



Environmental Impact Assessment Report (EIAR)

Volume 3.3: Appendices

Chapter 11 & 12

Appendix 11.1 & 12.1: GI Report Cherry Orchard Sites 4 & 5

Appendix 11.2 & 12.2: GII Waste Classification Report Cherry Orchard Sites 4 & 5

November 2023



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Ground Investigations Ireland

Cherry Orchard Site 4 & 5

Van Dijk Architects

Ground Investigation Report

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GROUND INVESTIGATIONS IRELAND

Geotechnical & Environmental

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1.0 Preamble

On the instructions of Waterman Moylan Engineers, a site investigation was carried out by Ground Investigations Ireland Ltd., between August and October at the site of the proposed Residential Development in Cherry Orchard, 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 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 14 No. Trial Pits to a maximum depth of 3.2m BGL
- Carry out 11 No. Soakaways to determine a soil infiltration value to BRE digest 365
- Carry out 14 No. Dynamic Probes to determine soil strength/density characteristics
- Carry out 14 No. Cable Percussion boreholes to a maximum depth of 5.3m BGL
- Carry out 19 No. Rotary Core Boreholes to a maximum depth of 8.3m BGL
- Installation of 3 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 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 8.5T 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 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. Dynamic Probing

The dynamic probe tests (DPH) were carried out at the locations shown in the location plan in Appendix 1 in accordance with B.S. 1377: Part 9 1990. The test consists of mechanically driving a cone with a 50kg weight in 100mm intervals and monitoring the number of blows required. An equivalent Standard Penetration Test (SPT) 'N' value may be calculated by dividing the total number of blows over a 300mm drive length by 1.5. The dynamic probe logs are provided in Appendix 4 of this Report.

3.5. 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 60° 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 5 of this Report.

3.6. 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 5 of this Report.

3.7. 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.

3.8. Groundwater Monitoring Installations

Groundwater Monitoring Installation were installed upon the completion of selected 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.

3.9. 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), hydrometer tests were carried out in Prosoils Geotechnical Laboratory in the UK.

The results of the laboratory testing are included in Appendix 6 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 across the site varied and generally comprised;

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

TOPSOIL: Topsoil was encountered in all the exploratory holes and was present to a maximum depth of 0.3m BGL. In some areas of the site Gravel fill was encountered at the surface.

MADE GROUND: On Site 4 the Made Ground deposits were encountered beneath the Topsoil/Surfacing and were present to depths of between 0.6m and 1.1m BGL. These deposits were described generally as *brown slightly gravelly CLAY with occasional cobbles and contained occasional fragments of red brick, timber, glass and plastic.*

On Site 5 to west of Park West Avenue, the Made Ground deposits were deeper and encountered to depths of up to 3.20m BGL. It should be noted that TP13 refused in the Made Ground at 2.9m BGL so the base wasn't proven at this location. These deposits were described generally as *brown slightly sandy slightly gravelly CLAY with occasional cobbles and contained occasional fragments of concrete, red brick, glass, rope, timber, ceramic, metal and plastic.*

COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Made Ground and were described typically as *brown sandy gravelly CLAY with occasional cobbles and boulders* 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 firm to stiff or stiff below 1.0m BGL in the majority of the exploratory holes on site 4 and below 3 to 4 m BGL on site 5. These deposits had some, occasional or frequent cobble and boulder content, where noted on the exploratory hole logs.

BEDROCK: The rotary core boreholes recovered Medium strong to very strong grey/dark grey fine to medium grained laminated LIMESTONE interbedded with weak black fine grained laminated Mudstone. Locally the mudstone was weathered to black Clay. 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.

The depth to rock varies from 2.3m BGL in BH03 to a maximum of 5.3m BGL in BH18. 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. For this reason, standpipes were installed in BH01, BH11 and BH18 to allow the equilibrium groundwater level to be determined. The groundwater monitoring is included in Appendix 7 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 11% and 56% generally with fines contents of 22 to 56%.

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.

The results from the completed laboratory testing are included in Appendix 6 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

5.2.1. Site 4

An allowable bearing capacity of 100 kN/m² is recommended for conventional strip or pad foundations on the stiff cohesive deposits at a depth of between 0.9m and 1.40m BGL on Site 4 for lightly loaded structures or conventional two-story residential development. A higher allowable bearing capacity of 250 kN/m² 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. 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/m² is recommended for conventional strip or pad foundations. The depth to bedrock is outlined in table 1 in section 5.2.3 below for each of the boreholes completed on the site. 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.

5.2.2. Site 5

On Site 5 deeper Made Ground was encountered consistently across the site. An allowable bearing capacity of 100 kN/m² 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. 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/m² is recommended for conventional strip or pad foundations. The depth to bedrock is outlined in table 1 in section 5.2.3 below for each of the boreholes completed on the site. 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.

5.2.3. Site 4 and 5

Table 1 - Allowable Bearing Capacities

Investigation	Allowable Bearing Capacities (ABC) kN/m ²						Comment
	ABC	Depth	Comment	Investigation	ABC	Depth	
	No.	kN/m ²	m BGL	No.	kN/m ²	m BGL	
BH01	1000	4.00		BH11	1000	3.60	
BH02	1000	2.70		BH12	1000	3.35	
BH03	1000	2.50		BH13	1000	3.30	
BH04	1000	3.00		BH14	1000	3.25	
BH05	1000	3.10		BH15	1000	5.30	
BH06	1000	4.00		BH16	1000	3.20	
BH07	1000	4.40		BH17	1000	4.00	
BH08	1000	2.40		BH18	1000	5.60	
BH09	1000	2.25		BH19A	1000	4.30	
BH10	1000	3.90					

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.

Due to the presence of made ground, depth to rock in some areas and high loading anticipated for some structures, piled foundations may be more economically advantageous for some of the proposed structures. The type, size and depth of the pile foundations should be confirmed by a specialist piling contractor based on the loading from the proposed building.

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. Excavations

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

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

Any excavations which penetrate the granular deposits will require to be appropriately battered or the sides supported 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 estimates 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 8T excavator generally refused on encountering the competent rock.

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/Subsoil Assessment Report.

5.4. Soakaway Design

Infiltration rates of $f=7.303 \times 10^{-6}$ m/s, 6.95×10^{-6} m/s and 7.262×10^{-6} m/s respectively were calculated for the soakaway locations ST06, ST10 and ST11. At the locations of ST01, ST02, ST03, ST04, ST05, ST07, ST08 and ST09 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



706200E

706800E

707400E

708000E

708600E

733800N

733200N

732600N

732000N

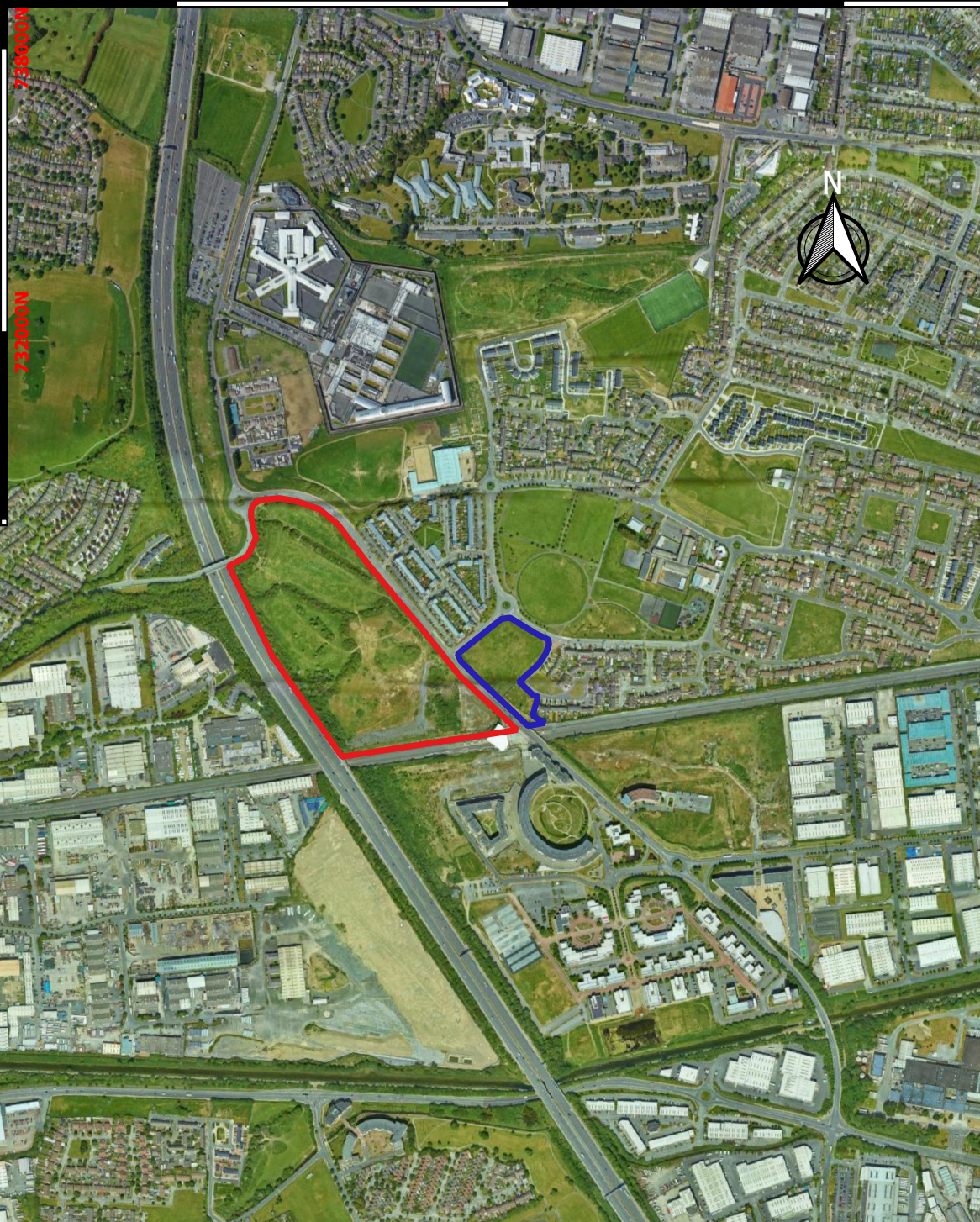
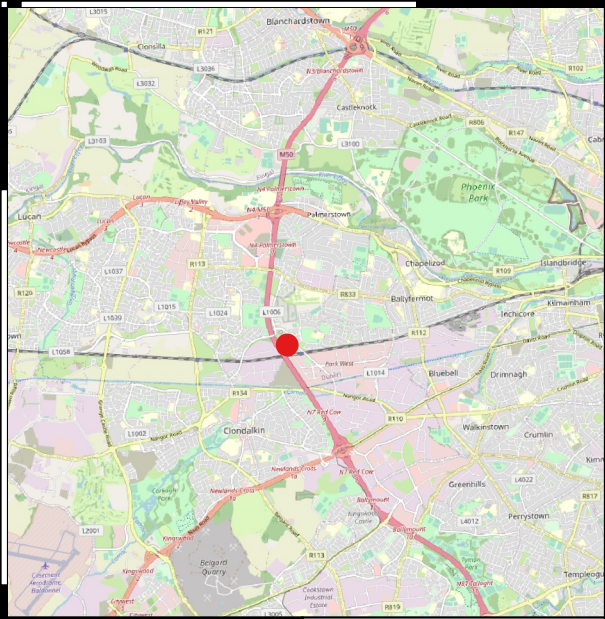
706200E

706800E

707400E

708000E

708600E



Legend

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

Client:



Project Code:
11956-06-22

Project Title:
Cherry Orchard Sites 4 & 5

Drawing Title:
Site Location



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0 100 200 300 400 m

Drawn By:
MS

Date:
05-10-2022



- Legend**
- Site 4
Indicative Site Boundary
 - Site 5
Indicative Site Boundary
 - Borehole
 - Trial Pit / Dynamic Probe
 - Soakaway

Client:

 **Waterman Moylan**
Engineering Consultants

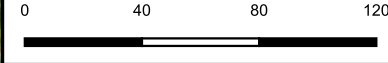
Project Code:
11956-06-22

Project Title:
Cherry Orchard Sites 4 & 5

Drawing Title:
Investigation Locations


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Drawn By: MS
Date: 05-10-2022

APPENDIX 2 – Trial Pit Records





Machine : Case 8.5T Method : Trial Pit	Dimensions 3.10 x 1.00 x 2.80	Ground Level (mOD) 56.40	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707628.6 E 733145.3 N	Dates 17/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B			56.10	(0.30)	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
					0.30	MADE GROUND: Light brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles metal and red brick fragments.		
1.50	B			55.60	0.80	Stiff greyish brown slightly sandy gravelly CLAY with occasional angular to subangular cobbles.		
					(1.50)			
2.50	B			54.10	2.30	Stiff dark grey slightly sandy gravelly CLAY with occasional angular to subangular cobbles.		
					(0.50)			
				53.60	2.80	Obstruction: Presumed rockhead. Complete at 2.80m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.TP01</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.TP01				



Machine : Case 8.5T Method : Trial Pit		Dimensions 3.30 x 1.10 x 2.90	Ground Level (mOD) 56.67	Client Van Dijk Architects	Job Number 11956-06-22
		Location 707588.6 E 733092.8 N	Dates 17/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B			56.47	(0.20)	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
					0.20	MADE GROUND: Light brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles metal and red brick fragments.		
1.50	B			55.77	(0.70)			
					0.90	Stiff greyish brown slightly sandy gravelly CLAY with occasional angular to subangular cobbles.		
2.50	B			54.47	(1.30)			
					2.20	Stiff dark grey slightly sandy gravelly CLAY with occasional angular to subangular cobbles.		
				53.77	2.90	Obstruction: Presumed rockhead. Complete at 2.90m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.TP02</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.TP02				



Machine : Case 8.5T Method : Trial Pit	Dimensions 2.90 x 1.10 x 2.00	Ground Level (mOD) 56.41	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707609.8 E 732987.9 N	Dates 17/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B			56.21	(0.20)	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
					0.20	MADE GROUND: Light brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles metal and red brick fragments.		
1.50	B			55.41	(0.80)			
					1.00	Firm to stiff greyish brown slightly sandy gravelly CLAY with occasional angular to subangular cobbles.		
				54.41	2.00	Obstruction: Presumed rockhead. Complete at 2.00m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.TP03</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.TP03				



Machine : Case 8.5T Method : Trial Pit	Dimensions 3.20 x 1.00 x 2.70	Ground Level (mOD) 56.67	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707671.5 E 732912.9 N	Dates 17/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B			56.47	(0.20)	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
					0.20	MADE GROUND: Light brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles metal and red brick fragments.		
1.50	B			55.67	(0.80)			
					1.00	Stiff greyish brown slightly sandy gravelly CLAY with occasional angular to subangular cobbles.		
2.50	B		Water strike(1) at 2.60m.	53.97	(1.70)			∇1
					2.70	Obstruction: Presumed rockhead. Complete at 2.70m		

Plan .	Remarks Slow groundwater seepage at 2.60m BGL. Trial pit stable. Trial pit backfilled upon completion.	
		Scale (approx) 1:25



Machine : Case 8.5T Method : Trial Pit	Dimensions 2.70 x 1.00 x 1.70	Ground Level (mOD) 56.58	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707705.4 E 732848.6 N	Dates 16/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B			56.48	(0.10)	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
				56.28	(0.20)	MADE GROUND: Greyish brown slightly sandy gravelly Clay with occasional subangular to subrounded cobbles timber and red brick fragments.		
1.50	B			55.98	(0.30)	Stiff light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
				54.88	(1.10)	Stiff grey slightly sandy gravelly CLAY with occasional angular to subangular cobbles.		
					1.70	Complete at 1.70m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Trial pit backfilled upon completion.	
		Scale (approx) 1:25



Machine : Case 8.5T Method : Trial Pit		Dimensions 2.60 x 1.10 x 2.40	Ground Level (mOD) 57.52	Client Van Dijk Architects	Job Number 11956-06-22
		Location 707758.7 E 732783.7 N	Dates 16/08/2022	Engineer Procort	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B			57.42	(0.10) 0.10	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
					(1.00)	MADE GROUND: Greyish brown slightly sandy gravelly Clay with occasional subangular to subrounded cobbles timber and red brick fragments.		
1.50	B			56.42	1.10 (0.30)	Stiff brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
				56.12	1.40 (1.00)	Stiff brown slightly sandy gravelly CLAY with occasional angular to subangular cobbles.		
				55.12	2.40	Obstruction: Presumed rockhead. Complete at 2.40m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.TP10</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.TP10				



Machine : Case 8.5T Method : Trial Pit	Dimensions 2.80 x 1.00 x 2.40	Ground Level (mOD) 56.05	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707687.3 E 733068.3 N	Dates 17/08/2022	Engineer Procort	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B			55.85	(0.20)	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
					0.20	MADE GROUND: Light brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles metal and red brick fragments.		
1.50	B			55.05	(0.80)			
					1.00	Stiff greyish brown slightly sandy gravelly CLAY with occasional angular to subangular cobbles.		
2.40	B			54.15	(0.90)			
					1.90	Stiff dark grey slightly sandy gravelly CLAY with occasional angular to subangular cobbles.		
				53.65	2.40	Obstruction: Presumed rockhead. Complete at 2.40m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Trial pit backfilled upon completion.	
		Scale (approx) 1:25



Machine : Case 8.5T Method : Trial Pit	Dimensions 2.70 x 1.10 x 2.80	Ground Level (mOD)	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707727.3 E 732964.9 N	Dates 17/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B				(0.20)	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
					0.20	MADE GROUND: Light brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles metal and red brick fragments.		
1.50	B				(0.60)			
					0.80	Firm greyish brown slightly sandy gravelly CLAY with occasional angular to subangular cobbles.		
2.50	B				(1.00)			
					1.80	Stiff dark grey slightly sandy gravelly CLAY with occasional angular to subangular cobbles.		
					2.80	Obstruction: Presumed rockhead. Complete at 2.80m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.TP08</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.TP08				



Machine : Case 8.5T Method : Trial Pit		Dimensions 2.90 x 1.10 x 1.30	Ground Level (mOD) 56.93	Client Van Dijk Architects	Job Number 11956-06-22
		Location 707805.7 E 732906.6 N	Dates 16/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B			56.73	(0.20)	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
					0.20	MADE GROUND: Greyish brown slightly sandy gravelly Clay with occasional subangular to subrounded cobbles timber and glass fragments.		
					(0.40)			
					56.33	0.60	Stiff greyish brown slightly sandy gravelly CLAY with occasional angular to subangular cobbles.	
				55.63	1.30	Complete at 1.30m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.TP09</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.TP09				



Machine : Case 8.5T Method : Trial Pit		Dimensions 2.90 x 1.10 x 3.10	Ground Level (mOD) 57.01	Client Van Dijk Architects	Job Number 11956-06-22
		Location 707834.8 E 732827.4 N	Dates 16/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B			56.81	(0.20)	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
					0.20	MADE GROUND: Brown slightly sandy gravelly Clay with occasional subangular to subrounded cobbles timber and red brick fragments.		
1.50	B			56.21	(0.60)			
					0.80	Stiff greyish brown slightly sandy gravelly CLAY with occasional subangular to subrounded cobbles.		
2.50	B			54.21	(2.00)			
					2.80	Stiff grey sandy gravelly CLAY with occasional angular to subangular cobbles (Possible weathered rock).		
				53.91	3.10	Complete at 3.10m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Trial pit backfilled upon completion.	
		Scale (approx) 1:25



Machine : Case 8.5T Method : Trial Pit		Dimensions 3.20 x 1.10 x 3.20	Ground Level (mOD) 57.03	Client Van Dijk Architects	Job Number 11956-06-22
		Location 707950.1 E 732877.9 N	Dates 17/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B			56.83	(0.20)	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
					0.20	MADE GROUND: Light brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles plastic metal and ceramic fragments.		
1.50	B			55.83	(1.00)			
					1.20	MADE GROUND: Greyish brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles ceramic and plastic fragments.		
2.50	B			55.13	(0.70)			
					1.90	Stiff greyish brown slightly sandy gravelly CLAY with occasional subangular to subrounded cobbles.		
				53.83	3.20	Complete at 3.20m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.TP11</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.TP11				



Machine : Case 8.5T Method : Trial Pit		Dimensions 3.10 x 1.20 x 1.10	Ground Level (mOD) 56.80	Client Van Dijk Architects	Job Number 11956-06-22
		Location 707989.1 E 732961.3 N	Dates 17/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B			56.60	(0.20)	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
					0.20	MADE GROUND: Light brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles plastic wire and concrete fragments.		
					(0.90)			
				55.70	1.10	Bord Gais yellow warning tape. Complete at 1.10m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.TP12</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.TP12				



Machine : Case 8.5T Method : Trial Pit		Dimensions 3.40 x 1.10 x 2.90	Ground Level (mOD) 57.65	Client Van Dijk Architects	Job Number 11956-06-22
		Location 707999.4 E 732916.1 N	Dates 17/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B			57.45	(0.20) 0.20	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
1.50	B			56.45	(1.00) 1.20	MADE GROUND: Greyish brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles plastic metal and concrete fragments.		
2.50	B			54.75	(1.70) 2.90	MADE GROUND: Dark grey slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles plastic timber and rope fragments.		
						Complete at 2.90m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.TP13</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.TP13				



Machine : Case 8.5T Method : Trial Pit	Dimensions 3.20 x 1.10 x 2.30	Ground Level (mOD) 55.79	Client Van Dijk Architects	Job Number 11956-06-22
	Location 708017.9 E 732873.6 N	Dates 17/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B			55.69	(0.10) 0.10	Brown slightly sandy slightly gravelly TOPSOIL with rootlets. MADE GROUND: Greyish brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles ceramic and plastic fragments.		
1.50	B			54.59	1.20 (1.10)	Stiff greyish brown slightly sandy gravelly CLAY with occasional subangular to subrounded cobbles.		
				53.49	2.30	Obstruction: Boulders. Complete at 2.30m		

Plan	Remarks No groundwater encountered during excavation. Trial pit stable. Trial pit backfilled upon completion.		
	Scale (approx) 1:25	Logged By C. Byrne	Figure No. 11956-06-22.TP14

Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP01



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP01



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP01



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP02



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP02



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP02



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP03



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP03



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP03



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP04



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP04



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP04



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP05



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP05



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP05



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP06



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP06



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP06



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP07



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP07



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP07



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP08



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP08



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP08



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP09



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP09



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP09



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP10



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP10



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP10



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP11



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP11



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP11



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP12



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP12



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP12



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP13



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP13



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP13



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP14



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP14



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP14



APPENDIX 3 – Soakaway Records





Machine : Case 8.5T Method : Trial Pit		Dimensions 1.70 x 0.60 x 1.70	Ground Level (mOD) 56.37	Client Van Dijk Architects	Job Number 11956-06-22
		Location 707604 E 733139 N	Dates 16/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.12	0.25	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
				54.67	1.70	Stiff greyish brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
						Complete at 1.70m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Soakaway test ST01 undertaken in pit. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.ST01</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.ST01				



Machine : Case 8.5T Method : Trial Pit		Dimensions 2.00 x 0.60 x 1.60	Ground Level (mOD) 56.38	Client Van Dijk Architects	Job Number 11956-06-22
		Location 707548.9 E 733033.4 N	Dates 16/08/2022	Engineer Procert	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 with rootlets.		
				56.18	0.20	Firm light brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
				55.98	(0.20)			
					0.40	Stiff greyish brown slightly sandy gravelly CLAY with occasional subangular to subrounded cobbles.		
					(1.20)			
				54.78	1.60			
						Complete at 1.60m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Soakaway test ST02 undertaken in pit. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.ST02</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.ST02				



Machine : Case 8.5T Method : Trial Pit	Dimensions 1.90 x 0.60 x 1.60	Ground Level (mOD) 57.45	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707606.6 E 732909.9 N	Dates 16/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				57.20	(0.25)	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
				56.55	(0.65)	MADE GROUND: Light brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles.		
				55.85	(0.70)	Stiff greyish brown slightly sandy gravelly CLAY with occasional subangular to subrounded cobbles.		
					1.60	Complete at 1.60m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Soakaway test ST03 undertaken in pit. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.ST03</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.ST03				



Machine : Case 8.5T Method : Trial Pit	Dimensions 2.30 x 1.60 x 1.70	Ground Level (mOD) 57.29	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707706.7 E 732769.4 N	Dates 16/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
57.19					0.10	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
					0.25	MADE GROUND: Greyish brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles and red brick fragments.		
56.94					0.35			
					(1.35)	Stiff brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
				55.59	1.70	Complete at 1.70m		

Plan 	Remarks No groundwater encountered during excavation. Trial pit stable. Soakaway test ST04 undertaken in pit. Trial pit backfilled upon completion.	
		Scale (approx) 1:25



Machine : Case 8.5T Method : Trial Pit		Dimensions 2.20 x 0.60 x 1.70	Ground Level (mOD) 56.10	Client Van Dijk Architects	Job Number 11956-06-22
		Location 707682.5 E 733052.3 N	Dates 16/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.90	0.20	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
				55.30	0.80	Firm light brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles.		
				54.40	1.70	Stiff greyish brown slightly sandy gravelly CLAY with occasional subangular to subrounded cobbles.		
						Complete at 1.70m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Soakaway test ST05 undertaken in pit. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.ST05</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.ST05				



Machine : Case 8.5T Method : Trial Pit	Dimensions 2.40 x 0.60 x 1.80	Ground Level (mOD) 55.71	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707739.1 E 733008.7 N	Dates 16/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.51	(0.20) 0.20	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
				54.91	(0.60) 0.80	MADE GROUND: Brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles.		
				53.91	(1.00) 1.80	Grey clayey gravelly fine to coarse SAND.		▽1
		Water strike(1) at 1.80m, rose to 1.60m in 5 mins.				Complete at 1.80m		▽1

Plan .	Remarks Groundwater encountered at 1.80m BGL. Trial pit stable. Soakaway test ST06 undertaken in pit. Trial pit backfilled upon completion.	
		Scale (approx) 1:25



Machine : Case 8.5T Method : Trial Pit		Dimensions 2.30 x 0.60 x 1.50	Ground Level (mOD) 56.73	Client Van Dijk Architects	Job Number 11956-06-22
		Location 707747.3 E 732866.9 N	Dates 16/08/2022	Engineer Procort	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.58	(0.15) 0.15	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
				56.33	(0.25) 0.40	MADE GROUND: Greyish brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles and ceramic fragments.		
					(1.10)	Stiff brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles and boulders.		
				55.23	1.50	Complete at 1.50m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Soakaway test ST07 undertaken in pit. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.ST04</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.ST04				



Machine : Case 8.5T Method : Trial Pit		Dimensions 2.10 x 0.60 x 1.80	Ground Level (mOD) 55.85	Client Van Dijk Architects	Job Number 11956-06-22
		Location 707911.4 E 732810.3 N	Dates 16/08/2022	Engineer Procort	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.45	0.40	MADE GROUND: Grey slightly sandy clayey angular to subangular fine to coarse Gravel with occasional angular to subangular cobbles (Crushed rock fill).		
				54.05	1.80	Firm to stiff greyish brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
						Complete at 1.80m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Soakaway test ST08 undertaken in pit. Trial pit backfilled upon completion.					
	<table border="1"> <tr> <td>Scale (approx)</td> <td>Logged By</td> <td>Figure No.</td> </tr> <tr> <td>1:25</td> <td>C. Byrne</td> <td>11956-06-22.ST08</td> </tr> </table>	Scale (approx)	Logged By	Figure No.	1:25	C. Byrne
Scale (approx)	Logged By	Figure No.				
1:25	C. Byrne	11956-06-22.ST08				



Machine : Case 8.5T Method : Trial Pit	Dimensions 2.10 x 0.60 x 1.80	Ground Level (mOD) 55.92	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707992.8 E 732844.3 N	Dates 16/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.72	0.20	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
				55.22	0.70	MADE GROUND: Greyish brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles plastic metal and red brick fragments.		
				54.12	1.80	Firm to stiff greyish brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
						Complete at 1.80m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Soakaway test ST09 undertaken in pit. Trial pit backfilled upon completion.	
		Scale (approx) 1:25



Machine : Case 8.5T Method : Trial Pit	Dimensions 1.90 x 0.60 x 1.60	Ground Level (mOD) 56.86	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707954.6 E 732928.1 N	Dates 16/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				56.66	(0.20) 0.20	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
					(1.20)	MADE GROUND: Greyish brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles cloth plastic metal and red brick fragments.		
				55.46	1.40	Obstruction: Boulders. Complete at 1.60m		

Plan .	Remarks No groundwater encountered during excavation. Trial pit stable. Soakaway test ST10 undertaken in pit. Trial pit backfilled upon completion.	
		Scale (approx) 1:25



Machine : Case 8.5T Method : Trial Pit	Dimensions 2.10 x 0.70 x 1.90	Ground Level (mOD) 55.71	Client Van Dijk Architects	Job Number 11956-06-22
	Location 708055.6 E 732919.7 N	Dates 16/08/2022	Engineer Procert	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				55.61	0.10	Brown slightly sandy slightly gravelly TOPSOIL with rootlets.		
					(1.00)	MADE GROUND: Greyish brown slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles plastic and metal fragments.		
				54.61	1.10	Firm to stiff greyish brown slightly sandy slightly gravelly CLAY with occasional subangular to subrounded cobbles.		
					(0.80)			
				53.81	1.90	Complete at 1.90m		

Plan 	Remarks No groundwater encountered during excavation. Trial pit stable. Soakaway test ST11 undertaken in pit. Trial pit backfilled upon completion.	
		Scale (approx) 1:25



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ST01

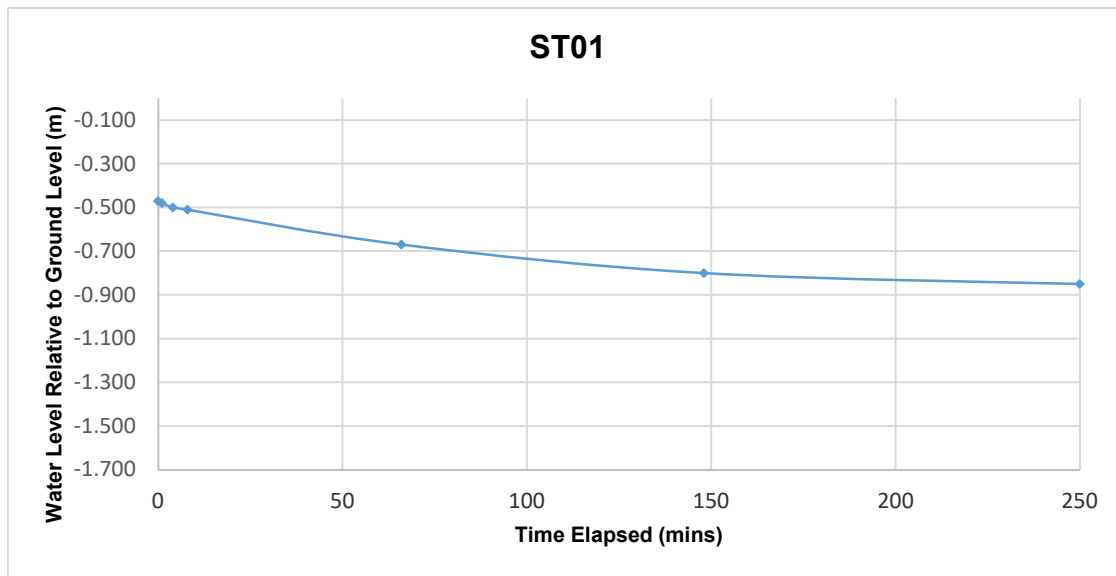
Soakaway Test to BRE Digest 365

Trial Pit Dimensions: 1.70m x 0.60m x 1.70m (L x W x D)

Date	Time	Water level (m bgl)
16/08/2022	0	-0.470
16/08/2022	1	-0.480
16/08/2022	4	-0.500
16/08/2022	8	-0.510
16/08/2022	66	-0.670
16/08/2022	148	-0.800
16/08/2022	250	-0.850

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.47	1.700	1.230	0.7775	1.3925





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ST02

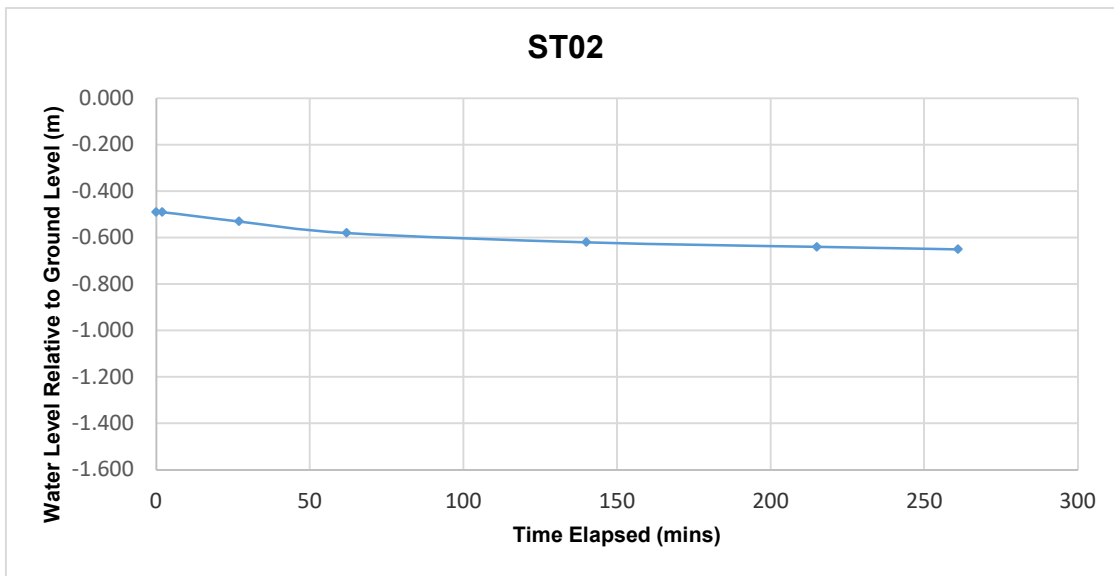
Soakaway Test to BRE Digest 365

Trial Pit Dimensions: 2.00m x 0.60m x 1.60m (L x W x D)

Date	Time	Water level (m bgl)
16/08/2022	0	-0.490
16/08/2022	2	-0.490
16/08/2022	27	-0.530
16/08/2022	62	-0.580
16/08/2022	140	-0.620
16/08/2022	215	-0.640
16/08/2022	261	-0.650

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.49	1.600	1.110	0.7675	1.3225





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ST03

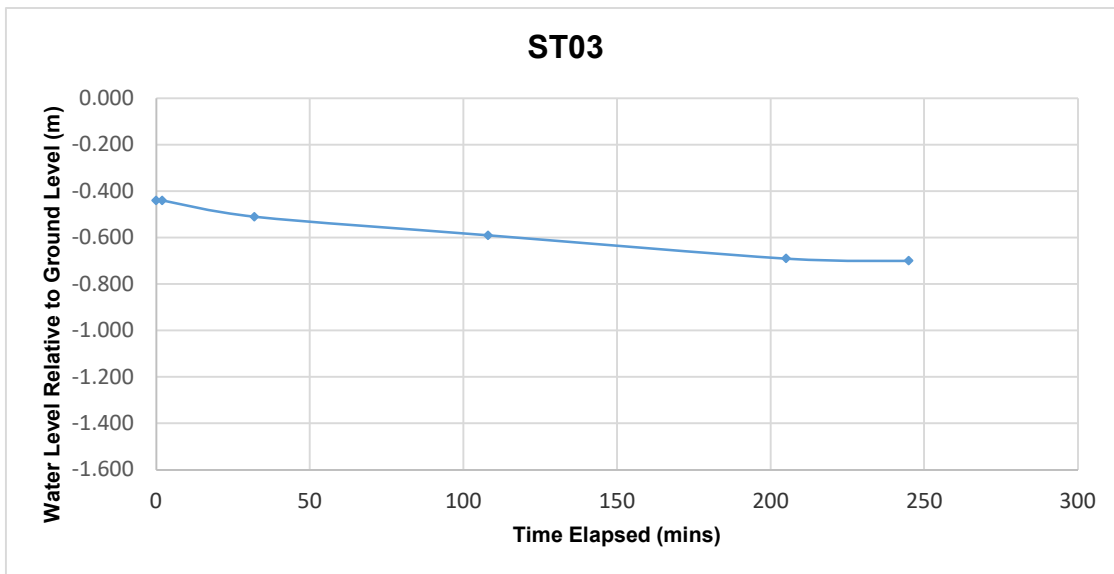
Soakaway Test to BRE Digest 365

Trial Pit Dimensions: 1.90m x 0.60m x 1.60m (L x W x D)

Date	Time	Water level (m bgl)
16/08/2022	0	-0.440
16/08/2022	2	-0.440
16/08/2022	32	-0.510
16/08/2022	108	-0.590
16/08/2022	205	-0.690
16/08/2022	245	-0.700

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.44	1.600	1.160	0.73	1.31





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ST04

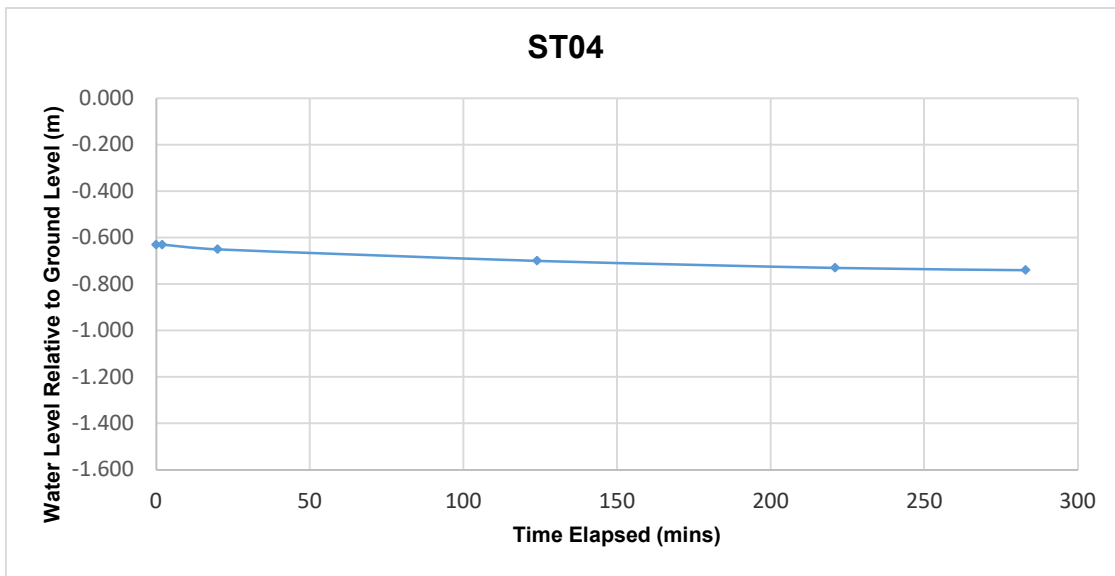
Soakaway Test to BRE Digest 365

Trial Pit Dimensions: 2.30m x 0.60m x 1.70m (L x W x D)

Date	Time	Water level (m bgl)
16/08/2022	0	-0.630
16/08/2022	2	-0.630
16/08/2022	20	-0.650
16/08/2022	124	-0.700
16/08/2022	221	-0.730
16/08/2022	283	-0.740

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.63	1.700	1.070	0.8975	1.4325





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ST05

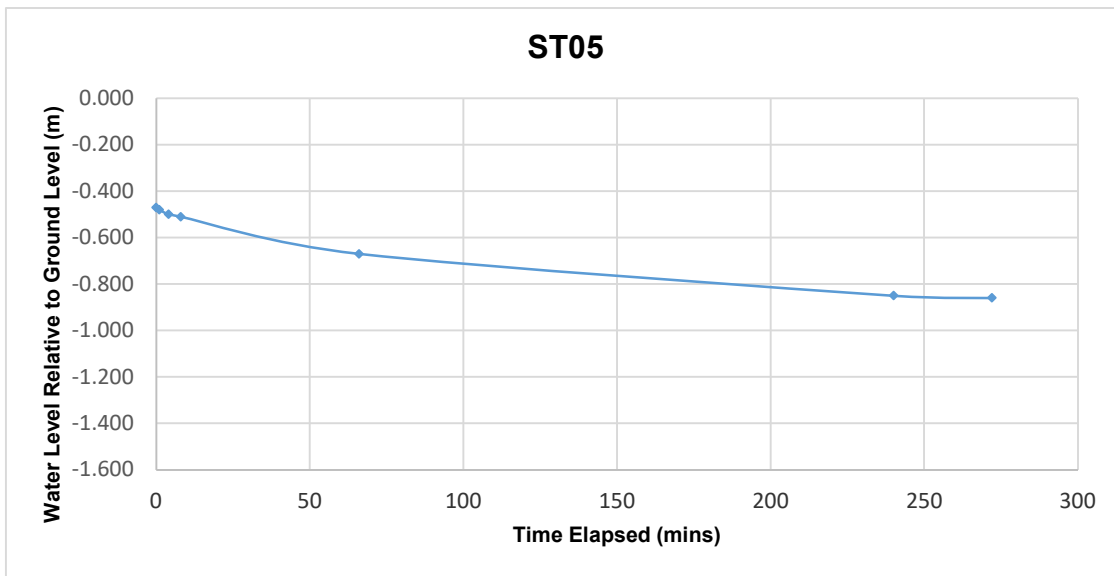
Soakaway Test to BRE Digest 365

Trial Pit Dimensions: 2.20m x 0.60m x 1.70m (L x W x D)

Date	Time	Water level (m bgl)
16/08/2022	0	-0.470
16/08/2022	1	-0.480
16/08/2022	4	-0.500
16/08/2022	8	-0.510
16/08/2022	66	-0.670
16/08/2022	240	-0.850
16/08/2022	272	-0.860

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.47	1.700	1.230	0.7775	1.3925





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ST06

Soakaway Test to BRE Digest 365

Trial Pit Dimensions: 2.40m x 0.60m 1.80m (L x W x D)

Date	Time	Water level (m bgl)
16/08/2022	0	-0.500
16/08/2022	1	-0.550
16/08/2022	2	-0.580
16/08/2022	19	-0.750
16/08/2022	81	-0.970
16/08/2022	251	-1.230

Start depth 0.50	Depth of Pit 1.800	Diff 1.300	75% full 0.825	25%full 1.475
Length of pit (m)	Width of pit (m)		75-25Ht (m)	Vp75-25 (m3)
2.400	0.600		0.650	0.94
Tp75-25 (from graph) (s)	24000		50% Eff Depth	ap50 (m2)
			0.650	5.34
f =	7.303E-06	m/s		





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ST07

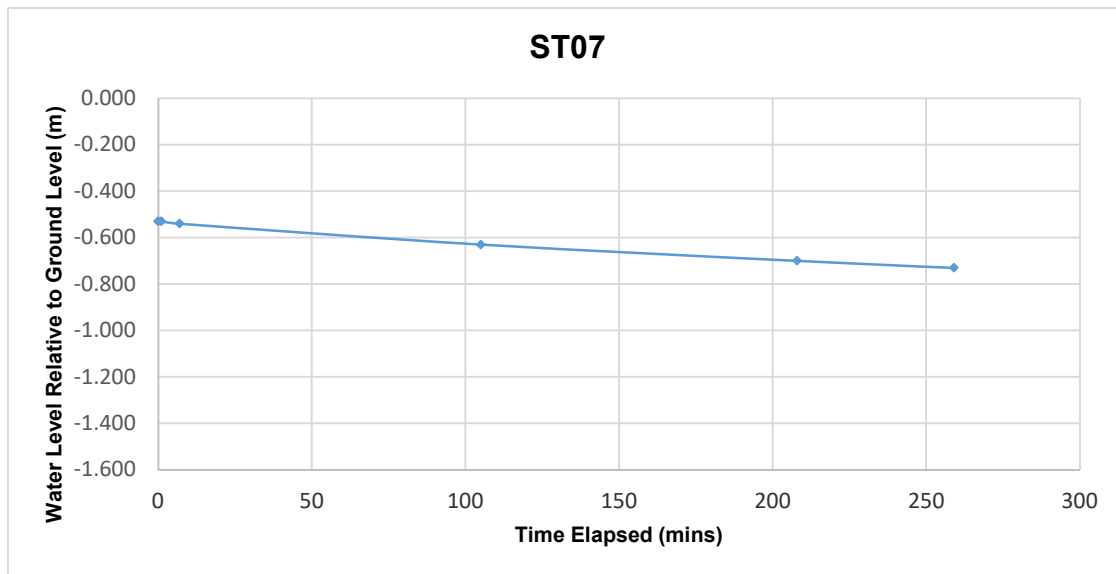
Soakaway Test to BRE Digest 365

Trial Pit Dimensions: 2.30m x 0.60m x 1.50m (L x W x D)

Date	Time	Water level (m bgl)
16/08/2022	0	-0.530
16/08/2022	1	-0.530
16/08/2022	7	-0.540
16/08/2022	105	-0.630
16/08/2022	208	-0.700
16/08/2022	259	-0.730

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.53	1.500	0.970	0.7725	1.2575





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ST08

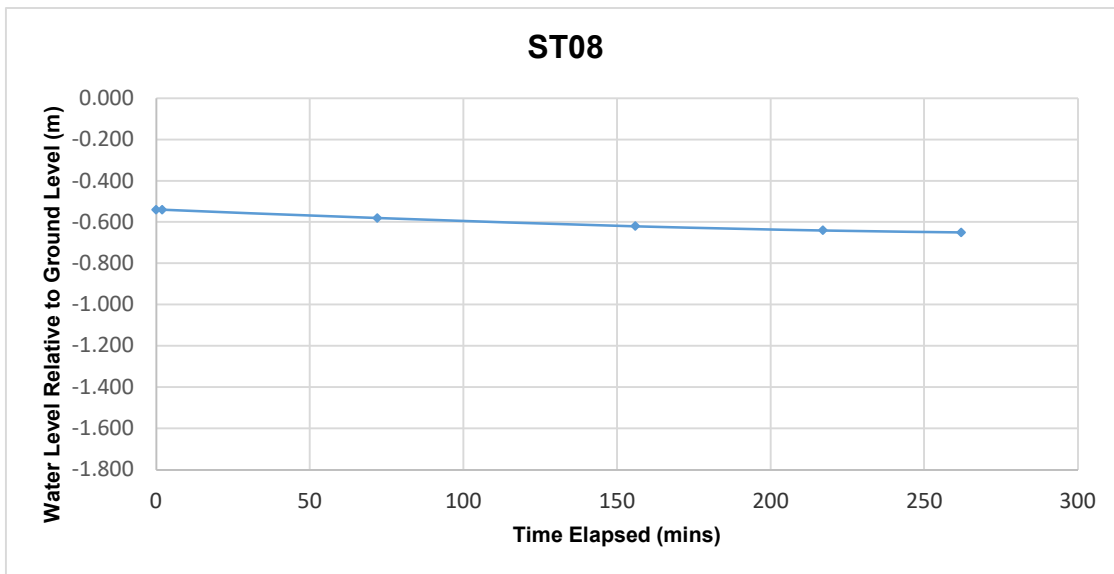
Soakaway Test to BRE Digest 365

Trial Pit Dimensions: 2.10m x 0.60m x 1.80m (L x W x D)

Date	Time	Water level (m bgl)
18/08/2022	0	-0.540
18/08/2022	2	-0.540
18/08/2022	72	-0.580
18/08/2022	156	-0.620
18/08/2022	217	-0.640
18/08/2022	262	-0.650

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.54	1.800	1.260	0.855	1.485





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ST09

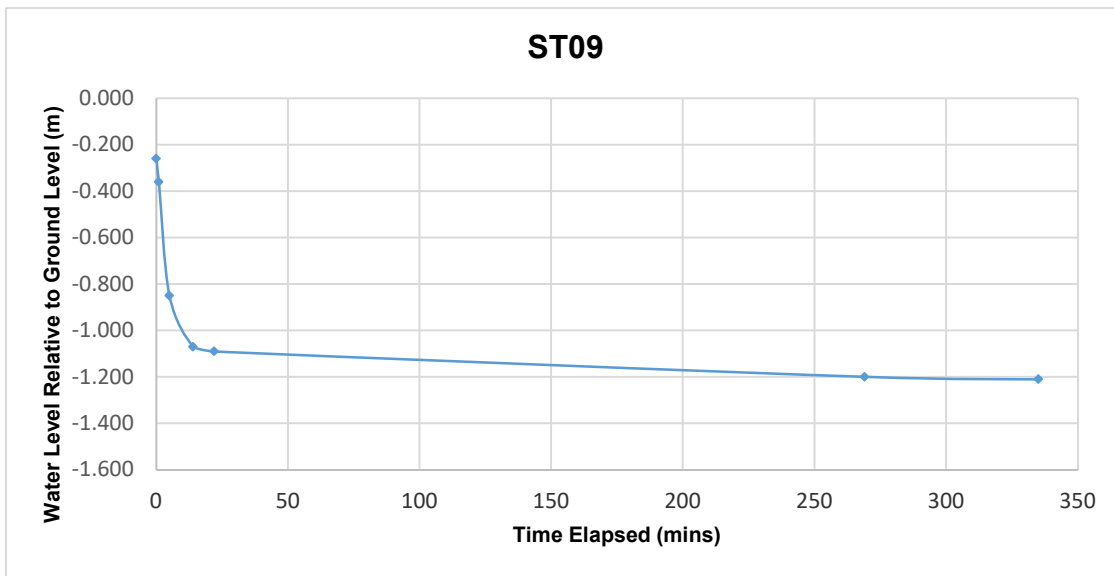
Soakaway Test to BRE Digest 365

Trial Pit Dimensions: 2.10m x 0.60m x 1.80m (L x W x D)

Date	Time	Water level (m bgl)
18/08/2022	0	-0.260
18/08/2022	1	-0.360
18/08/2022	5	-0.850
18/08/2022	14	-1.070
18/08/2022	22	-1.090
18/08/2022	269	-1.200
18/08/2022	335	-1.210

***Soakaway failed - Pit backfilled**

Start depth	Depth of Pit	Diff	75% full	25%full
0.26	1.800	1.540	0.645	1.415





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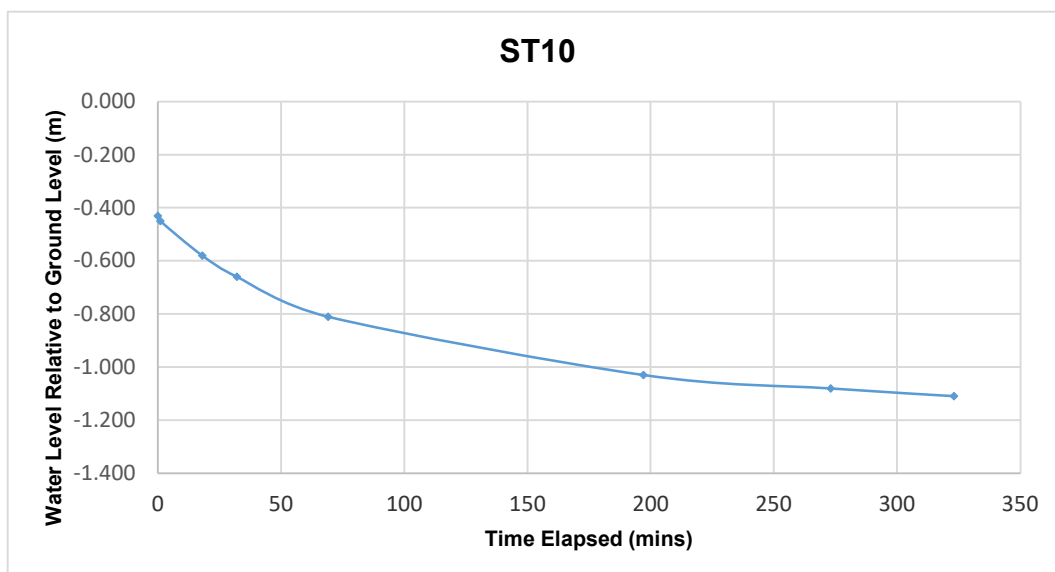
ST10

Soakaway Test to BRE Digest 365

Trial Pit Dimensions: 1.80m x 0.60m 1.40m (L x W x D)

Date	Time	Water level (m bgl)
18/08/2022	0	-0.430
18/08/2022	1	-0.450
18/08/2022	18	-0.580
18/08/2022	32	-0.660
18/08/2022	69	-0.810
18/08/2022	197	-1.030
18/08/2022	273	-1.080
18/08/2022	323	-1.110

Start depth 0.43	Depth of Pit 1.400	Diff 0.970	75% full 0.6725	25%full 1.1575
Length of pit (m)	Width of pit (m)		75-25Ht (m)	Vp75-25 (m3)
2.400	0.600		0.485	0.70
Tp75-25 (from graph) (s)	23100		50% Eff Depth	ap50 (m2)
			0.485	4.35
f =	6.950E-06	m/s		





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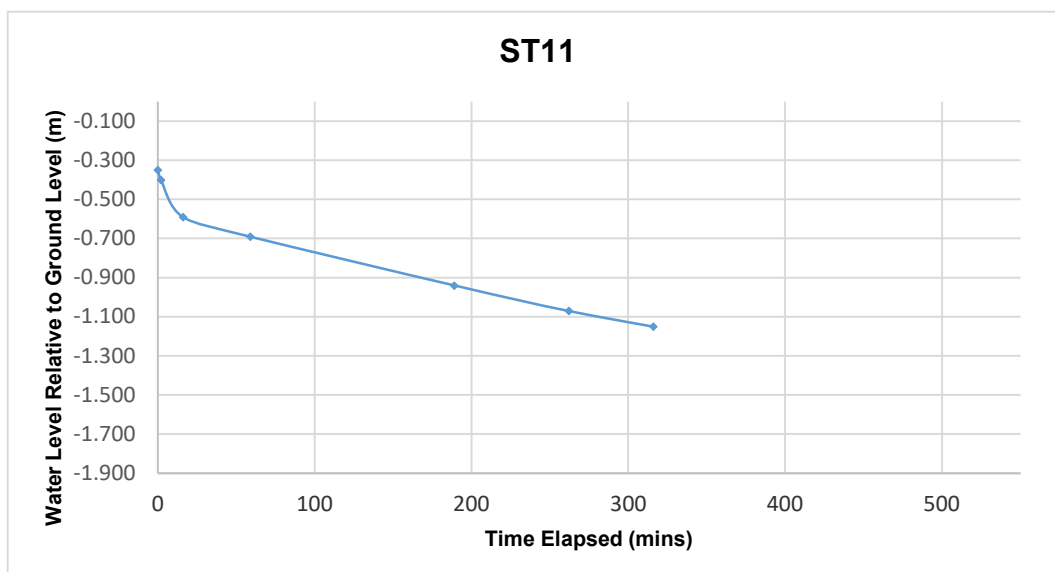
ST11

Soakaway Test to BRE Digest 365

Trial Pit Dimensions: 2.10m x 0.70m 1.90m (L x W x D)

Date	Time	Water level (m bgl)
18/08/2022	0	-0.350
18/08/2022	2	-0.400
18/08/2022	16	-0.590
18/08/2022	59	-0.690
18/08/2022	189	-0.940
18/08/2022	262	-1.070
18/08/2022	316	-1.150

Start depth 0.35	Depth of Pit 1.900	Diff 1.550	75% full 0.7375	25%full 1.5125
Length of pit (m)	Width of pit (m)		75-25Ht (m)	Vp75-25 (m3)
2.100	0.700		0.775	1.14
Tp75-25 (from graph) (s)	27000		50% Eff Depth	ap50 (m2)
			0.775	5.81
f =	7.262E-06	m/s		



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST01



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST01



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST01



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST02



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST02



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST02



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST03



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST03



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST03



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST04



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST04



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST04



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST05



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST05



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST05



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST06



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST06



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST06



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST07



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST07



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST07



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST08



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST08



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST08



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST09



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST09



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST09



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST10



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST10



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST10



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST11



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST11



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST11

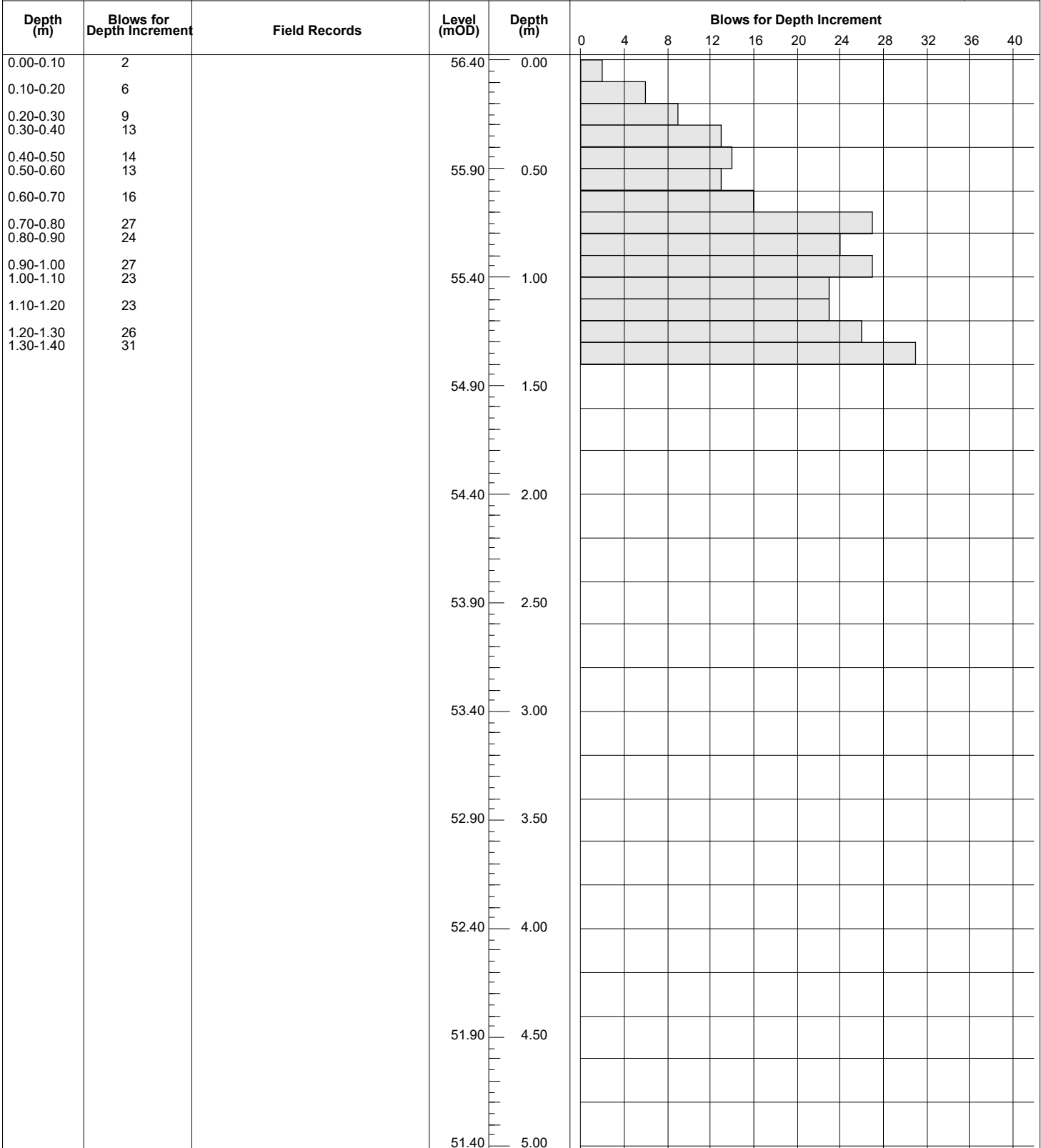


APPENDIX 4 – Dynamic Probe Records





Method DPH: Dynamic Probe Heavy Fall Height: 500mm Hammer Weight: 50kg	Cone Dimensions Diameter 43.7mm, Angle 0°	Ground Level (mOD) 56.40	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707628.6 E 733145.3 N	Dates 01/08/2022	Engineer Procort	Sheet 1/1



Remarks Refusal at 1.40m BGL.	Scale (approx) 1:25	Logged By NG
	Figure No. 11956-06-22.DPH01	



Machine : Tecopesa TEC10 Method : Dynamic Probe Heavy	Cone Dimensions : Diameter 43.7mm, Angle 90°	Ground Level (mOD) : 56.41	Client : Van Dijk Architects	Job Number : 11956-06-22
Location : 707609.8 E 732987.9 N		Dates : 17/08/2022	Engineer : Procort	Sheet : 1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment										
					0	4	8	12	16	20	24	28	32	36	40
0.00-0.10	2		56.41	0.00	[Bar chart showing 2 blows]										
0.10-0.20	6				[Bar chart showing 6 blows]										
0.20-0.30	9				[Bar chart showing 9 blows]										
0.30-0.40	13				[Bar chart showing 13 blows]										
0.40-0.50	14				[Bar chart showing 14 blows]										
0.50-0.60	13		55.91	0.50	[Bar chart showing 13 blows]										
0.60-0.70	16				[Bar chart showing 16 blows]										
0.70-0.80	27				[Bar chart showing 27 blows]										
0.80-0.90	24				[Bar chart showing 24 blows]										
0.90-1.00	27				[Bar chart showing 27 blows]										
1.00-1.10	23		55.41	1.00	[Bar chart showing 23 blows]										
1.10-1.20	23				[Bar chart showing 23 blows]										
1.20-1.30	26				[Bar chart showing 26 blows]										
1.30-1.40	31				[Bar chart showing 31 blows]										
			54.91	1.50	[Bar chart showing 31 blows]										
			54.41	2.00	[Bar chart showing 31 blows]										
			53.91	2.50	[Bar chart showing 31 blows]										
			53.41	3.00	[Bar chart showing 31 blows]										
			52.91	3.50	[Bar chart showing 31 blows]										
			52.41	4.00	[Bar chart showing 31 blows]										
			51.91	4.50	[Bar chart showing 31 blows]										
			51.41	5.00	[Bar chart showing 31 blows]										

Remarks: Refusal at 1.40m BGL.

Scale (approx)	1:25	Logged By	NG
Figure No.	11956-06-22.DPH03		



Method DPH: Dynamic Probe Heavy Fall Height: 500mm Hammer Weight: 50kg	Cone Dimensions Diameter 43.7mm, Angle 0°	Ground Level (mOD) 56.67	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707671.5 E 732912.9 N	Dates 17/08/2022	Engineer Procort	Sheet 1/1

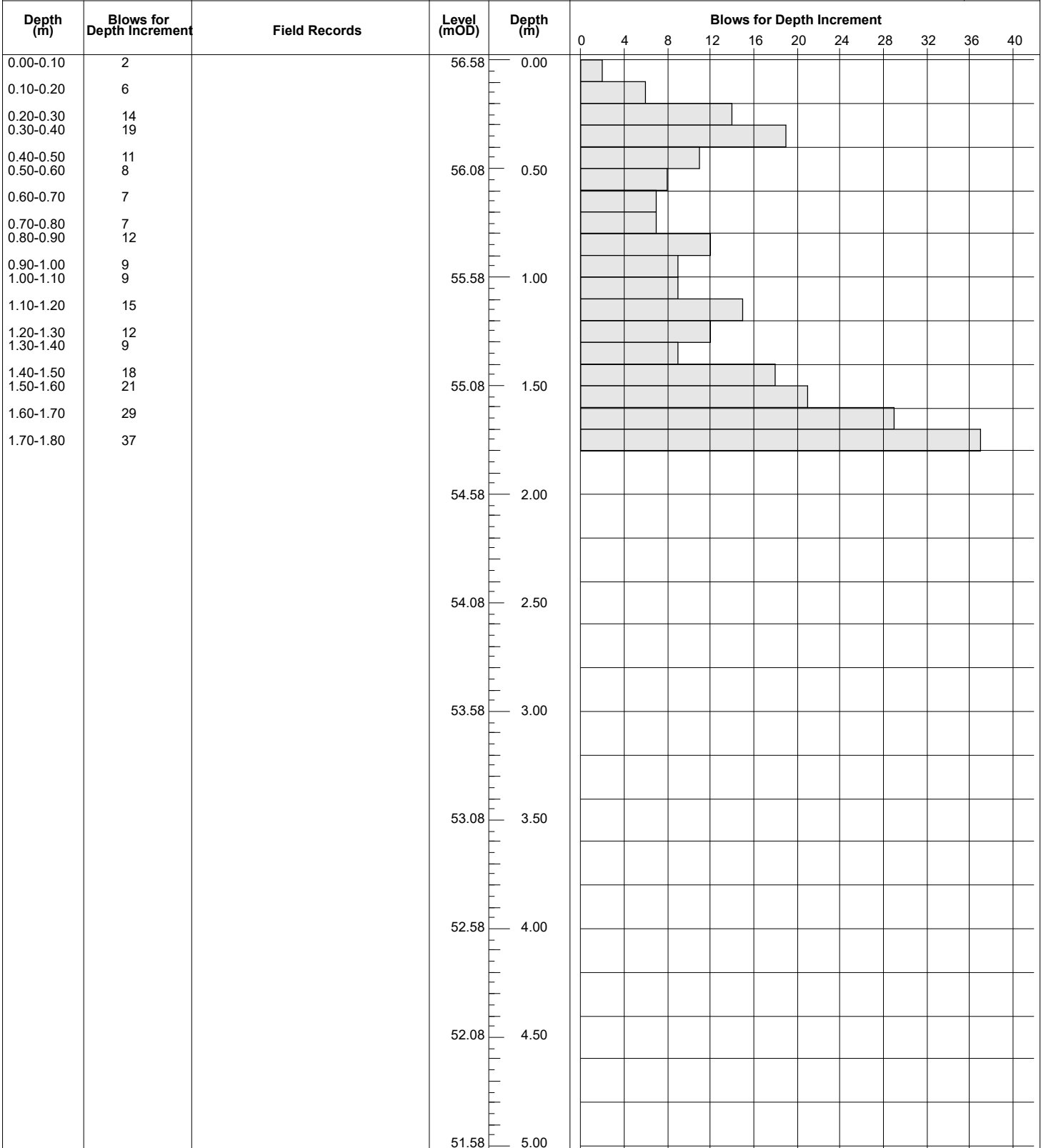
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment												
					0	3	6	9	12	15	18	21	24	27	30		
0.00-0.10	3		56.67	0.00	[Bar chart showing 3 blows]												
0.10-0.20	5				[Bar chart showing 5 blows]												
0.20-0.30	5				[Bar chart showing 5 blows]												
0.30-0.40	7				[Bar chart showing 7 blows]												
0.40-0.50	8				[Bar chart showing 8 blows]												
0.50-0.60	13		56.17	0.50	[Bar chart showing 13 blows]												
0.60-0.70	17				[Bar chart showing 17 blows]												
0.70-0.80	17				[Bar chart showing 17 blows]												
0.80-0.90	15				[Bar chart showing 15 blows]												
0.90-1.00	14				[Bar chart showing 14 blows]												
1.00-1.10	14		55.67	1.00	[Bar chart showing 14 blows]												
1.10-1.20	16				[Bar chart showing 16 blows]												
1.20-1.30	14				[Bar chart showing 14 blows]												
1.30-1.40	8				[Bar chart showing 8 blows]												
1.40-1.50	13				[Bar chart showing 13 blows]												
1.50-1.60	7		55.17	1.50	[Bar chart showing 7 blows]												
1.60-1.70	5				[Bar chart showing 5 blows]												
1.70-1.80	9				[Bar chart showing 9 blows]												
1.80-1.90	8				[Bar chart showing 8 blows]												
1.90-2.00	7				[Bar chart showing 7 blows]												
2.00-2.10	11		54.67	2.00	[Bar chart showing 11 blows]												
2.10-2.20	19				[Bar chart showing 19 blows]												
2.20-2.30	25				[Bar chart showing 25 blows]												
			54.17	2.50	[Empty bar chart]												
			53.67	3.00	[Empty bar chart]												
			53.17	3.50	[Empty bar chart]												
			52.67	4.00	[Empty bar chart]												
			52.17	4.50	[Empty bar chart]												
			51.67	5.00	[Empty bar chart]												

Remarks
Refusal at 2.24m BGL.

Scale (approx)	Logged By
1:25	NG
Figure No.	
11956-06-22.DPH03	



Method DPH: Dynamic Probe Heavy Fall Height: 500mm Hammer Weight: 50kg	Cone Dimensions Diameter 43.7mm, Angle 0°	Ground Level (mOD) 56.58	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707705.4 E 732848.6 N	Dates 17/08/2022	Engineer Procort	Sheet 1/1

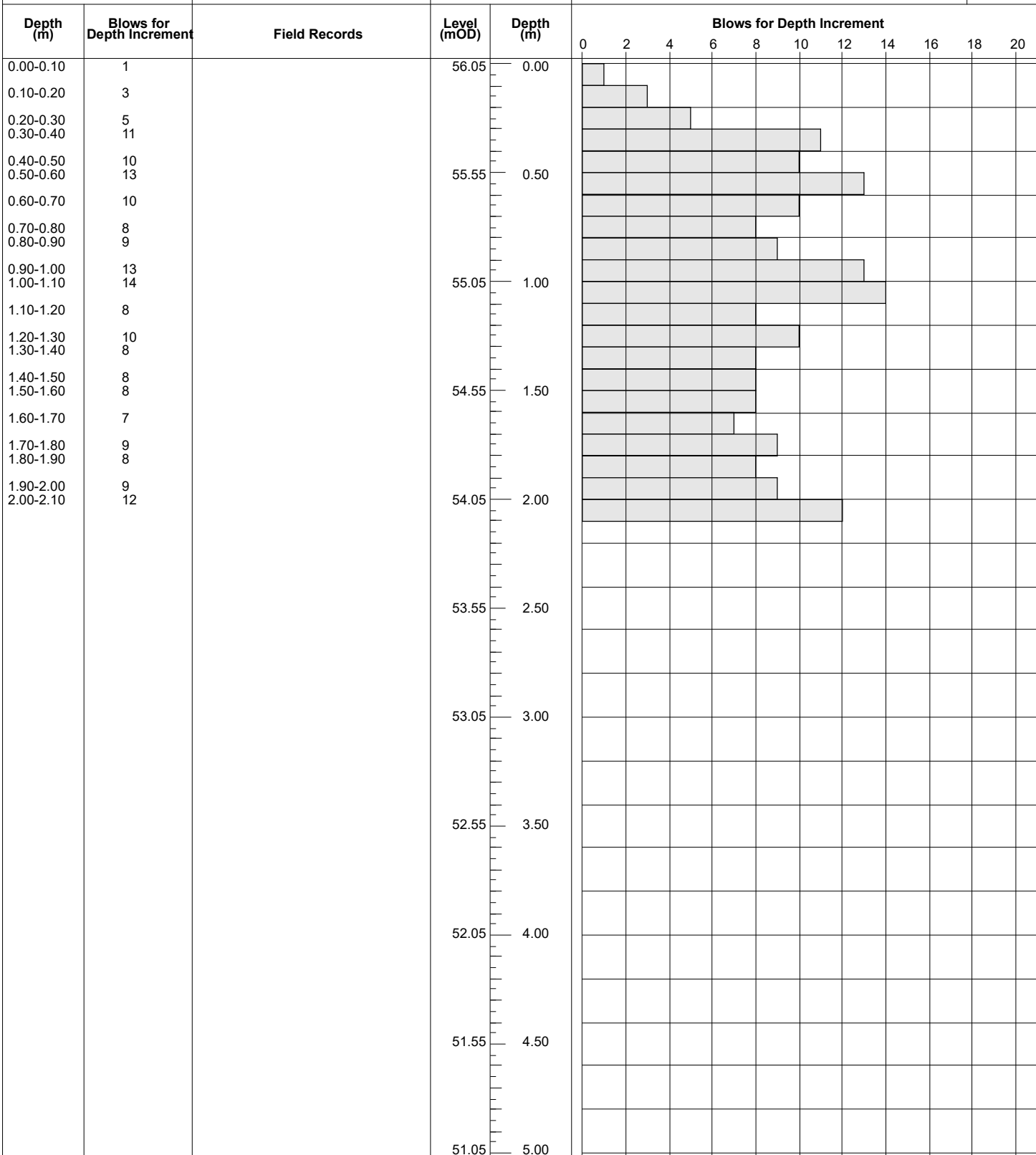


Remarks
Refusal at 1.80mBGL.

Scale (approx) 1:25
 Logged By NG
 Figure No. 11956-06-22.DPH05



Method DPH: Dynamic Probe Heavy Fall Height: 500mm Hammer Weight: 50kg	Cone Dimensions Diameter 43.7mm, Angle 0°	Ground Level (mOD) 56.05	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707687.3 E 733068.3 N	Dates 17/08/2022	Engineer Procort	Sheet 1/1

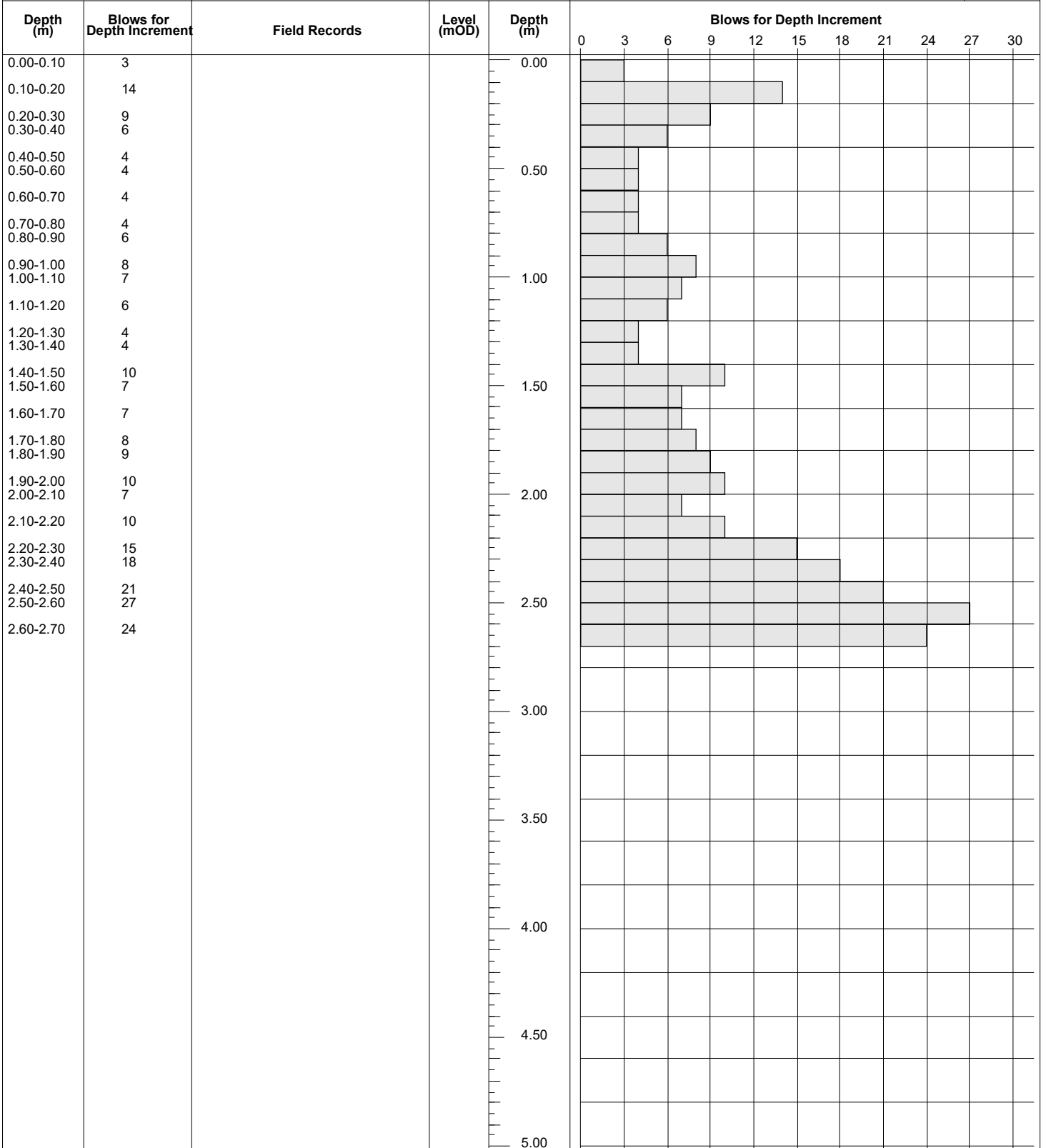


Remarks
Refusal at 2.10mBGL.

Scale (approx)	Logged By
1:25	NG
Figure No.	
11956-06-22.DPH07	



Method DPH: Dynamic Probe Heavy Fall Height: 500mm Hammer Weight: 50kg	Cone Dimensions Diameter 43.7mm, Angle 0°	Ground Level (mOD)	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707727.3 E 732964.9 N	Dates 17/08/2022	Engineer Procort	Sheet 1/1



Remarks
Refusal at 2.70m BGL.

Scale (approx)	Logged By
1:25	NG
Figure No.	
11956-06-22.DPH08	



Method DPH: Dynamic Probe Heavy Fall Height: 500mm Hammer Weight: 50kg	Cone Dimensions Diameter 43.7mm, Angle 0°	Ground Level (mOD) 56.93	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707805.7 E 732906.6 N	Dates 17/08/2022	Engineer Procort	Sheet 1/1

Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment																
					0	5	10	15	20	25	30	35	40	45	50						
0.00-0.10	1		56.93	0.00	1																
0.10-0.20	4				4																
0.20-0.30	6				6																
0.30-0.40	11				11																
0.40-0.50	23				23																
0.50-0.60	18		56.43	0.50	18																
0.60-0.70	16				16																
0.70-0.80	16				16																
0.80-0.90	28				28																
0.90-1.00	42				42																
1.00-1.02	25		55.93	1.00	25																
			55.43	1.50																	
			54.93	2.00																	
			54.43	2.50																	
			53.93	3.00																	
			53.43	3.50																	
			52.93	4.00																	
			52.43	4.50																	
			51.93	5.00																	

Remarks Refusal at 1.02mBGL.	Scale (approx) 1:25	Logged By NG
	Figure No. 11956-06-22.DPH09	



Method DPH: Dynamic Probe Heavy Fall Height: 500mm Hammer Weight: 50kg	Cone Dimensions Diameter 43.7mm, Angle 0°	Ground Level (mOD) 57.01	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707834.8 E 732827.4 N	Dates 17/08/2022	Engineer Procort	Sheet 1/1

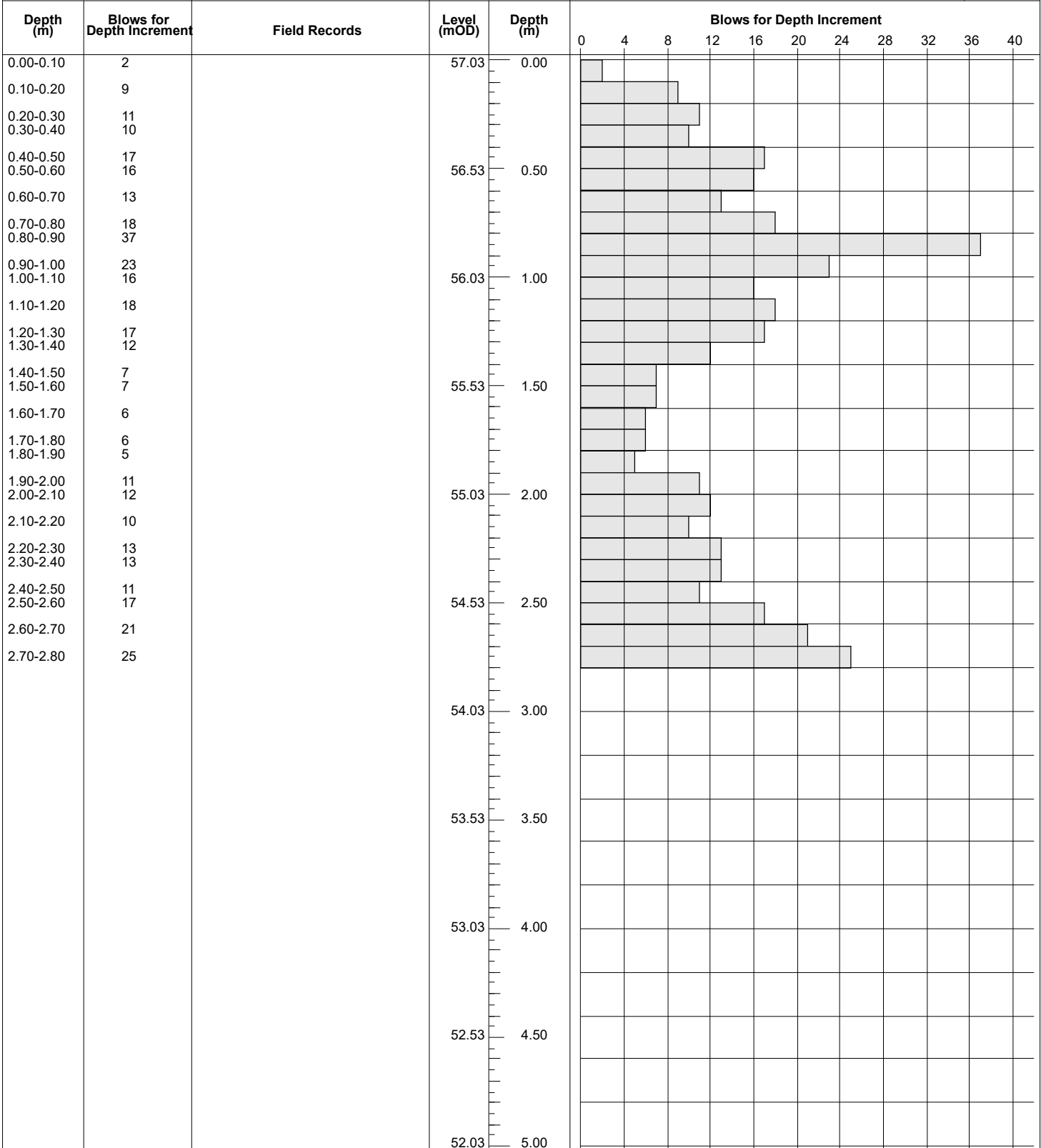
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment										
					0	3	6	9	12	15	18	21	24	27	30
0.00-0.10	3		57.01	0.00	[Bar chart showing 3 blows]										
0.10-0.20	17				[Bar chart showing 17 blows]										
0.20-0.30	26				[Bar chart showing 26 blows]										
0.30-0.40	24				[Bar chart showing 24 blows]										
0.40-0.50	27				[Bar chart showing 27 blows]										
0.50-0.60	25		56.51	0.50	[Bar chart showing 25 blows]										
0.60-0.70	17				[Bar chart showing 17 blows]										
0.70-0.80	10				[Bar chart showing 10 blows]										
0.80-0.90	7				[Bar chart showing 7 blows]										
0.90-1.00	11				[Bar chart showing 11 blows]										
1.00-1.10	14		56.01	1.00	[Bar chart showing 14 blows]										
1.10-1.20	13				[Bar chart showing 13 blows]										
1.20-1.30	15				[Bar chart showing 15 blows]										
1.30-1.40	19				[Bar chart showing 19 blows]										
1.40-1.50	11				[Bar chart showing 11 blows]										
1.50-1.60	13		55.51	1.50	[Bar chart showing 13 blows]										
1.60-1.70	9				[Bar chart showing 9 blows]										
1.70-1.80	9				[Bar chart showing 9 blows]										
1.80-1.90	13				[Bar chart showing 13 blows]										
1.90-2.00	25				[Bar chart showing 25 blows]										
2.00-2.04	25		55.01	2.00	[Bar chart showing 25 blows]										
					[Empty grid for 2.00-2.04m depth]										
					[Empty grid for 2.04-2.50m depth]										
			54.51	2.50	[Empty grid for 2.50-3.00m depth]										
					[Empty grid for 3.00-3.50m depth]										
			54.01	3.00	[Empty grid for 3.00-3.50m depth]										
					[Empty grid for 3.50-4.00m depth]										
			53.51	3.50	[Empty grid for 3.50-4.00m depth]										
					[Empty grid for 4.00-4.50m depth]										
			53.01	4.00	[Empty grid for 4.00-4.50m depth]										
					[Empty grid for 4.50-5.00m depth]										
			52.51	4.50	[Empty grid for 4.50-5.00m depth]										
					[Empty grid for 5.00-5.50m depth]										
			52.01	5.00	[Empty grid for 5.00-5.50m depth]										

Remarks
Refusal at 2.04m BGL.

Scale (approx)	1:25	Logged By	NG
Figure No.	11956-06-22.DPH10		



Method DPH: Dynamic Probe Heavy Fall Height: 500mm Hammer Weight: 50kg	Cone Dimensions Diameter 43.7mm, Angle 0°	Ground Level (mOD) 57.03	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707950.1 E 732877.9 N	Dates 17/08/2022	Engineer Procort	Sheet 1/1



Remarks
Refusal at 2.80mBGL.

Scale (approx)	Logged By
1:25	NG
Figure No.	
11956-06-22.DPH11	



Method DPH: Dynamic Probe Heavy Fall Height: 500mm Hammer Weight: 50kg	Cone Dimensions Diameter 43.7mm, Angle 0°	Ground Level (mOD) 56.80	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707989.1 E 732961.3 N	Dates 17/08/2022	Engineer Procort	Sheet 1/1

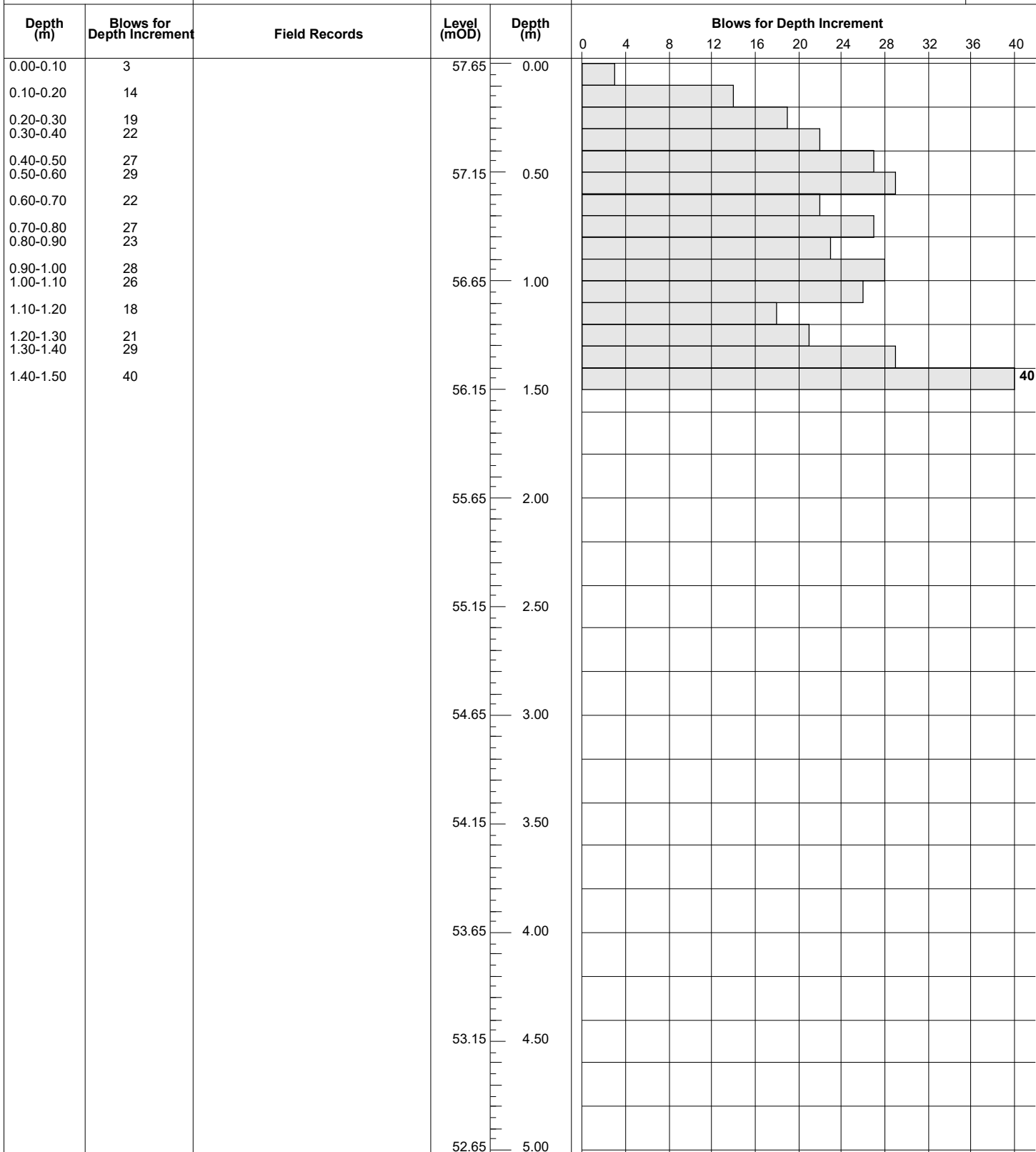
Depth (m)	Blows for Depth Increment	Field Records	Level (mOD)	Depth (m)	Blows for Depth Increment									
					0	5	10	15	20	25	30	35	40	45
0.00-0.10	1		56.80	0.00	[Bar chart showing 1 blow]									
0.10-0.20	8				[Bar chart showing 8 blows]									
0.20-0.30	15				[Bar chart showing 15 blows]									
0.30-0.40	27				[Bar chart showing 27 blows]									
0.40-0.50	26				[Bar chart showing 26 blows]									
0.50-0.60	37		56.30	0.50	[Bar chart showing 37 blows]									
0.60-0.70	34				[Bar chart showing 34 blows]									
0.70-0.80	43				[Bar chart showing 43 blows]									
0.80-0.90	30				[Bar chart showing 30 blows]									
0.90-1.00	26				[Bar chart showing 26 blows]									
1.00-1.10	21		55.80	1.00	[Bar chart showing 21 blows]									
1.10-1.20	16				[Bar chart showing 16 blows]									
1.20-1.30	11				[Bar chart showing 11 blows]									
1.30-1.40	11				[Bar chart showing 11 blows]									
1.40-1.50	12				[Bar chart showing 12 blows]									
1.50-1.60	7		55.30	1.50	[Bar chart showing 7 blows]									
1.60-1.70	8				[Bar chart showing 8 blows]									
1.70-1.80	9				[Bar chart showing 9 blows]									
1.80-1.90	13				[Bar chart showing 13 blows]									
1.90-2.00	7				[Bar chart showing 7 blows]									
2.00-2.10	6		54.80	2.00	[Bar chart showing 6 blows]									
2.10-2.20	15				[Bar chart showing 15 blows]									
2.20-2.30	13				[Bar chart showing 13 blows]									
2.30-2.40	18				[Bar chart showing 18 blows]									
2.40-2.43	25		54.30	2.50	[Bar chart showing 25 blows]									
					[Empty grid for 3.00m depth]									
					[Empty grid for 3.50m depth]									
					[Empty grid for 4.00m depth]									
					[Empty grid for 4.50m depth]									
					[Empty grid for 5.00m depth]									
			51.80	5.00	[Empty grid for 5.00m depth]									

Remarks
Refusal at 2.43m BGL.

Scale (approx)	1:25	Logged By	NG
Figure No.	11956-06-22.DPH12		



Method DPH: Dynamic Probe Heavy Fall Height: 500mm Hammer Weight: 50kg	Cone Dimensions Diameter 43.7mm, Angle 0°	Ground Level (mOD) 57.65	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707999.4 E 732916.1 N	Dates 17/08/2022	Engineer Procort	Sheet 1/1

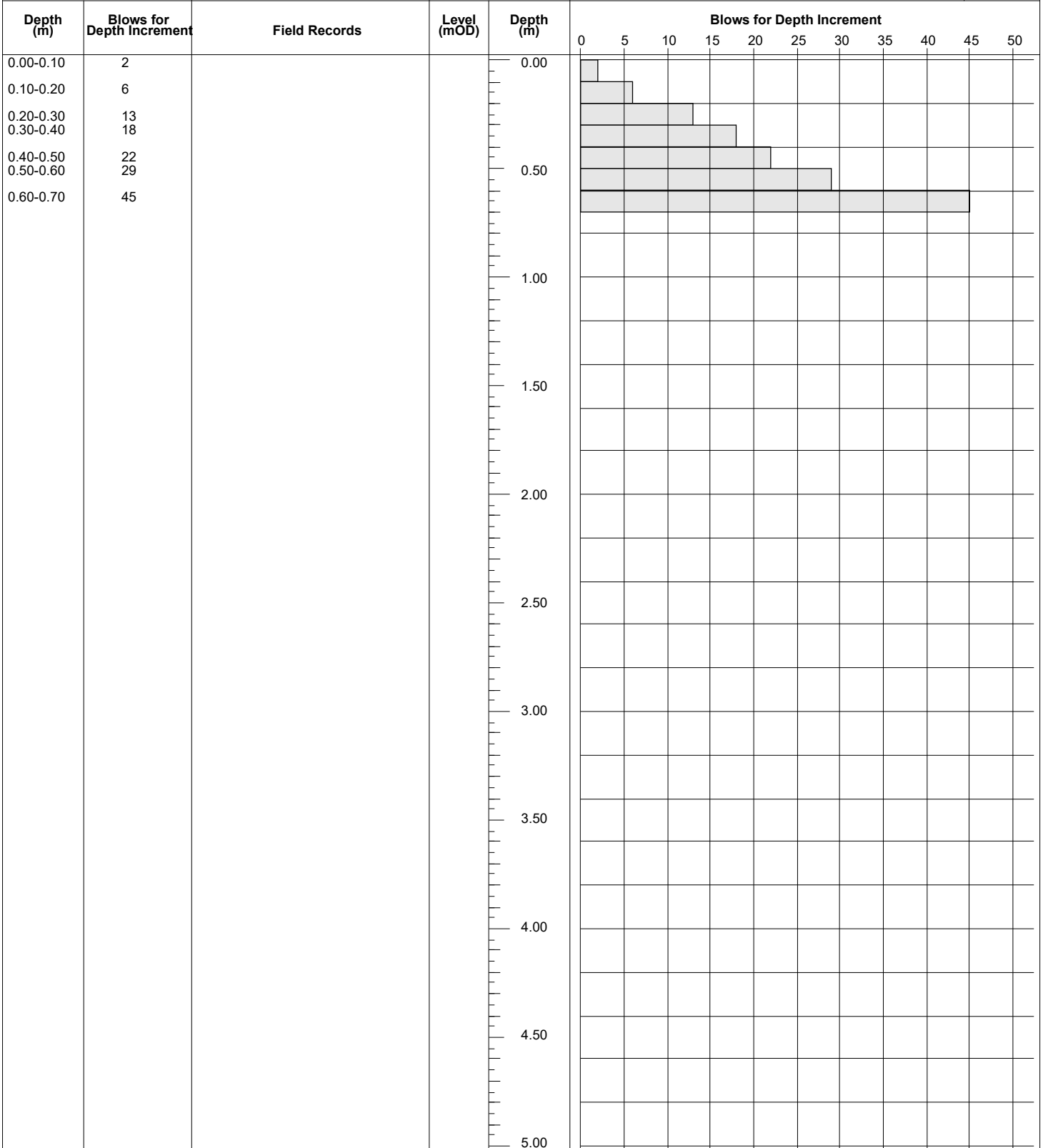


Remarks
Refusal at 1.50m BGL.

Scale (approx)	Logged By
1:25	NG
Figure No.	
11956-06-22.DPH13	



Method DPH: Dynamic Probe Heavy Fall Height: 500mm Hammer Weight: 50kg	Cone Dimensions Diameter 43.7mm, Angle 0°	Ground Level (mOD)	Client Van Dijk Architects	Job Number 11956-06-22
	Location	Dates 17/08/2022	Engineer Procort	Sheet 1/1



Remarks Refusal at 0.70mBGL.	Scale (approx) 1:25	Logged By NG
	Figure No.	
	11956-06-22.DPH14A	

APPENDIX 5 - Borehole Records





Machine : Beretta T-44		Casing Diameter 96mm cased to 7.80m		Ground Level (mOD) 56.44		Client Van Dijk Architects		Job Number 11956-06-22	
Flush : water		Location 707617.1 E 733145.6 N		Dates 30/09/2022		Engineer Procort		Sheet 1/1	
Core Dia: 62.5 mm									
Method : Rotary Cored									

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.00						56.24	(0.20) 0.20	TOPSOIL			
1.00-1.38	38	0	0		10,13/12,18,20 SPT(C) 50/225	55.44	(0.80) 1.00	Poor Recovery: Recovery consists of brownish grey slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.			
2.60						53.84	(1.60) 2.60	Poor Recovery: Recovery consists of brownish grey slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse. (Stiff)			
4.00	87	0	0			52.44	(1.40) 4.00	Very stiff dark grey slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.			
4.10						51.09	(1.35) 5.35	Medium strong to strong dark grey fine grained argilaceous LIMESTONE with occasional calcite veins interbedded with weak MUDSTONE locally recovered as dark grey Clay. Partially weathered. (4.00m-7.80m BGL) 2 fracture sets. F1: 5-15 degrees. Extremely closely to medium spaced. Planar, rough, open to incipient. F2: 40-60 degrees. Very closely to medium spaced. Planar, rough with occasional Clay smearing.			
5.60	100	30	12	14		51.09	(2.45) 5.60	Strong to very strong dark grey fine grained argilaceous LIMESTONE with occasional calcite veins interbedded with weak MUDSTONE locally recovered as dark grey Clay. Partially weathered.			
6.85								(6.87m -7.43m BGL) Non Intact			
7.10				NI							
7.40	100	45	36	11							
7.80						48.64	7.80	Complete at 7.80m			

Remarks Rotary drilling complete from GL to 7.80m BGL. Borehole backfilled on completion. Standpipe installed on completion. Slotted from 7.80m BGL to 1.00m BGL, plain from 1.00m BGL to GL with a raised cover.									Scale (approx)	Logged By
									1:50	NG
									Figure No. 11956-06-22.BH01	



Machine : Beretta T-44 Flush : water Core Dia: 62.5 mm Method : Rotary Cored	Casing Diameter 96mm cased to 6.10m	Ground Level (mOD) 56.44	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707535.8 E 733145.6 N	Dates 30/09/2022	Engineer Procort	Sheet 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00								Brownish grey slightly sandy slightly gravelly CLAY with occasional cobbles and boulders. Gravel is angular to subangular fine to coarse.		
1.00-1.30	80	0	0		10,13/19,31 SPT(C) 50/150	55.44 55.14	1.00 (0.30) 1.30	Stiff brownish grey slightly sandy slightly gravelly CLAY with occasional cobbles and boulders. Gravel is angular to subangular fine to coarse. Very stiff dark grey slightly sandy slightly gravelly CLAY with occasional cobbles and boulders. Gravel is angular to subangular fine to coarse.		
2.60 2.70				4		53.74	2.70 (0.45)	Medium strong thinly laminated grey fine grained argillaceous LIMESTONE interbedded with weak MUDSTONE recovered as dark grey Clay. Moderately weathered.		
3.15	100	48	48			53.29	3.15	(2.70m - 3.12m BGL) 1 set fracture: 10-20 degrees. Planar, rough, with occasional Clay infill.		
4.10	100	67	63	12			(2.95)	Medium strong to strong thinly laminated grey fine grained argillaceous LIMESTONE interbedded with weak MUDSTONE. Moderately to slightly weathered. (3.12m - 6.10m BGL) 1 set fracture: 20-40 degrees. Very closely to medium spaced. Planar, rough, open to incipient with occasional Clay infill. F2:10-20 degrees. Planar, rough with calcite veins.		
5.60	100	80	70							
6.10						50.34	6.10	Complete at 6.10m		

Remarks Rotary drilling complete from GL to 6.10m BGL. Borehole backfilled on completion.	Scale (approx)	Logged By
	1:50	NG
	Figure No. 11956-06-22.BH02	



Machine : Dando 2000 + Beretta T-44 Method : Cable Percussion with Rotary Core follow on.	Casing Diameter 200mm cased to 1.00m 96mm cased to 5.70m	Ground Level (mOD) 57.31	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707576.2 E 732955.7 N	Dates 08/09/2022-29/09/2022	Engineer Procort	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	B				2,2/2,3,3,4 B SPT(C) N=12	56.81	0.50	Brown slightly sandy slightly gravelly Clay TOPSOIL with rootlets.		
1.00	TCR	SCR	RQD	FI		56.31	0.50	Stiff brown slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.		
1.00-1.45					46	0	0	54.81	1.00	Poor Recovery: Recovery consists of brown slightly sandy slightly gravelly CLAY with occasional cobbles.
1.00					25/50 SPT(C) 25*/25 50/0		(1.50)			
2.30-2.33	83	75	27	18		54.81	2.50	Medium strong to strong thinly laminated grey fine grained argillaceous LIMESTONE interbedded with weak MUDSTONE. Partially weathered. (2.30m - 4.90m BGL) 2 fracture sets. F1: 10-30 degrees extremely close to medium spaced. Planar, rough. F2:40-60 degrees. Planar, rough		
2.30										(2.40)
3.50	100	85	42							
4.30										
4.60	100	96	84	10		52.41	4.90	Strong to very strong thinly laminated grey fine grained argillaceous LIMESTONE interbedded with weak MUDSTONE. Fresh. (4.90m - 5.70m BGL) 1 fracture set. F1: 5-15 medium spaced. Planar, rough.		
5.70									51.61	5.70

Remarks No groundwater encountered during drilling. Cable Percussion refusal at 1.00m BGL with Rotary drilling complete from 1.00m BGL to 5.70m BGL. Borehole backfilled on completion. Chiselling from 1.00m to 1.00m for 1 hour.	Scale (approx) 1:50	Logged By NG
	Figure No. 11956-06-22.BH01	



Machine : Dando 2000 + Beretta T-44 Method : Cable Percussion with Rotary Core follow on.	Casing Diameter 200mm cased to 1.50m 96mm cased to 6.60m	Ground Level (mOD) 57.42	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707627.4 E 732871.9 N	Dates 07/09/2022-29/09/2022	Engineer Procort	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	B					(1.00)	Brownish grey slightly sandy gravelly CLAY with some cobbles. Gravel is angular to subangular fine to coarse.		
1.00-1.45	SPT(C) N=50			2,4/3,5,8,34	56.42	1.00	Stiff brownish grey slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.		
1.00	B					(0.50)			
1.50	TCR	SCR	RQD	B	55.92	1.50	Poor Recovery: Recovery consists of brown slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.(Very Stiff)		
1.50	44	0	0						
2.30-2.45				14,25/50		(1.50)	Medium strong grey thinly laminated fine grained argillaceous LIMESTONE with occasional pyrite veins interbedded with weak thinly laminated MUDSTONE. Moderately to slightly weathered. (3.00m - 6.60m BGL) 2 fracture sets. F1: 5-15 degrees. Very closely to medium spaced. Undulating, rough. F2:75-90 degrees. Undulating rough.		
2.30				SPT(C) 50/0					
3.00	69	15	8		54.42	3.00			
3.30				30					
4.50	83	73	42			(3.60)			
4.60				21					
6.00	87	63	23						
6.00	88	87	87						
6.60					50.82	6.60	Complete at 6.60m		

Remarks Cable Percussion refusal at 1.50m BGL with Rotary drilling complete from 1.50m BGL to 6.60m BGL. Borehole backfilled on completion. Chiselling from 1.40m to 1.50m for 1 hour.	Scale (approx) 1:50	Logged By NG
	Figure No. 11956-06-22.BH04	



Machine : Dando 2000 + Beretta T-44 Method : Cable Percussion with Rotary Core follow on	Casing Diameter 200mm cased to 0.70m 96mm cased to 6.20m	Ground Level (mOD) 57.13	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707680 E 732811.3 N	Dates 07/09/2022-30/09/2022	Engineer Procort	Sheet 1/1

Depth (m)	Sample / Tests				Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B					56.73	0.40	MADE GROUND: Brown sandy gravelly Clay with concrete fragments (Drillers notes).		
	TCR	SCR	RQD	FI				Brownish grey slightly sandy gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.		
0.70	79	0	0			56.43	0.70	Poor Recovery: Recovery consists of grey subangular medium to coarse GRAVEL with limestone boulders (Possible rock).		
								Poor Recovery: Recovery consists of brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse.		
2.60						55.93	1.20	Poor Recovery: Recovery consists of grey clayey COBBLES limestone with boulders. (Possible rock)		
								55.68		
3.10	73	33	12			54.88	2.25	Weak to medium strong thinly laminated grey fine grained argillaceous LIMESTONE interbedded with weak MUDSTONE. Partially to moderately weathered. (3.10m - 3.45m BGL) 2 fracture sets. F1: 5-15 degrees. Extremely close to closely spaced. Undulating, rough. F2:85-90 degrees. Undulating, rough.		
								54.03		
4.10				27		52.33	4.80	Strong thinly laminated grey fine grained argillaceous LIMESTONE with some calcite veins interbedded with weak MUDSTONE. Fresh to partially weathered. (4.80m - 6.20m BGL) 2 fracture sets. F1: 20-30 degrees Medium spaced. Planar, rough, open to incipient. F2:10-20 degrees. Extremely closely to medium. Planar, rough with calcite veins.		
	100	60	37					50.93		
4.80				6						
5.60	100	98	88							
6.20										

Remarks Cable Percussion refusal at 0.70m BGL with Rotary drilling complete from 0.70m BGL to 6.20m BGL. Borehole backfilled on completion. Chiselling from 0.70m to 0.70m for 1 hour.	Scale (approx) 1:50	Logged By NG
	Figure No. 11956-06-22.BH05	



Machine : Dando 2000 + Beretta T-44 Flush : water Core Dia : 62.5 mm Method : Cable Percussion with Rotary Core follow on	Casing Diameter 200mm cased to 0.50m 96mm cased to 8.10m	Ground Level (mOD) 57.58	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707720.8 E 732742.2 N	Dates 07/09/2022- 30/09/2022	Engineer Procort	Sheet 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00					B 3,2/2,4,3,2 SPT(C) N=11		(0.50)	MADE GROUND: Greyish brown slightly sandy clayey angular to subangular fine to coarse Gravel with many angular cobbles.		
0.50						57.08	0.50	Poor Recovery: Recovery consists of greyish brown slightly sandy clayey angular to subangular fine to coarse GRAVEL with cobbles. Possible Made Ground		
1.00-1.45	23	0	0			56.13	1.45	Poor Recovery: Recovery consists of brownish grey brown slightly sandy slightly gravelly CLAY with some cobbles. Gravel is angular to subangular fine to coarse.		
2.60	57	0	0			53.58	(2.55)			
4.00				NI			4.00	Medium strong to strong grey thinly laminated fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak thinly laminated MUDSTONE. Moderately to slightly weathered. (4.00m - 8.10m BGL) 2 fracture sets. F1: 10-30 degrees. Extremely closely to medium spaced. Planar, rough with Clay infill. F3:85-90 degrees. Planar, rough.		
4.10	100	93	63	13						
5.60				3						
5.80				NI						
5.93	100	43	29	16			(4.10)			
7.10	100	92	26	26						
8.10						49.48	8.10	Complete at 8.10m		

Remarks Cable Percussion refusal at 0.50m BGL with Rotary drilling complete from GL to 8.10m BGL. Borehole backfilled on completion. Chiselling from 0.50m to 0.50m for 1 hour.	Scale (approx) 1:50	Logged By NG
	Figure No. 11956-06-22.BH06	



Machine : Beretta T-44 Flush : water Core Dia: 62.5 mm Method : Rotary Cored	Casing Diameter 96mm cased to 5.60m	Ground Level (mOD) 55.89	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707677.8 E 732997.2 N	Dates 01/10/2022	Engineer Procort	Sheet 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00						55.69	(0.20) 0.20	<p>TOPSOIL</p> <p>Poor Recovery: Recovery consists of brownish grey slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.</p>		
2.60	42	0	0			53.49	(2.20) 2.40	<p>Medium strong to strong dark grey thinly laminated fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak thinly laminated MUDSTONE. Moderately to slightly weathered.</p> <p>(2.65m -5.60m BGL) 2 fracture sets. F1: 10-20 degrees. Very closely to medium spaced. Planar, rough, open to incipient. F2: 40-60 degrees. Very closely to medium spaced. Planar, rough.</p>		
4.10	100	97	47	18			(3.20)			
5.60	100	79	33	26		50.29	5.60	Complete at 5.60m		

Remarks No groundwater encountered during drilling. Rotary drilling complete from GL to 5.60m BGL. Borehole backfilled on completion.	Scale (approx)	Logged By
	1:50	NG
	Figure No. 11956-06-22.BH08	



Machine : Dando 2000 + Beretta T-44 Method : Cable Percussion with Rotary Core follow on.	Casing Diameter 200mm cased to 1.50m 96mm cased to 6.80m	Ground Level (mOD) 56.62	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707733.4 E 732914.4 N	Dates 07/09/2022-29/09/2022	Engineer Procort	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	B						(1.00)	Greyish brown slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.		
1.00-1.45	SPT(C) N=50 B				2,4/5,7,5,33	55.62	1.00	Stiff greyish brown slightly sandy gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.		
1.00						(0.50)				
1.50	TCR	SCR	RQD	FI	B	55.12	1.50	Stiff brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse.		
1.50	100	0	0			(0.75)				
2.30-2.33					25/50 SPT(C) 25*/25 50/0	54.37	2.25	Weak to medium strong grey thinly laminated fine grained argillaceous LIMESTONE interbedded with weak thinly laminated MUDSTONE. Highly weathered to moderately weathered. (2.25m - 3.55m BGL) 2 fracture sets. F1: 20-30 degrees. Extremely closely to very closely. Undulating, rough with Clay infill. F2:85-90 degrees. Undulating rough.		
2.25						(1.30)				
2.30	93	30	7	5		53.07	3.55			
3.55								Medium strong grey thinly laminated fine grained argillaceous LIMESTONE with occasional pyrite and calcite veins interbedded with weak thinly laminated MUDSTONE. Moderately to slightly weathered. (3.55m - 5.30m BGL) 2 fracture sets. F1:30-50 degrees. Extremely closely to closely. Undulating rough.F2: 75-90 degrees. Undulating, rough.		
3.80	87	87	75	7		(3.25)				
5.30								(5.30m - 6.80m BGL) 1 fracture set. F1:30-40 degrees. Extremely closely to closely.		
6.80	67	45	0	33		49.82	6.80	Complete at 6.80m		

Remarks Cable Percussion refusal at 1.50m BGL. Rotary drilling complete from 1.50m BGL to 6.80m BGL. Borehole backfilled on completion. Chiselling from 1.50m to 1.50m for 1 hour.	Scale (approx) 1:50	Logged By NG
	Figure No. 11956-06-22.BH09	



Machine : Dando 2000 + Beretta T-44 Method : Cable Percussion with Rotary Core follow on.	Casing Diameter 200mm cased to 3.00m 96mm cased to 7.80m	Ground Level (mOD) 57.22	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707776.8 E 732837 N	Dates 07/09/2022-29/09/2022	Engineer Procort	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	B				56.62	0.60	MADE GROUND: Greyish brown slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.		
1.00-1.45 1.00	SPT(C) N=19 B			2,3/5,4,5,5		(1.70)	Stiff greyish brown slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.		
2.00 2.00-2.45	B SPT(C) N=24			3,5/6,5,6,7		2.30	Stiff brown slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.		
2.30	TCR	SCR	RQD	FI	54.92	(0.70)	Very stiff greyish brown slightly sandy slightly gravelly CLAY with occasional cobbles and boulders. Gravel is angular to subangular fine to coarse.		
3.00-3.08 3.00	92	11	6	25/50 SPT(C) 25*/75 50/0 B	54.22	3.00	Very stiff greyish brown slightly sandy slightly gravelly CLAY with occasional cobbles and boulders. Gravel is angular to subangular fine to coarse.		
3.90 4.10				10	53.32	3.90	Medium strong to strong dark grey fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak MUDSTONE locally recovered as black Clay. Partially weathered.		
	100	90	53			(1.30)	(3.90m - 5.20m BGL) 2 fracture sets. F1: 10-20 degrees. Closely to medium spaced. Planar, rough with Clay infill. F2:50-80 degrees. Planar, rough.		
5.20 5.30				NI	52.02	5.20	Strong dark grey fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak MUDSTONE. Partially weathered to fresh.		
5.60	100	100	51	24		(2.60)	(5.20m - 7.80m BGL) 2 fracture sets. F1: 5-15 degrees. Extremely closely to very closely. Planar, rough with Clay infill. F2:40-60 degrees. Undulating, rough.		
7.10	100	100	85	5					
7.80					49.42	7.80	Complete at 7.80m		

Remarks Cable Percussion refusal at 3.00m BGL with Rotary drilling complete from 3.00m BGL to 7.80m BGL. Borehole backfilled on completion. Chiselling from 2.90m to 3.00m for 1 hour.	Scale (approx) 1:50	Logged By NG
	Figure No. 11956-06-22.BH10	



Machine : Dando 2000 + Beretta T-44 Method : Cable Percussion with Rotary follow on	Casing Diameter 200mm cased to 3.00m 96mm cased to 6.80m	Ground Level (mOD) 57.54	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707826.5 E 732765.3 N	Dates 05/09/2022-19/09/2022	Engineer Procort	Sheet 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.50	B				57.04	(0.50)	MADE GROUND: Dark grey crushed rock FILL.			
1.00-1.45 1.00	SPT(C) N=14 B			2,3/3,3,4,4	56.54	(0.50)	Dark grey slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.			
2.00-2.45 2.00	SPT(C) N=26 B			3,4/5,5,7,9	56.09	(0.45)	Firm to stiff dark grey slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.			
3.00-3.08 3.00	B SPT(C) 25*/75 50/0			25/50	54.54	(1.55)	Stiff dark grey slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse			
3.40	TCR SCR RQD FI									
3.60	100 0 5				53.94	(0.60)	Brown slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.			
3.80	90 85 49 13						Medium strong to strong dark grey fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak MUDSTONE locally recovered as dark grey Clay. Partially weathered. (3.60m - 6.80m BGL) 1 set fracture: 0-20 degrees. Extremely closely to medium spaced. Planar, rough, open, open to incipient.			
5.30	100 84 48 9					(3.20)				
6.80					50.74	6.80	Complete at 6.80m			

Remarks No groundwater encountered during drilling. Cable Percussion refusal at 3.00m BGL with Rotary drilling complete from 3.40m BGL to 6.80m BGL. Standpipe installed on completion, slotted from 6.80m BGL to 1.00m BGL, sealed from 1.00m BGL to GL with a raised cover. Borehole backfilled on completion. Chiselling from 3.00m to 3.00m for 1 hour. Breaking out from 3.00m to 3.00m for 1 hour.	Scale (approx) 1:50	Logged By NG
	Figure No. 11956-06-22.BH11	



Machine : Beretta T-44 Flush : water Core Dia: 62.5 mm Method : Rotary Cored	Casing Diameter 96mm cased to 6.50m	Ground Level (mOD) 56.20	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707685.5 E 733106.4 N	Dates 30/09/2022	Engineer Procort	Sheet 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00						56.00	(0.20) 0.20	TOPSOIL Poor Recovery: Recovery consists of brown grey slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.		
	31	0	0				(2.40)			
2.60						53.60	2.60 (0.75)	Stiff dark grey slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.		
3.35	95	78	39			52.85	3.35 (0.55)	Medium strong to strong dark grey fine grained argillaceous LIMESTONE interbedded with weak MUDSTONE locally recovered as black Clay. Partially weathered. (3.35m-3.90m BGL) 1 fracture sets. F1: 5-15 degrees. Extremely closely to medium spaced. Planar, rough, open to incipient.		
4.10				8		52.30	3.90	Strong dark grey fine grained argillaceous LIMESTONE interbedded with weak MUDSTONE. Partially weathered. (3.90m-6.50m BGL) 2 fracture sets. F1: 0- 20 degrees. Very closely to medium spaced. Planar, rough, open to incipient. F2: 40-80 degrees. Very closely to medium spaced. Planar, rough with occasional Clay smearing.		
5.10	100	100	61	10			(2.60)			
5.30				NI				(5.10m -5.30m BGL) Non - Intact		
5.60	96	52	0	17						
6.50						49.70	6.50	Complete at 6.50m		

Remarks Rotary drilling complete from GL to 4.90m BGL. Borehole backfilled on completion.	Scale (approx)	Logged By
	1:50	NG
	Figure No. 11956-06-22.BH12	



Machine : Beretta T-44 Flush : water Core Dia: 62.5 mm Method : Rotary Cored	Casing Diameter 96mm cased to 6.80m	Ground Level (mOD) 55.54	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707756.2 E 733034.7 N	Dates 07/09/2022-30/09/2022	Engineer Procort	Sheet 1/1

Depth (m)	TCR (%)	SCR (%)	RQD (%)	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00								Poor Recovery: Recovery consists of brownish grey slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.		
1.00-1.45	44	0	0		2,2/2,2,3,4 SPT(C) N=11	53.54	(2.00)			
2.30 2.30-2.60					8,12/18,32 SPT(C) 50/150		2.00	Poor Recovery: Recovery consists of grey slightly clayey sandy subangular fine to coarse GRAVEL (Dense).		
3.30	52	33	10			52.24	(1.30)			
3.80				6			3.30	Medium strong to strong dark grey fine grained argillaceous LIMESTONE interbedded with weak MUDSTONE locally recovered as black Clay. Partially weathered.		
4.00						51.74	3.80	Medium strong to strong dark grey fine grained argillaceous LIMESTONE interbedded with weak MUDSTONE locally recovered as black Clay. Partially weathered. (3.26m - 6.80m BGL) 2 fracture sets. F1: 10-20 degrees. Very closely to medium spaced. Undulating, rough. F2:75-90 degrees. Undulating rough.		
4.95 5.30	100	46	27	NI			(3.00)			
6.80	100	93	43	15		48.74	6.80	Complete at 6.80m		

Remarks No groundwater encountered during drilling. Rotary drilling complete from GL to 6.80m BGL. Borehole backfilled on completion.	Scale (approx)	Logged By
	1:50	NG
	Figure No. 11956-06-22.BH13	



Machine : Dando 2000 + Beretta T-44 Method : Cable Percussion with Rotary Core follow on.	Casing Diameter 200mm cased to 2.00m 96mm cased to 6.80m	Ground Level (mOD) 56.44	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707820 E 732959.3 N	Dates 07/09/2022-30/09/2022	Engineer Procort	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	B					(1.00)	Brownish grey slightly sandy slightly gravelly CLAY with some cobbles. Gravel is angular to subangular fine to coarse.		
1.00-1.45 1.00	SPT(C) N=18 B			2,3/4,5,5,4	55.44	1.00	Stiff brownish grey slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.		
2.00	B 50/0			25/50					
2.00-2.00 2.30-2.33 2.30	SPT(C) 25*/0			SPT(C) 25*/25 25/50	54.44	2.00	Poor Recovery: Recovery consists of brown slightly sandy slightly gravelly CLAY with subangular cobbles. Gravel is subangular fine to coarse (Very stiff)		
	TCR	SCR	RQD	FI					
	80	26	11	50/0	53.94	2.50	Poor Recovery: Recovery consists of grey slightly sandy slightly gravelly CLAY		
						(0.75)			
3.25					53.19	3.25	(2.85m -2.95m BGL) Grey subangular fine to coarse GRAVEL.		
3.80									
						(1.85)	Medium strong to strong grey thinly laminated fine grained argillaceous LIMESTONE with occasional pyrite veins interbedded with weak thinly laminated MUDSTONE. Moderately weathered. (3.25m - 5.10m BGL) 2 fracture sets. F1:35-45 degrees Extremely close to medium spaced. Planar, rough, open. F2:80-90 degrees. Planar, rough, open.		
5.10					51.34	5.10	Medium strong to strong grey thinly laminated fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak thinly laminated MUDSTONE. Moderately weathered to slightly weathered. (5.10m - 6.80m BGL) 2 fracture sets. F1:40-55 degrees Extremely close to medium spaced. Planar, rough, open. F2:70-85 degrees. Undulating, rough, open.		
5.30						(1.70)			
6.80					49.64	6.80	Complete at 6.80m		

Remarks No groundwater encountered during drilling. Cable Percussion refusal at 2.00m BGL with Rotary drilling complete from 2.30m BGL to 6.80m BGL. Borehole backfilled on completion. Chiselling from 1.90m to 2.00m for 1 hour.	Scale (approx) 1:50	Logged By NG
	Figure No. 11956-06-22.BH14	



Machine : Dando 2000 + Beretta T-44 Method : Cable Percussion with Rotary Core follow on	Casing Diameter 200mm cased to 0.50m 96mm cased to 8.30m	Ground Level (mOD) 57.25	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707860.3 E 732892.6 N	Dates 07/09/2022-19/09/2022	Engineer Procort	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	B				56.75	(0.50)	MADE GROUND: Dark grey rock FILL with occasional cobbles (Possible weathered rock).		
						0.50	Open hole drilling no recovery.		
3.50					53.75	(0.15)	Dark grey slightly sandy clayey angular to subangular fine to coarse GRAVEL with some cobbles.		
3.80					53.60	(3.65)	Very dark grey slightly sandy slightly gravelly CLAY with many cobbles.		
5.30					51.95	(1.65)	Medium strong to strong dark grey fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak MUDSTONE locally recovered as black Clay. Partially weathered.		
						(1.50)	(5.30m - 6.80m BGL) 2 fracture sets F1:0-20 degrees. Very closely to medium spaced. Planar, rough, open to incipient. F2: 40-60 degrees. Very closely to medium spaced. Planar, rough with occasional Clay smearing.		
6.80					50.45	(1.50)	Strong dark grey fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak MUDSTONE locally recovered as black Clay. Partially weathered.		
8.30					48.95	(1.50)	(6.80m - 8.30m BGL) 1 fracture set F1:0-20 degrees. Very closely to medium spaced. Planar, rough, open to incipient.		
						8.30	Complete at 8.30m		

Remarks No groundwater encountered during drilling. Cable Percussion refusal at 0.50m BGL on possible rock. Rotary drilling complete from 3.50m BGL to 8.30m BGL. Borehole backfilled on completion. Chiselling from 0.50m to 0.50m for 1 hour.	Scale (approx) 1:50	Logged By NG
	Figure No. 11956-06-22.BH15	



Machine : Dando 2000 + Beretta T-44 Method : Cable Percussion with Rotary Core follow on	Casing Diameter 200mm cased to 3.00m 96mm cased to 8.30m	Ground Level (mOD) 55.75	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707948.8 E 732797.6 N	Dates 06/09/2022-19/09/2022	Engineer Procort	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	B				55.25	(0.50)	MADE GROUND: Dark grey crushed rock FILL.		
1.00-1.45 1.00	SPT(C) N=14 B			2,4/3,3,4,4	54.75	(0.50)	Dark brown slightly sandy slightly gravelly CLAY with some cobbles. Gravel is angular to subangular fine to coarse.		
2.00-2.45 2.00	SPT(C) N=20 B			3,4/4,5,5,6		(1.70)	Stiff dark brown slightly sandy slightly gravelly CLAY with some cobbles. Gravel is angular to subangular fine to coarse.		
3.00-3.00 3.00				25/50 50/0 SPT(C) 25*/0 B	53.05	2.70	Stiff dark grey slightly sandy slightly gravelly CLAY with some cobbles. Gravel is angular to subangular fine to coarse.		
3.10 3.20	TCR	SCR	RQD	FI	52.55	(0.50)			
3.80	100	69	33	4		3.20	Medium strong to strong dark grey fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak MUDSTONE locally recovered as black Clay. Partially weathered. (3.20m-6.80m BGL) 2 fracture sets. F1: 10-20 degrees. Very closely to medium spaced. Planar, rough, open to incipient. F2: 20-50 degrees. Very closely to medium spaced. Planar, rough with occasional Clay smearing.		
5.30	100	100	61	11		(3.60)			
6.80	100	94	64	11					
6.80	69	51	18	10	48.95	6.80	Strong to strong dark grey fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak MUDSTONE locally recovered as black Clay. Partially weathered. (6.80m - 8.30m BGL) 2 fracture sets. F1: 0-10 degrees. Very closely to medium spaced. Planar, rough, open to incipient. F2: 70-80 degrees. Very closely to medium spaced. Planar, rough with occasional Clay smearing.		
8.30					47.45	8.30	Complete at 8.30m		

Remarks No groundwater encountered. Cable Percussion refusal at 3.00m BGL with Rotary drilling complete from 3.10m BGL to 8.30m BGL. Borehole backfilled on completion. Chiselling from 2.70m to 2.70m for 1 hour.	Scale (approx) 1:50	Logged By NG
	Figure No. 11956-06-22.BH16	



Machine : Dando 2000 + Beretta T-44 Method : Cable Percussion with Rotary Core follow on	Casing Diameter 200mm cased to 2.00m 96mm cased to 6.80m	Ground Level (mOD) 56.27	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707918.2 E 732907 N	Dates 01/09/2022-20/09/2022	Engineer Procort	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	B				55.77	(0.50)	MADE GROUND: Brown sandy gravelly CLAY.		
1.00-1.45 1.00	SPT(C) N=11 B			1,2/2,3,3,3	55.27	(0.50)	Brownish grey slightly sandy slightly gravelly CLAY with occasional cobbles and boulders. Gravel is angular to subangular fine to coarse.		
2.00-2.45 2.00	SPT(C) N=50 B			2,3/4,4,3,39	54.27	(1.00)	Firm brownish grey slightly sandy slightly gravelly CLAY with occasional cobbles and boulders. Gravel is angular to subangular fine to coarse.		
2.60	TCR	SCR	RQD	FI		(1.05)			
	80	0	0		53.22	3.05	Very stiff dark grey slightly sandy slightly gravelly CLAY some cobbles. Gravel is angular to subangular fine to coarse.		
3.80-3.88 3.80				22/50 SPT(C) 22*/75 50/0		(0.95)			
4.00	100	45	14		52.27	4.00	Medium strong dark grey fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak MUDSTONE locally recovered as dark grey slightly sandy gravelly Clay. Moderately to slightly weathered.		
					51.77	4.50	(4.0m - 4.50m BGL) 1 fracture set. F1: 5-15 degrees. Very closely to medium spaced. Planar, rough, open to incipient.		
5.30						(2.30)	Strong dark grey fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak MUDSTONE locally recovered as dark grey slightly sandy gravelly Clay. Moderately to slightly weathered. (4.50 m - 6.80m BGL) 2 fracture sets. F1: 5-15 degrees. Very closely to medium spaced. Planar, rough, open to incipient. F2: 40-60 degrees. Very closely to medium spaced. Planar, rough with occasional Clay smearing.		
6.80					49.47	6.80	Complete at 6.80m		

Remarks No groundwater encountered. Cable Percussion refusal at 2.00m BGL with Rotary drilling complete from 2.60m BGL to 6.80m BGL. Borehole backfilled on completion. Chiselling from 2.40m to 2.60m for 1 hour.	Scale (approx) 1:50	Logged By NG
	Figure No. 11956-06-22.BH17	



Machine : Dando 2000 + Beretta T-44 Method : Cable Percussion with Rotary Core follow on	Casing Diameter 200mm to 5.30m 96mm cased to 8.30m	Ground Level (mOD) 58.00	Client Van Dijk Architects	Job Number 11956-06-22
	Location 708037.8 E 732923.6 N	Dates 08/09/2022-20/09/2022	Engineer Procort	Sheet 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.50	B						MADE GROUND: Brown slightly sandy slightly gravelly CLAY with concrete, red brick, steel bar and plastic fragments.			
1.00-1.45 1.00	SPT(C) N=15 B			1,2/4,5,3,3		(3.20)				
2.00-2.45 2.00	SPT(C) N=13 B			2,3/3,4,3,3						
3.00-3.45 3.00	SPT(C) N=14 B			2,2/3,5,3,3	54.80	3.20	Firm greyish brown slightly sandy slightly gravelly CLAY with some cobbles. Gravel is angular to subangular fine to coarse			
4.00-4.45 4.00	SPT(C) N=26 B			4,5/7,6,6,7	54.00	4.00	Stiff brown slightly sandy slightly gravelly CLAY with some cobbles. Gravel is angular to subangular fine to coarse.			
5.00 5.00-5.15	B SPT(C) 50/0			4,6/50		(1.60)				
5.30	TCR	SCR	RQD	FI						
5.45				NI	52.40	5.60				
	100	47	27	11		(1.20)	Medium strong to strong dark grey fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak MUDSTONE locally recovered as dark grey slightly sandy gravelly Clay. Partially weathered. (5.60m-6.80m BGL) 2 fracture sets. F1: 10-20 degrees. Very closely to medium spaced. Planar, rough, open to incipient. F2: 20-50 degrees. Very closely to medium spaced. Planar, rough with occasional Clay smearing.			
6.80					51.20	6.80				
	100	87	10	21		(1.50)	Strong to very strong dark grey fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak MUDSTONE locally recovered as dark grey slightly sandy gravelly Clay. Slightly weathered. (6.80 m-8.30m BGL) 2 fracture sets. F1: 5-15 degrees. Very closely to medium spaced. Planar, rough, open to incipient. F2: 40-60 degrees. Very closely to medium spaced. Planar, rough with occasional Clay smearing.			
8.30					49.70	8.30	Complete at 8.30m			

Remarks Cable Percussion refusal at 5.30m BGL with Rotary drilling complete from 5.30m BGL to 8.30m BGL. Borehole backfilled on completion. Chiselling from 5.20m to 5.30m for 1 hour.	Scale (approx) 1:50	Logged By NG
	Figure No. 11956-06-22.BH18	



Machine : Dando 2000 Method : Cable Percussion		Casing Diameter 200mm cased to 0.40m		Ground Level (mOD)		Client Van Dijk Architects		Job Number 11956-06-22	
		Location		Dates 08/09/2022		Engineer Procert		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) 0.40	MADE GROUND:Brown sandy gravelly Clay. Refusal at 0.40m		

Remarks No groundwater encountered drilling. Cable Percussion refusal at 0.40m BGL on possible rock. Borehole backfilled on completion. Chiselling from 0.40m to 0.40m for 1 hour.	Scale (approx)	Logged By
	1:50	NG
Figure No. 11956-06-22.BH19		



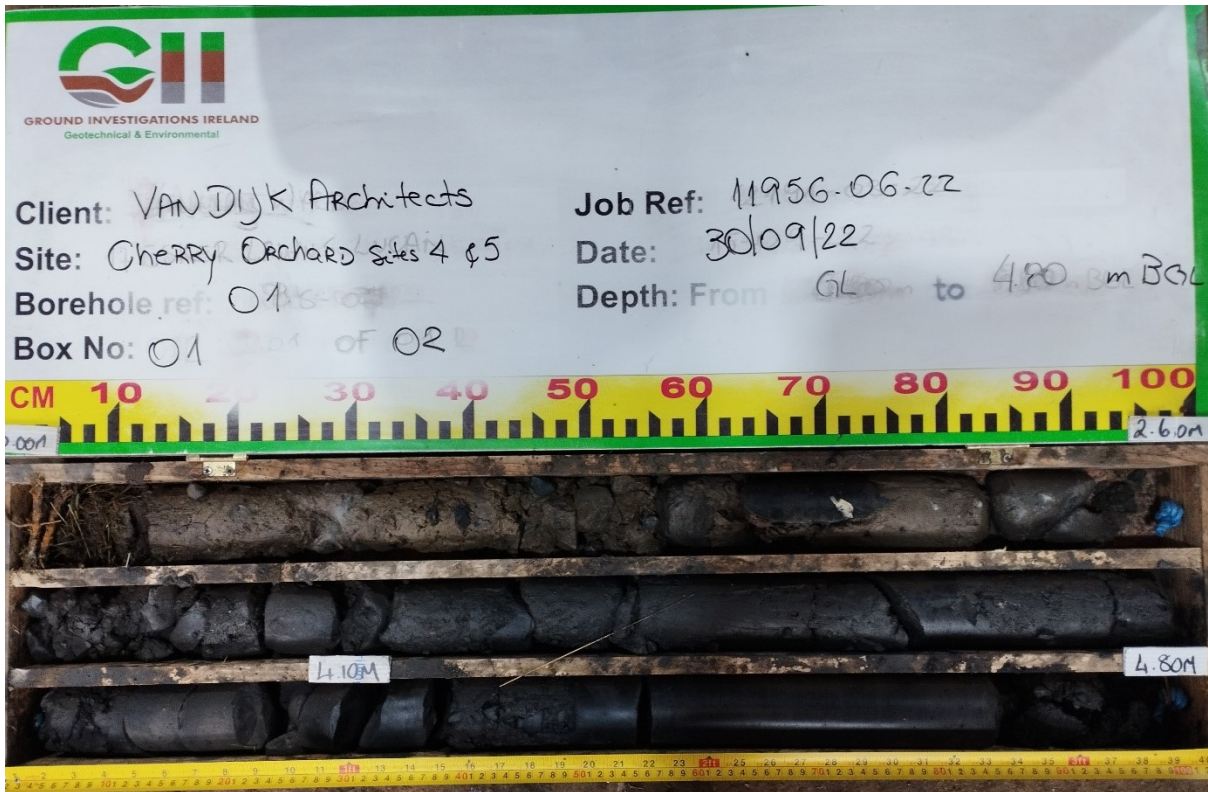
Machine : Dando 2000 + Beretta T-44 Method : Cable Percussion with Rotary follow on	Casing Diameter 200mm cased to 3.00m 96mm cased to 7.50m	Ground Level (mOD) 55.95	Client Van Dijk Architects	Job Number 11956-06-22
	Location 707995.1 E 732846.6 N	Dates 08/09/2022	Engineer Procort	Sheet 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	B				55.45	(0.50)	MADE GROUND: Brown sandy gravelly Clay.		
1.00-1.45 1.00	SPT(C) N=11 B			2,3/3,2,3,3		(2.20)	MADE GROUND: Brown sandy gravelly Clay with some cobbles.		
2.00-2.45 2.00	SPT(C) N=15 B			2,3/4,4,3,4					
3.00 3.00-3.03	B SPT(C) 25*/25 50/0			25/50	53.25 52.95	2.70 (0.30) 3.00	Stiff dark brown slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.		
3.50 3.80-3.83 3.80	TCR 100	SCR 0	RQD 0	FI 25/50 SPT(C) 25*/25 50/0		(1.30)	Very stiff grey slightly sandy slightly gravelly CLAY with occasional cobbles. Gravel is angular to subangular fine to coarse.		
4.30	100	67	61	16	51.65	4.30	Medium strong to strong dark grey fine grained argillaceous LIMESTONE with occasional calcite veins interbedded with weak MUDSTONE locally recovered as dark grey slightly sandy gravelly Clay. Moderately to slightly weathered. (4.30m - 7.50m BGL) 2 fracture sets. F1: 15-30 degrees. Very closely to medium spaced. Planar, rough, open to incipient. F2: 40-60 degrees. Very closely to medium spaced. Planar, rough with occasional Clay smearing.		
5.30	100	100	73	15		(3.20)			
6.80	100	100	90	5					
7.50					48.45	7.50	Complete at 7.50m		

Remarks No groundwater encountered during drilling. Cable Percussion refused at 3.10m BGL with Rotary drilling complete from 3.10m BGL to 7.50m BGL. Borehole backfilled on completion. Chiselling from 3.00m to 3.10m for 1 hour.	Scale (approx) 1:50	Logged By NG
	Figure No. 11956-06-22.BH19	

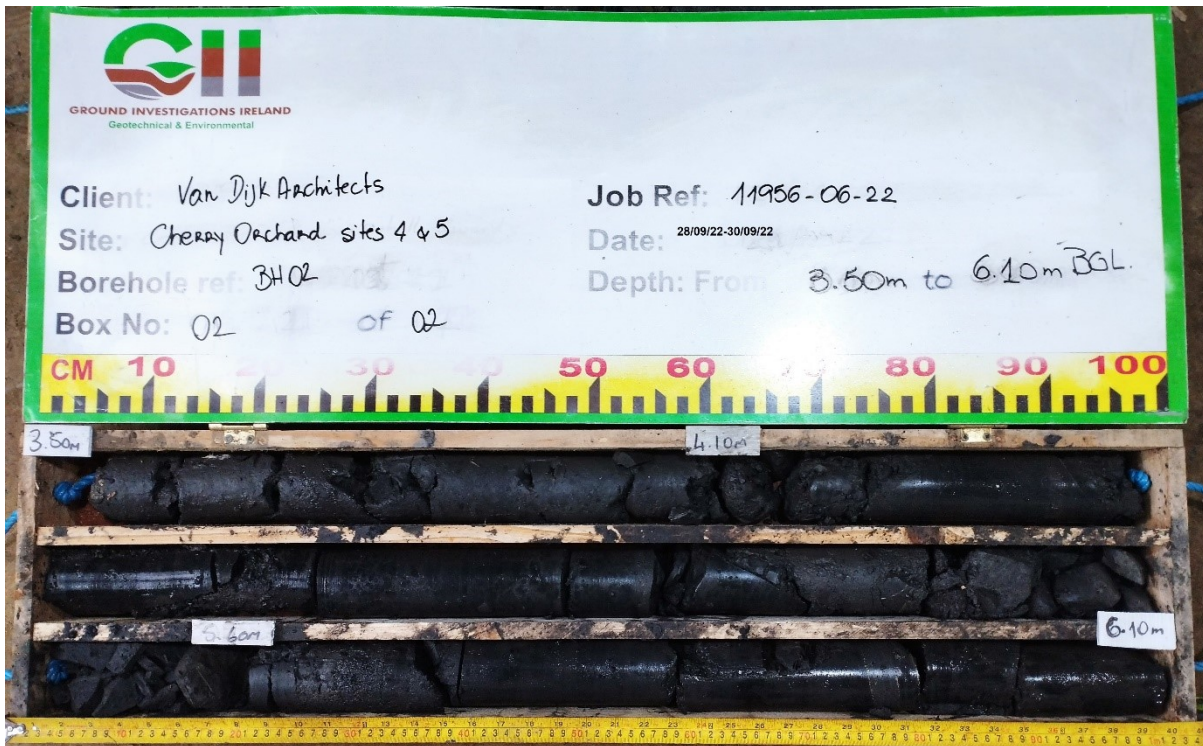
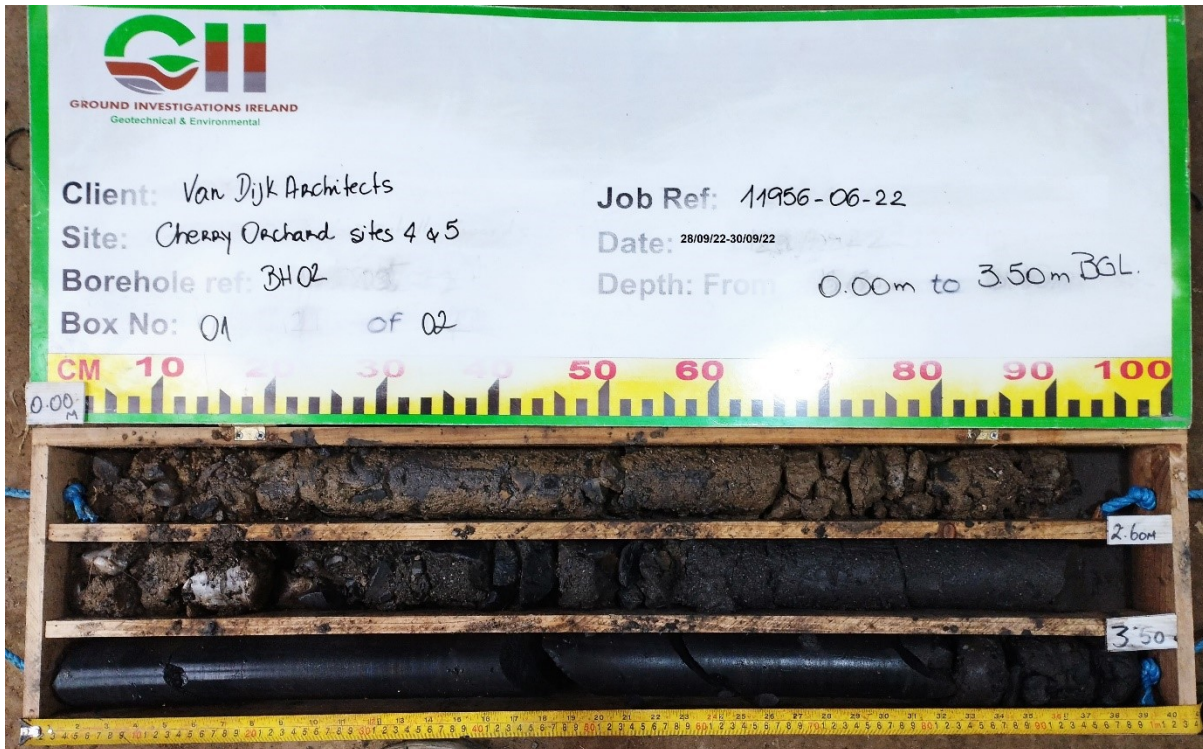
Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-01



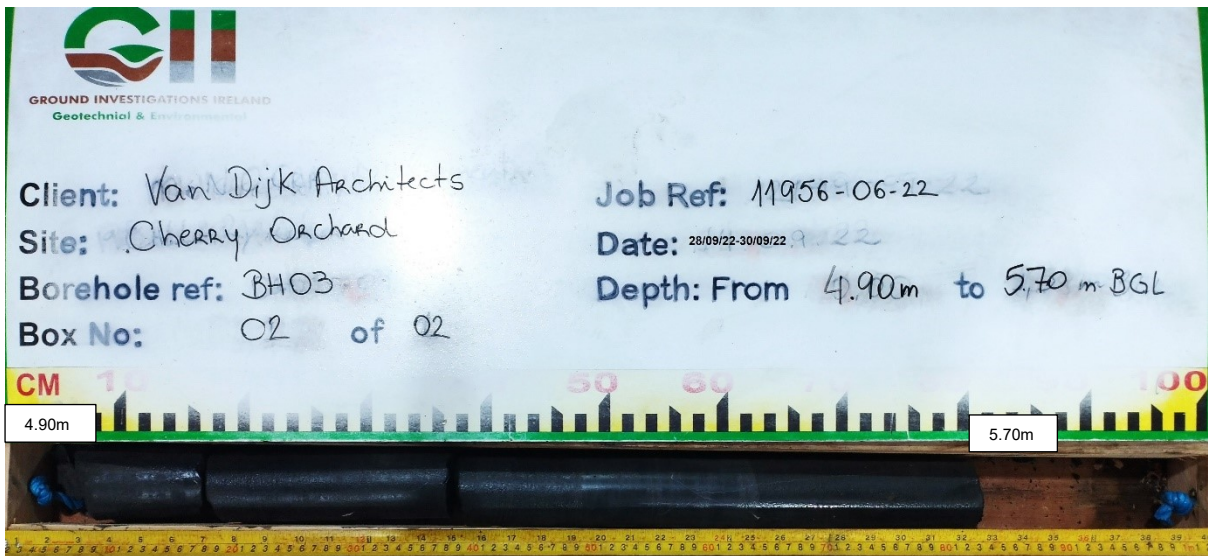
Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-02



Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-03



Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-04



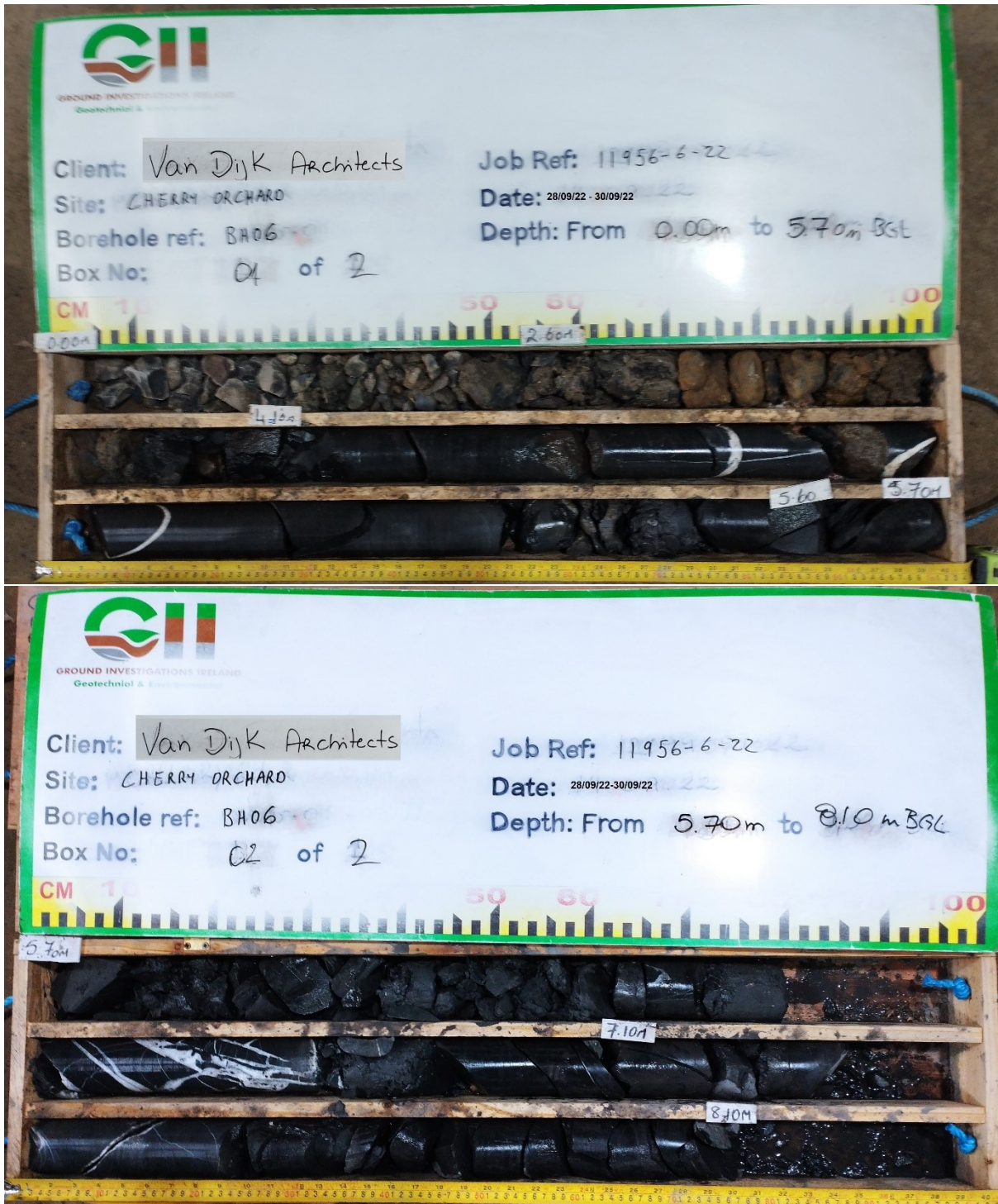
Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-05



Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-06



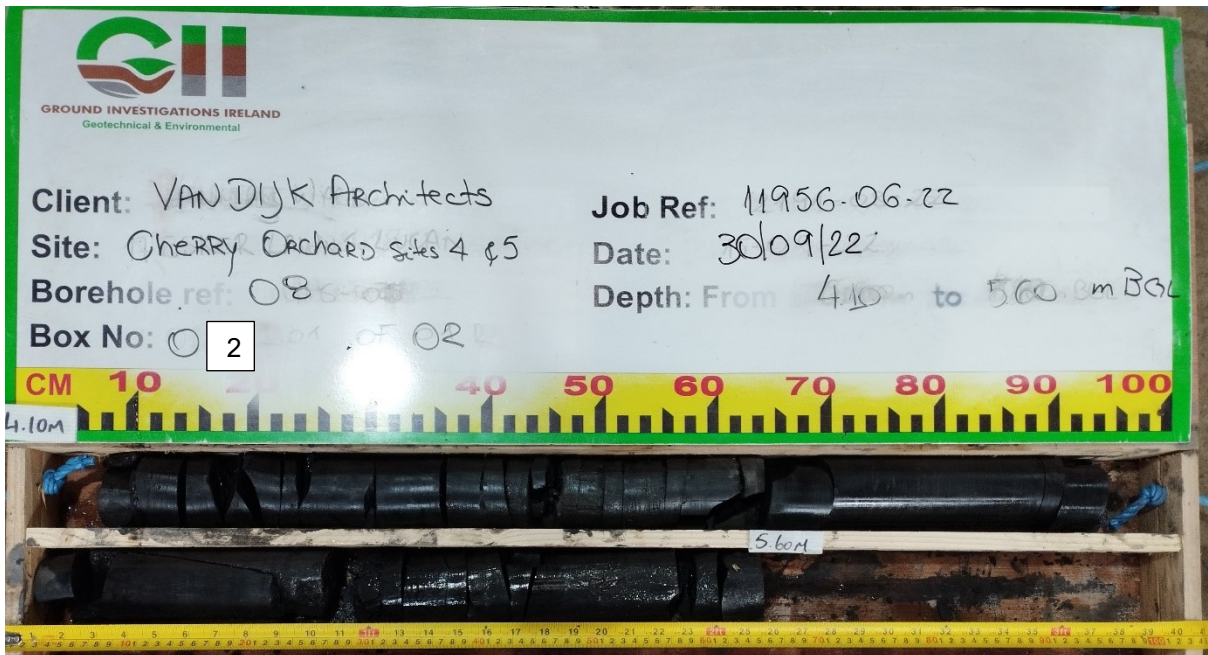
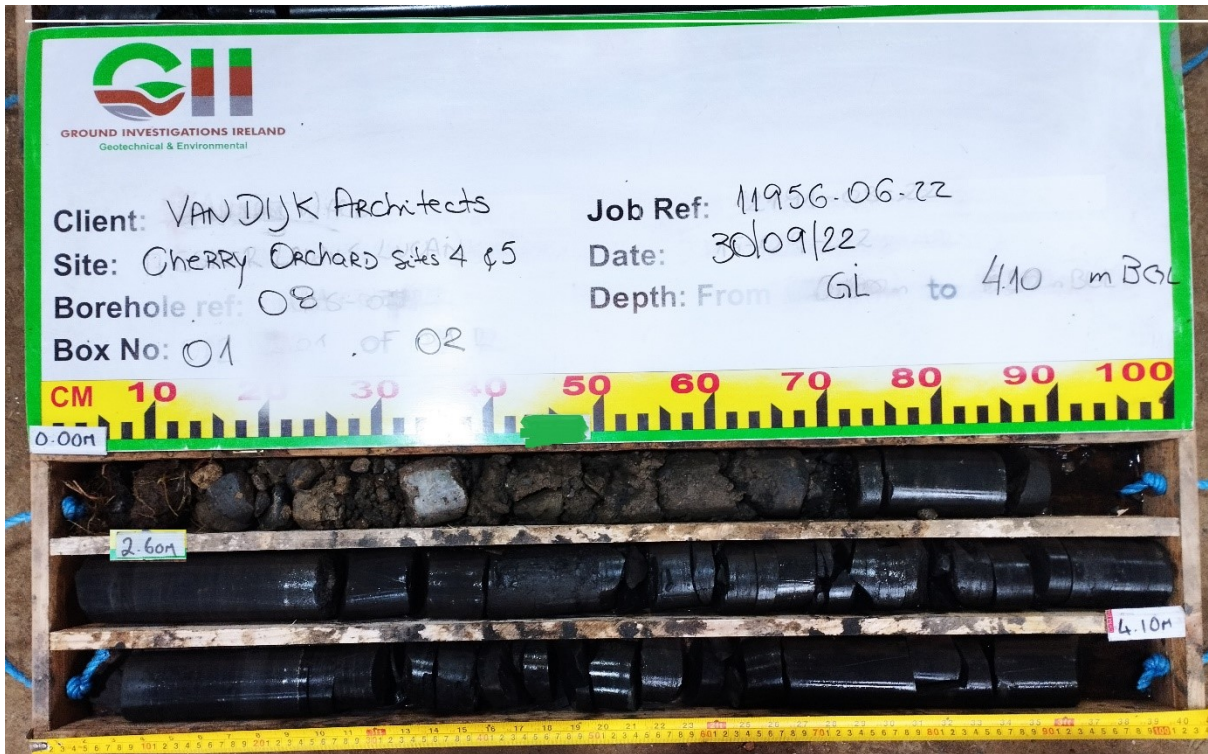
Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-07



Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-08



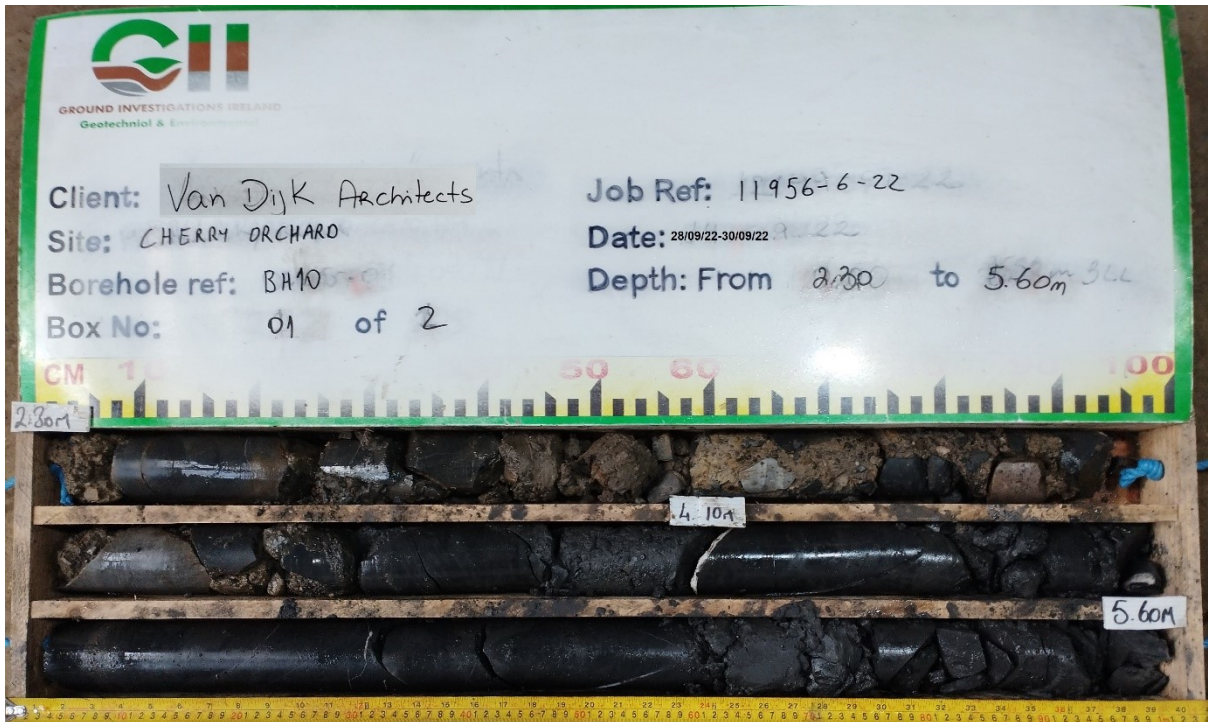
Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-09



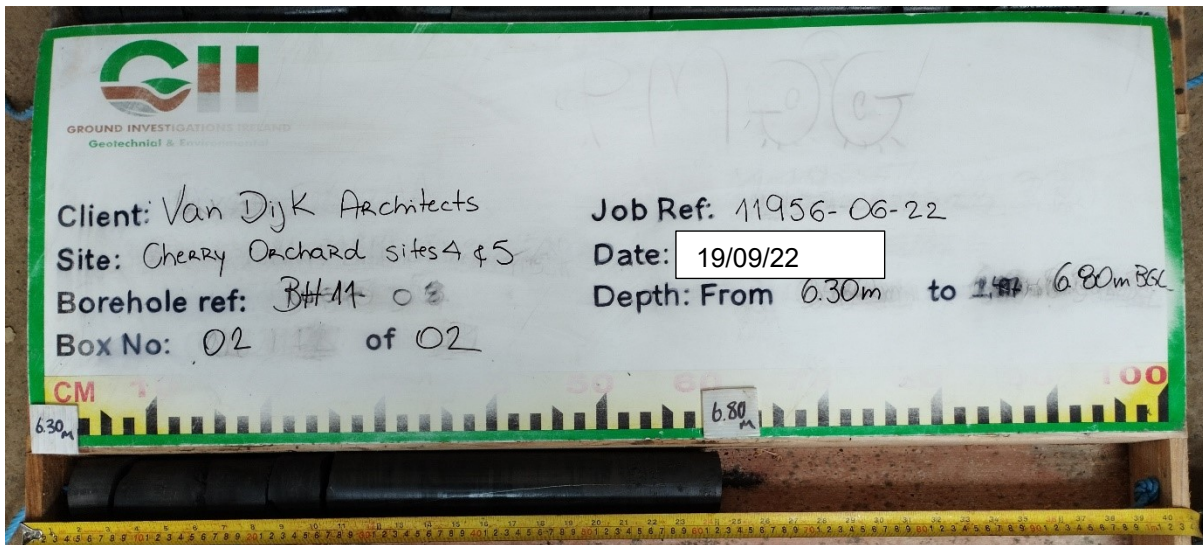
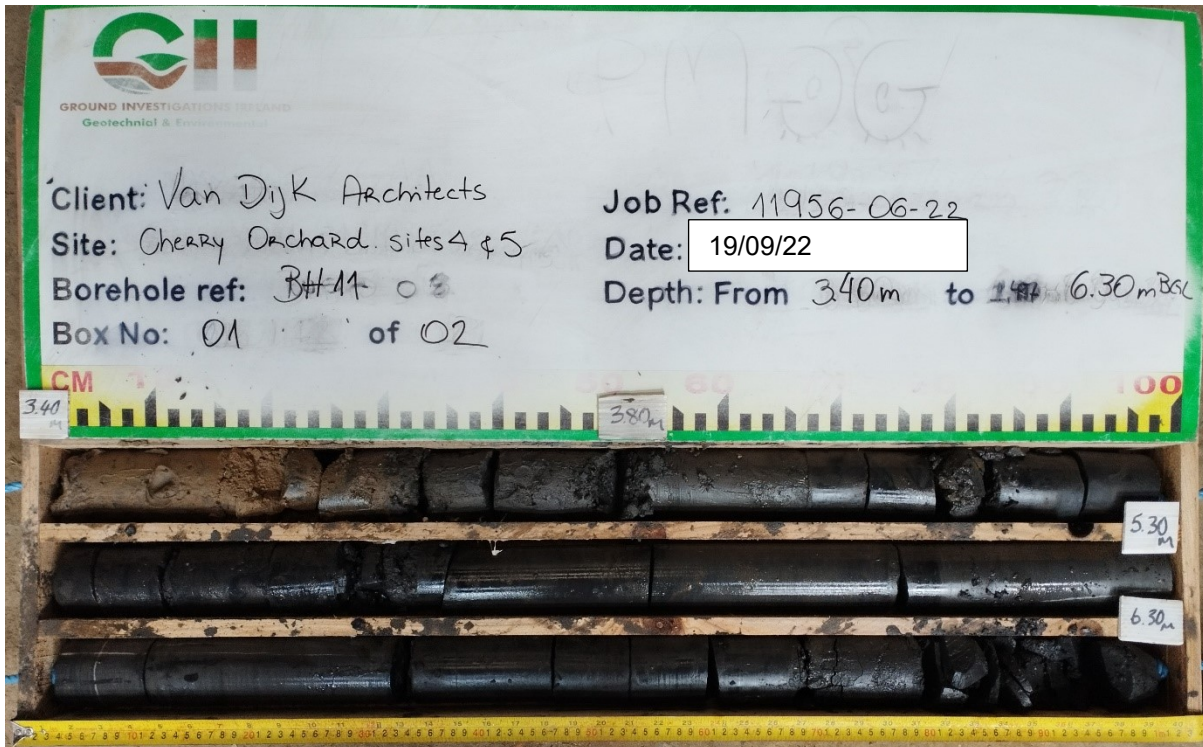
Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-10



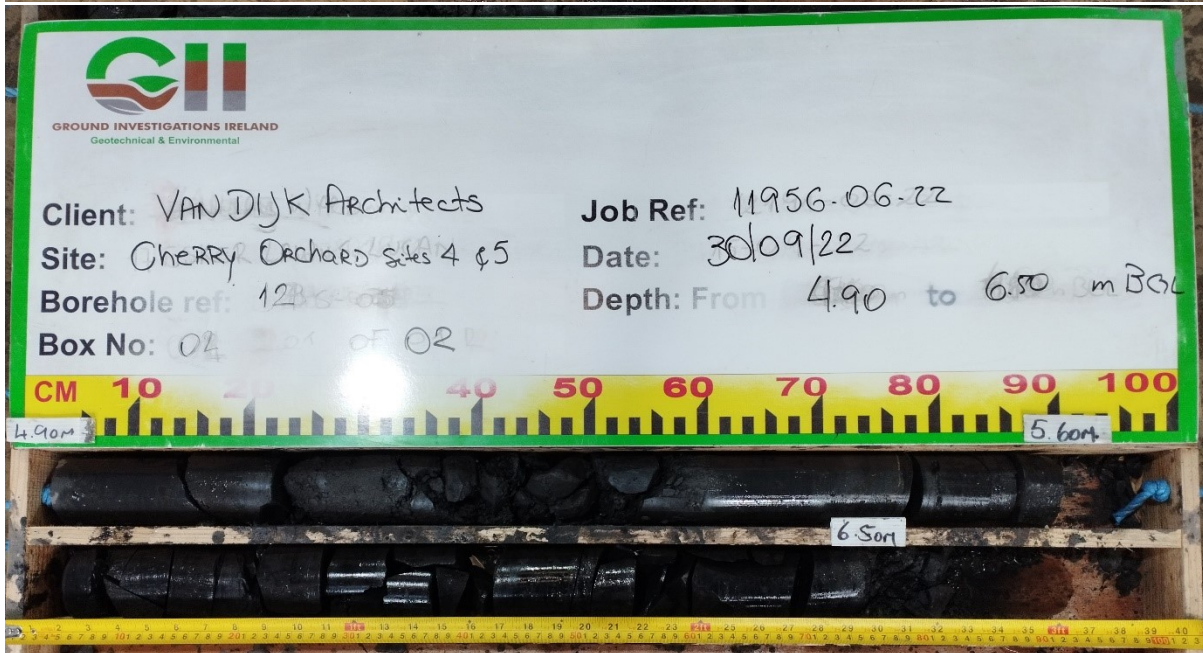
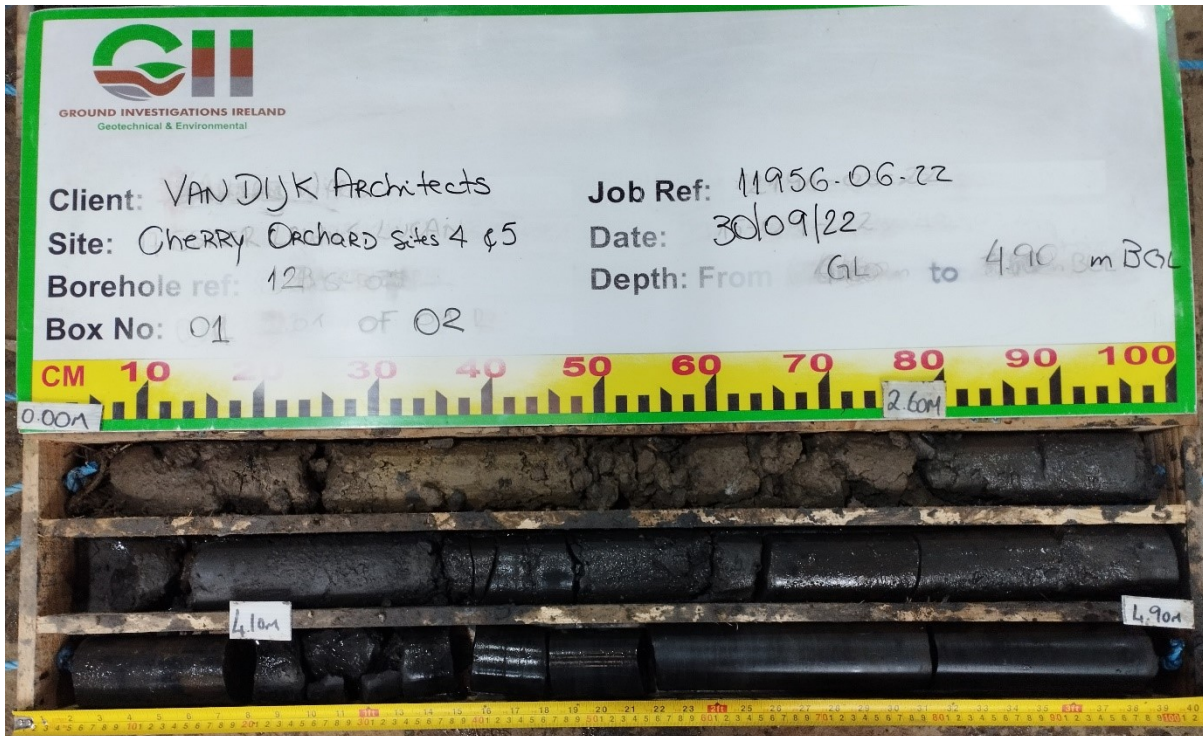
Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-11



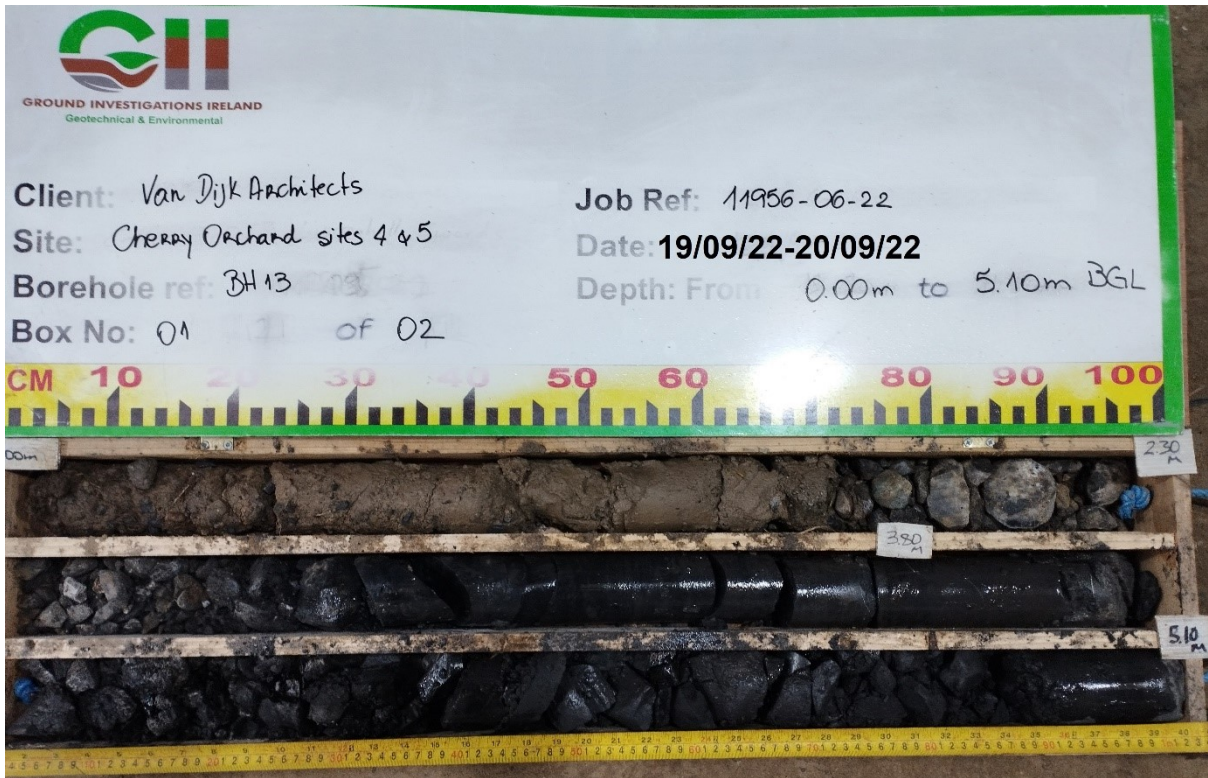
Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-12



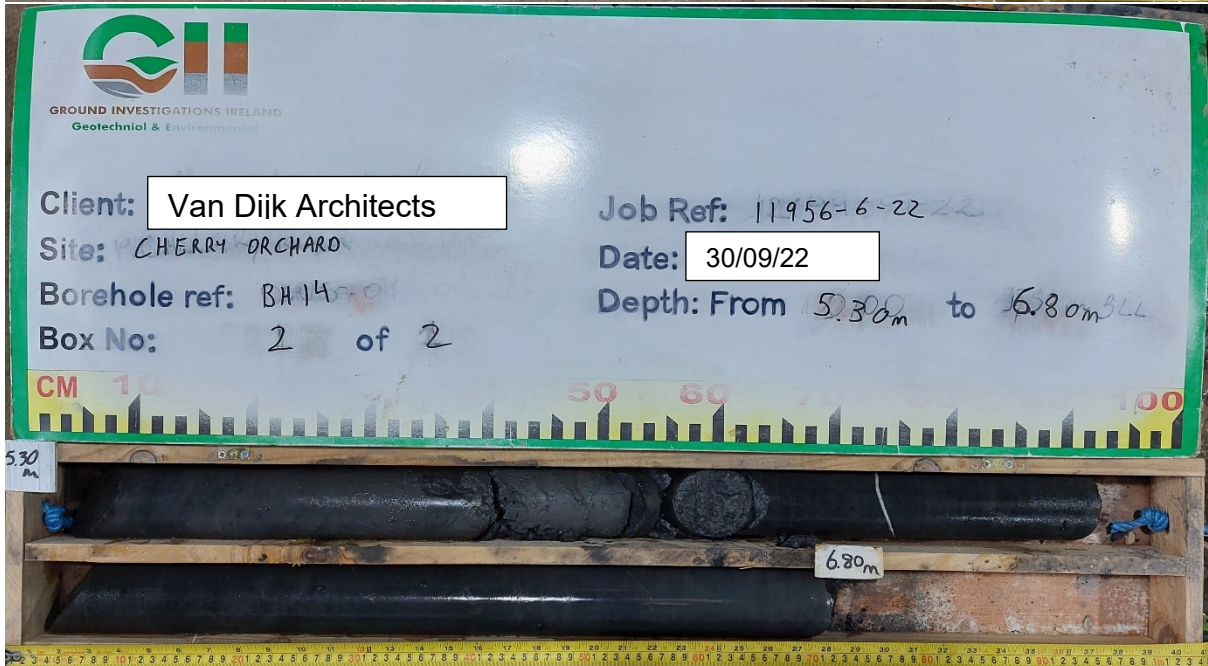
Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-13



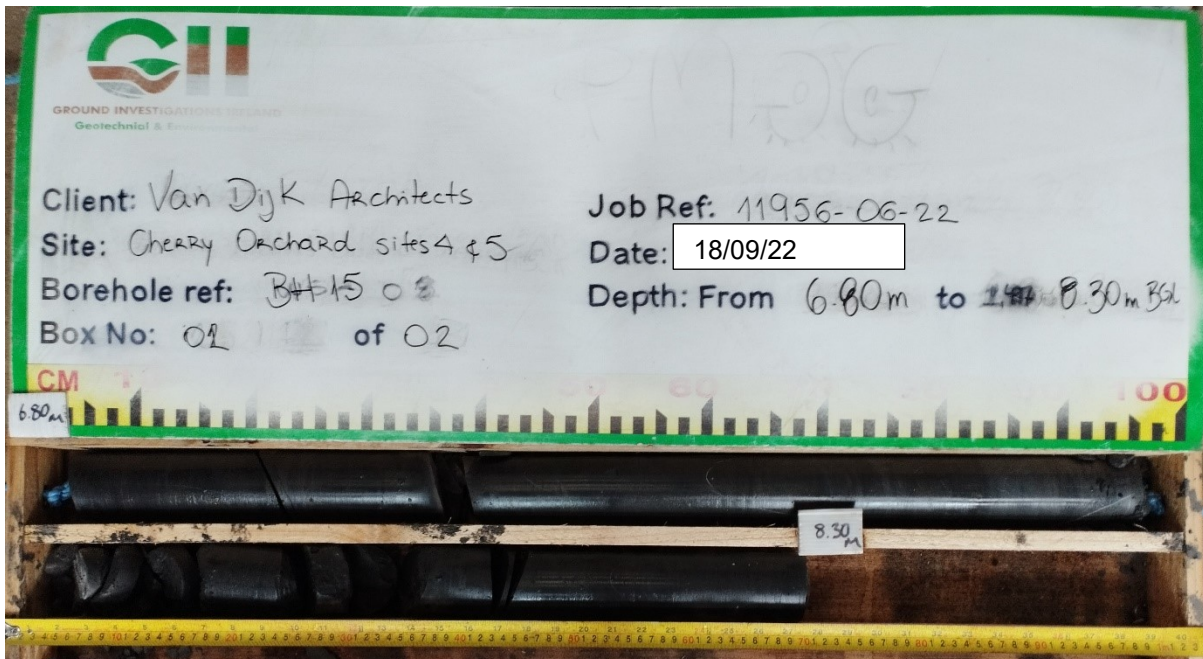
Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-14



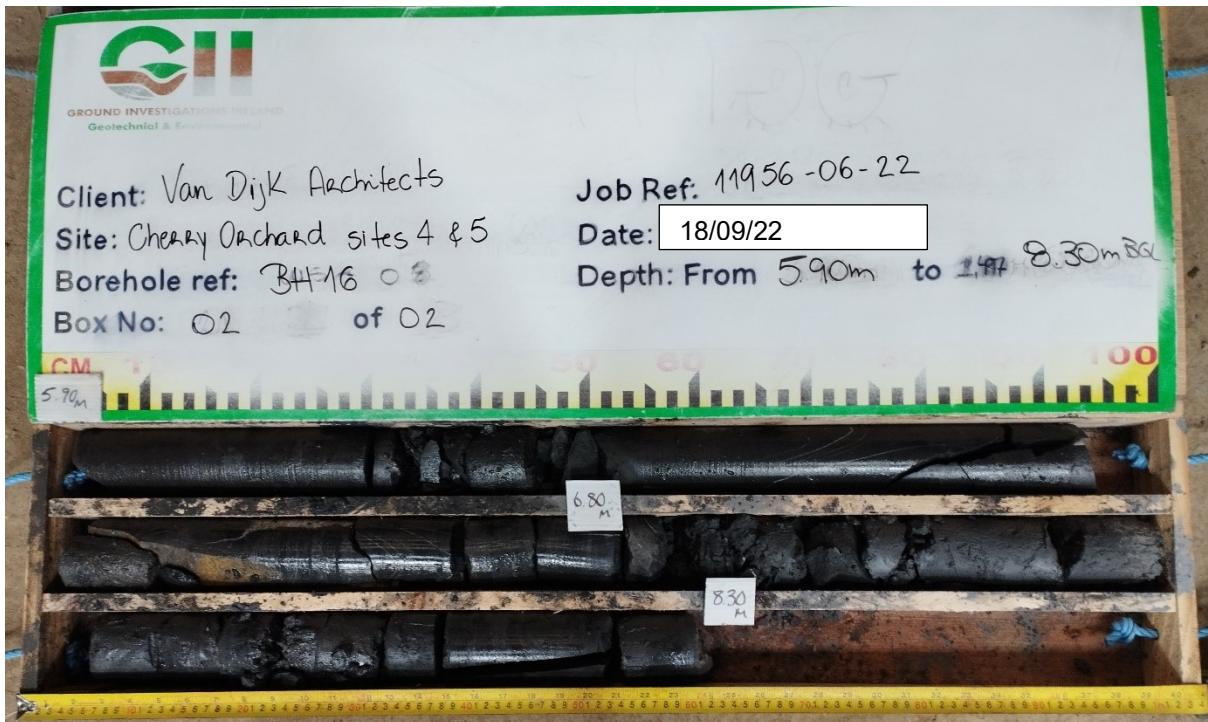
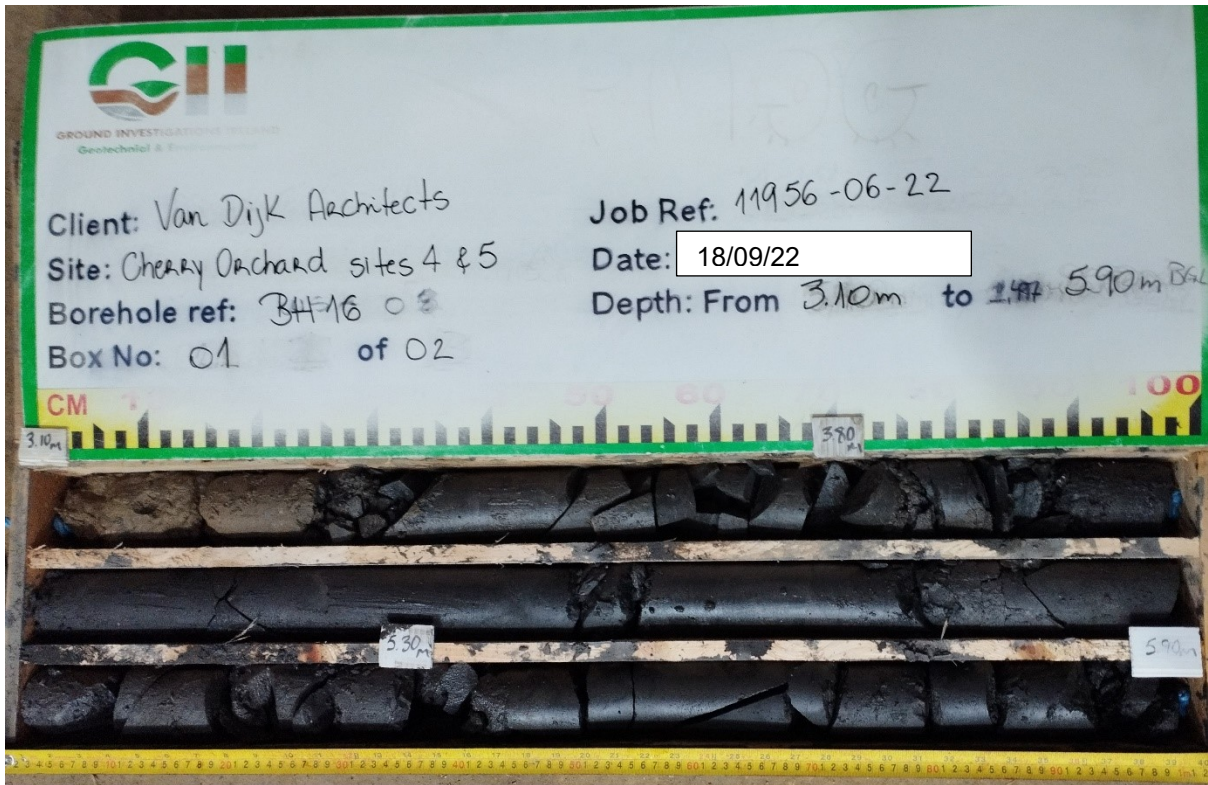
Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-15



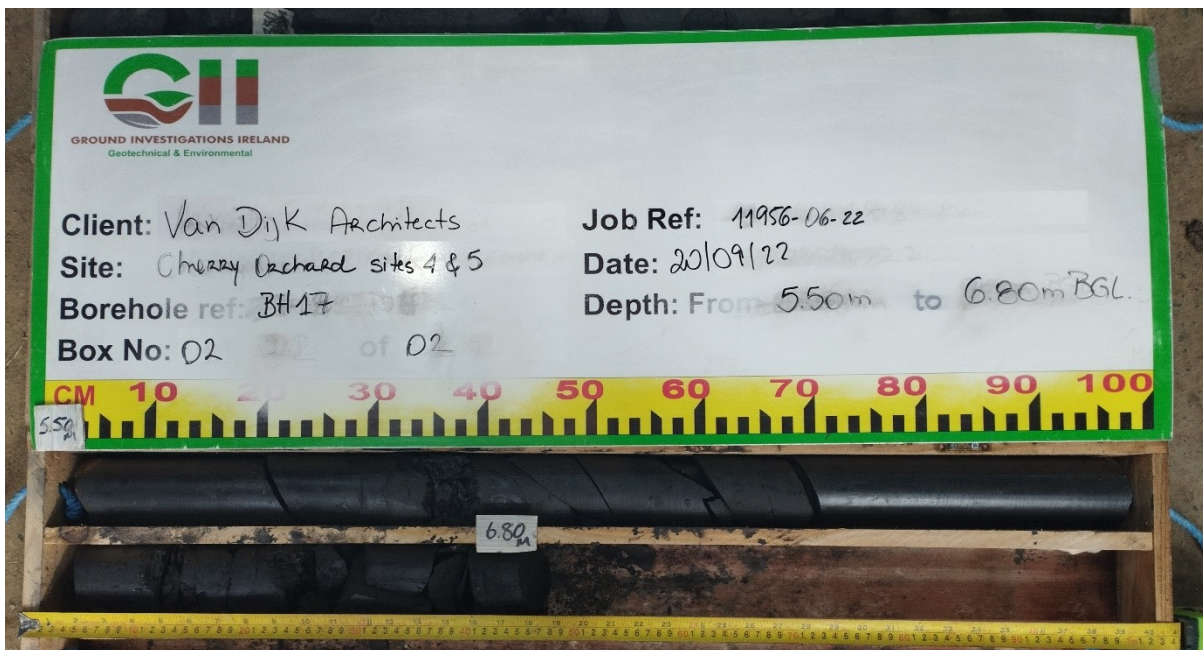
Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-16



Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-17



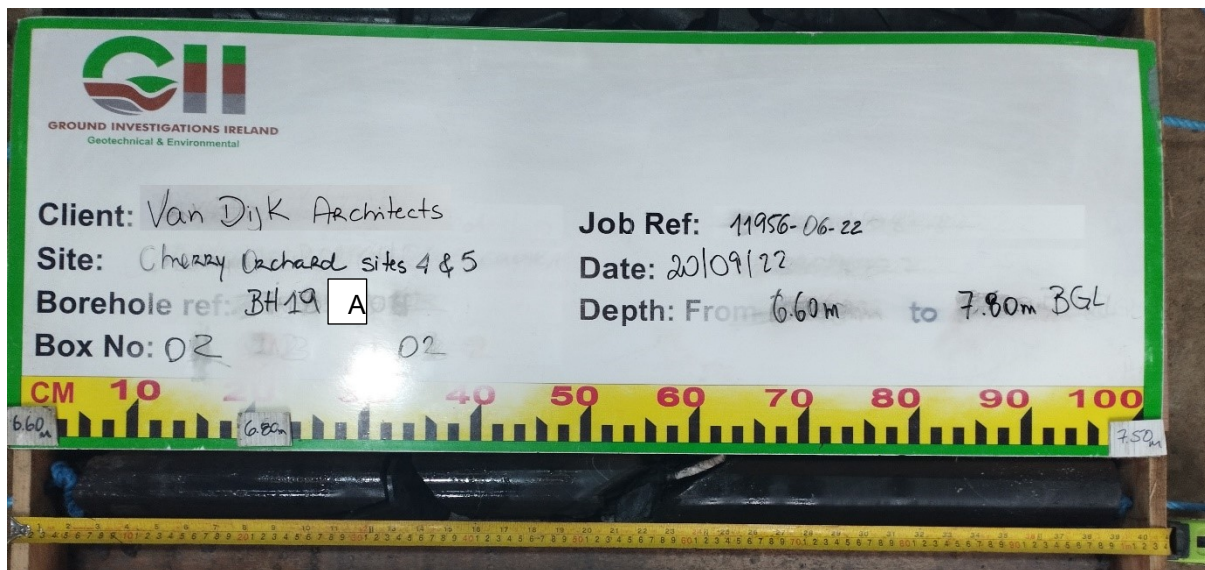
Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-18



Rotary Core Photographs – Cherry Orchard Sites 4 & 5

BH-19



APPENDIX 6 – Laboratory Testing



Ground Investigations Ireland
Catherinstown 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

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	Please see attached notes for all abbreviations and acronyms					
	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				LOD/LOR	Units	Method No.
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			

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	Please see attached notes for all abbreviations and acronyms			
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	LOD/LOR	Units	Method No.	
TPH CWG														
Aliphatics														
>C5-C6 (HS_1D_AL) #	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1	mg/kg	TM36/PM12	
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1 ^{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	<0.2	mg/kg	TMS/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	16	<4	mg/kg	TMS/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	158	<7	mg/kg	TMS/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	23	174	<7	mg/kg	TMS/PM8/PM16
>C35-C40 (EH_1D_AL)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/PM8/PM16
Total aliphatics C5-40 (EH+HS_1D_AL)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	348	<26	mg/kg	TMS/PM8/PM16/PM12/PM15
>C6-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	256	<10	mg/kg	TMS/PM8/PM16
>C25-C35 (EH_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	23	82	<10	<10	mg/kg	TMS/PM8/PM16
Aromatics														
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	mg/kg	TM36/PM12	
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	mg/kg	TM36/PM12	
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<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	<0.2	mg/kg	TMS/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	8	<4	mg/kg	TMS/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	78	<7	mg/kg	TMS/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	<7	11	<7	<7	<7	71	88	<7	<7	mg/kg	TMS/PM8/PM16
>EC35-EC40 (EH_1D_AR)	<7	<7	<7	<7	9	<7	<7	<7	17	<7	<7	<7	mg/kg	TMS/PM8/PM16
Total aromatics C5-40 (EH+HS_1D_AR)	<26	<26	<26	<26	<26	<26	<26	<26	88	174	<26	<26	mg/kg	TMS/PM8/PM16/PM12/PM15
Total aliphatics and aromatics(C5-40) (EH+HS_CU_1D_Total)	<52	<52	<52	<52	<52	<52	<52	<52	88	522	<52	<52	mg/kg	TMS/PM8/PM16/PM12/PM15
>EC6-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	mg/kg	TM36/PM12	
>EC10-EC25 (EH_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	127	<10	mg/kg	TMS/PM8/PM16
>EC25-EC35 (EH_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	66	49	<10	<10	mg/kg	TMS/PM8/PM16
MTBE #	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{SV}	<5 ^{SV}	<5	ug/kg	TM36/PM12	
Benzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{SV}	<5 ^{SV}	<5	ug/kg	TM36/PM12	
Toluene #	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{SV}	5 ^{SV}	<5	ug/kg	TM36/PM12	
Ethylbenzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{SV}	<5 ^{SV}	<5	ug/kg	TM36/PM12	
m/p-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{SV}	9 ^{SV}	<5	ug/kg	TM36/PM12	
o-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{SV}	11 ^{SV}	<5	ug/kg	TM36/PM12	
PCB 28 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8	
PCB 52 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8	
PCB 101 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8	
PCB 118 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8	
PCB 138 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8	
PCB 153 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8	
PCB 180 #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM17/PM8	
Total 7 PCBs #	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	<35	ug/kg	TM17/PM8	

Element Materials Technology

Client Name: Ground Investigations Ireland
Reference: 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	Please see attached notes for all abbreviations and acronyms		
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	LOD/LOR	Units	Method No.
Dissolved Antimony [#]	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) [#]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic [#]	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) [#]	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium [#]	<0.003	0.005	<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

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

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	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
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						
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	<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 see attached notes for all abbreviations and acronyms

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

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 22/13979

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

WATERS

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

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

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

Where Mineral Oil 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.

Please include all sections of this report if it is reproduced

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

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/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°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/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °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: 2013	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 2013	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes
TM61	Determination of Mercury by Cold Vapour Atomic Fluorescence - WATERS: Modified USEPA Method 245.7, Rev 2, Feb 2005. SOILS: Modified USEPA Method 7471B, Rev.2, Feb 2007	PM0	No preparation is required.	Yes		AR	Yes

EMT Job No: 22/13979

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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	

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



Attention : Mike Sutton
Date : 30th September, 2022
Your reference : 11956-06-22
Our reference : Test Report 22/15588 Batch 1
Location : Cherry Orchard Sites 4 & 5
Date samples received : 26th September, 2022
Status : Final Report
Issue : 1

Ten samples were received for analysis on 26th September, 2022 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.

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 22/15588

SOILS and ASH

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

WATERS

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

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

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

Where Mineral Oil 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.

Please include all sections of this report if it is reproduced

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

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.



LABORATORY REPORT



4043

Contract Number: PSL22/6449

Report Date: 21 October 2022
Client's Reference: 11956-06-22
Client Name: Ground Investigations Ireland Ltd
Catherinestown House
Hazelhatch Road
Newcastle
Co Dublin
D22 YD52

For the attention of: Michael Sutton/Chris Byrne

Contract Title: Cherry Orchard Sites 4 & 5
Date Received: 5/10/2022
Date Commenced: 5/10/2022
Date Completed: 21/10/2022

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
(Director)

R Berriman
(Quality Manager)

S Royle
(Laboratory Manager)

L Knight
(Assistant Laboratory Manager)

S Eyre
(Senior Technician)


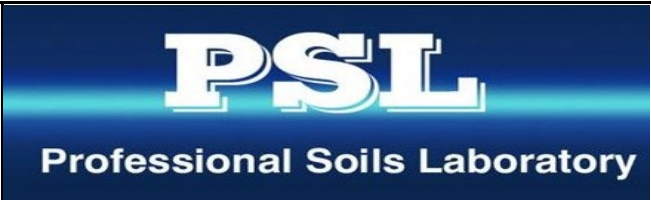
T Watkins
(Senior Technician)

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Page 1 of

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
TP01		B	1.50		Brown slightly sandy slightly gravelly CLAY.
TP02		B	2.50		Grey slightly sandy gravelly CLAY.
TP03		B	1.50		Brown slightly sandy gravelly CLAY with cobbles.
TP04		B	1.50		Brown slightly sandy gravelly CLAY.
TP05		B	1.50		Brown slightly sandy slightly gravelly CLAY.
TP06		B	1.50		Brown slightly sandy slightly gravelly CLAY.
TP07		B	2.40		Grey slightly sandy gravelly CLAY.
TP08		B	2.50		Grey slightly sandy slightly gravelly CLAY.
TP09		B	0.50		Brown slightly sandy gravelly CLAY with many cobbles.
TP10		B	2.50		Brown slightly sandy gravelly CLAY.
TP11		B	2.50		Brown slightly sandy gravelly CLAY with many cobbles.
TP13		B	1.50		Brown slightly sandy gravelly CLAY.
TP14		B	1.50		Brown slightly sandy gravelly CLAY.

 4043		Cherry Orchard Sites 4 & 5		Contract No:
				PSL22/6449
				Client Ref:
				11956-06-22

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
TP01		B	1.50		9.7			29	14	15	62	Low Plasticity CL
TP02		B	2.50		6.2			31	15	16	45	Low Plasticity CL
TP03		B	1.50		16			27	14	13	32	Low Plasticity CL
TP04		B	1.50		11			30	15	15	36	Low Plasticity CL
TP05		B	1.50		16			34	18	16	71	Low Plasticity CL
TP06		B	1.50		13			37	18	19	72	Intermediate Plasticity CI
TP07		B	2.40		10			32	15	17	52	Low Plasticity CL
TP08		B	2.50		19			33	17	16	63	Low Plasticity CL
TP09		B	0.50		20			35	18	17	31	Intermediate Plasticity CI
TP10		B	2.50		14			27	13	14	51	Low Plasticity CL
TP11		B	2.50		21			31	17	14	35	Low Plasticity CL
TP13		B	1.50		9.3			29	15	14	31	Low Plasticity CL
TP14		B	1.50		8.9			32	16	16	40	Low Plasticity CL

SYMBOLS : NP : Non Plastic

* : Liquid Limit and Plastic Limit Wet Sieved.



4043

PSL
Professional Soils Laboratory

Cherry Orchard Sites 4 & 5

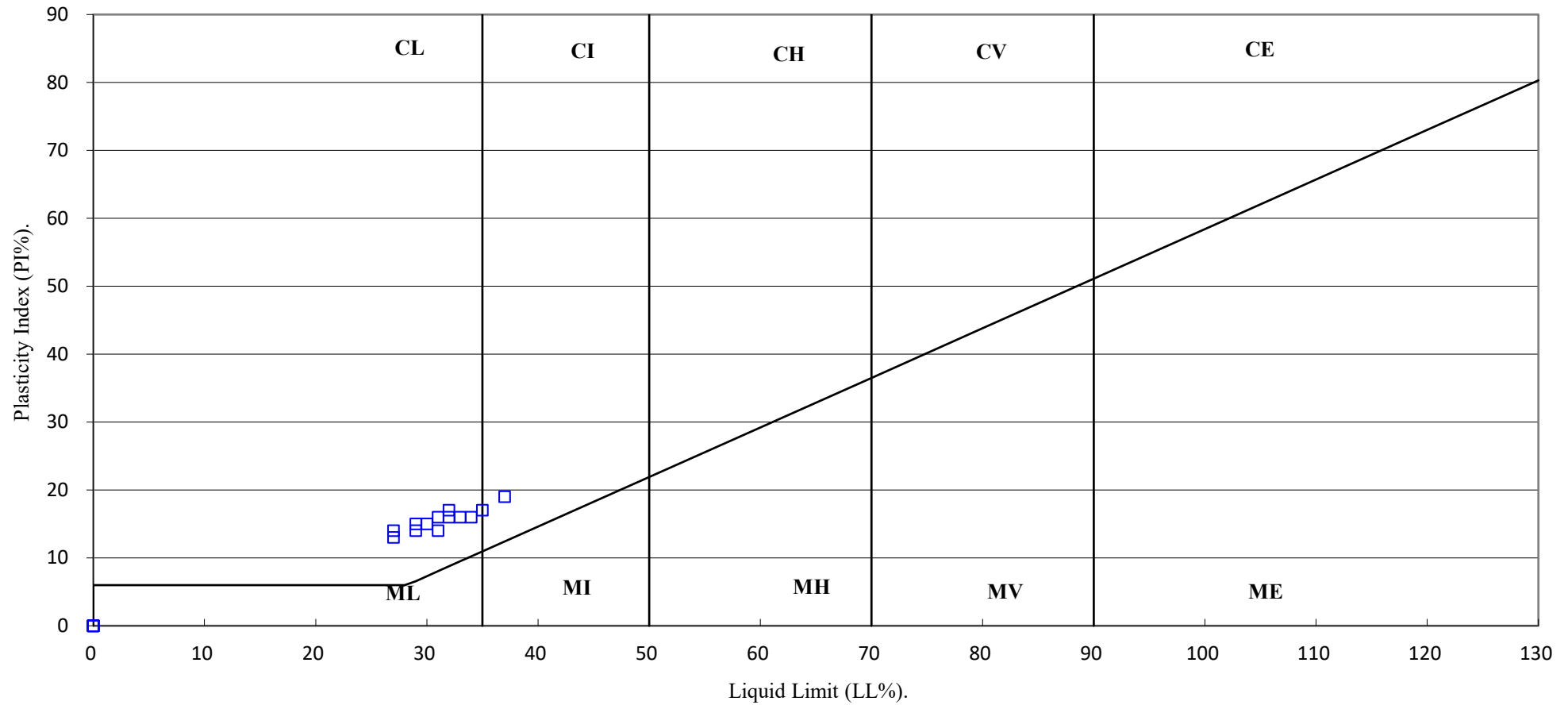
Contract No:

PSL22/6449

Client Ref:

11956-06-22

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



4043

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11956-06-22

PARTICLE SIZE DISTRIBUTION TEST

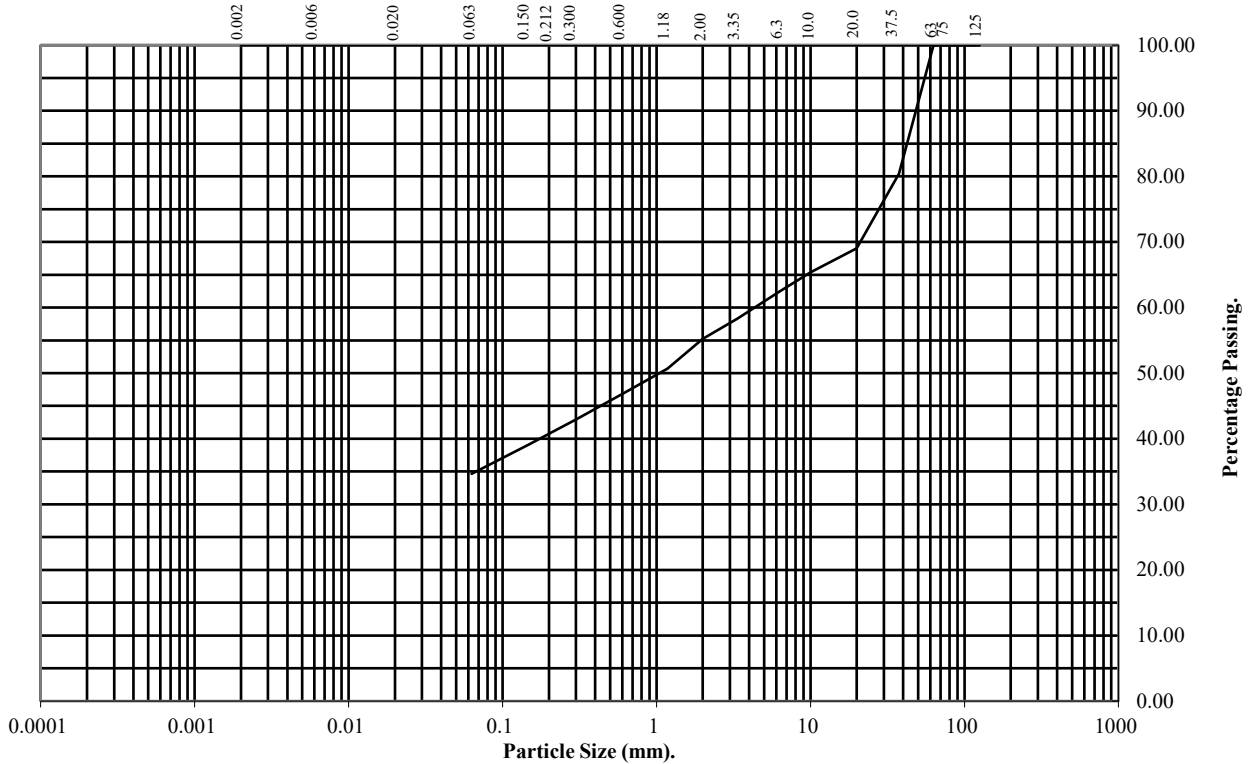
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP02** Top Depth (m): **2.50**

Sample Number: Base Depth(m):

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	80
20	69
10	65
6.3	62
3.35	58
2	55
1.18	51
0.6	47
0.3	43
0.212	41
0.15	39
0.063	35

Soil Fraction	Total Percentage
Cobbles	0
Gravel	45
Sand	20
Silt/Clay	35

Remarks:
See Summary of Soil Descriptions



Cherry Orchard Sites 4 & 5

Contract No:
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PARTICLE SIZE DISTRIBUTION TEST

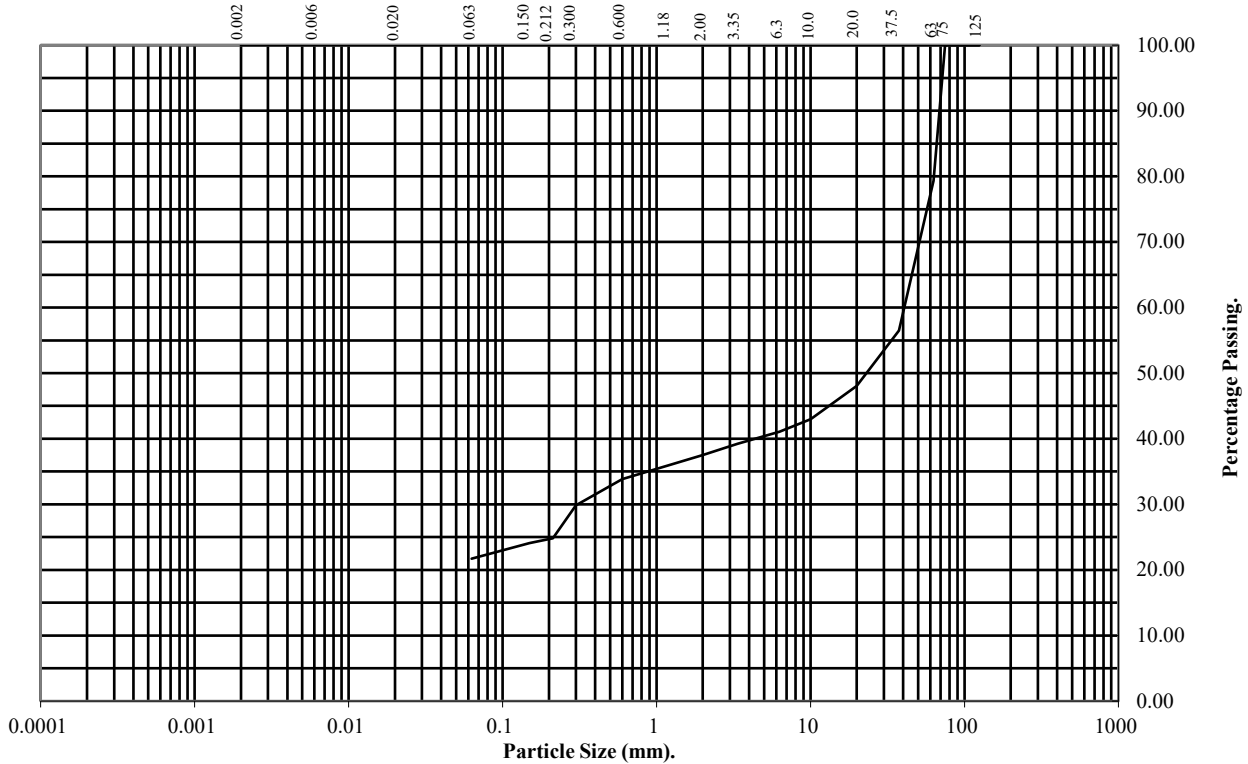
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: TP03 **Top Depth (m):** 1.50

Sample Number: **Base Depth(m):**

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	79
37.5	56
20	48
10	43
6.3	41
3.35	39
2	38
1.18	36
0.6	34
0.3	30
0.212	25
0.15	24
0.063	22

Soil Fraction	Total Percentage
Cobbles	21
Gravel	41
Sand	16
Silt/Clay	22

Remarks:
See Summary of Soil Descriptions



Cherry Orchard Sites 4 & 5

Contract No:
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Client Ref:
11956-06-22

PARTICLE SIZE DISTRIBUTION TEST

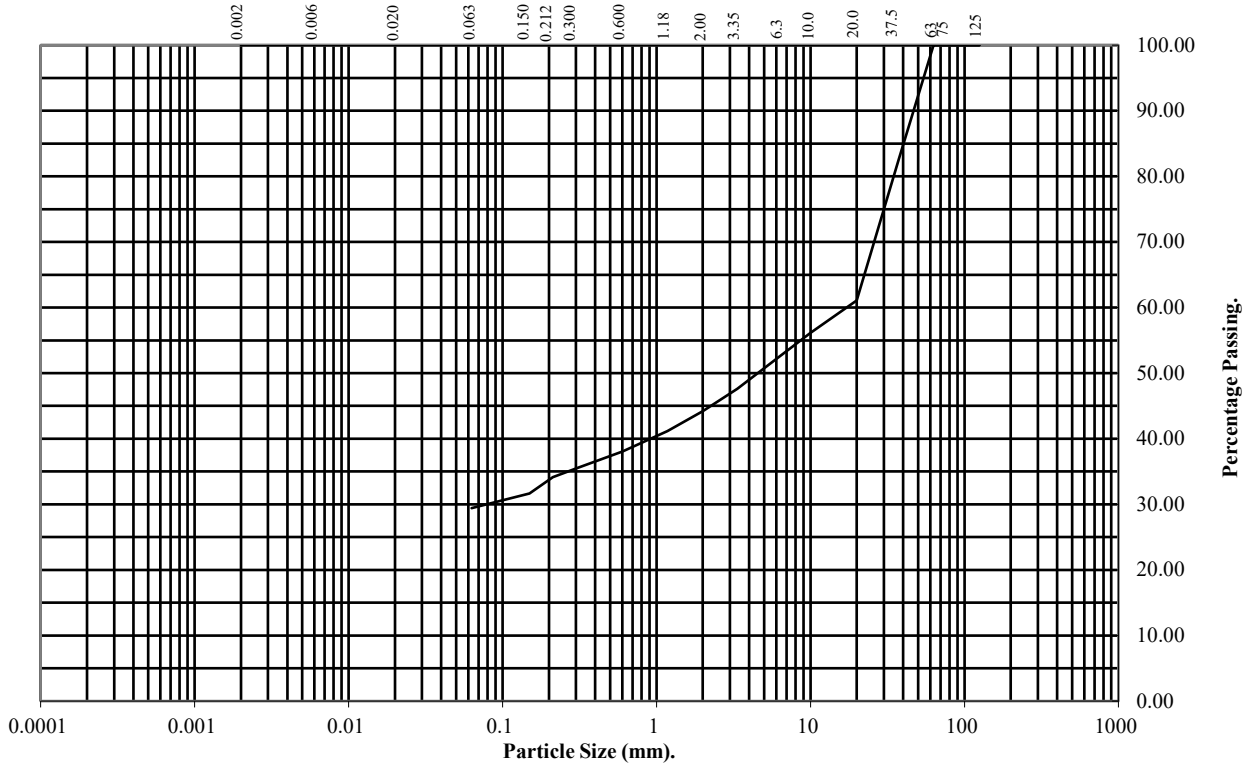
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: TP04 **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	83
20	61
10	56
6.3	53
3.35	48
2	44
1.18	41
0.6	38
0.3	35
0.212	34
0.15	32
0.063	29

Soil Fraction	Total Percentage
Cobbles	0
Gravel	56
Sand	15
Silt/Clay	29

Remarks:
See Summary of Soil Descriptions



Cherry Orchard Sites 4 & 5

Contract No:
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Client Ref:
11956-06-22

PARTICLE SIZE DISTRIBUTION TEST

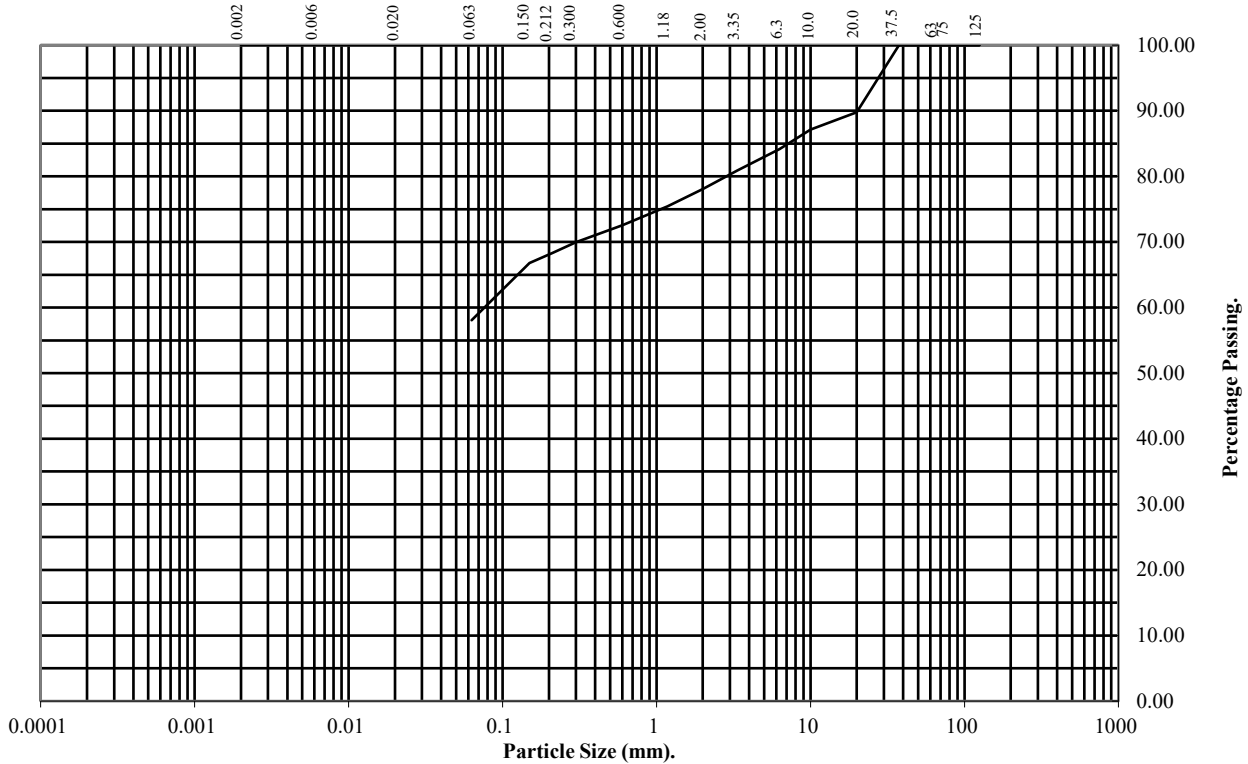
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP05** 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	100
20	90
10	87
6.3	84
3.35	81
2	78
1.18	75
0.6	73
0.3	70
0.212	68
0.15	67
0.063	58

Soil Fraction	Total Percentage
Cobbles	0
Gravel	22
Sand	20
Silt/Clay	58

Remarks:
See Summary of Soil Descriptions



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PARTICLE SIZE DISTRIBUTION TEST

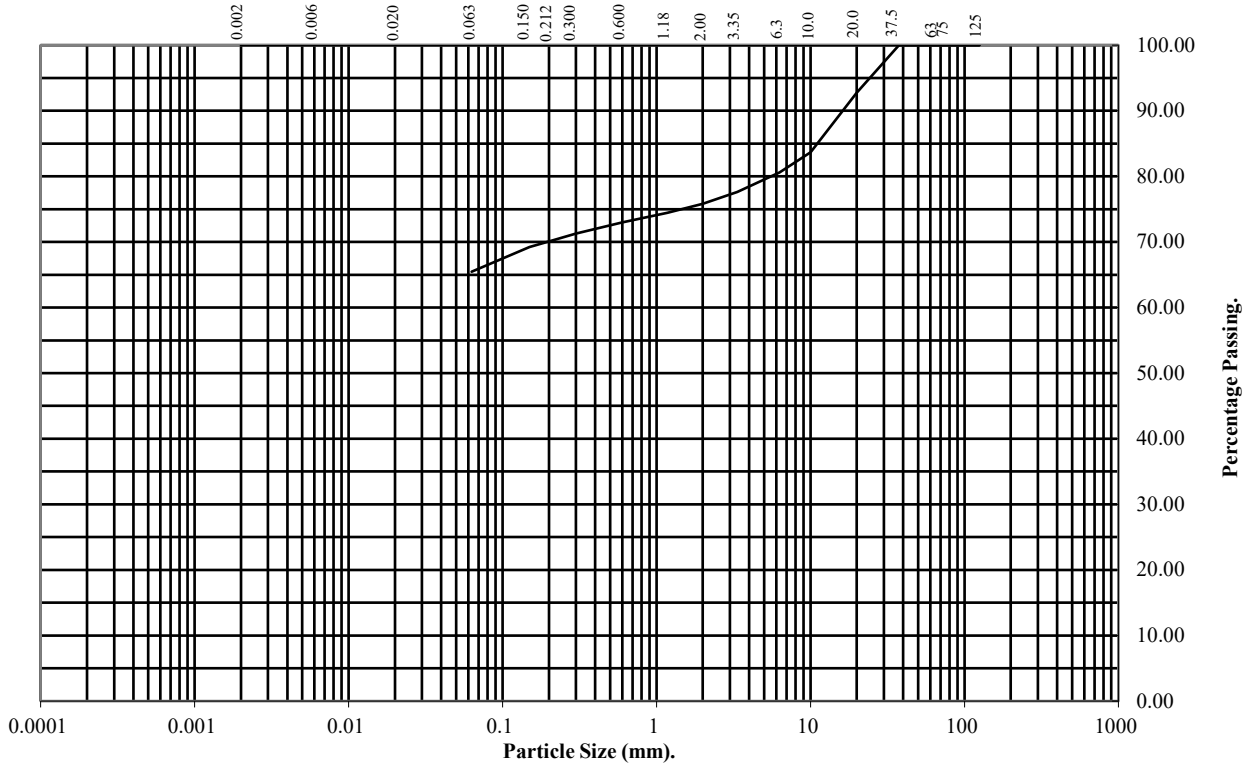
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: TP06 **Top Depth (m):** 1.50

Sample Number: **Base Depth(m):**

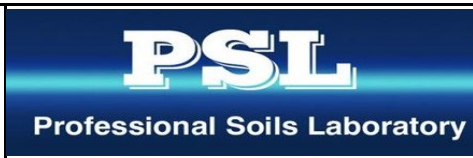
Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	93
10	84
6.3	81
3.35	78
2	76
1.18	74
0.6	73
0.3	71
0.212	70
0.15	69
0.063	65

Soil Fraction	Total Percentage
Cobbles	0
Gravel	24
Sand	11
Silt/Clay	65

Remarks:
See Summary of Soil Descriptions



Cherry Orchard Sites 4 & 5

Contract No:
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11956-06-22

PARTICLE SIZE DISTRIBUTION TEST

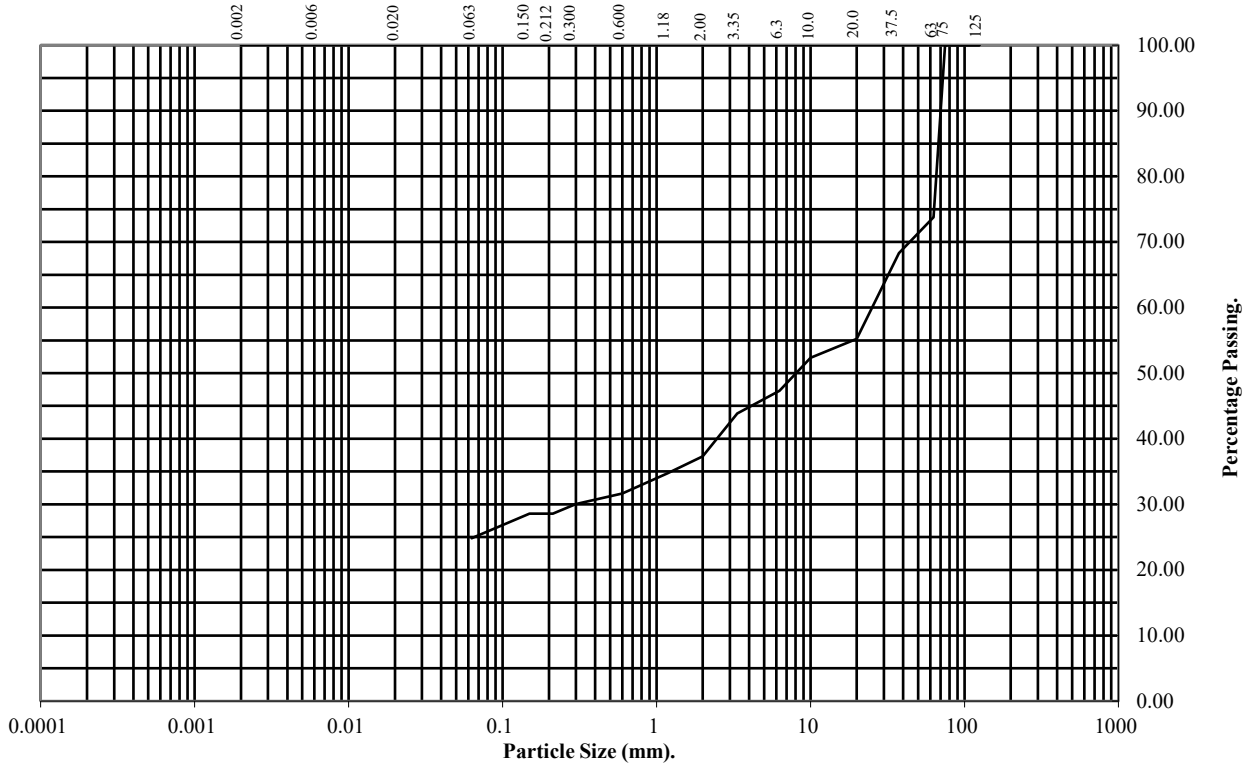
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP09** Top Depth (m): **0.50**

Sample Number: Base Depth(m):

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	74
37.5	68
20	55
10	52
6.3	47
3.35	44
2	37
1.18	35
0.6	32
0.3	30
0.212	29
0.15	29
0.063	25

Soil Fraction	Total Percentage
Cobbles	26
Gravel	37
Sand	12
Silt/Clay	25

Remarks:
See Summary of Soil Descriptions



Cherry Orchard Sites 4 & 5

Contract No:
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11956-06-22

PARTICLE SIZE DISTRIBUTION TEST

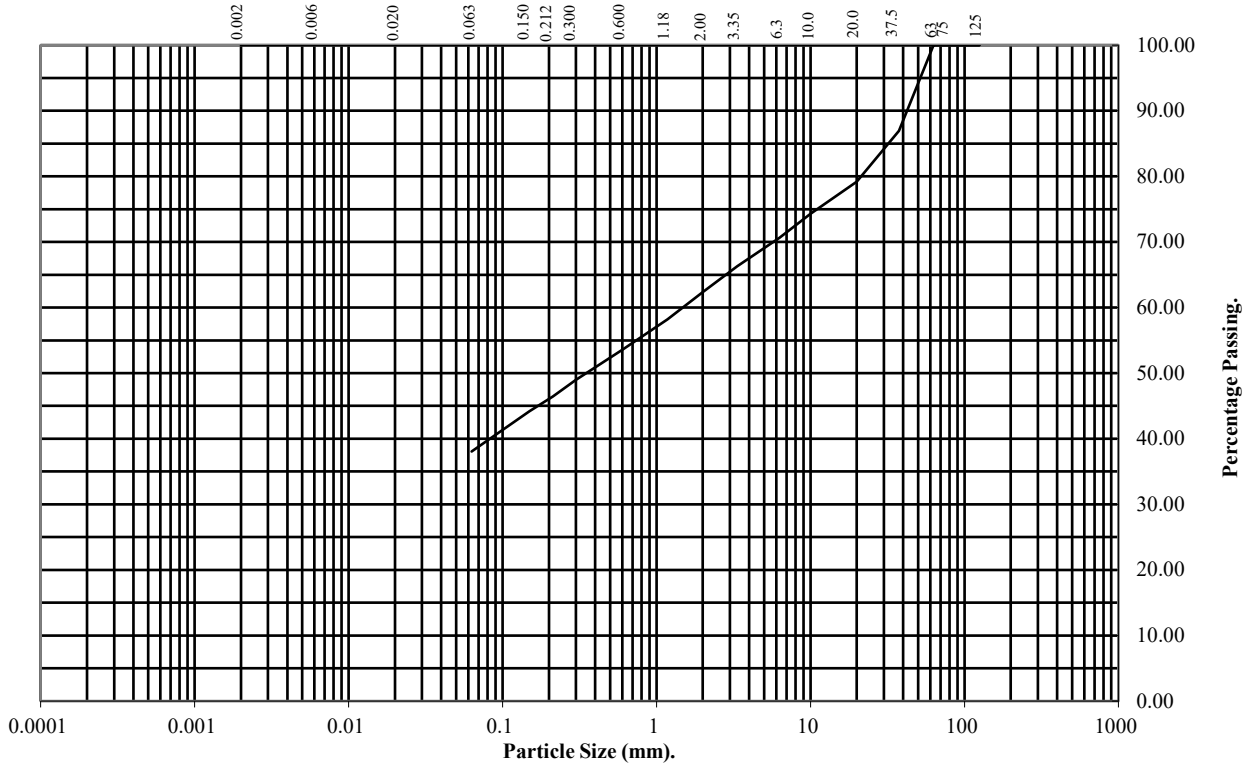
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP10** Top Depth (m): **2.50**

Sample Number: Base Depth(m):

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	87
20	79
10	74
6.3	71
3.35	66
2	62
1.18	58
0.6	54
0.3	49
0.212	46
0.15	44
0.063	38

Soil Fraction	Total Percentage
Cobbles	0
Gravel	38
Sand	24
Silt/Clay	38

Remarks:
See Summary of Soil Descriptions



Cherry Orchard Sites 4 & 5

Contract No:
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PARTICLE SIZE DISTRIBUTION TEST

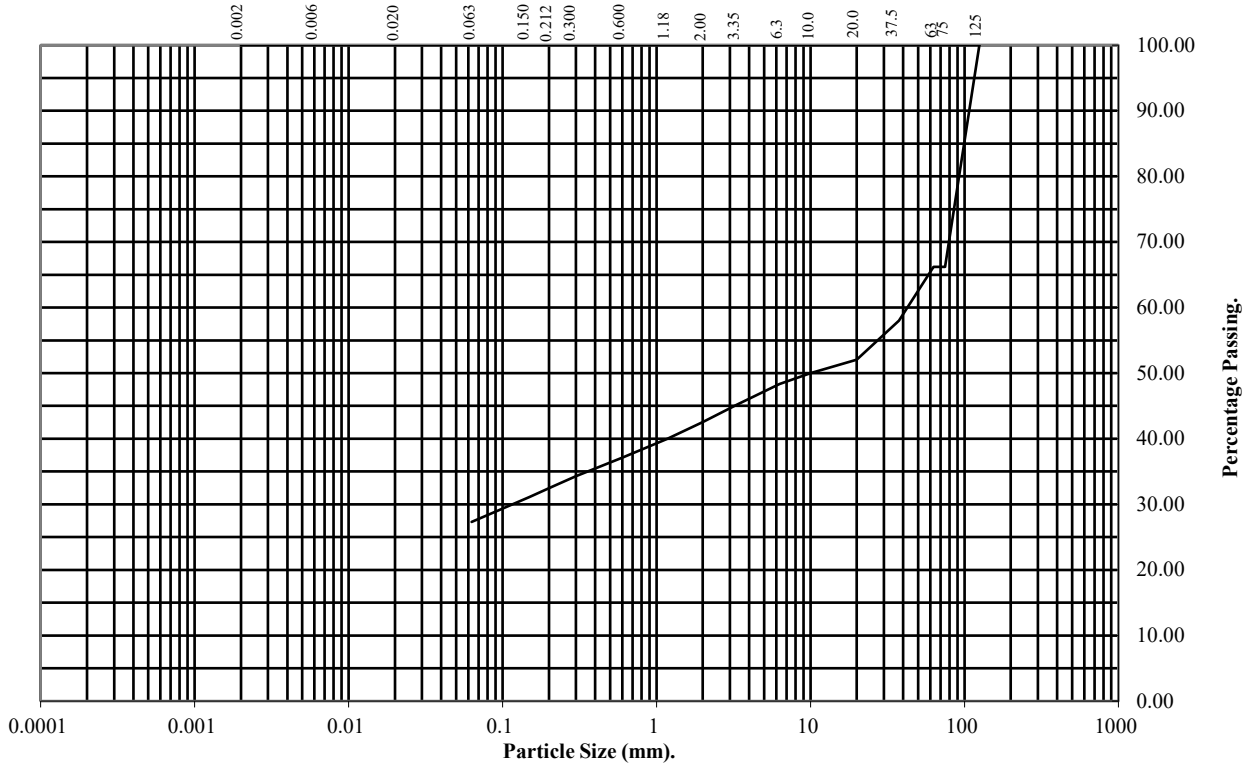
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP11** Top Depth (m): **2.50**

Sample Number: Base Depth(m):

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	66
63	66
37.5	58
20	52
10	50
6.3	48
3.35	45
2	43
1.18	40
0.6	37
0.3	34
0.212	33
0.15	31
0.063	27

Soil Fraction	Total Percentage
Cobbles	34
Gravel	23
Sand	16
Silt/Clay	27

Remarks:
See Summary of Soil Descriptions



Cherry Orchard Sites 4 & 5

Contract No:
PSL22/6449
Client Ref:
11956-06-22

APPENDIX 7 – Groundwater Monitoring





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GROUNDWATER MONITORING

Cherry Orchard Sites 4 & 5

BOREHOLE	DATE	TIME	GROUNDWATER (m BGL)	Comments
BH01	14/11/2022	14:01	2.78	
BH11	14/11/2022	13:53	3.28	
BH18	14/11/2022	14:12	5.24	



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Ground Investigations Ireland

Cherry Orchard Sites 4 & 5

Waterman Moylan

Waste Classification Report

October 2022





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DOCUMENT CONTROL SHEET

Project Title	Cherry Orchard Sites 4 & 5
Engineer	Waterman Moylan
Project No	11956-06-22
Document Title	Waste Classification Report

Rev.	Status	Author(s)	Reviewed By	Approved By	Office of Origin	Issue Date
A	Final	B Sexton	M Sutton	B Sexton	Dublin	06 October 2022

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



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Appendix 3	Laboratory Testing
Appendix 4	HazWasteOnLine™ Report
Appendix 5	WAC Data Summary
Appendix 6	Potential Material Outlets



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1.0 Preamble

Ground Investigations Ireland (GII) was appointed by Waterman Moylan Consulting Engineers to carry out a Waste Classification Assessment for a proposed 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 which facilitated the waste classification (trial pitting) were completed in August 2022.

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 purpose of the waste classification exercise was as follows.

- Assess the site in terms of historical use; and
- Classification, in terms of waste management and final disposal outlets, of material that may require disposal following excavation during the construction phase.

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;
- Collection of subsoil samples for chemical analysis;
- Environmental laboratory testing; and
- Waste classification.

3.0 Limitations

GII has prepared this report for the sole use of Waterman Moylan. 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 to facilitate this waste classification was undertaken in August 2022, this report is based on the conditions encountered and the information available during that period. 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 Ordnance Survey of Ireland (OSI) 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 OSI 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 8.5T tracked excavator at the locations shown in Figure 5. 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. 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 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.

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.

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

- Topsoil
- Made Ground
- Cohesive Deposits

TOPSOIL: Topsoil was encountered in all the exploratory holes and was present to a maximum depth of 0.30m BGL.

MADE GROUND: Made Ground deposits were encountered beneath the Topsoil and were present to depths ranging from 0.60m to 2.90m BGL. These deposits were described generally as *slightly sandy slightly gravelly Clay with occasional subangular to subrounded cobbles with fragments of ceramic, rope, metal, timber, wire, concrete, red brick, glass and plastic fragments.*

COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Made Ground and were described typically as *greyish brown slightly sandy gravelly CLAY with occasional angular to subangular cobbles* underlain by *dark grey slightly sandy gravelly CLAY with occasional angular to subangular cobbles.* 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.

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 suite was selected due to the unknown origin of the material underlying the site and no evidence of specific contaminants of concern highlighted in the site history.

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 3.

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)¹ 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.**

9.1. HazWasteOnLine™ Results

In total, fourteen (14 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 4. 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 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

¹ Formerly European Waste Catalogue Codes (EWC Codes)

material observed in the excavation phase. Where there is in excess of 2%² 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 WAC which the EPA have applied to the Walshestown and Integrated Materials Solutions (IMS) Landfills. The Walshestown and IMS 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 are summarised in Table 1. A summary of the WAC data is presented in Appendix 5. The waste category assigned to each sample is summarised in Table 2.

Table 1 Potential Waste Categories for Disposal/Recovery

Waste Category	Classification Criteria
Category A Unlined Soil Recovery Facilities	Soil and Stone only which are free from ³ anthropogenic materials such as concrete, brick, timber. Soil must be free from "contamination" e.g. PAHs, Hydrocarbons ⁴ .
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 ⁵ application.
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.

² EPA (2020) - Guidance on Waste Acceptance Criteria at Authorised Soil Recovery Facilities.

³ Free from equates to less than 2%.

⁴ 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.

⁵ HazWasteOnLine™ Tool.

Waste Category	Classification Criteria
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 Walshestown/IMS specific 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 is summarised in Table 2.

Table 2 Individual Sample Waste Category

Sample ID	Sample Depth (m)	Material Type	Sample Date	LoW Code	Waste Category
TP-01	0.50	Made Ground	23/08/2022	17 05 04	Category B1
TP-03	0.50	Made Ground	23/08/2022	17 05 04	Category B1
TP-03	1.50	Clay	23/08/2022	17 05 04	Category A
TP-06	0.50	Made Ground	23/08/2022	17 05 04	Category B1
TP-07	0.50	Made Ground	23/08/2022	17 05 04	Category B1
TP-09	0.50	Made Ground	23/08/2022	17 05 04	Category B1
TP-10	0.50	Made Ground	23/08/2022	17 05 04	Category B1
TP-10	1.50	Clay	23/08/2022	17 05 04	Category A
TP-11	0.50	Made Ground	23/08/2022	17 05 04	Category B1
TP-11	1.50	Made Ground	23/08/2022	17 05 04	Category B1
TP-12	0.50	Made Ground	23/08/2022	17 05 04	Category B1
TP-13	0.50	Made Ground	23/08/2022	17 05 04	Category B1
TP-13	1.50	Made Ground	23/08/2022	17 05 04	Category B1
TP-14	0.50	Made Ground	23/08/2022	17 05 04	Category B1

10.0 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.

10.1. Conclusions

10.1.1. 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.

10.1.2. Asbestos

Asbestos was not detected in the soil samples.

10.1.3. Waste Categories

The most applicable waste categories for each of the samples if being considered a waste have been presented in Table 2.

10.2. Recommendations

10.2.1. 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 material on site if excavated should be removed to the most appropriate facility under the waste categories and LoW codes identified in Table 2. Potential outlets for the various waste categories are presented in Appendix 6, this list is not exhaustive and applicable at the time of the writing 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.

11.0 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*.

Environmental Protection Agency (EPA) (June 2019). *Guidance on Soil and Stone By-products in the context of article 27 of the European Communities (Waste Directive) Regulations 2011 Version 3*.

Association of Geotechnical and Geoenvironmental Specialists (2019). *Waste Classification for Soils – A Practitioners Guide*.

APPENDIX 1 - Figures



706200E

706800E

707400E

708000E

708600E

733600N

732000N

732600N

732000N

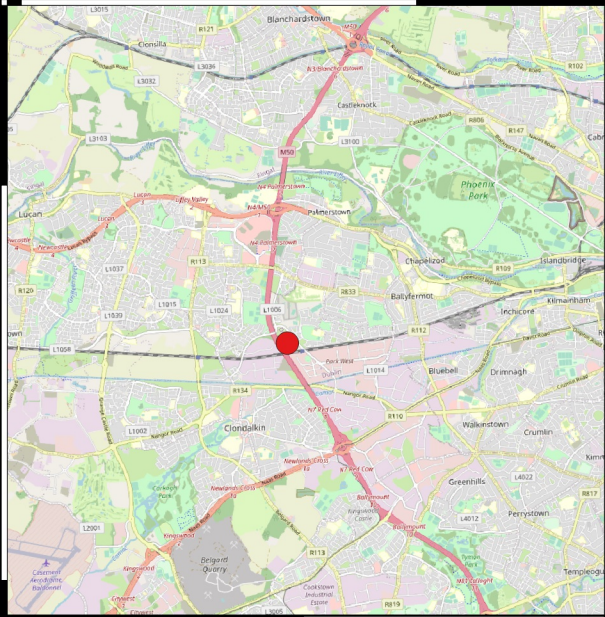
706200E

706800E

707400E

708000E

708600E



- Site Location
- Indicative Site Boundary

Client:



Project Code:

11956-06-22

Project Title:

Cherry Orchard Sites 4 & 5

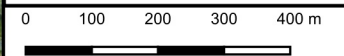
Drawing Title:

Figure 1 Site Location




GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

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



Drawn BS	By:	Date: 05-10-2022
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 Indicative Site Location

Client:



Project Code:

11956-06-22

Project Title:

Cherry Orchard Sites 4 & 5

Drawing Title:

Figure 2 OSI 6-Inch Map



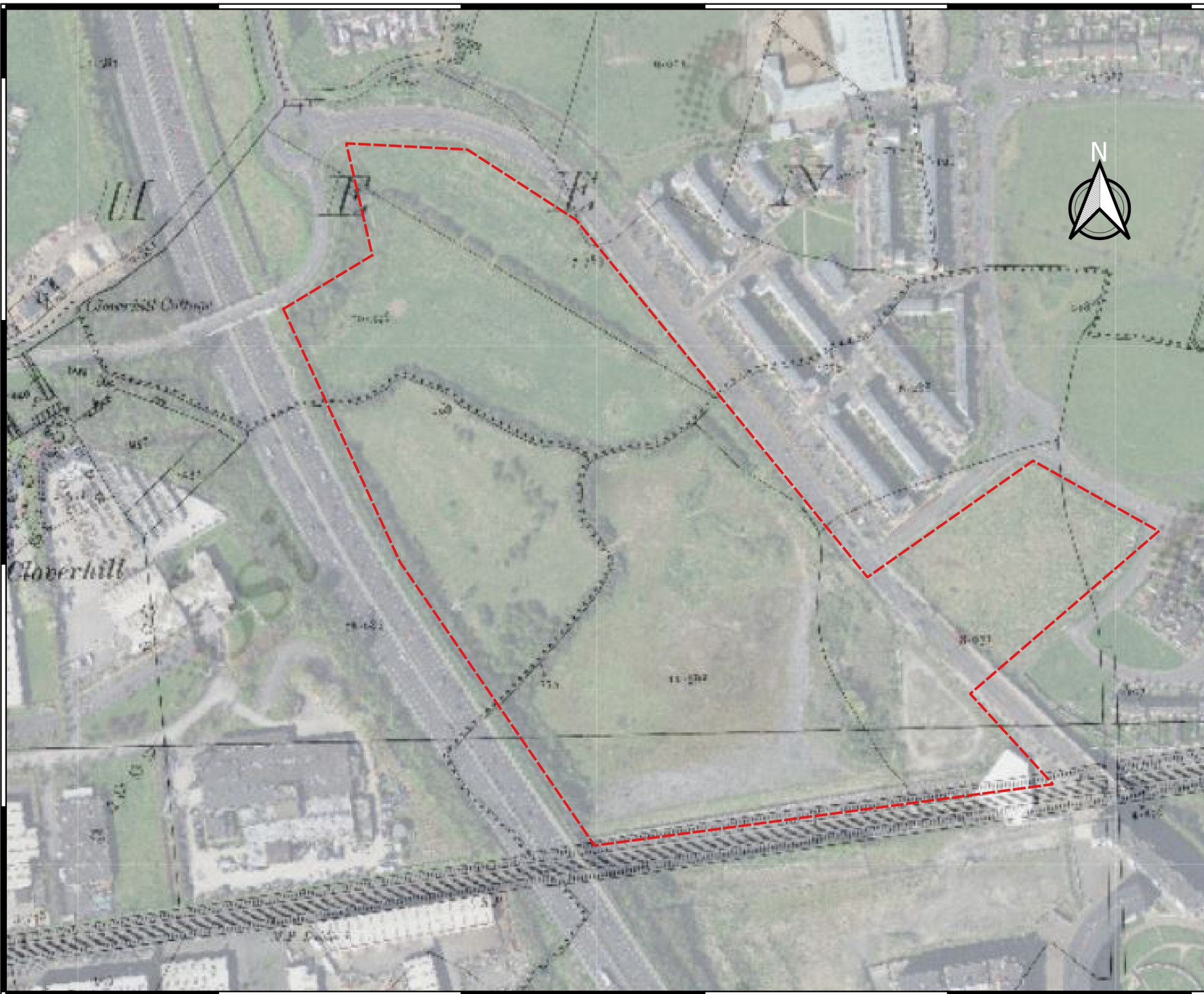
GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental


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

Drawn
BS

By:

D a t e :
05-10-2022



 Indicative Site Location

Client:



Project Code:

11956-06-22

Project Title:

Cherry Orchard Sites 4 & 5

Drawing Title:

Figure 3 OSI 25-Inch Map



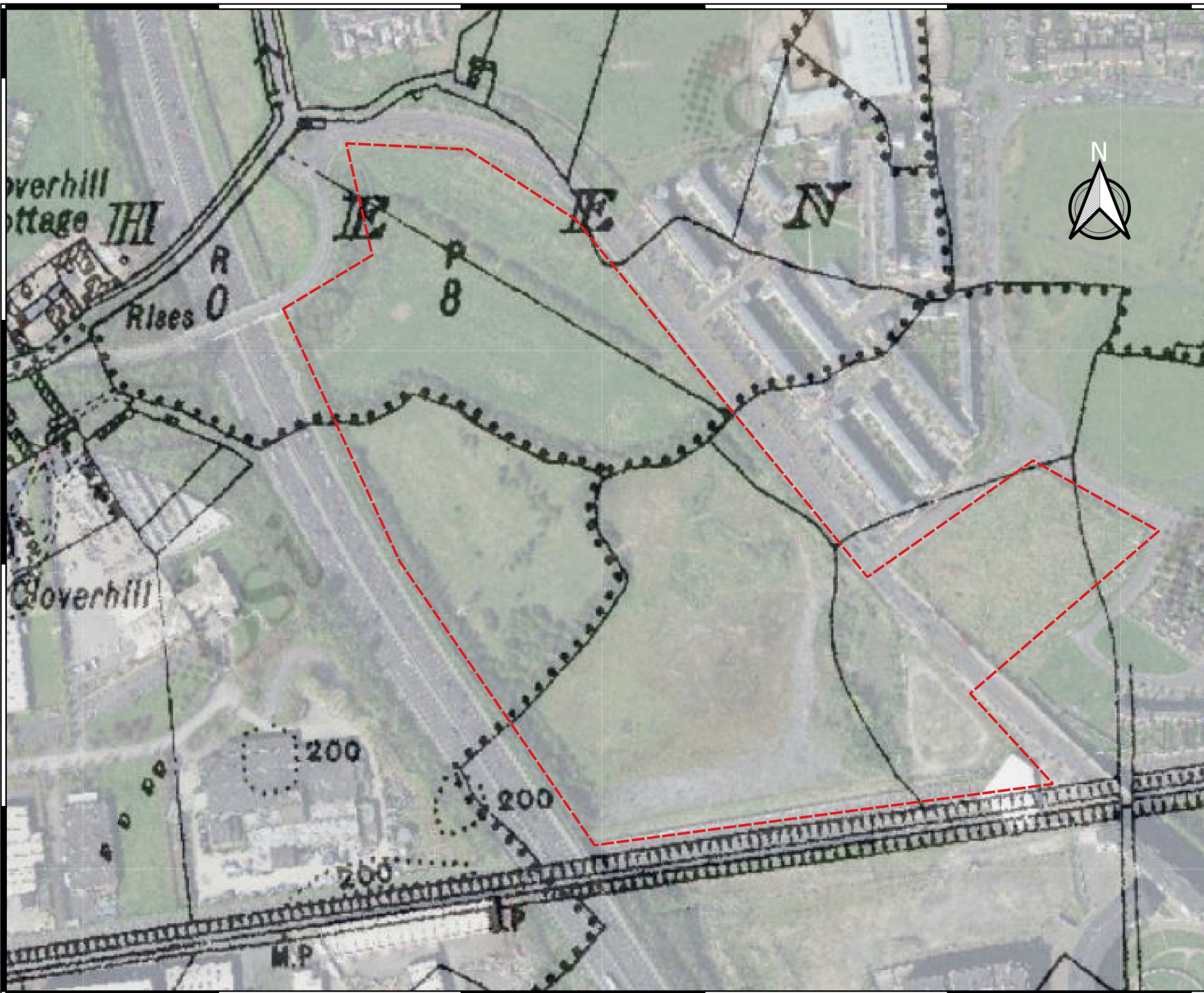
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D a t e :
05-10-2022



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Client:



Project Code:

11956-06-22

Project Title:

Cherry Orchard Sites 4 & 5

Drawing Title:

Figure 4 OSI Cassini Map



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BS

By:

Date:
05-10-2022

707400E

707550E

707700E

707850E

708000E

733200N

733050N

732900N

732750N

707400E

707550E

707700E

707850E

708000E



- Indicative Site Boundary
- + Trial Pit



Client:



Project Code:
11956-06-22

Project Title:
Cherry Orchard Sites 4 & 5

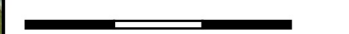
Drawing Title:
Figure 5 Trial Pit Locations



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Newcastle, Co. Dublin
www.gii.ie 01-6015175/5176

0 40 80 120 m



Drawn BS	By:	Date: 05-10-2022
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APPENDIX 2 – Trial Pit Records



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST01



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST01



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST01



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST02



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST02



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST02



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST03



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST03



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST03



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST04



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST04



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST04



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST05



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST05



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST05



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST06



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST06



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST06



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST07



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST07



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST07



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST08



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST08



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST08



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST09



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST09



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST09



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST10



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST10



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST10



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST11



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST11



Soakaway Photographs – Cherry Orchard Sites 4 & 5

ST11



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP01



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP01



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP01



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP02



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP02



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP02



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP03



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP03



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP03



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP04



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP04



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP04



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP05



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP05



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP05



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP06



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP06



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP06



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP07



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP07



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP07



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP08



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP08



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP08



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP09



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP09



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP09



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP10



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP10



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP10



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP11



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP11



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP11



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP12



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP12



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP12



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP13



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP13



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP13



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP14



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP14



Trial Pit Photographs – Cherry Orchard Sites 4 & 5

TP14



APPENDIX 3 – Laboratory Testing



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



4225

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

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	Please see attached notes for all abbreviations and acronyms			
	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	LOD/LOR	Units	Method No.	
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	

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	Please see attached notes for all abbreviations and acronyms			
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	LOD/LOR	Units	Method No.	
TPH CWG														
Aliphatics														
>C5-C6 (HS_1D_AL) #	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1 ⁺	<0.1	mg/kg	TM36/PM12	
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1 ^{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	<0.2	mg/kg	TMS/IPM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	16	<4	mg/kg	TMS/IPM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	158	<7	mg/kg	TMS/IPM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	23	174	<7	mg/kg	TMS/IPM8/PM16
>C35-C40 (EH_1D_AL)	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TMS/IPM8/PM16
Total aliphatics C5-40 (EH+HS_1D_AL)	<26	<26	<26	<26	<26	<26	<26	<26	<26	<26	348	<26	mg/kg	TMS/TMS8/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 ^{SV}	<0.1 ^{SV}	<0.1	mg/kg	TM36/PM12
>C10-C25 (EH_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	256	<10	mg/kg	TMS/IPM8/PM16
>C25-C35 (EH_1D_AL)	<10	<10	<10	<10	<10	<10	<10	<10	<10	23	82	<10	mg/kg	TMS/IPM8/PM16
Aromatics														
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1 ^{SV}	<0.1 ^{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	<0.2	mg/kg	TMS/IPM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	8	<4	mg/kg	TMS/IPM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	78	<7	mg/kg	TMS/IPM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	<7	11	<7	<7	<7	<7	71	88	<7	mg/kg	TMS/IPM8/PM16
>EC35-EC40 (EH_1D_AR)	<7	<7	<7	<7	9	<7	<7	<7	<7	17	<7	<7	mg/kg	TMS/IPM8/PM16
Total aromatics C5-40 (EH+HS_1D_AR)	<26	<26	<26	<26	<26	<26	<26	<26	<26	88	174	<26	mg/kg	TMS/TMS8/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH+HS_CU_1D_Total)	<52	<52	<52	<52	<52	<52	<52	<52	<52	88	522	<52	mg/kg	TMS/TMS8/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 ^{SV}	<0.1 ^{SV}	<0.1	mg/kg	TM36/PM12
>EC10-EC25 (EH_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	127	<10	mg/kg	TMS/IPM8/PM16
>EC25-EC35 (EH_1D_AR)	<10	<10	<10	<10	<10	<10	<10	<10	<10	66	49	<10	mg/kg	TMS/IPM8/PM16
MTBE #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{SV}	<5 ^{SV}	<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{SV}	<5 ^{SV}	<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{SV}	5 ^{SV}	<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{SV}	<5 ^{SV}	<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{SV}	9 ^{SV}	<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5 ^{SV}	11 ^{SV}	<5	ug/kg	TM36/PM12
PCB 28 #	<5	<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	<5	ug/kg	TM17/PM8
PCB 101 #	<5	<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	<5	ug/kg	TM17/PM8
PCB 138 #	<5	<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	<5	ug/kg	TM17/PM8
PCB 180 #	<5	<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	<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 : CEN 10:1 1 Batch

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

EMT Sample No.	1-4	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	Please see attached notes for all abbreviations and acronyms		
Sample ID	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	LOD/LOR	Units	Method No.
Dissolved Antimony #	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	mg/l	TM30/PM17
Dissolved Antimony (A10) #	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	TM30/PM17
Dissolved Arsenic #	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	mg/l	TM30/PM17
Dissolved Arsenic (A10) #	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	mg/kg	TM30/PM17
Dissolved Barium #	<0.003	0.005	<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

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

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	Inert	Stable Non-reactive	Hazardous	LOD LOR	Units	Method No.
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						
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	<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 see attached notes for all abbreviations and acronyms

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

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 22/13979

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

WATERS

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

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

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

Where Mineral Oil 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.

Please include all sections of this report if it is reproduced

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

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/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°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/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry); WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °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 GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) – All anions comparable to BS ISO 15923-1: 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: 22/13979

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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	

APPENDIX 4 – HazWasteOnLine™ Report



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:

- understand the origin of the waste
- select the correct List of Waste code(s)
- confirm that the list of determinands, results and sampling plan are fit for purpose
- select and justify the chosen metal species (Appendix B)
- correctly apply moisture correction and other available corrections
- add the meta data for their user-defined substances (Appendix A)
- check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



B3J95-4JML4-F514Z

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

Job name

Cherry Orchard Sites 4 & 5

Description/Comments

Project

11956-06-22

Site

Cherry Orchard Site 4 & 5

Classified by

Name: **Barry Sexton**
Date: **05 Oct 2022 12:01 GMT**
Telephone: **353 (01) 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

Hazardous Waste Classification
Most recent 3 year Refresher

Date

10 Apr 2019
19 Apr 2022

Next 3 year Refresher due by Apr 2025

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP-03-23/08/2022-0.50m		Non Hazardous		2
2	TP-11-23/08/2022-1.50m		Non Hazardous		4
3	TP-01-23/08/2022-0.50m		Non Hazardous		6
4	TP-11-23/08/2022-0.50m		Non Hazardous		8
5	TP-09-23/08/2022-0.50m		Non Hazardous		10
6	TP-03-23/08/2022-1.50m		Non Hazardous		12
7	TP-10-23/08/2022-0.50m		Non Hazardous		14
8	TP-10-23/08/2022-1.50m		Non Hazardous		16
9	TP-14-23/08/2022-0.50m		Non Hazardous		18
10	TP-13-23/08/2022-1.50m		Non Hazardous		21
11	TP-06-23/08/2022-0.50m		Non Hazardous		24
12	TP-13-23/08/2022-0.50m		Non Hazardous		26
13	TP-12-23/08/2022-0.50m		Non Hazardous		28
14	TP-07-23/08/2022-0.50m		Non Hazardous		31

Related documents

#	Name	Description
1	Cherry Orchard Sites 4 & 5.HWOL	Element .hwol file used to populate the Job
2	Example waste stream template for contaminated soils	waste stream template used to create this Job


Report

Created by: Barry Sexton

Created date: 05 Oct 2022 12:01 GMT

Appendices	Page
Appendix A: Classifier defined and non EU CLP determinands	33
Appendix B: Rationale for selection of metal species	34
Appendix C: Version	35

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	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content: 9.3% (wet weight correction)	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			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	antimony { antimony trioxide }				2	mg/kg	1.197	2.172	mg/kg	0.000217 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				7.6	mg/kg	1.32	9.101	mg/kg	0.00091 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium oxide }				1.4	mg/kg	1.142	1.451	mg/kg	0.000145 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				31.5	mg/kg	1.462	41.757	mg/kg	0.00418 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
		024-017-00-8										
6	copper { dicopper oxide; copper (I) oxide }				23	mg/kg	1.126	23.487	mg/kg	0.00235 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	12	mg/kg	1.56	16.977	mg/kg	0.00109 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	molybdenum { molybdenum(VI) oxide }				3.8	mg/kg	1.5	5.171	mg/kg	0.000517 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
10	nickel { nickel chromate }				33.7	mg/kg	2.976	90.972	mg/kg	0.0091 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
12	zinc { zinc chromate }				67	mg/kg	2.774	168.582	mg/kg	0.0169 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				<52	mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH									
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
15	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
16	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	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 601-023-00-4	202-849-4	100-41-4		<0.005 mg/kg		<0.005 mg/kg	<0.000005 %		<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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

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:	LoW Code:
TP-11-23/08/2022-1.50m	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
17.9% (wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 17.9% Wet Weight Moisture Correction applied (MC)


#	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									
1	antimony { antimony trioxide }				3	mg/kg	1.197	2.948	mg/kg	0.000295 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				15.4	mg/kg	1.32	16.693	mg/kg	0.00167 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium oxide }				3.1	mg/kg	1.142	2.907	mg/kg	0.000291 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				73.9	mg/kg	1.462	88.675	mg/kg	0.00887 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				43	mg/kg	1.126	39.747	mg/kg	0.00397 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	93	mg/kg	1.56	119.097	mg/kg	0.00764 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				0.4	mg/kg	1.353	0.444	mg/kg	0.0000444 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
9	molybdenum { molybdenum(VI) oxide }				7.2	mg/kg	1.5	8.868	mg/kg	0.000887 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
10	nickel { nickel chromate }				49.1	mg/kg	2.976	119.977	mg/kg	0.012 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { nickel selenate }				2	mg/kg	2.554	4.193	mg/kg	0.000419 %	✓	
	028-031-00-5	239-125-2	15060-62-5									
12	zinc { zinc chromate }				158	mg/kg	2.774	359.857	mg/kg	0.036 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				<52	mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH									
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
15	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
16	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	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				7.5 pH		7.5 pH	7.5 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				0.08 mg/kg		0.0657 mg/kg	0.00000657 %	✓	
		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				0.14 mg/kg		0.115 mg/kg	0.0000115 %	✓	
		205-912-4	206-44-0							
27	pyrene				0.13 mg/kg		0.107 mg/kg	0.0000107 %	✓	
		204-927-3	129-00-0							
28	benzo[a]anthracene				0.11 mg/kg		0.0903 mg/kg	0.00000903 %	✓	
	601-033-00-9	200-280-6	56-55-3							
29	chrysene				0.09 mg/kg		0.0739 mg/kg	0.00000739 %	✓	
	601-048-00-0	205-923-4	218-01-9							
30	benzo[b]fluoranthene				0.11 mg/kg		0.0903 mg/kg	0.00000903 %	✓	
	601-034-00-4	205-911-9	205-99-2							
31	benzo[k]fluoranthene				0.04 mg/kg		0.0328 mg/kg	0.00000328 %	✓	
	601-036-00-5	205-916-6	207-08-9							
32	benzo[a]pyrene; benzo[def]chrysene				0.07 mg/kg		0.0575 mg/kg	0.00000575 %	✓	
	601-032-00-3	200-028-5	50-32-8							
33	indeno[123-cd]pyrene				0.05 mg/kg		0.041 mg/kg	0.0000041 %	✓	
		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				0.05 mg/kg		0.041 mg/kg	0.0000041 %	✓	
		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 }				135 mg/kg	1.117	123.748 mg/kg	0.0124 %	✓	
		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:								0.0899 %		

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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

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	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content: 14.4% (wet weight correction)	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			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	antimony { antimony trioxide }				3	mg/kg	1.197	3.074	mg/kg	0.000307 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				11.2	mg/kg	1.32	12.658	mg/kg	0.00127 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium oxide }				2.3	mg/kg	1.142	2.249	mg/kg	0.000225 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				70.7	mg/kg	1.462	88.452	mg/kg	0.00885 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				26	mg/kg	1.126	25.058	mg/kg	0.00251 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	60	mg/kg	1.56	80.112	mg/kg	0.00514 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				0.1	mg/kg	1.353	0.116	mg/kg	0.0000116 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
9	molybdenum { molybdenum(VI) oxide }				5.5	mg/kg	1.5	7.063	mg/kg	0.000706 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
10	nickel { nickel chromate }				44.1	mg/kg	2.976	112.353	mg/kg	0.0112 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { nickel selenate }				1	mg/kg	2.554	2.186	mg/kg	0.000219 %	✓	
	028-031-00-5	239-125-2	15060-62-5									
12	zinc { zinc chromate }				97	mg/kg	2.774	230.343	mg/kg	0.023 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				<52	mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH									
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
15	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
16	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	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				8.38 pH		8.38 pH	8.38 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				0.07 mg/kg		0.0599 mg/kg	0.00000599 %	✓	
		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				0.11 mg/kg		0.0942 mg/kg	0.00000942 %	✓	
		205-912-4	206-44-0							
27	pyrene				0.1 mg/kg		0.0856 mg/kg	0.00000856 %	✓	
		204-927-3	129-00-0							
28	benzo[a]anthracene				0.09 mg/kg		0.077 mg/kg	0.0000077 %	✓	
	601-033-00-9	200-280-6	56-55-3							
29	chrysene				0.08 mg/kg		0.0685 mg/kg	0.00000685 %	✓	
	601-048-00-0	205-923-4	218-01-9							
30	benzo[b]fluoranthene				0.08 mg/kg		0.0685 mg/kg	0.00000685 %	✓	
	601-034-00-4	205-911-9	205-99-2							
31	benzo[k]fluoranthene				0.03 mg/kg		0.0257 mg/kg	0.00000257 %	✓	
	601-036-00-5	205-916-6	207-08-9							
32	benzo[a]pyrene; benzo[def]chrysene				0.06 mg/kg		0.0514 mg/kg	0.00000514 %	✓	
	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 }				92 mg/kg	1.117	87.927 mg/kg	0.00879 %	✓	
		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:								0.0677 %		

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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

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	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content: 6% (wet weight correction)	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			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	antimony { antimony trioxide }				2	mg/kg	1.197	2.251	mg/kg	0.000225 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				11.1	mg/kg	1.32	13.776	mg/kg	0.00138 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium oxide }				1.7	mg/kg	1.142	1.825	mg/kg	0.000183 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				42.7	mg/kg	1.462	58.664	mg/kg	0.00587 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				31	mg/kg	1.126	32.808	mg/kg	0.00328 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	25	mg/kg	1.56	36.656	mg/kg	0.00235 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	molybdenum { molybdenum(VI) oxide }				5.5	mg/kg	1.5	7.756	mg/kg	0.000776 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
10	nickel { nickel chromate }				42	mg/kg	2.976	117.503	mg/kg	0.0118 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { nickel selenate }				1	mg/kg	2.554	2.401	mg/kg	0.00024 %	✓	
	028-031-00-5	239-125-2	15060-62-5									
12	zinc { zinc chromate }				115	mg/kg	2.774	299.885	mg/kg	0.03 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				<52	mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH									
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
15	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
16	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	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				8.35 pH		8.35 pH	8.35 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				0.14 mg/kg		0.132 mg/kg	0.0000132 %	✓	
		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				0.16 mg/kg		0.15 mg/kg	0.000015 %	✓	
		205-912-4	206-44-0							
27	pyrene				0.13 mg/kg		0.122 mg/kg	0.0000122 %	✓	
		204-927-3	129-00-0							
28	benzo[a]anthracene				0.11 mg/kg		0.103 mg/kg	0.0000103 %	✓	
	601-033-00-9	200-280-6	56-55-3							
29	chrysene				0.07 mg/kg		0.0658 mg/kg	0.00000658 %	✓	
	601-048-00-0	205-923-4	218-01-9							
30	benzo[b]fluoranthene				0.09 mg/kg		0.0846 mg/kg	0.00000846 %	✓	
	601-034-00-4	205-911-9	205-99-2							
31	benzo[k]fluoranthene				0.03 mg/kg		0.0282 mg/kg	0.00000282 %	✓	
	601-036-00-5	205-916-6	207-08-9							
32	benzo[a]pyrene; benzo[def]chrysene				0.05 mg/kg		0.047 mg/kg	0.0000047 %	✓	
	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 }				82 mg/kg	1.117	86.06 mg/kg	0.00861 %	✓	
		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:								0.0701 %		

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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

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:	LoW Code:
TP-09-23/08/2022-0.50m	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
6.8% (wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 6.8% Wet Weight Moisture Correction applied (MC)


#	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									
1	antimony { antimony trioxide }				3	mg/kg	1.197	3.347	mg/kg	0.000335 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				12.4	mg/kg	1.32	15.259	mg/kg	0.00153 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium oxide }				2.1	mg/kg	1.142	2.236	mg/kg	0.000224 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				32.7	mg/kg	1.462	44.543	mg/kg	0.00445 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
		024-017-00-8										
6	copper { dicopper oxide; copper (I) oxide }				33	mg/kg	1.126	34.628	mg/kg	0.00346 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	16	mg/kg	1.56	23.26	mg/kg	0.00149 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	molybdenum { molybdenum(VI) oxide }				4.1	mg/kg	1.5	5.733	mg/kg	0.000573 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
10	nickel { nickel chromate }				45.8	mg/kg	2.976	127.044	mg/kg	0.0127 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { nickel selenate }				1	mg/kg	2.554	2.38	mg/kg	0.000238 %	✓	
	028-031-00-5	239-125-2	15060-62-5									
12	zinc { zinc chromate }				100	mg/kg	2.774	258.55	mg/kg	0.0259 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				<52	mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH									
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4								
15	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-020-00-8	200-753-7	71-43-2								
16	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3								

#	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	<0.000005 %		<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				8.47 pH		8.47 pH	8.47 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	58.273 mg/kg	0.00583 %	✓	
		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:								0.0621 %		

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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

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	LoW Code: Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content: 10.6% (wet weight correction)	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			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	antimony { antimony trioxide }				2	mg/kg	1.197	2.14	mg/kg	0.000214 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				7.8	mg/kg	1.32	9.207	mg/kg	0.000921 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium oxide }				1.7	mg/kg	1.142	1.736	mg/kg	0.000174 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				33.2	mg/kg	1.462	43.38	mg/kg	0.00434 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
		024-017-00-8										
6	copper { dicopper oxide; copper (I) oxide }				25	mg/kg	1.126	25.164	mg/kg	0.00252 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	13	mg/kg	1.56	18.128	mg/kg	0.00116 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	molybdenum { molybdenum(VI) oxide }				4.4	mg/kg	1.5	5.901	mg/kg	0.00059 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
10	nickel { nickel chromate }				35.8	mg/kg	2.976	95.256	mg/kg	0.00953 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
12	zinc { zinc chromate }				80	mg/kg	2.774	198.407	mg/kg	0.0198 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				<52	mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH									
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
15	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
16	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	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 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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

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	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content: 8% (wet weight correction)	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			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	antimony { antimony trioxide }				2	mg/kg	1.197	2.203	mg/kg	0.00022 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				8.7	mg/kg	1.32	10.568	mg/kg	0.00106 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium oxide }				1.6	mg/kg	1.142	1.682	mg/kg	0.000168 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				41.1	mg/kg	1.462	55.264	mg/kg	0.00553 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				1	mg/kg	2.27	2.088	mg/kg	0.000209 %	✓	
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				28	mg/kg	1.126	29.003	mg/kg	0.0029 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	12	mg/kg	1.56	17.22	mg/kg	0.0011 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	molybdenum { molybdenum(VI) oxide }				4.8	mg/kg	1.5	6.625	mg/kg	0.000662 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
10	nickel { nickel chromate }				40.4	mg/kg	2.976	110.622	mg/kg	0.0111 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
12	zinc { zinc chromate }				94	mg/kg	2.774	239.908	mg/kg	0.024 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				<52	mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH									
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
15	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
16	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	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	<0.000005 %		<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				8.53 pH		8.53 pH	8.53 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 }				51 mg/kg	1.117	52.386 mg/kg	0.00524 %	✓	
		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:								0.0578 %		

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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

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	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content: 8.6% (wet weight correction)	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			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	antimony { antimony trioxide }				4	mg/kg	1.197	4.377	mg/kg	0.000438 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				15	mg/kg	1.32	18.102	mg/kg	0.00181 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium oxide }				1.9	mg/kg	1.142	1.984	mg/kg	0.000198 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				51.8	mg/kg	1.462	69.198	mg/kg	0.00692 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				59	mg/kg	1.126	60.715	mg/kg	0.00607 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	51	mg/kg	1.56	72.709	mg/kg	0.00466 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	molybdenum { molybdenum(VI) oxide }				5.3	mg/kg	1.5	7.267	mg/kg	0.000727 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
10	nickel { nickel chromate }				56.1	mg/kg	2.976	152.609	mg/kg	0.0153 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { nickel selenate }				2	mg/kg	2.554	4.668	mg/kg	0.000467 %	✓	
	028-031-00-5	239-125-2	15060-62-5									
12	zinc { zinc chromate }				159	mg/kg	2.774	403.156	mg/kg	0.0403 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				<52	mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH									
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
15	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
16	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	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 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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

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	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content: 9.5% (wet weight correction)	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			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	antimony { antimony trioxide }				3	mg/kg	1.197	3.25	mg/kg	0.000325 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				11.5	mg/kg	1.32	13.741	mg/kg	0.00137 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium oxide }				1	mg/kg	1.142	1.034	mg/kg	0.000103 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				47.7	mg/kg	1.462	63.093	mg/kg	0.00631 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				153	mg/kg	1.126	155.896	mg/kg	0.0156 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	85	mg/kg	1.56	119.989	mg/kg	0.00769 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	molybdenum { molybdenum(VI) oxide }				3.8	mg/kg	1.5	5.159	mg/kg	0.000516 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
10	nickel { nickel chromate }				43.1	mg/kg	2.976	116.091	mg/kg	0.0116 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { nickel selenate }				1	mg/kg	2.554	2.311	mg/kg	0.000231 %	✓	
	028-031-00-5	239-125-2	15060-62-5									
12	zinc { zinc chromate }				282	mg/kg	2.774	707.99	mg/kg	0.0708 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				88	mg/kg		79.64	mg/kg	0.00796 %	✓	
			TPH									
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
15	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
16	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	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				8.24 pH		8.24 pH	8.24 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				0.12 mg/kg		0.109 mg/kg	0.0000109 %	✓	
		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				0.21 mg/kg		0.19 mg/kg	0.000019 %	✓	
		205-912-4	206-44-0							
27	pyrene				0.19 mg/kg		0.172 mg/kg	0.0000172 %	✓	
		204-927-3	129-00-0							
28	benzo[a]anthracene				0.14 mg/kg		0.127 mg/kg	0.0000127 %	✓	
	601-033-00-9	200-280-6	56-55-3							
29	chrysene				0.12 mg/kg		0.109 mg/kg	0.0000109 %	✓	
	601-048-00-0	205-923-4	218-01-9							
30	benzo[b]fluoranthene				0.16 mg/kg		0.145 mg/kg	0.0000145 %	✓	
	601-034-00-4	205-911-9	205-99-2							
31	benzo[k]fluoranthene				0.06 mg/kg		0.0543 mg/kg	0.00000543 %	✓	
	601-036-00-5	205-916-6	207-08-9							
32	benzo[a]pyrene; benzo[def]chrysene				0.11 mg/kg		0.0995 mg/kg	0.00000995 %	✓	
	601-032-00-3	200-028-5	50-32-8							
33	indeno[123-cd]pyrene				0.09 mg/kg		0.0814 mg/kg	0.00000814 %	✓	
		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				0.08 mg/kg		0.0724 mg/kg	0.00000724 %	✓	
		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 }				85 mg/kg	1.117	85.887 mg/kg	0.00859 %	✓	
		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:								0.131 %		

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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- 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%)

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:	LoW Code:	
TP-13-23/08/2022-1.50m	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
7.9% (wet weight correction)		

Hazard properties

None identified

Determinands

Moisture content: 7.9% Wet Weight Moisture Correction applied (MC)

#	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							
1	antimony { antimony trioxide }				1 mg/kg	1.197	1.103 mg/kg	0.00011 %	✓	
	051-005-00-X	215-175-0	1309-64-4							
2	arsenic { arsenic trioxide }				7.8 mg/kg	1.32	9.485 mg/kg	0.000948 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
3	cadmium { cadmium oxide }				0.7 mg/kg	1.142	0.736 mg/kg	0.0000736 %	✓	
	048-002-00-0	215-146-2	1306-19-0							
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				42.8 mg/kg	1.462	57.613 mg/kg	0.00576 %	✓	
		215-160-9	1308-38-9							
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3 mg/kg	2.27	<0.681 mg/kg	<0.0000681 %		<LOD
		024-017-00-8								
6	copper { dicopper oxide; copper (I) oxide }				27 mg/kg	1.126	27.997 mg/kg	0.0028 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
7	lead { lead chromate }			1	20 mg/kg	1.56	28.732 mg/kg	0.00184 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
8	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
9	molybdenum { molybdenum(VI) oxide }				3.8 mg/kg	1.5	5.25 mg/kg	0.000525 %	✓	
	042-001-00-9	215-204-7	1313-27-5							
10	nickel { nickel chromate }				34.7 mg/kg	2.976	95.118 mg/kg	0.00951 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
11	selenium { nickel selenate }				1 mg/kg	2.554	2.352 mg/kg	0.000235 %	✓	
	028-031-00-5	239-125-2	15060-62-5							
12	zinc { zinc chromate }				90 mg/kg	2.774	229.949 mg/kg	0.023 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
13	TPH (C6 to C40) petroleum group				522 mg/kg		480.762 mg/kg	0.0481 %	✓	
			TPH							
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
15	benzene				<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
16	toluene				0.005 mg/kg		0.0046 mg/kg	0.000000461 %	✓	
	601-021-00-3	203-625-9	108-88-3							



#	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				0.02 mg/kg		0.0184 mg/kg	0.00000184 %	✓	
	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				8.15 pH		8.15 pH	8.15 pH		
			PH							
20	naphthalene				0.11 mg/kg		0.101 mg/kg	0.0000101 %	✓	
	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				0.08 mg/kg		0.0737 mg/kg	0.00000737 %	✓	
		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				0.07 mg/kg		0.0645 mg/kg	0.00000645 %	✓	
		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		0.0368 mg/kg	0.00000368 %	✓	
	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 }				105 mg/kg	1.117	107.972 mg/kg	0.0108 %	✓	
		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:								0.104 %		

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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- 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%)

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	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content: 11.7% (wet weight correction)	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			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	antimony { antimony trioxide }				3	mg/kg	1.197	3.171	mg/kg	0.000317 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				12.6	mg/kg	1.32	14.69	mg/kg	0.00147 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium oxide }				1.7	mg/kg	1.142	1.715	mg/kg	0.000171 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				47.2	mg/kg	1.462	60.914	mg/kg	0.00609 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				43	mg/kg	1.126	42.749	mg/kg	0.00427 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	36	mg/kg	1.56	49.583	mg/kg	0.00318 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				0.1	mg/kg	1.353	0.12	mg/kg	0.000012 %	✓	
	080-010-00-X	231-299-8	7487-94-7									
9	molybdenum { molybdenum(VI) oxide }				4.7	mg/kg	1.5	6.226	mg/kg	0.000623 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
10	nickel { nickel chromate }				49.7	mg/kg	2.976	130.614	mg/kg	0.0131 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { nickel selenate }				2	mg/kg	2.554	4.51	mg/kg	0.000451 %	✓	
	028-031-00-5	239-125-2	15060-62-5									
12	zinc { zinc chromate }				124	mg/kg	2.774	303.747	mg/kg	0.0304 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				<52	mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH									
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
15	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
16	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	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 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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

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	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content: 8.3% (wet weight correction)	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			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	antimony { antimony trioxide }				4	mg/kg	1.197	4.391	mg/kg	0.000439 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				9.8	mg/kg	1.32	11.865	mg/kg	0.00119 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium oxide }				2.3	mg/kg	1.142	2.409	mg/kg	0.000241 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				35.6	mg/kg	1.462	47.713	mg/kg	0.00477 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				32	mg/kg	1.126	33.038	mg/kg	0.0033 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	17	mg/kg	1.56	24.316	mg/kg	0.00156 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	molybdenum { molybdenum(VI) oxide }				5.8	mg/kg	1.5	7.979	mg/kg	0.000798 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
10	nickel { nickel chromate }				51.1	mg/kg	2.976	139.464	mg/kg	0.0139 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { nickel selenate }				2	mg/kg	2.554	4.684	mg/kg	0.000468 %	✓	
	028-031-00-5	239-125-2	15060-62-5									
12	zinc { zinc chromate }				105	mg/kg	2.774	267.109	mg/kg	0.0267 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				<52	mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH									
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
15	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
16	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	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 601-023-00-4	202-849-4	100-41-4		<0.005 mg/kg		<0.005 mg/kg	<0.000005 %		<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		8.43 pH		8.43 pH	8.43 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		94 mg/kg	1.117	96.241 mg/kg	0.00962 %	✓	
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:								0.0685 %		

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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

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	LoW Code: Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content: 4.4% (wet weight correction)	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			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	antimony { antimony trioxide }				2	mg/kg	1.197	2.289	mg/kg	0.000229 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				8.9	mg/kg	1.32	11.234	mg/kg	0.00112 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium oxide }				1.1	mg/kg	1.142	1.201	mg/kg	0.00012 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				38.2	mg/kg	1.462	53.375	mg/kg	0.00534 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				31	mg/kg	1.126	33.367	mg/kg	0.00334 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	27	mg/kg	1.56	40.262	mg/kg	0.00258 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	molybdenum { molybdenum(VI) oxide }				3.3	mg/kg	1.5	4.733	mg/kg	0.000473 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
10	nickel { nickel chromate }				32.5	mg/kg	2.976	92.473	mg/kg	0.00925 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
12	zinc { zinc chromate }				126	mg/kg	2.774	334.163	mg/kg	0.0334 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				116	mg/kg		110.896	mg/kg	0.0111 %	✓	
			TPH									
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
15	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
16	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									

#	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 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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- 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:

Fam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0111%)

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:	LoW Code:
TP-07-23/08/2022-0.50m	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
7% (wet weight correction)	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			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	antimony { antimony trioxide }				2	mg/kg	1.197	2.227	mg/kg	0.000223 %	✓	
	051-005-00-X	215-175-0	1309-64-4									
2	arsenic { arsenic trioxide }				8.6	mg/kg	1.32	10.56	mg/kg	0.00106 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium oxide }				1.6	mg/kg	1.142	1.7	mg/kg	0.00017 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				30.2	mg/kg	1.462	41.049	mg/kg	0.0041 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.3	mg/kg	2.27	<0.681	mg/kg	<0.0000681 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				25	mg/kg	1.126	26.177	mg/kg	0.00262 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	11	mg/kg	1.56	15.957	mg/kg	0.00102 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.1	mg/kg	1.353	<0.135	mg/kg	<0.0000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	molybdenum { molybdenum(VI) oxide }				3.6	mg/kg	1.5	5.023	mg/kg	0.000502 %	✓	
	042-001-00-9	215-204-7	1313-27-5									
10	nickel { nickel chromate }				33.7	mg/kg	2.976	93.279	mg/kg	0.00933 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
11	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
12	zinc { zinc chromate }				72	mg/kg	2.774	185.757	mg/kg	0.0186 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
13	TPH (C6 to C40) petroleum group				<52	mg/kg		<52	mg/kg	<0.0052 %		<LOD
			TPH									
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
15	benzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
16	toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
	601-021-00-3	203-625-9	108-88-3									



#	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				8.59 pH		8.59 pH	8.59 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 }				41 mg/kg	1.117	42.572 mg/kg	0.00426 %	✓	
		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:								0.0476 %		

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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD Below limit of detection
- ND Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

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) Worst 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 either not detected or detected at extremely low levels

Appendix C: Version

HazWasteOnline Classification Engine: EU WM3 1st Edition v1.1.NI using the EU LoW

HazWasteOnline Classification Engine Version: 2022.263.5340.9974 (20 Sep 2022)

HazWasteOnline Database: 2022.273.5362.10003 (03 Oct 2022)

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

APPENDIX 5 – WAC Summary Data



Waste Categorisation Summary Table
Cherry Orchard Sites 4 & 5



Sample ID	TP-01	TP-03	TP-03	TP-06	TP-07	TP-09	TP-10						
Sample Depth (m)	0.50	0.50	1.50	0.50	0.50	0.50	0.50						
Material Description	Made Ground	Made Ground	Clay	Made Ground	Made Ground	Made Ground	Made Ground						
Sample Date	23/08/2022	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						
Waste Category	Category B1	Category B1	Category A	Category B1	Category B1	Category B1	Category B1						
Metals								Inert Criteria	Walshestown / IMS* Criteria	Hazardous Criteria	LOD LOR	Units	
Antimony	3	2	2	3	2	3	2	-	-	HazWaste	<1	mg/kg	
Arsenic	11.2	7.6	7.8	12.6	8.6	12.4	8.7	-	-	HazWaste	<0.5	mg/kg	
Barium	92	51	50	91	41	56	51	-	-	HazWaste	<1	mg/kg	
Cadmium	2.3	1.4	1.7	1.7	1.6	2.1	1.6	-	-	HazWaste	<0.1	mg/kg	
Chromium	70.7	31.5	33.2	47.2	30.2	32.7	42.1	-	-	HazWaste	<0.5	mg/kg	
Copper	26	23	25	43	25	33	28	-	-	HazWaste	<1	mg/kg	
Lead	60	12	13	36	11	16	12	-	-	HazWaste	<5	mg/kg	
Mercury	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	-	-	HazWaste	<0.1	mg/kg	
Molybdenum	5.5	3.8	4.4	4.7	3.6	4.1	4.8	-	-	HazWaste	<0.1	mg/kg	
Nickel	44.1	33.7	35.8	49.7	33.7	45.8	40.4	-	-	HazWaste	<0.7	mg/kg	
Selenium	1	<1	<1	2	<1	1	<1	-	-	HazWaste	<1	mg/kg	
Zinc	97	67	80	124	72	100	94	-	-	HazWaste	<5	mg/kg	
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	1	-	-	HazWaste	<0.3	mg/kg	
pH (solid sample)	8.38	8.56	8.68	8.03	8.59	8.47	8.53	-	-	HazWaste	<0.01	pH units	
alkali reserve	-	-	-	-	-	-	-	-	-	-	<0.000	gNaOH/100g	
Asbestos													
Asbestos (Dry Weight)	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	-	-	-	%	
Asbestos (Moisture Corrected Weight)	-	-	-	-	-	-	-	-	-	0.1	<0.001	%	
ACM Detected	-	-	-	-	-	-	-	-	-	-	Presence	Presence	
PAHs													
Naphthalene	<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	-	-	HazWaste	<0.03	mg/kg	
Acenaphthene	<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	-	-	HazWaste	<0.04	mg/kg	
Phenanthrene	0.07	<0.03	<0.03	0.04	<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	-	-	HazWaste	<0.04	mg/kg	
Fluoranthene	0.11	<0.03	<0.03	0.06	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg	
Pyrene	0.1	<0.03	<0.03	0.04	<0.03	<0.03	<0.03	-	-	HazWaste	<0.03	mg/kg	
Benzo(a)anthracene	0.09	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	-	-	HazWaste	<0.06	mg/kg	
Chrysene	0.08	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	-	-	HazWaste	<0.02	mg/kg	
Benzo(k)fluoranthene	0.11	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	-	-	HazWaste	<0.07	mg/kg	
Benzo(a)pyrene	0.06	<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	-	-	HazWaste	<0.04	mg/kg	
Dibenzo(ah)anthracene	<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	-	-	HazWaste	<0.04	mg/kg	
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg	
PAH 6 Total	0.28	<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	100	100	-	<0.64	mg/kg	
Benzo(b)fluoranthene	0.08	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	HazWaste	<0.05	mg/kg	
Benzo(k)fluoranthene	0.03	<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	-	-	HazWaste	<1	mg/kg	
Hydrocarbons													
TPH (C5-40)	<52	<52	<52	<52	<52	<52	<52	-	-	HazWaste	<52	mg/kg	
MTBE	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg	
Benzene	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg	
Toluene	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg	
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg	
m/p-Xylene	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg	
o-Xylene	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg	
Total 7 PCBs	<35	<35	<35	<35	<35	<35	<35	1,000	1,000	HazWaste	<35	ug/kg	
WAC** Solid Sample Summary													
Total Organic Carbon*	0.91	0.26	0.21	0.91	0.34	0.41	0.27	3	6	-	<0.02	%	
Sum of BTEX	<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	1	1	-	<0.035	mg/kg	
Mineral Oil	<30	<30	<30	<30	<30	<30	<30	500	500	-	<30	mg/kg	
PAH Sum of 6	0.28	<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	100	100	-	<0.64	mg/kg	
WAC** Leachate Data													
Arsenic	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	1.5	-	<0.025	mg/kg	
Barium	<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	0.04	0.04	-	<0.005	mg/kg	
Chromium	<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	2	2	-	<0.07	mg/kg	
Mercury	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.01	0.01	-	<0.0001	mg/kg	
Molybdenum	<0.02	0.05	0.13	<0.02	0.06	<0.02	0.04	0.5	1.5	-	<0.02	mg/kg	
Nickel	<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	0.5	0.5	-	<0.05	mg/kg	
Antimony	<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	0.1	0.3	-	<0.03	mg/kg	
Zinc	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	4	4	-	<0.03	mg/kg	
Total Dissolved Solids	650	480	390	820	560	460	540	4000	12,000	-	<350	mg/kg	
Dissolved Organic Carbon	30	20	30	30	<20	20	<20	500	500	-	<20	mg/kg	
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	1	-	<0.1	mg/kg	
Fluoride	4	3	<3	4	<3	5	<3	10	10	-	<3	mg/kg	
Sulphate as SO4	6	8	9	220	<5	7	58	1000	3,000	-	<0.5	mg/kg	
Chloride	4	5	7	6	<3	5	4	800	2,400	-	<3	mg/kg	

NAD- no asbestos detected

* - Integrated Materials Solutions Landfill, Hollywood Road, Nag's Head, The Naul, Co. Dublin

** - limits as specified in Council Decision 2003/33/EC

Waste Categorisation Summary Table
Cherry Orchard Sites 4 & 5



Sample ID	TP-10	TP-11	TP-11	TP-12	TP-13	TP-13	TP-14						
Sample Depth (m)	1.50	0.50	1.50	0.50	0.50	1.50	0.50						
Material Description	Clay	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground	Made Ground						
Sample Date	23/08/2022	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						
Waste Category	Category A	Category B1	Category B1	Category B1	Category B1	Category B1	Category B1						
								Inert Criteria	Walshestown / IMS* Criteria	Hazardous Criteria	LOD LOR	Units	
Metals													
Antimony	4	2	3	2	4	1	3	-	-	HazWaste	<1	mg/kg	
Arsenic	15	11.1	15.4	8.9	9.8	7.8	11.5	-	-	HazWaste	<0.5	mg/kg	
Barium	106	82	135	51	94	105	85	-	-	HazWaste	<1	mg/kg	
Cadmium	1.9	1.7	3.1	1.1	2.3	0.7	1	-	-	HazWaste	<0.1	mg/kg	
Chromium	51.8	42.7	73.9	38.2	35.6	42.8	47.7	-	-	HazWaste	<0.5	mg/kg	
Copper	59	31	43	31	32	27	153	-	-	HazWaste	<1	mg/kg	
Lead	51	25	93	27	17	20	85	-	-	HazWaste	<5	mg/kg	
Mercury	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	-	-	HazWaste	<0.1	mg/kg	
Molybdenum	5.3	5.5	7.2	3.3	5.8	3.8	3.8	-	-	HazWaste	<0.1	mg/kg	
Nickel	56.1	42	49.1	32.5	51.1	34.7	43.1	-	-	HazWaste	<0.7	mg/kg	
Selenium	2	1	2	<1	2	1	1	-	-	HazWaste	<1	mg/kg	
Zinc	159	115	158	126	105	90	282	-	-	HazWaste	<5	mg/kg	
Hexavalent Chromium	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-	-	HazWaste	<0.3	mg/kg	
pH (solid sample)	8.2	8.35	7.5	8.3	8.43	8.15	8.24	-	-	HazWaste	<0.01	pH units	
alkali reserve	-	-	-	-	-	-	-	-	-	-	<0.000	gNaOH/100g	
Asbestos													
Asbestos (Dry Weight)	NAD	NAD	NAD	NAD	NAD	NAD	NAD	-	-	-	-	%	
Asbestos (Moisture Corrected Weight)	-	-	-	-	-	-	-	-	-	0.1	<0.001	%	
ACM Detected	-	-	-	-	-	-	-	-	-	-	Presence	Presence	
PAHs													
Naphthalene	<0.04	<0.04	<0.04	<0.04	<0.04	0.11	<0.04	-	-	HazWaste	<0.04	mg/kg	
Acenaphthylene	<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	-	-	HazWaste	<0.05	mg/kg	
Fluorene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg	
Phenanthrene	0.04	0.14	0.08	0.05	<0.03	0.08	0.12	-	-	HazWaste	<0.03	mg/kg	
Anthracene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg	
Fluoranthene	0.07	0.16	0.14	0.07	<0.03	<0.03	0.21	-	-	HazWaste	<0.03	mg/kg	
Pyrene	0.07	0.13	0.13	0.06	<0.03	0.07	0.19	-	-	HazWaste	<0.03	mg/kg	
Benzo(a)anthracene	0.08	0.11	0.11	0.07	<0.06	<0.06	0.14	-	-	HazWaste	<0.06	mg/kg	
Chrysene	0.06	0.07	0.09	0.05	<0.02	0.04	0.12	-	-	HazWaste	<0.02	mg/kg	
Benzo(k)fluoranthene	0.09	0.12	0.15	0.07	<0.07	<0.07	0.22	-	-	HazWaste	<0.07	mg/kg	
Benzo(a)pyrene	<0.04	0.05	0.07	<0.04	<0.04	<0.04	0.11	-	-	HazWaste	<0.04	mg/kg	
Indeno(123cd)pyrene	<0.04	<0.04	0.05	<0.04	<0.04	<0.04	0.09	-	-	HazWaste	<0.04	mg/kg	
Dibenzo(ah)anthracene	<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	0.05	<0.04	<0.04	<0.04	0.08	-	-	HazWaste	<0.04	mg/kg	
Coronene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-	-	HazWaste	<0.04	mg/kg	
PAH 6 Total	<0.22	0.33	0.46	<0.22	<0.22	<0.22	0.71	-	-	-	<0.22	mg/kg	
PAH 17 Total	<0.64	0.78	0.87	<0.64	<0.64	<0.64	1.28	100	100	-	<0.64	mg/kg	
Benzo(b)fluoranthene	0.06	0.09	0.11	0.05	<0.05	<0.05	0.16	-	-	HazWaste	<0.05	mg/kg	
Benzo(k)fluoranthene	0.03	0.03	0.04	<0.02	<0.02	<0.02	0.06	-	-	HazWaste	<0.02	mg/kg	
Benzo(j)fluoranthene	<1	<1	<1	<1	<1	<1	<1	-	-	HazWaste	<1	mg/kg	
Hydrocarbons													
TPH (C5-40)	<52	<52	<52	116	<52	522	88	-	-	HazWaste	<52	mg/kg	
MTBE	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg	
Benzene	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg	
Toluene	<5	<5	<5	<5	<5	5	<5	-	-	HazWaste	<5	ug/kg	
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	-	-	HazWaste	<5	ug/kg	
m/p-Xylene	<5	<5	<5	<5	<5	9	<5	-	-	HazWaste	<5	ug/kg	
o-Xylene	<5	<5	<5	<5	<5	11	<5	-	-	HazWaste	<5	ug/kg	
Total 7 PCBs	<35	<35	<35	<35	<35	<35	<35	1,000	1,000	HazWaste	<35	ug/kg	
WAC** Solid Sample Summary													
Total Organic Carbon*	1.00	0.53	1.75	0.55	0.24	0.66	0.96	3	6	-	<0.02	%	
Sum of BTEX	<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	1	1	-	<0.035	mg/kg	
Mineral Oil	<30	<30	<30	<30	<30	348	<30	500	500	-	<30	mg/kg	
PAH Sum of 6	<0.22	0.33	0.46	<0.22	<0.22	<0.22	0.71	-	-	-	<0.22	mg/kg	
PAH Sum of 17	<0.64	0.78	0.87	<0.64	<0.64	<0.64	1.28	100	100	-	<0.64	mg/kg	
WAC** Leachate Data													
Arsenic	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	0.5	1.5	-	<0.025	mg/kg	
Barium	<0.03	<0.03	0.05	<0.03	<0.03	0.13	0.15	20	20	-	<0.03	mg/kg	
Cadmium	<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	0.5	0.5	-	<0.015	mg/kg	
Copper	<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	0.01	0.01	-	<0.0001	mg/kg	
Molybdenum	0.05	0.08	<0.02	0.08	0.07	0.10	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	0.4	0.4	-	<0.02	mg/kg	
Lead	<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	0.03	<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	0.1	0.3	-	<0.03	mg/kg	
Zinc	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.06	4	4	-	<0.03	mg/kg	
Total Dissolved Solids	670	520	740	450	390	1209	700	4000	12,000	-	<350	mg/kg	
Dissolved Organic Carbon	40	30	40	30	<20	<20	30	500	500	-	<20	mg/kg	
Phenol	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	1	-	<0.1	mg/kg	
Fluoride	5	5	<3	5	4	5	8	10	10	-	<3	mg/kg	
Sulphate as SO4	144	10	130	19	12	582	109	1000	3,000	-	<0.5	mg/kg	
Chloride	5	6	6	6	5	5	9	800	2,400	-	<3	mg/kg	

NAD- no asbestos detected

* - Integrated Materials Solutions Landfill, Hollywood Rec, Nag's Head, The Naul, Co. Dublin

** - limits as specified in Council Decision 2003/33/EC

APPENDIX 6 – Potential Material Outlets



Waste Category	Classification Criteria	Potential Outlets
Category A Unlined Soil Recovery Facilities	Soil and Stone only which are free from ⁶ anthropogenic materials such as concrete, brick, timber. Soil must be free from "contamination" e.g. PAHs, Hydrocarbons ⁷ .	Soil Recovery Facilities, Waste Facility Permitted Sites, COR Sites or potential by-product if deemed not to be a waste and complying with requirements under Article 27 of European Waste Directive Regulations (2011). ⁸
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 application.	Integrated Materials Solutions Limited Partnership (IMS), Naul, County Dublin W0129-02 Walshestown Landfill Walshestown, Blackhall, Tipperkevin & Bawnoge, Naas, County Kildare W0254-01
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.	Integrated Materials Solutions Limited Partnership (IMS), Naul, County Dublin W0129-02 Walshestown Landfill Walshestown, Blackhall, Tipperkevin & Bawnoge, Naas, County Kildare W0254-01 ⁹
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.	Walshestown Landfill Walshestown, Blackhall, Tipperkevin & Bawnoge, Naas, County Kildare W0254-01 ¹⁰ Ballynagran Landfill, Co. Wicklow. W165-02 Drehid Landfill, Co. Kildare. W0201-01 East Galway Landfill, Co. Galway. W0178-02 Knockharley Landfill, Co. Meath. W0146-02
Category C 1 Non-Haz Landfill	As Category C but containing < 0.001% w/w asbestos fibres.	RILTA Environmental LTD. W0192-03

⁶ Free from equates to less than 2%.

⁷ 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.

⁸ S.I. No. 126/2011 - European Communities (Waste Directive) Regulations 2011 (Article 27).

⁹ Licenced to accept Category B2 material for recovery.

¹⁰ Licenced to accept Category C material for recovery.

		Enva Portlaoise. W0184-02
Category C 2 Non-Haz Landfill	As Category C but containing >0.001% and <0.01% w/w asbestos fibres.	RILTA Environmental LTD. W0192-03 Enva Portlaoise. W0184-02
Category C 3 Non-Haz Landfill	As Category C but containing >0.01% and <0.1% w/w asbestos fibres.	RILTA Environmental LTD. W0192-03 Enva Portlaoise. W0184-02
Category D Hazardous Treatment	Results found to be hazardous using HWOL Application.	RILTA Environmental LTD. W0192-03 Enva Portlaoise. W0184-02
Category D 1 Hazardous Treatment	Results found to be hazardous due to the presence of asbestos (>0.1%).	RILTA Environmental LTD. W0192-03