mg/kg	1.126	46.798 mg/kg	0.00468 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	28 mg/kg	1.56	35.595 mg/kg	0.00228 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.11 mg/kg	0.000011 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.8 mg/kg	1.5	7.091 mg/kg	0.000709 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		72.4 mg/kg	2.976	175.617 mg/kg	0.0176 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	4.163 mg/kg	0.000416 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		122 mg/kg	2.774	275.833 mg/kg	0.0276 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17	●	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19	●	pH			PH		8.41	pH		8.41	pH	8.41 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21	●	acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22	●	acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23	●	fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24	●	phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25	●	anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26	●	fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27	●	pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33	●	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35	●	benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36	●	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { ● barium oxide }		215-127-9	1304-28-5		63	mg/kg	1.117	57.327	mg/kg	0.00573 %	✓	
38	●	coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0704 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP29-20/05/2024-0.40m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.93	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.41	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.03	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	8	10	150
23	sulphate	mg/kg	30	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	720	4,000	60,000

Key

User supplied data

Classification of sample: TP39-20/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP39-20/05/2024-0.50m
Moisture content:
16.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 16.9% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	2.984 mg/kg	0.000298 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.3 mg/kg	1.32	11.301 mg/kg	0.00113 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1 mg/kg	1.142	0.949 mg/kg	0.0000949 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		58.3 mg/kg	1.462	70.808 mg/kg	0.00708 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		42 mg/kg	1.126	39.296 mg/kg	0.00393 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	137 mg/kg	1.56	177.58 mg/kg	0.0114 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2 mg/kg	1.353	0.225 mg/kg	0.0000225 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.8 mg/kg	1.5	5.984 mg/kg	0.000598 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		33.9 mg/kg	2.976	83.844 mg/kg	0.00838 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		121 mg/kg	2.774	278.943 mg/kg	0.0279 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		113 mg/kg		93.903 mg/kg	0.00939 %	✓	
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.26	pH		8.26	pH	8.26 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		0.08	mg/kg		0.0665	mg/kg	0.00000665 %	✓	
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		0.29	mg/kg		0.241	mg/kg	0.0000241 %	✓	
23		fluorene		201-695-5	86-73-7		0.18	mg/kg		0.15	mg/kg	0.000015 %	✓	
24		phenanthrene		201-581-5	85-01-8		1.68	mg/kg		1.396	mg/kg	0.00014 %	✓	
25		anthracene		204-371-1	120-12-7		0.23	mg/kg		0.191	mg/kg	0.0000191 %	✓	
26		fluoranthene		205-912-4	206-44-0		1.6	mg/kg		1.33	mg/kg	0.000133 %	✓	
27		pyrene		204-927-3	129-00-0		1.36	mg/kg		1.13	mg/kg	0.000113 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.57	mg/kg		0.474	mg/kg	0.0000474 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.7	mg/kg		0.582	mg/kg	0.0000582 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.64	mg/kg		0.532	mg/kg	0.0000532 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.25	mg/kg		0.208	mg/kg	0.0000208 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.52	mg/kg		0.432	mg/kg	0.0000432 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		0.29	mg/kg		0.241	mg/kg	0.0000241 %	✓	
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.08	mg/kg		0.0665	mg/kg	0.00000665 %	✓	
35		benzo[ghi]perylene		205-883-8	191-24-2		0.29	mg/kg		0.241	mg/kg	0.0000241 %	✓	
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		71	mg/kg	1.117	65.875	mg/kg	0.00659 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.078 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because Solid waste without liquid phase

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00939%)

WAC results for sample: TP39-20/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	1.42	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	8.76	100	-
7	pH	pH	8.26	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.05	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	6	800	15,000
22	fluoride	mg/kg	3	10	150
23	sulphate	mg/kg	7	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	<350	4,000	60,000

Key

User supplied data

Classification of sample: TP44-20/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP44-20/05/2024-0.50m
Moisture content:
10.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 10.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.14 mg/kg	0.000214 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.9 mg/kg	1.32	9.325 mg/kg	0.000932 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.8 mg/kg	1.142	0.817 mg/kg	0.0000817 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		29.6 mg/kg	1.462	38.676 mg/kg	0.00387 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		31 mg/kg	1.126	31.203 mg/kg	0.00312 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	14 mg/kg	1.56	19.523 mg/kg	0.00125 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.7 mg/kg	1.5	7.645 mg/kg	0.000764 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		42.2 mg/kg	2.976	112.285 mg/kg	0.0112 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	4.566 mg/kg	0.000457 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		52 mg/kg	2.774	128.965 mg/kg	0.0129 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.42	pH		8.42	pH	8.42 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		0.04	mg/kg		0.0358	mg/kg	0.00000358 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		0.03	mg/kg		0.0268	mg/kg	0.00000268 %	✓	
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		29	mg/kg	1.117	28.947	mg/kg	0.00289 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0432 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP44-20/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.82	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.42	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	0.08	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.13	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	0.15	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	90	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	313	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	1129	4,000	60,000

Key

User supplied data
Inert WAC criteria fail

Classification of sample: TP45-20/05/2024-1.00m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP45-20/05/2024-1.00m
Moisture content:
11.1%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11.1% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.128 mg/kg	0.000213 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.3 mg/kg	1.32	10.916 mg/kg	0.00109 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2 mg/kg	1.142	2.031 mg/kg	0.000203 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		61.7 mg/kg	1.462	80.168 mg/kg	0.00802 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		33 mg/kg	1.126	33.03 mg/kg	0.0033 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	14 mg/kg	1.56	19.413 mg/kg	0.00124 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2 mg/kg	1.353	0.241 mg/kg	0.0000241 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.8 mg/kg	1.5	7.735 mg/kg	0.000774 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		39.5 mg/kg	2.976	104.513 mg/kg	0.0105 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		88 mg/kg	2.774	217.027 mg/kg	0.0217 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.77	pH		8.77	pH	8.77 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		55	mg/kg	1.117	54.592	mg/kg	0.00546 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0582 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP45-20/05/2024-1.00m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.36	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.77	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.12	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	<5	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	350	4,000	60,000

Key

User supplied data

Classification of sample: TP47-20/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP47-20/05/2024-0.50m
Moisture content:
10.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 10.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		3 mg/kg	1.197	3.211 mg/kg	0.000321 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.7 mg/kg	1.32	11.45 mg/kg	0.00114 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.9 mg/kg	1.142	1.94 mg/kg	0.000194 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		76.9 mg/kg	1.462	100.48 mg/kg	0.01 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		33 mg/kg	1.126	33.216 mg/kg	0.00332 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	24 mg/kg	1.56	33.467 mg/kg	0.00215 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.3 mg/kg	1.5	7.108 mg/kg	0.000711 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		49.5 mg/kg	2.976	131.709 mg/kg	0.0132 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.283 mg/kg	0.000228 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		102 mg/kg	2.774	252.969 mg/kg	0.0253 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.56	pH		8.56	pH	8.56 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		81	mg/kg	1.117	80.851	mg/kg	0.00809 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0701 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP47-20/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.52	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.56	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.11	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	4	800	15,000
22	fluoride	mg/kg	7	10	150
23	sulphate	mg/kg	63	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	480	4,000	60,000

Key

User supplied data

Classification of sample: TP48-20/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP48-20/05/2024-0.50m
Moisture content:
11.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.116 mg/kg	0.000212 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.2 mg/kg	1.32	11.905 mg/kg	0.00119 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.9 mg/kg	1.142	1.919 mg/kg	0.000192 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		26.1 mg/kg	1.462	33.722 mg/kg	0.00337 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		29 mg/kg	1.126	28.863 mg/kg	0.00289 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	13 mg/kg	1.56	17.925 mg/kg	0.00115 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.2 mg/kg	1.5	5.57 mg/kg	0.000557 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		39 mg/kg	2.976	102.61 mg/kg	0.0103 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		98 mg/kg	2.774	240.33 mg/kg	0.024 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.65	pH		8.65	pH	8.65 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		49	mg/kg	1.117	48.363	mg/kg	0.00484 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0544 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP48-20/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.22	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.65	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.08	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	<3	10	150
23	sulphate	mg/kg	<5	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	370	4,000	60,000

Key

User supplied data

Classification of sample: TP118-17/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP118-17/05/2024-0.50m
Moisture content:
15%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 15% Wet Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2	mg/kg	1.197	2.035	mg/kg	0.000204 %	✓	
2		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		11.3	mg/kg	1.32	12.682	mg/kg	0.00127 %	✓	
3		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.9	mg/kg	1.142	1.845	mg/kg	0.000184 %	✓	
4		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		57.3	mg/kg	1.462	71.185	mg/kg	0.00712 %	✓	
5		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<**LOD**
6		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		32	mg/kg	1.126	30.624	mg/kg	0.00306 %	✓	
7		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	25	mg/kg	1.56	33.146	mg/kg	0.00213 %	✓	
8		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<**LOD**
9		molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		4.8	mg/kg	1.5	6.121	mg/kg	0.000612 %	✓	
10		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		52.4	mg/kg	2.976	132.563	mg/kg	0.0133 %	✓	
11		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2	mg/kg	2.554	4.342	mg/kg	0.000434 %	✓	
12		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		120	mg/kg	2.774	282.963	mg/kg	0.0283 %	✓	
13		TPH (C6 to C40) petroleum group			TPH		<52	mg/kg		<52	mg/kg	<0.0052 %		<**LOD**
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.14	pH		8.14	pH	8.14 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
27		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		87	mg/kg	1.117	82.566	mg/kg	0.00826 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0703 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP118-17/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.64	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.14	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.05	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	<3	800	15,000
22	fluoride	mg/kg	4	10	150
23	sulphate	mg/kg	88	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	20	500	800
26	TDS (total dissolved solids)	mg/kg	800	4,000	60,000

Key

User supplied data

Classification of sample: TP120-17/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP120-17/05/2024-0.50m
Moisture content:
11.9%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11.9% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.109 mg/kg	0.000211 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.4 mg/kg	1.32	10.934 mg/kg	0.00109 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.5 mg/kg	1.142	1.51 mg/kg	0.000151 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		27.7 mg/kg	1.462	35.667 mg/kg	0.00357 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		26 mg/kg	1.126	25.79 mg/kg	0.00258 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20 mg/kg	1.56	27.484 mg/kg	0.00176 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.4 mg/kg	1.5	4.494 mg/kg	0.000449 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		39.9 mg/kg	2.976	104.621 mg/kg	0.0105 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.25 mg/kg	0.000225 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		79 mg/kg	2.774	193.078 mg/kg	0.0193 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.59	pH		8.59	pH	8.59 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26		fluoranthene		205-912-4	206-44-0		0.06	mg/kg		0.0529	mg/kg	0.00000529 %	✓	
27		pyrene		204-927-3	129-00-0		0.06	mg/kg		0.0529	mg/kg	0.00000529 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		79	mg/kg	1.117	77.708	mg/kg	0.00777 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.053 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP120-17/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.45	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.59	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.05	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	4	800	15,000
22	fluoride	mg/kg	5	10	150
23	sulphate	mg/kg	<5	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	590	4,000	60,000

Key

User supplied data

Classification of sample: TP121-17/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP121-17/05/2024-0.50m
Moisture content:
12.6%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.093 mg/kg	0.000209 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.9 mg/kg	1.32	10.27 mg/kg	0.00103 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.5 mg/kg	1.142	1.498 mg/kg	0.00015 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		51.5 mg/kg	1.462	65.786 mg/kg	0.00658 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		28 mg/kg	1.126	27.553 mg/kg	0.00276 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	25 mg/kg	1.56	34.082 mg/kg	0.00219 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.118 mg/kg	0.0000118 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		5.5 mg/kg	1.5	7.211 mg/kg	0.000721 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		41.1 mg/kg	2.976	106.912 mg/kg	0.0107 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	4.464 mg/kg	0.000446 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		84 mg/kg	2.774	203.667 mg/kg	0.0204 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
19		pH			PH		8.53	pH		8.53	pH	8.53 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
23		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
24		phenanthrene		201-581-5	85-01-8		0.03	mg/kg		0.0262	mg/kg	0.00000262 %	✓	
25		anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
26		fluoranthene		205-912-4	206-44-0		0.07	mg/kg		0.0612	mg/kg	0.00000612 %	✓	
27		pyrene		204-927-3	129-00-0		0.07	mg/kg		0.0612	mg/kg	0.00000612 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
33		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
35		benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
37		barium { barium oxide }		215-127-9	1304-28-5		47	mg/kg	1.117	45.864	mg/kg	0.00459 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
											Total:	0.0552 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP121-17/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.75	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.53	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.03	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	5	800	15,000
22	fluoride	mg/kg	7	10	150
23	sulphate	mg/kg	10	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	20	500	800
26	TDS (total dissolved solids)	mg/kg	720	4,000	60,000

Key

User supplied data

Classification of sample: TP123-17/05/2024-0.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP123-17/05/2024-0.50m

Moisture content:
18.3%
(wet weight correction)

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18.3% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		4 mg/kg	1.197	3.912 mg/kg	0.000391 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		17.5 mg/kg	1.32	18.877 mg/kg	0.00189 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.3 mg/kg	1.142	2.147 mg/kg	0.000215 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		76.2 mg/kg	1.462	90.99 mg/kg	0.0091 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<**LOD**
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		131 mg/kg	1.126	120.5 mg/kg	0.0121 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	144 mg/kg	1.56	183.509 mg/kg	0.0118 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.5 mg/kg	1.353	0.553 mg/kg	0.0000553 %	✓	
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		8.3 mg/kg	1.5	10.173 mg/kg	0.00102 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		51.4 mg/kg	2.976	124.985 mg/kg	0.0125 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		3 mg/kg	2.554	6.259 mg/kg	0.000626 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		215 mg/kg	2.774	487.293 mg/kg	0.0487 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		pH			PH		8.32	pH		8.32	pH	8.32 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		0.06	mg/kg		0.049	mg/kg	0.0000049 %	✓	
21		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23		fluorene		201-695-5	86-73-7		0.1	mg/kg		0.0817	mg/kg	0.00000817 %	✓	
24		phenanthrene		201-581-5	85-01-8		1.09	mg/kg		0.891	mg/kg	0.0000891 %	✓	
25		anthracene		204-371-1	120-12-7		0.15	mg/kg		0.123	mg/kg	0.0000123 %	✓	
26		fluoranthene		205-912-4	206-44-0		1.11	mg/kg		0.907	mg/kg	0.0000907 %	✓	
27		pyrene		204-927-3	129-00-0		0.97	mg/kg		0.792	mg/kg	0.0000792 %	✓	
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.46	mg/kg		0.376	mg/kg	0.0000376 %	✓	
29		chrysene	601-048-00-0	205-923-4	218-01-9		0.56	mg/kg		0.458	mg/kg	0.0000458 %	✓	
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.49	mg/kg		0.4	mg/kg	0.00004 %	✓	
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.19	mg/kg		0.155	mg/kg	0.0000155 %	✓	
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.45	mg/kg		0.368	mg/kg	0.0000368 %	✓	
33		indeno[123-cd]pyrene		205-893-2	193-39-5		0.22	mg/kg		0.18	mg/kg	0.000018 %	✓	
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.07	mg/kg		0.0572	mg/kg	0.00000572 %	✓	
35		benzo[ghi]perylene		205-883-8	191-24-2		0.22	mg/kg		0.18	mg/kg	0.000018 %	✓	
36		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { barium oxide }		215-127-9	1304-28-5		118	mg/kg	1.117	107.638	mg/kg	0.0108 %	✓	
38		coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.115 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP123-17/05/2024-0.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	3.36	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	6.14	100	-
7	pH	pH	8.32	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.06	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	0.04	4	50
21	chloride	mg/kg	8	800	15,000
22	fluoride	mg/kg	5	10	150
23	sulphate	mg/kg	7	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	30	500	800
26	TDS (total dissolved solids)	mg/kg	830	4,000	60,000

Key

	User supplied data
	Inert WAC criteria fail

Classification of sample: TP123-17/05/2024-1.50m

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP123-17/05/2024-1.50m
Moisture content:
11.3%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11.3% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		2 mg/kg	1.197	2.124 mg/kg	0.000212 %	✓	
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.7 mg/kg	1.32	11.36 mg/kg	0.00114 %	✓	
3	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.8 mg/kg	1.142	1.824 mg/kg	0.000182 %	✓	
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		22.6 mg/kg	1.462	29.299 mg/kg	0.00293 %	✓	
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
6	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		29 mg/kg	1.126	28.961 mg/kg	0.0029 %	✓	
7	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	20.753 mg/kg	0.00133 %	✓	
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
9	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3 mg/kg	1.5	3.992 mg/kg	0.000399 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		37.3 mg/kg	2.976	98.47 mg/kg	0.00985 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.265 mg/kg	0.000227 %	✓	
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		83 mg/kg	2.774	204.235 mg/kg	0.0204 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
15	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
16	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
17	●	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19	●	pH			PH		8.73	pH		8.73	pH	8.73 pH		
20		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
21	●	acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
22	●	acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23	●	fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
24	●	phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
25	●	anthracene		204-371-1	120-12-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
26	●	fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
27	●	pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
28		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<LOD
29		chrysene	601-048-00-0	205-923-4	218-01-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
30		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
32		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
33	●	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
34		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
35	●	benzo[ghi]perylene		205-883-8	191-24-2		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
36	●	polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
37		barium { ● barium oxide }		215-127-9	1304-28-5		53	mg/kg	1.117	52.488	mg/kg	0.00525 %	✓	
38	●	coronene		205-881-7	191-07-1		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
39		benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
											Total:	0.0503 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

WAC results for sample: TP123-17/05/2024-1.50m

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "Ireland"
The WAC used in this report are the WAC defined for the inert and non-hazardous classes of landfill in the Republic of Ireland. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample PASSES the Inert (Inert waste landfill) criteria.

The sample PASSES the Non Haz (Non hazardous waste landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits	
#	Determinand		User entered data	Inert waste landfill	Non hazardous waste landfill
1	TOC (total organic carbon)	%	0.33	3	5
2	LOI (loss on ignition)	%		-	-
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.025	6	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.035	1	-
5	Mineral oil (C10 to C40)	mg/kg	<30	500	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<0.64	100	-
7	pH	pH	8.73	-	>6
8	ANC (acid neutralisation capacity)	mol/kg		-	-
Eluate Analysis 10:1					
9	arsenic	mg/kg	<0.025	0.5	2
10	barium	mg/kg	<0.03	20	100
11	cadmium	mg/kg	<0.005	0.04	1
12	chromium	mg/kg	<0.015	0.5	10
13	copper	mg/kg	<0.07	2	50
14	mercury	mg/kg	<0.0001	0.01	0.2
15	molybdenum	mg/kg	0.03	0.5	10
16	nickel	mg/kg	<0.02	0.4	10
17	lead	mg/kg	<0.05	0.5	10
18	antimony	mg/kg	<0.02	0.06	0.7
19	selenium	mg/kg	<0.03	0.1	0.5
20	zinc	mg/kg	<0.03	4	50
21	chloride	mg/kg	8	800	15,000
22	fluoride	mg/kg	4	10	150
23	sulphate	mg/kg	27	1,000	20,000
24	phenol index	mg/kg	<0.1	1	-
25	DOC (dissolved organic carbon)	mg/kg	<20	500	800
26	TDS (total dissolved solids)	mg/kg	500	4,000	60,000

Key

User supplied data

Appendix A: Classifier defined and non EU CLP determinands

chromium(III) oxide (worst case) (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

ethylbenzene (EC Number: 202-849-4, CAS Number: 100-41-4)

EU CLP index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
03 Jun 2015 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

- **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **polychlorobiphenyls; PCB** (EC Number: 215-648-1, CAS Number: 1336-36-3)

EU CLP index number: 602-039-00-4
Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
29 Sep 2015 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

- **barium oxide** (EC Number: 215-127-9, CAS Number: 1304-28-5)

Description/Comments: Data from ECHA's C&L Inventory Database, Sigma Aldrich SDS dated 6/2/20
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/88825
Data source date: 02 Apr 2020
Hazard Statements: Acute Tox. 3; H301 , Skin Corr. 1B; H314 , Eye Dam. 1; H318 , Acute Tox. 1; H332

- **coronene** (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.
Data source: http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en
Data source date: 16 Jun 2014
Hazard Statements: STOT SE 2; H371

Appendix B: Rationale for selection of metal species

antimony {antimony trioxide}

Worst case CLP species based on hazard statements/molecular weight and low solubility. Industrial sources include: flame retardants in electrical apparatus, textiles and coatings (edit as required)

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

molybdenum {molybdenum(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

barium {barium oxide}

Cr VI not detected or detected in one instance at very low levels

Appendix C: Version

HazWasteOnline Classification Engine: EU WM3 1st Edition v1.1.NI using the EU LoW
HazWasteOnline Classification Engine Version: 2024.158.6092.11254 (06 Jun 2024)
HazWasteOnline Database: 2024.158.6092.11254 (06 Jun 2024)

This classification utilises the following guidance and legislation:
WM3 v1.1.NI - Waste Classification - 1st Edition v1.1.NI - Jan 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
17th ATP - Regulation (EU) 2021/849 of 11 March 2021
18th ATP - Regulation (EU) 2022/692 of 16 February 2022
POPs Amendment 2022 - Regulation (EU) 2022/2400 of 23 November 2022
19th ATP - Regulation (EU) 2023/1434 of 25 April 2023
20th ATP - Regulation (EU) 2023/1435 of 2 May 2023
21st ATP - Regulation (EU) 2024/197 of 19 October 2023

APPENDIX 6 – Waste Acceptance and SRF Suitability Summary Table

Landfill Waste Acceptance Criteria Category - Only Applicable to Material Being Disposed of to Landfill

Cherry Orchard Sites 4 & 5

Sample ID	Spoil Heap A	Spoil Heap B	WS01	WS01	WS02	WS02	WS03	WS03	WS04	WS04	WS05	WS05	TP-01	TP-03	TP-03	TP-06	TP-07	TP-09					
Sample Depth (m)	**0.50**	**0.50**	**0.50-0.90**	**0.90-1.40**	**0.20-0.60**	**1.00-1.40**	**0.20-0.90**	**1.00-1.30**	**0.25-1.00**	**1.00-1.15**	**0.20-0.60**	**1.00-1.90**	**0.50**	**0.50**	**1.50**	**0.50**	**0.50**	**0.50**					
Material Description	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Clay	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material					
Sample Date	**07/06/2024**	**07/06/2024**	**22/05/2024**	**22/05/2024**	**22/05/2024**	**22/05/2024**	**22/05/2024**	**22/05/2024**	**22/05/2024**	**22/05/2024**	**22/05/2024**	**22/05/2024**	**23/08/2022**	**23/08/2022**	**23/08/2022**	**23/08/2022**	**23/08/2022**	**23/08/2022**					
LoW Code	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**					
Landfill Waste Acceptance Criteria Category	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1 Criteria**	**Category B2 Criteria**	**Hazardous Criteria**	**LOD LOR**	**Units**
Metals																							
Antimony	2	2	2	<1	3	3	2	2	<1	2	3	4	3	2	2	3	2	3	-	-	HazWaste	<1	mg/kg
Arsenic	11.7	9.8	7.8	3.8	10.7	12	9.4	9.4	5.3	8.6	14.9	14.1	11.2	7.6	7.8	12.6	8.6	12.4	-	-	HazWaste	<0.5	mg/kg
Barium	79	46	38	14	66	95	80	82	32	62	79	128	92	51	50	91	41	56	-	-	HazWaste	<1	mg/kg
Cadmium	1.4	1.8	1.7	0.6	2.4	1.4	1.5	1.6	0.7	1.4	2.2	1.1	2.3	1.4	1.7	1.7	1.6	2.1	-	-	HazWaste	<0.1	mg/kg
Chromium	54.3	39.6	33.7	15.1	54.4	77.1	39.1	50.6	53.3	48.7	86.4	51.5	70.7	31.5	33.2	47.2	30.2	32.7	-	-	HazWaste	<0.5	mg/kg
Copper	42	49	20	6	38	42	129	41	16	37	56	126	26	23	25	43	25	33	-	-	HazWaste	<1	mg/kg
Lead	39	48	12	<5	30	66	32	31	11	15	75	120	60	12	13	36	11	16	-	-	HazWaste	<5	mg/kg
Mercury	<0.1	<0.1	<0.1	<0.1	0.1	1.3	0.1	<0.1	<0.1	<0.1	0.3	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	-	-	HazWaste	<0.1	mg/kg
Molybdenum	5	4	3.4	1.5	5.9	6.3	3.9	5.2	5.2	4.7	9.9	3.4	5.5	3.8	4.4	4.7	3.6	4.1	-	-	HazWaste	<0.1	mg/kg
Nickel	35.5	31.8	26.7	8.6	43	34.4	32.7	34.3	15.8	34.2	45.7	41.4	44.1	33.7	35.8	49.7	33.7	45.8	-	-	HazWaste	<0.7	mg/kg
Selenium	2	2	<1	<1	2	1	<1	1	<1	1	2	2	1	<1	<1	2	<1	1	-	-	HazWaste	<1	mg/kg
Zinc	112	103	65	31	115	126	104	102	48	93	187	202	97	67	80	124	72	100	-	-	HazWaste	<5	mg/kg
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	HazWaste	<0.3	mg/kg
pH (solid sample)	8.57	8.37	8.46	8.83	8.32	8.12	8.2	8.58	8.49	8.51	8.29	7.92	8.38	8.56	8.68	8.03	8.59	8.47	-	-	HazWaste	<0.01	pH units
alkali reserve	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000	gNaOH/100g
Asbestos																							
Asbestos (Dry Weight)	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	-	0.1	<0.001	%
Asbestos (Moisture Corrected Weight)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	%
ACM Detected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Presence	Presence
PAHs																							
Naphthalene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Acenaphthylene	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Acenaphthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	HazWaste	<0.05	mg/kg
Fluorene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Phenanthrene	0.04	0.07	<0.03	<0.03	<0.03	0.11	0.06	<0.03	0.04	<0.03	0.11	0.09	0.07	<0.03	<0.03	0.04	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Anthracene	<0.04	0.08	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Fluoranthene	0.09	0.15	<0.03	<0.03	0.05	0.16	0.12	0.04	0.05	0.04	0.15	0.15	0.11	<0.03	<0.03	0.06	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Pyrene	0.09	0.17	<0.03	<0.03	0.05	0.14	0.12	0.03	0.05	0.04	0.14	0.14	0.1	<0.03	<0.03	0.04	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Benzo(a)anthracene	0.09	0.13	<0.06	<0.06	<0.06	0.09	0.09	<0.06	<0.06	<0.06	0.1	0.1	0.08	<0.06	<0.06	<0.06	<0.06	<0.06	-	-	HazWaste	<0.06	mg/kg
Chrysene	0.08	0.14	<0.02	<0.02	0.03	0.1	0.09	<0.02	0.04	0.04	0.09	0.1	0.08	<0.02	<0.02	0.04	<0.02	<0.02	-	-	HazWaste	<0.02	mg/kg
Benzo(bk)fluoranthene	0.12	0.23	<0.07	<0.07	<0.07	0.14	0.14	<0.07	<0.07	0.1	0.13	0.15	0.11	<0.07	<0.07	<0.07	<0.07	<0.07	-	-	HazWaste	<0.07	mg/kg
Benzo(a)pyrene	0.07	0.14	<0.04	<0.04	<0.04	0.08	0.09	<0.04	<0.04	0.06	0.08	0.09	0.06	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Indeno(123cd)pyrene	0.04	0.09	<0.04	<0.04	<0.04	<0.04	0.06	<0.04	<0.04	0.06	0.05	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
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	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Benzo(ghi)perylene	0.05	0.1	<0.04	<0.04	<0.04	<0.04	0.06	<0.04	<0.04	0.06	0.05	0.06	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
PAH 6 Total	0.37	0.71	<0.22	<0.22	<0.22	0.38	0.47	<0.22	<0.22	0.32	0.46	0.5	0.28	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg
PAH 17 Total	0.67	1.34	<0.64	<0.64	<0.64	0.82	0.83	<0.64	<0.64	<0.64	0.9	0.93	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	100	-	<0.64	mg/kg
Benzo(b)fluoranthene	0.09	0.17	<0.05	<0.05	<0.05	0.1	0.1	<0.05	<0.05	0.07	0.09	0.11	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	HazWaste	<0.05	mg/kg
Benzo(k)fluoranthene	0.03	0.06	<0.02	<0.02	<0.02	0.04	0.04	<0.02	<0.02	0.03	0.04	0.04	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	HazWaste	<0.02	mg/kg
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	HazWaste	<1	mg/kg
Hydrocarbons																							
TPH (C5-40)	84	<52	<52	<52	<52	<52	<52	141	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	-	-	HazWaste	<52	mg/kg
MTBE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Toluene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
m/p-Xylene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
o-Xylene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Total 7 PCBs	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	1,000	1,000	HazWaste	<35	ug/kg
WAC Solid Sample Summary**																							
Total Organic Carbon *	0.93	1.18	2.21	0.15	0.70	1.84	0.58	0.74	0.33	0.56	1.75	2.20	0.91	0.26	0.21	0.91	0.34	0.41	3	6	-	<0.02	%
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	6	-	<0.025	mg/kg
Sum of 7 PCBs	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	1	-	<0.035	mg/kg
Mineral Oil	34	<30	<30	<30	<30	<30	<30	31	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	500	-	<30	mg/kg
PAH Sum of 6	0.37	0.71	<0.22	<0.22	<0.22	0.38	0.47	<0.22	<0.22	0.32	0.46	0.50	0.28	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg
PAH Sum of 17	0.67	1.34	<0.64	<0.64	<0.64	0.82	0.83	<0.64	<0.64	<0.64	0.90	0.93	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	100	-	<0.64	mg/kg
WAC Leachate Data**																							
Arsenic	<0.025	<0.025	<0.025	<0.025	<0.025	0.031	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	1.5	-	<0.025	mg/kg
Barium	<0.03	<0.03	<0.03	<0.03	0.03	0.18	0.06	0.05	<0.03	0.04	0.05	0.13	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	20	20	-	<0.03	mg/kg
Cadmium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	0.04	-	<0.005	mg/kg
Chromium	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	0.5	-	<0.015	mg/kg
Copper	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	2	-	<0.07	mg/kg
Mercury	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.01	-	<0.0001	mg/kg
Molybdenum	0.07	0.04	0.09	0.05	0.11	0.09	0.10	0.10	0.12	0.19	0.07	0.08	<0.02	0.05	0.13	<0.02	0.06	<0.02	0.5	1.5	-	<0.02	mg/kg
Nickel	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	0.4	-	<0.02	mg/kg
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	0.5	-	<0.05	mg/kg
Antimony	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.18	-	<0.02	mg/kg
Selenium	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.3	-	<0.03	mg/kg
Zinc	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	4	-	<0.03	mg/kg
Total Dissolved Solids	700	570	490	<350	620	1350	790	690	660	590	800	1150	650	480	390	820	560	460	4000	12,000	-	<350	mg/kg
Dissolved Organic Carbon	<20	<20	<20	<20	<20	30	<20	<20	<20	<20	30	<20	30	20	30	30	<20	20	500	500	-	<20	mg/kg
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	1	-	<0.1	mg/kg
Fluoride	5	4	4	<3	7	5	7	5	10	8	8	4	4	3	<3	4	<3	5	10	10	-	<3	mg/kg
Sulphate as SO4	30	<5	7	10	21	245	131	101	90	66	8	139	6	8	9	220	<5	7	1000	3,000	-	<0.5	mg/kg
Chloride	5	<3	7	10	8	11	10	10	6	10	8	<3	4	5	7	6	<3	5	800	2,400	-	<3	mg/kg

NAD- no asbestos detected

* - Integrated Materials Solutions Landfill, Hollywood Great, Nag's Head, The Naul, Co. Dublin

** - limits as specified in Council Decision 2003/33/EC

Landfill Waste Acceptance Criteria Category - Only Applicable to Material Being Disposed of to Landfill

Cherry Orchard Sites 4 & 5

Sample ID	TP-10	TP-10	TP-11	TP-11	TP-12	TP-13	TP-13	TP-14	TP-23	TP-23	TP-24	TP24	TP29	TP33	TP33	TP39	TP44	TP45					
Sample Depth (m)	**0.50**	**1.50**	**0.50**	**1.50**	**0.50**	**0.50**	**1.50**	**0.50**	**0.50**	**1.50**	**0.50**	**1.70**	**0.40**	**0.50**	**1.50**	**0.50**	**0.50**	**1.00**					
Material Description	**Made Ground <2% Anthropogenic Material**	**Clay**	**Made Ground <2% Anthropogenic Material**	**Made Ground <2% Anthropogenic Material**	**Made Ground <2% Anthropogenic Material**	**Made Ground <2% Anthropogenic Material**	**Made Ground <2% Anthropogenic Material**	**Made Ground <2% Anthropogenic Material**	**Clay**	**Clay**	**Clay**	**Clay**	**Clay**	**Clay**	**Gravel**	**Made Ground <2% Anthropogenic Material**	**Clay**	**Clay**					
Sample Date	**23/08/2022**	**23/08/2022**	**23/08/2022**	**23/08/2022**	**23/08/2022**	**23/08/2022**	**23/08/2022**	**23/08/2022**	**03/07/2024**	**03/07/2024**	**21/06/2024**	**20/05/2024**	**20/05/2024**	**31/05/2024**	**31/05/2024**	**20/05/2024**	**20/05/2024**	**20/05/2024**					
LoW Code	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**Category B1 Criteria**	**Category B2 Criteria**	**Hazardous Criteria**	**LOD LOR**	**Units**
Landfill Waste Acceptance Criteria Category	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B2**	**Category B1**					
Metals																							
Antimony	2	4	2	3	2	4	1	3	1	2	2	2	3	2	1	3	2	2	-	-	HazWaste	<1	mg/kg
Arsenic	8.7	15	11.1	15.4	8.9	9.8	7.8	11.5	9.3	7.3	11.1	8	12.7	8.2	7.1	10.3	7.9	9.3	-	-	HazWaste	<0.5	mg/kg
Barium	51	106	82	135	51	94	105	85	49	109	62	36	63	41	49	71	29	55	-	-	HazWaste	<1	mg/kg
Cadmium	1.6	1.9	1.7	3.1	1.1	2.3	0.7	1	1.1	1.6	2.7	0.7	1.4	2	1.8	1	0.8	2	-	-	HazWaste	<0.1	mg/kg
Chromium	42.1	51.8	42.7	73.9	38.2	35.6	42.8	47.7	29.2	19.1	29.4	32.5	35.6	70.5	21.5	58.3	29.6	61.7	-	-	HazWaste	<0.5	mg/kg
Copper	28	59	31	43	31	32	27	153	23	28	36	25	51	28	22	42	31	33	-	-	HazWaste	<1	mg/kg
Lead	12	51	25	93	27	17	20	85	16	14	17	16	28	13	12	137	14	14	-	-	HazWaste	<5	mg/kg
Mercury	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.2	<0.1	0.2	-	-	HazWaste	<0.1	mg/kg
Molybdenum	4.8	5.3	5.5	7.2	3.3	5.8	3.8	3.8	3.3	3.3	3.7	4.7	5.8	6.8	3.4	4.8	5.7	5.8	-	-	HazWaste	<0.1	mg/kg
Nickel	40.4	56.1	42	49.1	32.5	51.1	34.7	43.1	35.8	36.5	56.3	39.6	72.4	31.4	28.8	33.9	42.2	39.5	-	-	HazWaste	<0.7	mg/kg
Selenium	<1	2	1	2	<1	2	1	1	<1	<1	1	<1	2	1	<1	<1	2	<1	-	-	HazWaste	<1	mg/kg
Zinc	94	159	115	158	126	105	90	282	100	75	97	48	122	79	68	121	52	88	-	-	HazWaste	<5	mg/kg
Hexavalent Chromium	1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	HazWaste	<0.3	mg/kg
pH (solid sample)	8.53	8.2	8.35	7.5	8.3	8.43	8.15	8.24	8.69	8.73	8.87	8.72	8.41	8.39	8.66	8.26	8.42	8.77	-	-	HazWaste	<0.01	pH units
alkali reserve	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000	gNaOH/100g
Asbestos																							
Asbestos (Dry Weight)	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	-	0.1	<0.001	%
Asbestos (Moisture Corrected Weight)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	%
ACM Detected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Presence	Presence
PAHs																							
Naphthalene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.08	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Acenaphthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.29	<0.05	<0.05	-	-	HazWaste	<0.05	mg/kg
Fluorene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.18	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Phenanthrene	<0.03	0.04	0.14	0.08	0.05	<0.03	0.08	0.12	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.68	0.04	<0.03	-	-	HazWaste	<0.03	mg/kg
Anthracene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.23	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Fluoranthene	<0.03	0.07	0.16	0.14	0.07	<0.03	<0.03	0.21	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.6	0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Pyrene	<0.03	0.07	0.13	0.13	0.06	<0.03	0.07	0.19	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	1.36	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Benzo(a)anthracene	<0.06	0.08	0.11	0.11	0.07	<0.06	<0.06	0.14	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.57	<0.06	<0.06	-	-	HazWaste	<0.06	mg/kg
Chrysene	<0.02	0.06	0.07	0.09	0.05	<0.02	0.04	0.12	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.7	<0.02	<0.02	-	-	HazWaste	<0.02	mg/kg
Benzo(bk)fluoranthene	<0.07	0.09	0.12	0.15	0.07	<0.07	<0.07	0.22	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.89	<0.07	<0.07	-	-	HazWaste	<0.07	mg/kg
Benzo(a)pyrene	<0.04	<0.04	0.05	0.07	<0.04	<0.04	<0.04	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.52	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Indeno(123cd)pyrene	<0.04	<0.04	<0.04	0.05	<0.04	<0.04	<0.04	0.09	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.29	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
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	<0.04	<0.04	<0.04	<0.04	0.08	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Benzo(ghi)perylene	<0.04	<0.04	<0.04	0.05	<0.04	<0.04	<0.04	0.08	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.29	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
PAH 6 Total	<0.22	<0.22	0.33	0.46	<0.22	<0.22	<0.22	0.71	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	3.59	<0.22	<0.22	-	-	-	<0.22	mg/kg
PAH 17 Total	<0.64	<0.64	0.78	0.87	<0.64	<0.64	<0.64	1.28	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	8.76	<0.64	<0.64	100	100	-	<0.64	mg/kg
Benzo(b)fluoranthene	<0.05	0.06	0.09	0.11	0.05	<0.05	<0.05	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.64	<0.05	<0.05	-	-	HazWaste	<0.05	mg/kg
Benzo(k)fluoranthene	<0.02	0.03	0.03	0.04	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.25	<0.02	<0.02	-	-	HazWaste	<0.02	mg/kg
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	HazWaste	<1	mg/kg
Hydrocarbons																							
TPH (CS-40)	<52	<52	<52	<52	116	<52	522	88	<52	<52	<52	<52	<52	<52	<52	113	<52	<52	-	-	HazWaste	<52	mg/kg
MTBE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Toluene	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
m/p-Xylene	<5	<5	<5	<5	<5	<5	9	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
o-Xylene	<5	<5	<5	<5	<5	<5	11	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Total 7 PCBs	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	1,000	1,000	HazWaste	<35	ug/kg
WAC Solid Sample Summary**																							
Total Organic Carbon *	0.27	1.00	0.53	1.75	0.55	0.24	0.66	0.96	0.32	0.34	0.64	0.30	0.93	0.54	0.33	1.42	0.82	0.36	3	6	-	<0.02	%
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	6	-	<0.025	mg/kg
Sum of 7 PCBs	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	1	-	<0.035	mg/kg
Mineral Oil	<30	<30	<30	<30	<30	<30	348	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	500	-	<30	mg/kg
PAH Sum of 6	<0.22	<0.22	0.33	0.46	<0.22	<0.22	<0.22	0.71	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	3.59	<0.22	<0.22	-	-	-	<0.22	mg/kg
PAH Sum of 17	<0.64	<0.64	0.78	0.87	<0.64	<0.64	<0.64	1.28	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	8.76	<0.64	<0.64	100	100	-	<0.64	mg/kg
WAC Leachate Data**																							
Arsenic	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	1.5	-	<0.025	mg/kg
Barium	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	0.13	0.15	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.08	<0.03	20	20	-	<0.03	mg/kg
Cadmium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	0.04	-	<0.005	mg/kg
Chromium	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	0.5	-	<0.015	mg/kg
Copper	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	2	-	<0.07	mg/kg
Mercury	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.01	-	<0.0001	mg/kg
Molybdenum	0.04	0.05	0.08	<0.02	0.08	0.07	0.10	0.10	0.07	0.15	0.03	0.09	0.03	<0.02	0.06	0.05	0.13	0.12	0.5	1.5	-	<0.02	mg/kg
Nickel	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	0.4	-	<0.02	mg/kg
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	0.5	-	<0.05	mg/kg
Antimony	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	0.06	0.18	-	<0.02	mg/kg
Selenium	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.15	<0.03	0.1	0.3	-	<0.03	mg/kg
Zinc	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.06	0.04	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	4	-	<0.03	mg/kg
Total Dissolved Solids	540	670	520	740	450	390	1209	700	400	<350	480	440	720	380	<350	<350	1129	350	4000	12,000	-	<350	mg/kg
Dissolved Organic Carbon	<20	40	30	40	30	<20	<20	30	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	500	500	-	<20	mg/kg
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	1	-	<0.1	mg/kg
Fluoride	<3	5	5	<3	5	4	5	8	<3	<3	5	<3	8	5	<3	3	<3	<3	10	10	-	<3	mg/kg
Sulphate as SO4	58	144	10	130	19	12	582	109	<5	<5	<5	9	30	<5	<5	7	313	<5	1000	3,000	-	<0.5	mg/kg
Chloride	4	5	6	6	6	5	5	9	<3	<3	<3	<3	<3	<3	<3	6	90	<3	800	2,400	-	<3	mg/kg

NAD- no asbestos detected

* - Integrated Materials Solutions Landfill, Hollywood Great, Nag's Head, The Naul, Co. Dublin

** - limits as specified in Council Decision 2003/33/EC

Landfill Waste Acceptance Criteria Category - Only Applicable to Material Being Disposed of to Landfill

Cherry Orchard Sites 4 & 5

Sample ID	TP47	TP48	TP50	TP50	TP54	TP-71	TP75	TP78	TP85	TP-89	TP95	TP-99	TP100	TP102	TP104	TP108	TP110	TP114					
Sample Depth (m)	0.50	0.50	0.50	1.50	0.50	0.50	0.50	0.50	0.60	1.60	2.00	0.50	2.50	1.50	1.50	2.50	2.00	1.50					
Material Description	Made Ground <2% Anthropogenic Material	Made Ground <2% Anthropogenic Material	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Gravel	Clay	Made Ground <2% Anthropogenic Material	Clay	Clay	Clay	Clay	Clay	Clay					
Sample Date	20/05/2024	20/05/2024	31/05/2024	31/05/2024	24/05/2024	31/05/2024	24/05/2024	31/05/2024	21/05/2024	21/05/2024	23/05/2024	02/07/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024	23/05/2024					
LoW Code	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04	17 05 04					
Landfill Waste Acceptance Criteria Category	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1 Criteria	Category B2 Criteria	Hazardous Criteria	LOD LOR	Units
Metals																							
Antimony	3	2	2	2	3	2	2	1	1	2	2	3	2	2	3	2	2	2	-	-	HazWaste	<1	mg/kg
Arsenic	9.7	10.2	9.4	10.1	14.6	10	11.1	6.7	8	9.9	9.6	12.4	12.5	8.5	7	7.7	7.8	6.6	-	-	HazWaste	<0.5	mg/kg
Barium	81	49	52	71	59	56	80	35	39	47	56	95	72	64	116	36	39	43	-	-	HazWaste	<1	mg/kg
Cadmium	1.9	1.9	2	2.5	2.5	2.6	1.7	1.8	1.4	2.1	2.4	1.8	2.4	2.1	2.5	0.4	1.5	2	-	-	HazWaste	<0.1	mg/kg
Chromium	76.9	26.1	28.6	44	25.2	23.6	61.2	21.7	71.5	40	23.6	42.6	25.5	43.7	36	24.1	25.8	40.8	-	-	HazWaste	<0.5	mg/kg
Copper	33	29	27	35	35	30	23	24	15	37	34	55	36	30	28	22	32	30	-	-	HazWaste	<1	mg/kg
Lead	24	13	12	13	17	16	20	10	12	14	15	49	19	14	14	14	19	13	-	-	HazWaste	<5	mg/kg
Mercury	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	0.2	0.3	<0.1	0.1	0.3	0.4	-	-	HazWaste	<0.1	mg/kg
Molybdenum	5.3	4.2	3.4	5	4.2	3.4	4.5	2.2	16.8	4	3.9	4.6	4.8	5	7.8	3.3	4.4	4.1	-	-	HazWaste	<0.1	mg/kg
Nickel	49.5	39	33.5	43.7	43.6	42.9	35	30.1	23.4	44.7	42	44.1	46.1	41.2	60	45.5	48.9	30.9	-	-	HazWaste	<0.7	mg/kg
Selenium	1	<1	<1	1	1	<1	1	<1	<1	<1	1	1	1	1	2	1	<1	<1	-	-	HazWaste	<1	mg/kg
Zinc	102	98	81	96	97	90	106	57	65	106	96	169	127	85	93	24	58	68	-	-	HazWaste	<5	mg/kg
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	HazWaste	<0.3	mg/kg
pH (solid sample)	8.56	8.65	8.76	8.84	8.71	8.69	8.56	8.69	8.67	8.87	8.8	8.7	8.82	8.75	8.66	8.72	8.74	8.81	-	-	HazWaste	<0.01	pH units
alkali reserve	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000	gNaOH/100g
Asbestos																							
Asbestos (Dry Weight)	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	-	0.1	<0.001	%
Asbestos (Moisture Corrected Weight)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	%
ACM Detected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Presence	Presence
PAHs																							
Naphthalene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Acenaphthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	HazWaste	<0.05	mg/kg
Fluorene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Phenanthrene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Anthracene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Fluoranthene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.14	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Pyrene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.13	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
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	0.11	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	-	-	HazWaste	<0.06	mg/kg
Chrysene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	HazWaste	<0.02	mg/kg
Benzo(bk)fluoranthene	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.16	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	-	-	HazWaste	<0.07	mg/kg
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	0.08	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
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	0.06	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
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	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
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	0.06	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
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	0.5	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg
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	0.95	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	100	-	<0.64	mg/kg
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	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	HazWaste	<0.05	mg/kg
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	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	-	-	HazWaste	<0.02	mg/kg
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	HazWaste	<1	mg/kg
Hydrocarbons																							
TPH (CS-40)	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	-	-	HazWaste	<52	mg/kg
MTBE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Toluene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
m/p-Xylene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
o-Xylene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Total 7 PCBs	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	1,000	1,000	HazWaste	<35	ug/kg
WAC Solid Sample Summary**																							
Total Organic Carbon *	0.52	0.22	0.34	0.37	0.38	0.34	0.58	0.27	0.25	0.48	0.32	1.35	0.38	0.30	0.35	0.40	0.42	0.26	3	6	-	<0.02	%
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	6	-	<0.025	mg/kg
Sum of 7 PCBs	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	1	-	<0.035	mg/kg
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	500	-	<30	mg/kg
PAH Sum of 6	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	0.50	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	0.95	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	100	100	-	<0.64	mg/kg
WAC Leachate Data**																							
Arsenic	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	1.5	-	<0.025	mg/kg
Barium	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	20	20	-	<0.03	mg/kg
Cadmium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	0.04	-	<0.005	mg/kg
Chromium	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	0.5	-	<0.015	mg/kg
Copper	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	2	2	-	<0.07	mg/kg
Mercury	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.01	-	<0.0001	mg/kg
Molybdenum	0.11	0.08	0.09	0.14	0.05	0.08	<0.02	0.04	<0.02	0.02	0.10	0.08	0.18	0.16	0.12	0.06	0.04	0.06	0.5	1.5	-	<0.02	mg/kg
Nickel	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	0.4	-	<0.02	mg/kg
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	0.5	-	<0.05	mg/kg
Antimony	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.18	-	<0.02	mg/kg
Selenium	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.3	-	<0.03	mg/kg
Zinc	<0.03	<0.03	0.05	0.04	<0.03	<0.03	0.03	<0.03	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	4	-	<0.03	mg/kg
Total Dissolved Solids	480	370	610	<350	420	510	630	430	430	<350	420	510	360	430	370	410	440	390	4000	12,000	-	<350	mg/kg
Dissolved Organic Carbon	<20	<20	<20	<20	<20	<20	20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	500	500	-	<20	mg/kg
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	1	-	<0.1	mg/kg
Fluoride	7	<3	4	<3	<3	3	<3	4	<3	<3	<3	3	3	<3	3	5	3	8	10	10	-	<3	mg/kg
Sulphate as SO4	63	<5	12	<5	<5	<5	7	<5	<5	6	30	10	12	14	5	6	5	27	1000	3,000	-	<0.5	mg/kg
Chloride	4	<3	6	<3	<3	4	3	<3	<3	3	4	<3	5	20	3	<3	4	<3	800	2,400	-	<3	mg/kg

NAD- no asbestos detected

* - Integrated Materials Solutions Landfill, Hollywood Great, Nag's Head, The Naul, Co. Dublin

** - limits as specified in Council Decision 2003/33/EC

Landfill Waste Acceptance Criteria Category - Only Applicable to Material Being Disposed of to Landfill

Cherry Orchard Sites 4 & 5

Sample ID	TP-116	TP-116	TP118	TP118	TP120	TP121	TP121	TP123	TP123	TP124	TP125	TP125	TP127	TP131	TP131	TP135	TP135	Category B1 Criteria	Category B2 Criteria	Hazardous Criteria	LOD LOR	Units
Sample Depth (m)	**0.50**	**1.50**	**0.50**	**1.50**	**0.50**	**0.50**	**2.80**	**0.50**	**1.50**	**1.50**	**0.50**	**1.50**	**0.50**	**0.50**	**1.50**	**0.80**	**2.00**					
Material Description	**Made Ground <2% Anthropogenic Material**	**Clay**	**Made Ground <2% Anthropogenic Material**	**Clay**	**Made Ground <2% Anthropogenic Material**	**Clay**	**Clay**	**Made Ground <2% Anthropogenic Material**	**Clay**	**Clay**	**Made Ground <2% Anthropogenic Material**	**Clay**	**Made Ground <2% Anthropogenic Material**	**Made Ground <2% Anthropogenic Material**	**Clay**	**Clay**	**Clay**					
Sample Date	**02/07/2024**	**03/07/2024**	**17/05/2024**	**23/05/2024**	**17/05/2024**	**17/05/2024**	**23/05/2024**	**17/05/2024**	**17/05/2024**	**23/05/2024**	**23/05/2024**	**23/05/2024**	**23/05/2024**	**24/05/2024**	**24/05/2024**	**23/05/2024**	**23/05/2024**					
LoW Code	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**	**17 05 04**					
Landfill Waste Acceptance Criteria Category	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B2**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**	**Category B1**					
Metals																						
Antimony	2	2	2	2	2	2	2	4	2	1	2	2	2	4	2	2	2	-	-	HazWaste	<1	mg/kg
Arsenic	11.3	8.8	11.3	10.8	9.4	8.9	11.5	17.5	9.7	4.7	10.6	6.8	9.9	16.1	11.4	10.2	10.3	-	-	HazWaste	<0.5	mg/kg
Barium	51	44	87	59	79	47	66	118	53	42	59	43	61	100	52	59	61	-	-	HazWaste	<1	mg/kg
Cadmium	2	2.6	1.9	2.8	1.5	1.5	2.1	2.3	1.8	0.9	2.1	1.6	3.1	1.7	2	3.2	2.5	-	-	HazWaste	<0.1	mg/kg
Chromium	29.1	22.5	57.3	25.8	27.7	51.5	43.1	76.2	22.6	24.3	26.6	30.5	35.2	42.1	31.4	41.9	21.9	-	-	HazWaste	<0.5	mg/kg
Copper	35	29	32	37	26	28	34	131	29	17	34	22	33	257	33	33	33	-	-	HazWaste	<1	mg/kg
Lead	20	13	25	20	20	25	19	144	15	9	13	11	15	143	14	15	15	-	-	HazWaste	<5	mg/kg
Mercury	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.5	<0.1	0.4	<0.1	0.4	0.3	0.5	<0.1	0.3	0.4	-	-	HazWaste	<0.1	mg/kg
Molybdenum	3.8	3.7	4.8	3.8	3.4	5.5	5.4	8.3	3	3.6	3.7	3.6	3.3	4.8	4.1	4.4	3.9	-	-	HazWaste	<0.1	mg/kg
Nickel	46.1	37.1	52.4	45.9	39.9	41.1	47.2	51.4	37.3	32	41.8	37.4	41.1	42.7	41.6	45.4	40.7	-	-	HazWaste	<0.7	mg/kg
Selenium	2	1	2	1	1	2	1	3	1	<1	<1	1	<1	1	2	1	1	-	-	HazWaste	<1	mg/kg
Zinc	98	95	120	108	79	84	114	215	83	38	93	62	82	266	89	99	99	-	-	HazWaste	<5	mg/kg
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	HazWaste	<0.3	mg/kg
pH (solid sample)	8.44	8.79	8.14	8.63	8.59	8.53	8.63	8.32	8.73	8.81	8.76	8.81	8.69	7.88	8.7	8.64	8.64	-	-	HazWaste	<0.01	pH units
alkali reserve	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.000	gNaOH/100g
Asbestos																						
Asbestos (Dry Weight)	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	-	0.1	<0.001	%
Asbestos (Moisture Corrected Weight)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	%
ACM Detected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Presence	Presence
PAHs																						
Naphthalene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.06	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Acenaphthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	HazWaste	<0.05	mg/kg
Fluorene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Phenanthrene	<0.03	<0.03	<0.03	<0.03	<0.03	0.03	<0.03	1.09	<0.03	<0.03	<0.03	<0.03	<0.03	0.24	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Anthracene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.15	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Fluoranthene	<0.03	<0.03	<0.03	<0.03	0.06	0.07	<0.03	1.11	<0.03	<0.03	<0.03	<0.03	<0.03	0.3	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Pyrene	<0.03	<0.03	<0.03	<0.03	0.06	0.07	<0.03	0.97	<0.03	<0.03	<0.03	<0.03	<0.03	0.26	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg
Benzo(a)anthracene	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.46	<0.06	<0.06	<0.06	<0.06	<0.06	0.17	<0.06	<0.06	<0.06	-	-	HazWaste	<0.06	mg/kg
Chrysene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.56	<0.02	<0.02	<0.02	<0.02	<0.02	0.17	<0.02	<0.02	<0.02	-	-	HazWaste	<0.02	mg/kg
Benzo(bk)fluoranthene	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.68	<0.07	<0.07	<0.07	<0.07	<0.07	0.26	<0.07	<0.07	<0.07	-	-	HazWaste	<0.07	mg/kg
Benzo(a)pyrene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.45	<0.04	<0.04	<0.04	<0.04	<0.04	0.15	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Indeno(123cd)pyrene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.22	<0.04	<0.04	<0.04	<0.04	<0.04	0.11	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Dibenzo(ah)anthracene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.07	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Benzo(ghi)perylene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	0.22	<0.04	<0.04	<0.04	<0.04	<0.04	0.13	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg
PAH 6 Total	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	2.68	<0.22	<0.22	<0.22	<0.22	<0.22	0.95	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg
PAH 17 Total	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	6.14	<0.64	<0.64	<0.64	<0.64	<0.64	1.79	<0.64	<0.64	<0.64	100	100	-	<0.64	mg/kg
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.49	<0.05	<0.05	<0.05	<0.05	<0.05	0.19	<0.05	<0.05	<0.05	-	-	HazWaste	<0.05	mg/kg
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.19	<0.02	<0.02	<0.02	<0.02	<0.02	0.07	<0.02	<0.02	<0.02	-	-	HazWaste	<0.02	mg/kg
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	HazWaste	<1	mg/kg
Hydrocarbons																						
TPH (CS-40)	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	<52	-	-	HazWaste	<52	mg/kg
MTBE	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Toluene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
m/p-Xylene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
o-Xylene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg
Total 7 PCBs	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	1,000	1,000	HazWaste	<35	ug/kg
WAC Solid Sample Summary**																						
Total Organic Carbon *	0.71	0.35	0.64	0.34	0.45	0.75	0.39	3.36	0.33	0.25	0.28	0.21	0.37	2.80	0.31	0.32	0.31	3	6	-	<0.02	%
Sum of BTEX	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	6	6	-	<0.025	mg/kg
Sum of 7 PCBs	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	1	1	-	<0.035	mg/kg
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	500	500	-	<30	mg/kg
PAH Sum of 6	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	2.68	<0.22	<0.22	<0.22	<0.22	<0.22	0.95	<0.22	<0.22	<0.22	-	-	-	<0.22	mg/kg
PAH Sum of 17	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	6.14	<0.64	<0.64	<0.64	<0.64	<0.64	1.79	<0.64	<0.64	<0.64	100	100	-	<0.64	mg/kg
WAC Leachate Data**																						
Arsenic	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	1.5	-	<0.025	mg/kg
Barium	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.07	<0.03	<0.03	<0.03	20	20	-	<0.03	mg/kg
Cadmium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.04	0.04	-	<0.005	mg/kg
Chromium	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.5	0.5	-	<0.015	mg/kg
Copper	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	0.15	<0.07	<0.07	<0.07	2	2	-	<0.07	mg/kg
Mercury	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.01	-	<0.0001	mg/kg
Molybdenum	0.03	0.04	0.05	0.04	0.05	0.03	0.06	0.06	0.03	0.15	0.05	0.10	<0.02	0.04	0.11	0.04	0.10	0.5	1.5	-	<0.02	mg/kg
Nickel	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.4	0.4	-	<0.02	mg/kg
Lead	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.5	0.5	-	<0.05	mg/kg
Antimony	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	0.06	0.18	-	<0.02	mg/kg
Selenium	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.1	0.3	-	<0.03	mg/kg
Zinc	0.05	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	<0.03	0.03	0.03	<0.03	<0.03	<0.03	4	4	-	<0.03	mg/kg
Total Dissolved Solids	650	<350	800	580	590	720	470	830	500	460	420	390	520	710	550	480	460	4000	12,000	-	<350	mg/kg
Dissolved Organic Carbon	<20	<20	20	<20	<20	20	<20	30	<20	<20	<20	<20	<20	50	<20	<20	<20	500	500	-	<20	mg/kg
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	1	-	<0.1	mg/kg
Fluoride	5	<3	4	4	5	7	3	5	4	3	4	<3	5	5	<3	4	<3	10	10	-	<3	mg/kg
Sulphate as SO4	164	24	88	61	<5	10	46	7	27	57	36	40	49	93	52	59	36	1000	3,000	-	<0.5	mg/kg
Chloride	<3	<3	<3	<3	4	5	45	8	8	<3	<3	3	5	3	<3	5	<3	800	2,400	-	<3	mg/kg

NAD- no asbestos detected

* - Integrated Materials Solutions Landfill, Hollywood Great, Nag's Head, The Naul, Co. Dublin

** - limits as specified in Council Decision 2003/33/EC

UK and Ireland Office Locations

