PUNCH
consulting engineers

Residential Development, Fortfield Road, Terenure

Outline Construction Management Plan
222102-PUNCH-XX-XX-RP-C-0006

November 2024

Document Control

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Table of Contents

1 Introduction

The purpose of this document is to briefly outline the general activities required for the construction of the proposed Fortfield Road development on a site located at Fortfield Road, Terenure, Dublin 6W.

A Main Contractor has not yet been appointed to carry out the proposed works. Once appointed, it will be the responsibility of the Main Contractor to prepare and submit a detailed construction management plan for the Client's submission to the local authority for approval. The construction management plan will be a live document that will be updated throughout the project lifecycle by the Main Contractor as required.

Regardless of the form of contract, the Contractor will be contractually bound by any conditions arising from the site constraints identified and specified, all Statutory Regulations governing the works, and any additional measures or modifications that may be imposed on the proposed development by the Local Authority or An Bord Pleanála.

2 Description of the Works

The development will comprise a Large-Scale Residential Development (LRD) on a site at Fortfield Road, Terenure of 284 no. units delivering 19 no. houses and 265 no. apartments made up of studios; 1 beds; 2 beds; 3 beds; and 4 beds. The development will also provide community, cultural and arts space and a creche. Communal internal space for residents will also be delivered. Provision of car, cycle and motorbike parking will be provided throughout the development, including at basement and surface level. Vehicular/pedestrian/cyclist access from Fortfield Road. Proposed upgrade works to the surrounding road network is also included. All associated site development works, open space, services provision, ESB substations, plant areas, waste management areas, landscaping (both public and communal) and boundary treatments.

The proposed works are outlined in a series of architectural drawings prepared by Urban Agency Architects and engineering drawings prepared by PUNCH and supplied as part of the planning documentation.

3 Indicative Construction Programme

It is estimated that the construction programme for the works associated with the proposed works will last 30-36 months from the date of commencement. This estimation is based on the typical construction programmes for other similar developments that are currently underway. It is envisaged that construction of the proposed building and external works will be carried out over a single phase. The Main Contractor will be required to prepare a detailed construction programme as part of their tender proposal.

4 Site Set-Up and Security

The Main Contractor will be required to submit a site layout plan that will detail the proposed location of the site compound. The Contractor will ensure that the site compound will be serviced as required and will be secured with appropriate fencing/hoarding. The site compound will be used as the primary location for the storage of materials, plant and equipment, site offices and worker welfare facilities. As Project Supervisor Construction Stage (PSCS), the Contractor will be responsible for site security and they are to ensure that the site and site compound are adequately secured at all times.

As with the other construction activities that are being carried out within the Dublin City Council local authority area, activities associated with the construction compounds will be subject to restrictions to

the nature and timing of operations so that they do not cause undue disturbance to neighbouring areas and communities.

The site layout plan will also include the site perimeter and the proposed detail with regards the hoarding and gate system.

5 Site Access

A new access route is proposed from Fortfield Road to the west of the site. The proposed scheme will integrate the site into the surrounding footpath networks providing construction and operational vehicle access and convenient pedestrians/cyclist routes linking the site with the surrounding area.

Construction related traffic will enter the site via Fortfield Road. Construction traffic associated with the development can proceed along the Fortfield Road to the Templeogue Road (R137) to the M50 or other route depending on destination. Refer to Section 7 and Figure 7-1 below for illustration.

Furthermore, in order to reduce the requirement for site parking for employees, public transport such as Dublin Bus should be utilised.

6 Material Storage and Delivery

The Contractor will ensure that the delivery of materials is coordinated to minimise impacts to adjacent properties. The Contractor will ensure that all materials are adequately stored and secured in their site compound.

For more details please refer to the 'Outline Resource & Waste Management Plan' prepared and included in the planning submission.

The Contractor will ensure the roads adjacent to the site are kept clean and free of debris.

7 Traffic Management Plan

The Contractor will be required to prepare and submit a detailed traffic management plan as part of their tender submission. Once appointed, the preferred Contractor will further develop the traffic management plan as required for the developer to submit to the local authority for approval in advance of works commencing onsite. The Contractor will ensure that advanced warning signs are erected on approaches to the site as required by the PSCS. The Contractor will use a competent sign provider and all signage that meets the requirements of the Safety, Health & Welfare at Work (General Applications) Regulations 2007 and Chapter 8 Traffic Signs Manual. Any proposed temporary road markings must also confirm to the requirements of Chapter 8 of the Traffic Signs Manual.

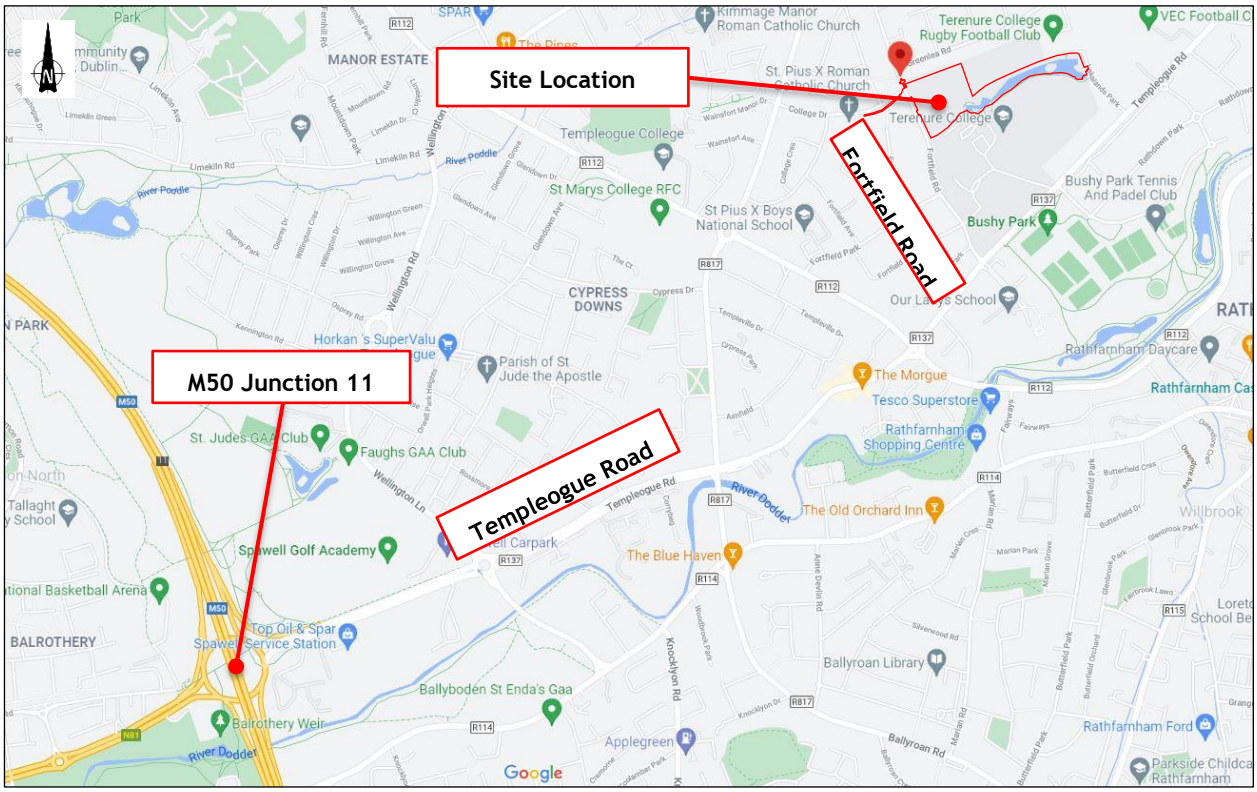


Figure 7-1: Proposed Primary Route To/From Site © Google Maps.

The Main Contractor will be responsible for all site access and works activity and must ensure the continued operation of the surrounding local road network as a result of its construction traffic.

The management of construction traffic on the public and private road networks in and around the proposed development is a critical part of the overall project and must be actively managed by the Contractor.

The Contractor must submit a Construction Traffic Management Plan to the Local Authority for approval. Haulage vehicle movements should be fully coordinated to comply with the requirements of the agreed plan:

- Construction vehicles must not stop or park along the routes at any time;
- Haulage vehicles must not travel in convoys greater than two vehicles at any time;
- Site entrance to remain free of parked or stationary vehicles at all times;
- All loading of demolition material will occur within the site boundary;
- All off-loading of deliveries will take place within the site, remote from the public road and will access via the agreed construction access point.

The site is located in an established suburban area where the road and junction space is shared with public road users and construction traffic associated with other nearby developments. Therefore, the flow of construction traffic will need to be marshalled and controlled to ensure that potential conflicts are avoided as much as possible.

There are no proposals to introduce temporary road closures or temporary traffic light signals to facilitate construction of the proposed development. There are also no proposals to amend the existing local access arrangements to the surrounding areas.

For more details please refer to the 'Outline Resource & Waste Management Plan' prepared and included in the planning submission.

8 Potential Interface with Other Projects

Depending on development activity in the local environs, the proposed works may have an interface with other projects within the locality. The appointed Contractor will need to coordinate with other Contractors as required to ensure a smooth interface between projects (if/as applicable).

There may be a number of PSCS's operating in the urban locality at any one time on individual sites. It will be responsibility of the appointed Contractor as PSCS to ensure that delivery and haul routes, site access and egress points and potential crossing points associated with the site are fully coordinated and agreed with other Contractors in advance of the works commencing.

9 General Construction Approach

9.1 Construction Working Space

Construction working space will be set out in the detailed construction management plan at compliance stage.

Construction access routes, haul routes and delivery routes to the site are to be agreed with the Engineer/Employer's Representative in advance of works commencing onsite.

Any road closures required will be submitted and approved in advance with the local authority. It is the responsibility of the Main Contractor to prepare and submit the road closure application to the local authority in advance of works commencing onsite.

9.2 Outline Phasing Strategy

It is currently envisaged that the proposed development will be completed in a single phase, as detailed below. For further details relating to the works, please refer to the more detailed planning drawings (architectural, engineering, landscape, etc.).

Phase 1:

1. Establish secure site perimeter (fencing/hoarding) and establishment of the construction compound(s).
2. Construction of access road and connections from Fortfield Road to the Fortfield Road development entrance.
3. Construction of associated services along the access road and Fortfield Road to enable connection to relevant service tie-in locations (to be progressed in tandem with Item 1).
4. Topsoil removal and stockpiling as required throughout development lands.
5. Site regrading throughout development extents to establish construction levels and introduce berms.
6. Construction of the basement car park and associated bulk excavation. Stockpiling of excavated material, testing and re-use as required.
7. Completion of internal construction access routes (temporary surfacing) throughout the development interior and completion of associated service routes and ancillary works.
8. Establish proposed and future potential access routes to adjoining lands as required, e.g. adjacent school and park lands.
9. Installation of drainage/SuDS elements throughout the site.
10. Construction of residential units in defined sequence.

11. Completion of internal road network to permanent status, including associated private realm SuDS measures.
12. Delivery of landscaping and parks/recreation elements throughout the development extents.

9.3 Outline Works Description

The construction works will involve an indicative sequence of works, as described in short below. The Contractor will outline works which impact public spaces within the Construction Management Plan that shall be subject to submission and agreement with Dublin City Council.

9.3.1 Hoarding, Site Set-up and Formation of Site Access/Egress

The site area will be enclosed with hoarding details of which are to be agreed with DCC. Hoarding panels will be maintained and kept clean for the duration of the works. This will involve erecting hoarding around the proposed site perimeter in line with the finished development extents.

The available site footprint will enable the Contractor to set up the site compound within the site boundary.

The Contractor will be responsible for the security of the site. The Contractor will be required to:

- Operate a Site Induction Process for all site staff;
- Ensure all site staff shall have current 'Safe Pass' cards and appropriate PPE;
- Install adequate site hoarding to the site boundary;
- Maintain site security at all times;
- Install access security in the form of turn-styles and gates for staff;
- Separate public pedestrian access from construction vehicular traffic;

9.3.2 Site Clearance and Demolition

The location is a greenfield site and will require minimal site clearance beyond topsoil removal and some tree removal.

It is noted that the proposed development consists of the excavation and construction of a single level basement parking level, the subsequent construction of multiple storeys of residential apartments and the associated site landscaping and ancillary development.

9.3.3 Construction Sequence of Development

The construction of Blocks A-C will follow completion of the excavation/grading works and associated establishment of the basement formation levels. The subsequent superstructure will consist of construction of RC framed structures on ground floor transfer structure (where applicable and coincident with the basement footprint) and on ground bearing substructure elsewhere.

The construction of Block D will consist of construction of RC framed structures on ground bearing substructure.

The construction methodology and programme of these activities will be dictated by the Contractor.

Site Grading

The proposed basement will involve the excavation of approximately 13,000m^3 of material. Site investigations and a geotechnical desktop review of the site shows that the predominant soils in the area consist of low permeability soils overlying limestone and shale bedrock. Based on site investigation results and a review of the external GSI geotechnical boreholes in the immediate vicinity of the development site, rock is typically not encountered at depths down to 5 or 10m bgl. The basement formation level is at approx. 44.80mOD (relative to existing ground levels of 47.50mOD, so excavation into the underlying rock is not anticipated during excavation.

The Contractor must prepare a Construction and Demolition Waste Management Plan in accordance with the best practice guidelines for the preparation of resource & waste management plans for construction & demolition projects (EPA 2021) and ensure that all material is disposed of at an appropriately licensed land fill site. As outlined in the appended 'Waste Characterisation Assessment' for Fortfield Road and the 'Geotechnical Report' by IGSL included as an appendix to the Engineering Planning Report, all samples tested were classified as non-hazardous. The Contractor must also outline detailed proposals within the Construction Management Plan to accommodate construction traffic.

Basement Level Construction

The construction of the basement level will involve the excavation of the basement footprint and immediate surrounds to enable construction of an RC foundation slab with thickenings coinciding with column locations. The basement level will include a perimeter wall along its sunken extents relative to surrounding finished levels and will consist of RC construction (likely a pre-cast component). The spoil generated from the basement level construction will be recycled and re-used (in accordance with the 'Outline Resource & Waste Management Plan') and, where necessary, disposed at an appropriate licensed land fill site. The concrete operations associated with the basement structure will require concrete deliveries to site.

The groundwater level is to be confirmed by on-site testing by the SI Contractor. To prevent any potential risk of groundwater intrusion into the lower structure the basement car park will be constructed as a water-tight box, the proposed grade for the basement is Grade 1, as per BS 8102:2009. The proposed structural integrity of the basement perimeter walls and their ability to prevent groundwater intrusion into the site is deemed sufficient to mitigate the potential risk to acceptable limits. The concrete works will involve concrete deliveries to site and adequate wash-down and wheel wash facilities must be provided for the concrete wagons.

Construction Sequence of Superstructure

The construction of the various superstructures will involve complex sequencing of activities and various construction methodologies could be adopted to deliver the Contract. The nature of the buildings throughout the development, the column grids and economic factors, among other issues, would suggest that the buildings will be constructed utilising reinforced concrete frames.

As noted, the construction methodology and therefore the programme of the construction activities will be dictated by the Contractor.

Building Structures – Blocks D:

- Construction of the ground floor foundation slabs and substructure.
- Construction of rising elements to Level 1 and construction of Level 1 floor slab;
- Similar sequence of construction of rising elements and floor slabs

Building Structure – Block A, B and C:

- Construction of the basement level (including substructure elements and permanent basement parking perimeter wall structures;
- Construction of rising elements to Level 0 and construction of Level 0 floor slab and transfer structures;
- Similar sequence of construction of rising elements and floor slabs

Envelope / Cladding – All Blocks:

- Commencement of envelope works to Level 1 when structure has progressed to approximately Level 2/3;
- Advancing of Cladding two levels behind the structure.

Envelope / Cladding – All Blocks:

- The structural blockwork will also act as the envelope for the structure, and cladding will follow completion of the blockwork.

Mechanical & Electrical Fit-Out:

- First fix will commence from ground floor level upwards;
- This will be followed by the second fix and final connections.

Fit-Out:

- Initial installation of stud work when cladding completed and floor is weather tight;
- Installation of equipment and associated connection to services;
- Completion of finishes.

Commissioning:

- The final commissioning period will commence during fit-out.

The above represents a high-level indicative construction sequence only. The actual sequence will be dictated by the Contractor. The Contractor will issue a detailed construction programme outlining the various stages prior to commencement of works.

It is envisaged that multiple tower cranes will be temporarily erected to accommodate the apartment block construction works for the distribution of building materials and plant. The Contractor is required to obtain all necessary licences from DCC.

A high-level illustration of the potential construction sequence is provided in a series of sketches in Appendix A.

10 Waste Management Plan

The Main Contractor will be required to prepare a detailed waste management plan for the project. This will be included in the overall construction management plan that will be submitted to the local authority.

For more details please refer to the 'Outline Resource & Waste Management Plan' prepared and included in the planning submission.

11 Communications and Local Stakeholder Management

The Contractor will, as required, liaise with owners of the local properties in advance of works commencing onsite. The Contractor will use a competent sign provider and all signage used will meet the requirements of the Safety, Health & Welfare at Work (General Applications) Regulations 2007 and Chapter 8 Traffic Signs Manual.

12 Aboricultural Impact and Tree Protection Strategy

The overall objectives are to retain the maximum number of good quality trees whilst also achieving densities of housing compliant with current standards and planning recommendations. Proposed new tree planting is contained within the Landscape Masterplan drawings by Niall Montgomery & Partners,

submitted as part of the planning package. These plantings will provide a new generation of trees which have the potential to develop and add to the existing tree cover on the site.

A Tree Protection Strategy is provided as part of the arboricultural element of the submission with the aim of ensuring retained trees are maintained for the duration of the construction stage of the development free of negative construction related impacts.

A Site Arborist shall be appointed prior to the commencement of site construction works and will be responsible for the setting up and monitoring of tree protection, liaising with local authority tree / planning officers and providing feedback and advice to the design construction teams on issues relevant to trees. The Site Arborist shall be retained for the duration of construction works and should be appointed to carry out a post-construction tree survey/assessment.

For full details please refer to the Arboricultural Assessment, Aboricultural Impact and Tree Protection Strategy Report Plan prepared by The Tree File Ltd. and included in the planning submission.

13 Construction Noise, Dust and Vibration

The Main Contractor will be required to monitor noise, dust and vibration as will be outlined in the planning conditions. The Contractor will establish baselines for noise, dust and vibration in advance of works commencing onsite. It is noted that a baseline noise survey has been undertaken at the development site by AWN Consulting Limited to determine the existing environment at the site. Please refer to the 'Noise & Vibration Impact Assessment for Planning' included in the planning application for details.

As part of their detailed construction management plan, the Contractor will be required to clearly indicate how they plan on monitoring noise, dust and vibration throughout the course of the project. This will be especially critical in relation to the basement construction and associated piling works. The Contractor will also be required to clearly outline the mitigation measures they plan on putting in place to ensure that permissible construction noise, dust and vibration levels for a development of this scale (as directed by Dublin City Council by way of planning condition) are not exceeded.

For more details, please refer to the 'Outline Resource & Waste Management Plan' by PUNCH Consulting Engineers and the 'Noise & Vibration Impact Assessment for Planning' by AWN Consulting Limited prepared and included in this planning submission.

14 Working Hours

The proposed hours of work on site will be 07:00 hrs to 18:00 hrs Monday to Friday and 08:00 hrs to 14:00 hrs Saturday unless otherwise specified by planning conditions. It is anticipated that construction working hours will be stipulated in the planning conditions attached to the planning grant. Any working hours outside the normal construction working hours will be agreed with Dublin City Council. The planning of such works will take consideration of sensitive receptors. Consideration of nearby sensitive receptors are outlined in the 'Noise & Vibration Impact Assessment for Planning' by AWN Consulting Limited (specifically Figure 7) as included in this planning submission.

For more details please refer to the 'Outline Resource & Waste Management Plan' prepared and included in the planning submission.

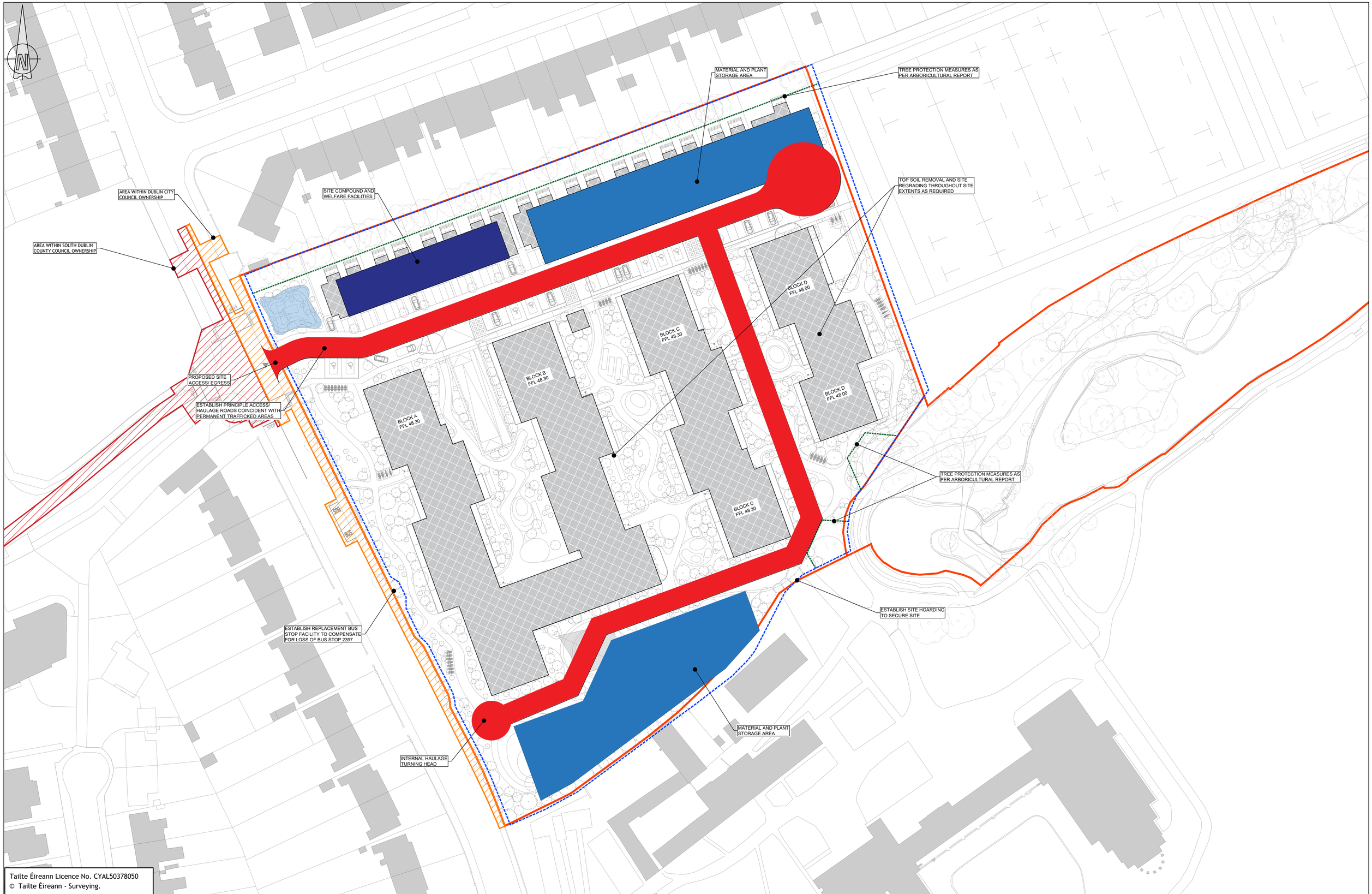
15 Lighting

There are no proposals to alter the existing lighting arrangements in the area. It is not envisaged that any existing public lighting will need to be disconnected as a result of the proposed works. Appropriate lighting will be provided as necessary at construction compounds. All lighting will be installed so as to minimise light spillage from the site.

16 Construction Employment

Construction employment numbers will vary depending on the construction stage of the project and the actual approach adopted by the Contractor. However, it is anticipated that at the peak of construction there may be a workforce of approximately 150 people employed (maximum).

Appendix A Outline Construction Sequence



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Project: FORTFIELD ROAD, TERENURE, DUBLIN 6W
Title: CONSTRUCTION SEQUENCE - STAGE 1

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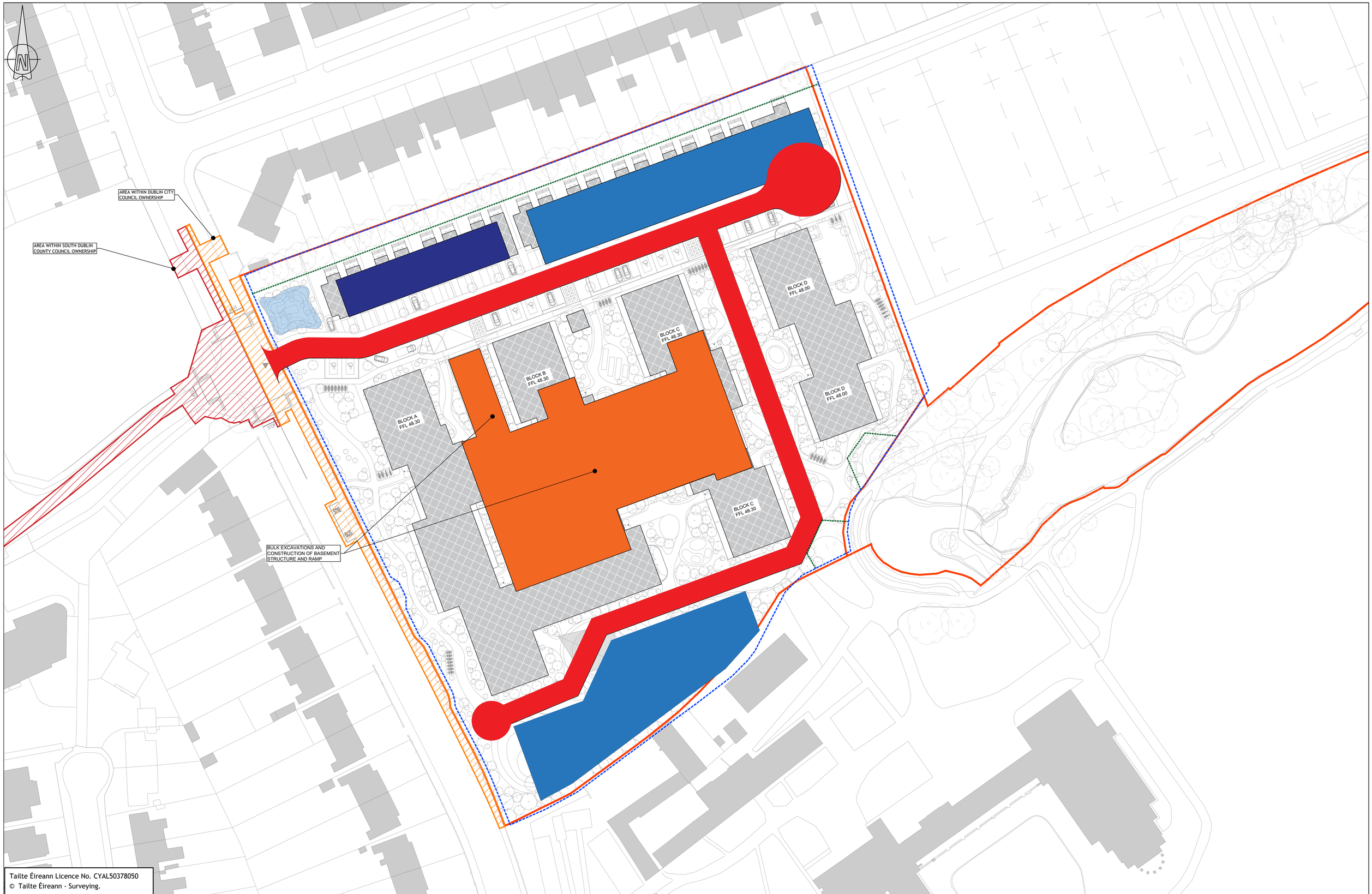

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Project: FORTFIELD ROAD, TERENURE, DUBLIN 6W			
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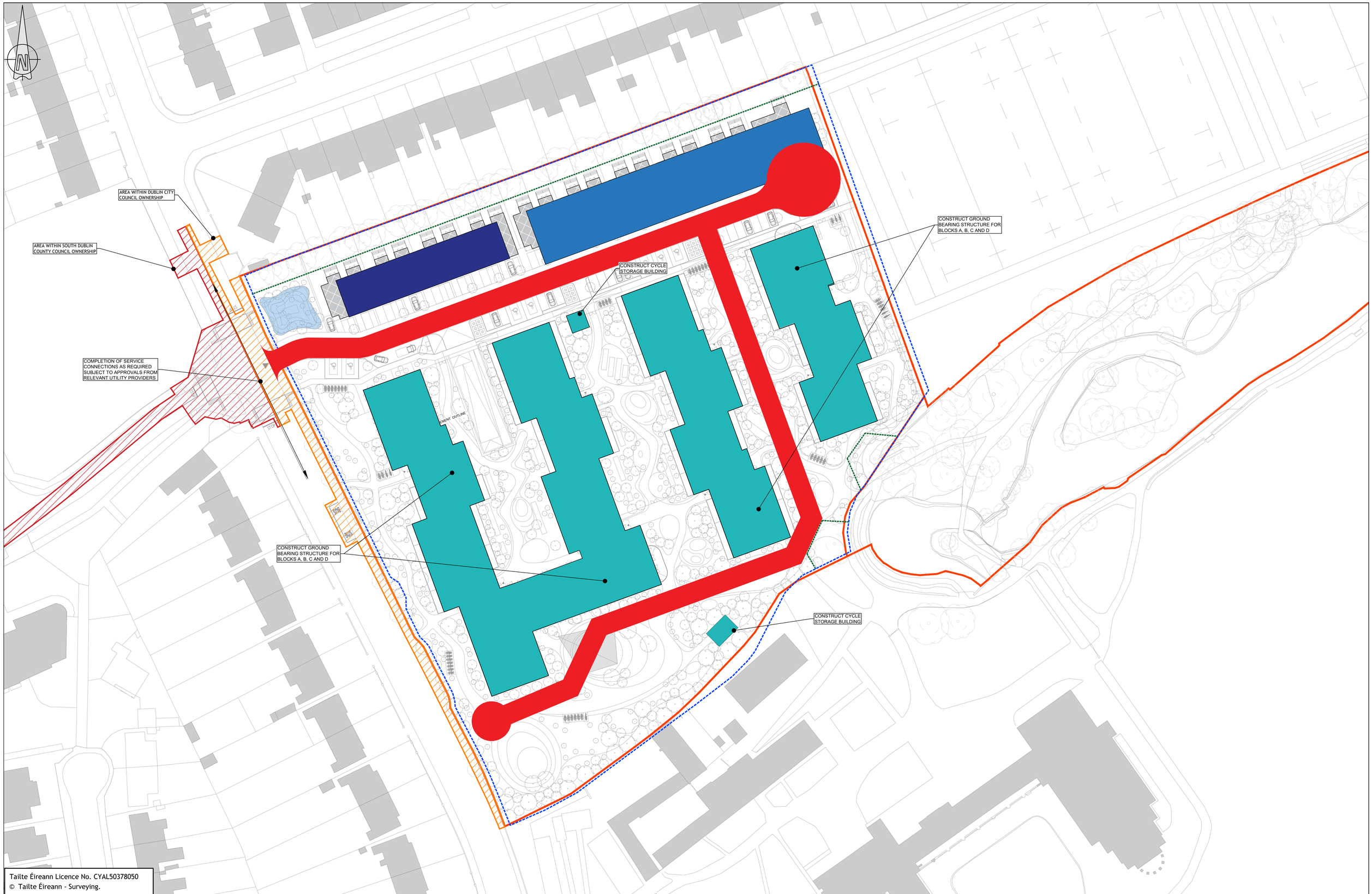

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CONSTRUCT HOUSING UNITS

RELOCATED MATERIAL AND PLANT STORAGE AREA

AREA WITHIN DUBLIN CITY COUNCIL OWNERSHIP

AREA WITHIN SOUTH DUBLIN COUNTY COUNCIL OWNERSHIP

RELOCATE SITE COMPOUND

RELOCATED SECURITY HUT

AMENDED MATERIAL AND PLANT STORAGE AREA

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Project: FORTFIELD ROAD, TERENURE, DUBLIN 6W
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Appendix B Waste Characterisation Report

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Waste Characterisation Assessment

Fortfield Road,

Terenure,

Dublin 6

Prepared For: -

IGSL Limited
Unit F
M7 Business Park
Naas
County Kildare

Prepared By: -

O'Callaghan Moran & Associates
Unit 15 Melbourne Business Park
Model Farm Road
Cork

May 2022

Project	Waste Characterisation: Fortfield Road, Terenure, Dublin 6			
Client	IGSL Limited			
Report No	Date	Status	Prepared By	Reviewed By
220012001	23/05/2022	Final	Austin Hynes PGeo MSc	Sean Moran B.Sc. MSc

TABLE OF CONTENTS

APPENDICES

1 INTRODUCTION

IGSL Limited requested O'Callaghan Moran & Associates (OCM) to undertake a waste characterisation assessment of samples of made ground collected from four (4 No.) trial pits and five (5 No.) cable percussion boreholes installed at a site at Fortfield Road, Terenure, Dublin 6.

1.1 Methodology

IGSL provided a description of the ground conditions and collected samples of the soils from the borehole and trial pit locations. The samples were analysed at an accredited laboratory and the results formed the basis for a waste classification assessment, which was undertaken by OCM in accordance with the Environmental Protection Agency (EPA) Guidelines on the Classification of Waste (2015).

2 WASTE CLASSIFICATION ASSESSMENT

2.1 Soil Sampling and Laboratory Analysis

2.1.1 *Site Investigation*

The site investigation was completed by IGSL Limited in April 2022 and included the collection of nine composite samples from four (4 No.) trial pits and five (5 No.) cable percussion boreholes. The locations are shown on Figure 2.1. The trial pit and borehole logs are in Appendix 1.

The logs indicate the subsurface is composed of Natural Ground. There is topsoil at the surface of all locations. The subsurface is composed of soft to firm sandy slightly gravelly SILT/CLAY to circa 1.00 mbgl. This is underlain by firm to stiff, sandy gravelly CLAY/SILT to between 3.40-3.80 mbgl. The subsurface is composed of stiff to very stiff, sandy gravelly CLAY below 3.80 mbgl.

2.1.2 *Sample Collection*

IGSL collected the samples and placed them in laboratory prepared containers that were stored in coolers prior to shipment to Chemtest Ltd.

2.1.3 *Laboratory Analysis*

The samples were tested for, metals (arsenic, barium, cadmium, chromium, copper, mercury, molybdenum, nickel, lead, antimony, selenium and zinc, total organic carbon (TOC), BTEX (benzene, toluene, ethylbenzene and xylene) aliphatic and aromatic hydrocarbons, polychlorinated biphenyls (PCB), mineral oil, polyaromatic hydrocarbons (PAH) and asbestos. Leachate generated from the samples was tested for arsenic, barium, cadmium, chromium, copper, mercury, molybdenum, nickel, lead, antimony, selenium and zinc, chloride, fluoride, soluble sulphate, phenols, dissolved organic carbon (DOC), total dissolved solids (TDS).

This parameter range facilitates an assessment of the hazardous properties of the waste, and also allows a determination of appropriate off-site management options based on the Waste Acceptance Criteria (WAC) applied by landfill operators.

The analytical methods were all ISO/CEN approved and the method detection limits were below the relevant guidance/threshold values. The full laboratory report is in Appendix 2.

2.2 Waste Classification

The Haz Waste Online Classification Engine, developed in the UK by One Touch Data Ltd, was used to determine the waste classification. This tool was developed specifically to establish

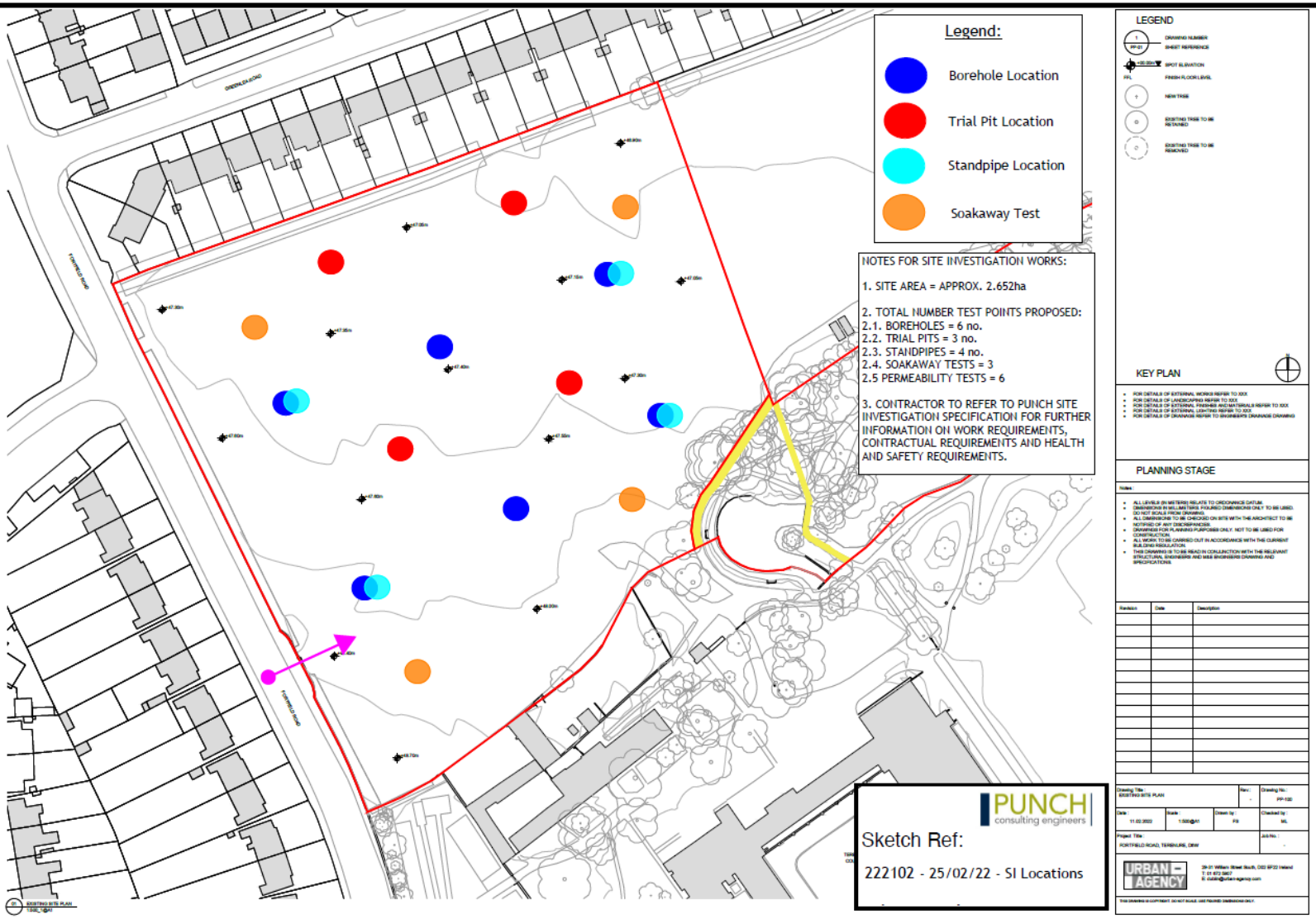
whether waste is non-hazardous or hazardous and has been approved for use in Ireland by the Environmental Protection Agency. The full Waste Classification Report is in Appendix 3 and the results are summarised in Table 2.1.

Table 2.1 Waste Classification

Sample No.	Depth	Classification	LoW Code
BH01	1.0	Non-Hazardous	17 05 04
BH03	1.0	Non-Hazardous	17 05 04
BH04	2.0	Non-Hazardous	17 05 04
BH05	2.0	Non-Hazardous	17 05 04
BH06	1.0	Non-Hazardous	17 05 04
TP01	0.70	Non-Hazardous	17 05 04
TP02	1.0	Non-Hazardous	17 05 04
TP03	0.80	Non-Hazardous	17 05 04
TP04	0.50	Non-Hazardous	17 05 04

Asbestos was not detected in any of the samples tested.

All samples are classified as non-hazardous and the appropriate List of Waste Code is 17 05 04 (Soil and Stone other than those mentioned in 17 05 03*).



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Title:

Figure 2.1 Sample Location Plan

Legend

Client:

IGSL Limited

2.3 Waste Acceptance Criteria

The results of the WAC testing are presented in Table 2.2, which includes for comparative purposes the WAC for Inert, Non Hazardous and Hazardous Waste Landfills pursuant to Article 16 of the EU Landfill Directive 1999/31/EC Annex II which establishes criteria and procedures for the acceptance of waste at landfills.

All samples meet the inert WAC.

Table 2.2 WAC Results

Parameter	Unit	BH01	BH03	BH04	BH05	BH06	TP01	TP02	TP03	TP04	Inert Landfill	Inert Landfill Increased Limits	Non-Hazardous Landfill	Hazardous Landfill
Depth	**m**	**1.0**	**1.0**	**2.0**	**2.0**	**1.0**	**0.70**	**1.0**	**0.80**	**0.50**				
Antimony	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.06	0.18	0.7	5
Arsenic	mg/kg	< 0.0002	0.0064	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0064	0.5	1.5	2	25
Barium	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	20	20	100	300
Cadmium	mg/kg	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	0.04	1	5
Chromium	mg/kg	0.0065	0.0078	0.0052	0.013	0.0069	0.0053	0.0057	0.0056	0.0087	0.5	0.5	10	70
Copper	mg/kg	0.010	0.021	0.0073	0.0095	0.011	0.012	0.0082	0.011	0.017	2	2	50	100
Lead	mg/kg	< 0.0005	0.0055	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0050	0.5	0.5	10	50
Molybdenum	mg/kg	0.080	0.031	0.10	0.079	0.077	0.023	0.052	0.064	0.026	0.5	1.5	10	30
Nickel	mg/kg	0.0052	0.0089	< 0.0005	< 0.0005	< 0.0005	0.0054	< 0.0005	< 0.0005	0.0085	0.4	0.4	10	40
Selenium	mg/kg	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.1	0.3	0.5	7
Zinc	mg/kg	< 0.003	< 0.003	< 0.003	0.036	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	4	4	50	200
Mercury	mg/kg	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.01	0.01	0.2	2
Phenol	mg/kg	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	1	1	NE	NE
Fluoride	mg/kg	3.7	3.6	2.5	2.4	4.1	5.8	3.5	3.6	4.7	10	10	150	500
Chloride	mg/kg	< 10	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	800	2,400	15,000	25,000
Sulphate	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	1000*	3,000	20000*	50,000
DOC **	mg/kg	60	< 50	< 50	99	65	< 50	< 50	60	52	500	500	800	1,000
pH	pH units	9.1	8.8	8.9	8.8	8.6	8.6	9.0	8.8	8.8	NE	NE	NE	NE
TDS ***	mg/kg	710	580	580	580	580	710	580	650	780	4,000	12,000	60,000	100,000
TOC	%	0.46	0.93	0.47	0.33	0.42	0.85	0.44	0.54	0.74	3	6	NE	6
Benzene	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	6	6	NE	NE
Toluene	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	6	6	NE	NE
Ethylbenzene	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	6	6	NE	NE
m/p-Xylene	mg/kg	0.0032	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	6	6	NE	NE
o-Xylene	mg/kg	0.0021	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	6	6	NE	NE
PCB Total of 7	mg/kg	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	1	1	NE	NE
Total 17 PAH's	mg/kg	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	NE	100	NE	NE
Mineral Oil	mg/kg	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	500	500	NE	NE
Asbestos	% mass	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NE	NE	NE	NE

NAD denotes No Asbestos Detected

* denotes sulphate level exceeding inert waste limit may be considered as complying if the TDS value does not exceed 6,000mg/kg at L/S = 10l/kg.

** denotes a higher limit may be accepted provided the DOC alternative values of 500mg/kg is achieved

*** denotes TDS. The values for TDS can be used to sulphate and chloride.

PAH over 1mg/kg and Mineral Oil over 50 mg/kg exceeds limit at soil recovery site in Ireland

2.4 Waste Management Options

The EPA has issued guidance on acceptance criteria for a range of parameters for soil recovery sites. This includes;

- Metals (solid concentration not leachability) in soil and stone (including As, Cd, Cr, Cu, Hg, Ni, Pb, Zn);
- Total organic carbon in soil and stone;
- Total BTEX (benzene, toluene, ethylbenzene, xylenes) in soil and stone;
- Mineral oil in soil and stone;
- Polycyclic aromatic hydrocarbons (PAHs) in soil and stone;
- Polychlorinated Biphenyls (PCBs) in soil and stone;
- Asbestos fibres in soil and stone.

The guidance requires that soils from brownfield sites should not exceed the limits for the parameters specified in Table 2.3 and 2.4. For metals limits have been specified for a range of soil types nationally separated into six domain areas.

Table 2.3 Soil Recovery Site Criteria

Parameter	Limit for Soil Recovery Sites
Total BTEX	0.05 mg/kg
Mineral oil	50 mg/kg
Total PAHs	1 mg/kg
Total PCBs	0.05 mg/kg

All samples meet the soil recovery criteria.

The soil and stone cannot be sent to soil recovery sites if the trigger levels for a particular domain are exceeded. There is however some flexibility in applying the limits. A derogation applies where up to three parameters can exceed the limit for a sample provided the concentration in the samples is no more than 1.5 times the trigger level. The site which is subject to this investigation is located in Domain 2 and the trigger levels are listed in Table 2.5.

Table 2.4 Soil Recovery Trigger Levels

		Domain 2 Trigger Level	1.5 times Trigger Level
Arsenic	**mg/kg**	24.90	37.35
Cadmium	**mg/kg**	3.28	4.92
Chromium	**mg/kg**	50.30	75.45
Copper	**mg/kg**	63.50	95.25
Mercury	**mg/kg**	0.36	0.54
Nickel	**mg/kg**	61.90	92.85
Lead	**mg/kg**	86.10	129.15
Zinc	**mg/kg**	197.00	295.5

All samples meet the soil recovery criteria for metal concentrations.

Waste management options are summarised on Table 2.5. All are subject to approval of the waste management facility operators. Class A material is suitable for removal to a soil recovery facility.

Table 2.5 Waste Management Options

Sample No.	Depth	Classification	LoW Code	Category
BH01	1.0	Non-Hazardous	17 05 04	A
BH03	1.0	Non-Hazardous	17 05 04	A
BH04	2.0	Non-Hazardous	17 05 04	A
BH05	2.0	Non-Hazardous	17 05 04	A
BH06	1.0	Non-Hazardous	17 05 04	A
TP01	0.70	Non-Hazardous	17 05 04	A
TP02	1.0	Non-Hazardous	17 05 04	A
TP03	0.80	Non-Hazardous	17 05 04	A
TP04	0.50	Non-Hazardous	17 05 04	A

A	Suitable for Soil Recovery

3 CONCLUSIONS AND RECOMMENDATIONS

3.1 Conclusions

3.1.1 *Waste Classification*

Asbestos was not detected in any of the samples tested.

All samples are classified as non-hazardous and the appropriate List of Waste Code is 17 05 04 (Soil and Stone other than those mentioned in 17 05 03*).

The recovery/disposal options are discussed in Section 2.4.

3.2 Recommendations

OCM recommend that a copy of this report be provided in full to the relevant waste management facilities to which the made ground and subsoils will be consigned to confirm its suitability for acceptance.

Appendix 1

Trial Pit and Borehole Logs

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24013

CONTRACT Fortfield Road , Terenure , Dublin 6

BOREHOLE NO. **BH01**
SHEET Sheet 1 of 1

CO-ORDINATES
GROUND LEVEL (mOD)

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 6.10

DATE COMMENCED 14/04/2022
DATE COMPLETED 14/04/2022

CLIENT Lioncor
ENGINEER Punch C.E

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY W.Cahill
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)	Samples: Recovery	Field Test Results	Standpipe Details
0	Firm dark brown sandy SILT/CLAY with occasional fine gravel			0.80						
1	Soft to firm light brown sandy SILT/CLAY with some gravel				AA175560	B	1.00		N = 11 (2, 3, 3, 2, 3, 3)	
2					AA175561	B	2.00		N = 7 (3, 3, 2, 2, 1, 2)	
3				3.60	AA175562	B	3.00		N = 16 (4, 4, 3, 4, 5, 4)	
4	Medium dense to dense grey fine to carse sandy silty/clayey GRAVEL				AA175563	B	4.00		N = 30 (4, 5, 5, 7, 8, 10)	
5					AA175564	B	5.00		N = 28 (5, 6, 6, 6, 7, 9)	
6	Obstruction End of Borehole at 6.10 m			6.10					N = 50/150 mm (7, 8, 17, 33)	
7										
8										
9										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
4.50	4.80	1	
6.00	6.10	1.5	

WATER STRIKE DETAILS

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

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS 1hr Erecting Covid 19 Dafe Working Area . CAT scanned location and hand dug inspection pit were carried out .

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

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GEOTECHNICAL BORING RECORD

REPORT NUMBER 24013

CONTRACT Fortfield Road , Terenure , Dublin 6

BOREHOLE NO. **BH02**
SHEET Sheet 1 of 1

CO-ORDINATES
GROUND LEVEL (mOD)

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 4.20

DATE COMMENCED 13/04/2022
DATE COMPLETED 13/04/2022

CLIENT Lioncor
ENGINEER Punch C.E

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY W.Cahill
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)	Samples: Recovery	Field Test Results	Standpipe Details
0	Soft dark brown sandy SILT/CLAY			0.80						
1	Firm to stiff dark brown/grey sandy SILT/CLAY with occasional gravel				AA175549	B	1.00		N = 10 (2, 2, 3, 2, 3, 2)	
2					AA175550	B	2.00		N = 31 (4, 6, 6, 8, 8, 9)	
3				3.50	AA175551	B	3.00		N = 33 (5, 6, 6, 7, 9, 11)	
4	Stiff to very stiff black sandy gravelly silty CLAY with occasional cobbles and small boulders			4.20	AA175552	B	4.00		N = 50/150 mm (10, 15, 24, 26)	
5	Obstruction End of Borehole at 4.20 m									
6										
7										
8										
9										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
2.20	2.60	1	
4.00	4.20	1.5	

WATER STRIKE DETAILS

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

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS 1hr Erecting Covid 19 Dafe Working Area . CAT scanned location and hand dug inspection pit were carried out .

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

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GEOTECHNICAL BORING RECORD

REPORT NUMBER 24013

CONTRACT Fortfield Road , Terenure , Dublin 6

BOREHOLE NO. BH03
SHEET Sheet 1 of 1

CO-ORDINATES
GROUND LEVEL (mOD)

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 4.00

DATE COMMENCED 13/04/2022
DATE COMPLETED 13/04/2022

CLIENT Lioncor
ENGINEER Punch C.E

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY W.Cahill
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)	Samples: Recovery	Field Test Results	Standpipe Details
0	Soft dark brown sandy SILT/CLAY with occasional gravel									
1					AA175553	B	1.00		N = 6 (1, 2, 1, 2, 2, 1)	
				1.60						
2	Stiff to very stiff dark brown sandy silty gravelly CLAY with occasional cobbles and small boulders				AA175554	B	2.00		N = 7 (2, 2, 1, 2, 2, 2)	
3					AA175555	B	3.00		N = 35 (4, 9, 11, 11, 1, 12)	
4					AA175556	B	4.00		N = 50/150 mm (22, 3, 39, 11)	
5					AA175557	B	5.00		N = 33 (8, 7, 6, 7, 10, 10)	
				5.90						
6	Obstruction End of Borehole at 4.00 m								N = 52/75 mm (25, 52)	
7										
8										
9										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
3.80	4.00	1	
5.70	5.90	1.5	

WATER STRIKE DETAILS

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

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS 1hr Erecting Covid 19 Dafe Working Area . CAT scanned location and hand dug inspection pit were carried out .

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

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GEOTECHNICAL BORING RECORD

REPORT NUMBER 24013

CONTRACT Fortfield Road , Terenure , Dublin 6

BOREHOLE NO. BH04
SHEET Sheet 1 of 1

CO-ORDINATES
GROUND LEVEL (mOD)

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 5.80

DATE COMMENCED 14/04/2022
DATE COMPLETED 14/04/2022

CLIENT Lioncor
ENGINEER Punch C.E

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY W.Cahill
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Sample Type	Depth (m)	Recovery	Field Test Results	Standpipe Details
0	Dark brown sandy SILT/CLAY			0.50						
	Soft light brown sandy SILT/CLAY with occasional gravel			0.90						
1	Firm to stiff dark brown sandy gravelly silty CLAY with occasional cobbles				AA175565	B	1.00		N = 7 (2, 2, 2, 1, 2, 2)	
2					AA175566	B	2.00		N = 7 (1, 2, 2, 1, 2, 2)	
3					AA175567	B	3.00		N = 20 (3, 4, 4, 5, 5, 6)	
4				4.20	AA175568	B	4.00		N = 49 (8, 10, 10, 11, 13, 15)	
	Stiff to very stiff light brown very gravelly sandy CLAY with some cobbles and occasional small boulders									
5					AA175569	B	5.00		N = 50/150 mm (10, 17, 23, 27)	
				5.80					N = 250/75 mm (25, 250)	
6	Obstruction End of Borehole at 5.80 m									
7										
8										
9										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
4.40	4.80	1	
5.60	5.80	1.5	

WATER STRIKE DETAILS

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

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS 1hr Erecting Covid 19 Dafe Working Area . CAT scanned location and hand dug inspection pit were carried out .

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

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GEOTECHNICAL BORING RECORD

REPORT NUMBER 24013

CONTRACT Fortfield Road , Terenure , Dublin 6

BOREHOLE NO. **BH05**
SHEET Sheet 1 of 1

CO-ORDINATES
GROUND LEVEL (mOD)

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 5.30

DATE COMMENCED 19/04/2022
DATE COMPLETED 19/04/2022

CLIENT Lioncor
ENGINEER Punch C.E

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY W.Cahill
PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)	Samples: Recovery	Field Test Results	Standpipe Details
0	TOPSOIL			0.20						
	Mottled brown sandy SILT/CLAY with occasional gravel			0.80						
1	Soft to firm dark brown sandy SILT/CLAY with some gravel and occasional cobbles				AA175570	B	1.00		N = 5 (2, 2, 1, 1, 2, 1)	
2					AA175571	B	2.00		N = 10 (2, 2, 3, 2, 2, 3)	
3				3.80	AA175572	B	3.00		N = 19 (3, 3, 4, 4, 5, 6)	
4	Very stiff grey/black sandy very gravelly CLAY with some cobbles and occasional small bouldersa				AA175573	B	4.00		N = 44/75 mm (23, 2, 44)	
5				5.30	AA175574	B	5.00		N = 40 (5, 6, 8, 11, 9, 12)	
6	Obstruction End of Borehole at 5.30 m									
7										
8										
9										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
3.90	4.10	1	
5.20	5.30	1.5	

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
3.60	3.60	3.90	3.00	20	Slow

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS 1hr Erecting Covid 19 Dafe Working Area . CAT scanned location and hand dug inspection pit were carried out .

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

IGSL BH LOG 24013.GPJ IGSL.GDT 21/4/22

GEOTECHNICAL BORING RECORD

REPORT NUMBER 24013

CONTRACT	Fortfield Road , Terenure , Dublin 6	**BOREHOLE NO.**	**BH06**
		SHEET	Sheet 1 of 1
CO-ORDINATES		**RIG TYPE**	Dando 2000
		BOREHOLE DIAMETER (mm)	200
GROUND LEVEL (mOD)		**BOREHOLE DEPTH (m)**	6.40
		DATE COMMENCED	19/04/2022
		DATE COMPLETED	19/04/2022
CLIENT	Lioncor	**SPT HAMMER REF. NO.**	
ENGINEER	Punch C.E	**ENERGY RATIO (%)**	
		BORED BY	W.Cahill
		PROCESSED BY	F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples: Ref. Number	Samples: Sample Type	Samples: Depth (m)	Samples: Recovery	Field Test Results	Standpipe Details
0	TOPSOIL			0.30						
	Light brown sandy SILT/CLAY with occasional fine gravel			0.70						
1	Firm to stiff dark brown sandy SILT/CLAY with some gravel and occasional cobbles				AA171709	B	1.00		N = 12 (2, 2, 3, 2, 3, 4)	
2					AA171710	B	2.00		N = 24 (4, 3, 5, 6, 6, 7)	
3				3.40	AA171711	B	3.00		N = 32 (8, 7, 5, 8, 10, 9)	
	Stiff to very stiff dark brown sandy silty gravelly CLAY with occasional cobbles									
4				4.50	AA171712	B	4.00		N = 40 (10, 14, 11, 11, 8, 10)	
	Very stiff to hard grey/black sandy gravelly CLAY with some cobbles and occasional small boulders									
5					AA171713	B	5.00		N = 75 (10, 17, 18, 21, 11, 25)	
6					AA171714	B	6.00		N = 75/225 mm (16, 17, 32, 18, 25)	
				6.40						
	Obstruction End of Borehole at 6.40 m									
7										
8										
9										

HARD STRATA BORING/CHISELLING

From (m)	To (m)	Time (h)	Comments
3.60	3.80	0.5	
4.30	4.50	1	
6.20	6.40	1.5	

WATER STRIKE DETAILS

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

GROUNDWATER PROGRESS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type

REMARKS 1hr Erecting Covid 19 Dafe Working Area . CAT scanned location and hand dug inspection pit were carried out .

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

IGSL BH LOG 24013.GPJ IGSL.GDT 21/4/22

TRIAL PIT RECORD

REPORT NUMBER 24013

CONTRACT	Fortfield Road , Terenure , Dublin 6	**TRIAL PIT NO.**	**TP01**
		SHEET	Sheet 1 of 1
LOGGED BY	I.Reder	**CO-ORDINATES**	
		DATE STARTED	14/04/2022
		DATE COMPLETED	14/04/2022
CLIENT	Lioncor	**GROUND LEVEL (m)**	
ENGINEER	Punch C.E	**EXCAVATION METHOD**	JCB

Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples: Sample Ref	Samples: Type	Samples: Depth	Vane Test (KPa)	Hand Penetrometer (KPa)
0.0 TOPSOIL		0.30							
Firm, brown, slightly sandy slightly gravelly CLAY		0.50							
Firm to stiff, greyish brown, slightly sandy gravelly CLAY with high subangular to subrounded cobbles content					AA163096	B	0.70		
1.0 Firm to stiff, greyish brown, slightly sandy gravelly CLAY with high subangular to subrounded cobbles and boulders content		1.10							
					AA163097	B	1.70		
2.0 Soft to firm, greyish brown, sandy gravelly CLAY with high subangular cobbles content		2.10		1 (Seepage)					
Firm to stiff, greyish brown, slightly sandy gravelly CLAY with high subangular to subrounded cobbles and low boulders content		2.40			AA163098	B	2.70		
3.0 End of Trial Pit at 3.00m		3.00							
4.0									

Groundwater Conditions
Seepage flow at 2.1m

Stability
TP stable

General Remarks

IGSL TP LOG 24013.GPJ IGSL.GDT 26/4/22

TRIAL PIT RECORD

REPORT NUMBER 24013

CONTRACT	Fortfield Road , Terenure , Dublin 6	**TRIAL PIT NO.**	**TP02**
		SHEET	Sheet 1 of 1
LOGGED BY	I.Reder	**CO-ORDINATES**	
		DATE STARTED	14/04/2022
		DATE COMPLETED	14/04/2022
CLIENT	Lioncor	**GROUND LEVEL (m)**	
ENGINEER	Punch C.E	**EXCAVATION METHOD**	JCB

Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples: Sample Ref	Samples: Type	Samples: Depth	Vane Test (KPa)	Hand Penetrometer (KPa)
0.0 TOPSOIL									
Soft to firm, brown, slightly sandu slightly gravelly CLAY		0.40							
Firm to stiff, greyish brown, slightly sandy gravelly CLAY with high subangular to subrounded cobbles and boulders content		0.70			AA163099	B	1.00		
1.0									
2.0					AA163100	B	2.00		
Stoff to very stiff, grey, slightly sandy gravelly CLAY with high subangular to subrounded cobbles and boulders content		2.40							
3.0 End of Trial Pit at 3.00m		3.00			AA173101	B	3.00		
4.0									

Groundwater Conditions
TP dry

Stability
TP stable

General Remarks

IGSL TP LOG 24013.GPJ IGSL.GDT 26/4/22

TRIAL PIT RECORD

REPORT NUMBER 24013

CONTRACT	Fortfield Road , Terenure , Dublin 6	**TRIAL PIT NO.**	**TP03**
		SHEET	Sheet 1 of 1
LOGGED BY	I.Reder	**CO-ORDINATES**	
		DATE STARTED	14/04/2022
		DATE COMPLETED	14/04/2022
CLIENT	Lioncor	**GROUND LEVEL (m)**	
ENGINEER	Punch C.E	**EXCAVATION METHOD**	JCB

Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples: Sample Ref	Samples: Type	Samples: Depth	Vane Test (KPa)	Hand Penetrometer (KPa)
0.0 TOPSOIL									
		0.30							
Firm, brown, slightly sandy slightly gravelly CLAY		0.50							
Firm to stiff, greyish brown, slightly sandy gravelly CLAY with high subangular to subrounded cobbles content					AA173103	B	0.80		
1.0									
		1.50							
Firm to stiff, greyish brown, slightly sandy gravelly CLAY with high subangular to subrounded cobbles and boulders content					AA173104	B	1.80		
2.0									
		2.40							
TP terminated due to many big boulders End of Trial Pit at 2.40m									
3.0									
4.0									

Groundwater Conditions
TP dry

Stability
TP stable

General Remarks
TP terminated at 2.4m due to big boulders

TRIAL PIT RECORD

REPORT NUMBER 24013

CONTRACT	Fortfield Road , Terenure , Dublin 6	**TRIAL PIT NO.**	**TP04**
		SHEET	Sheet 1 of 1
LOGGED BY	I.Reder	**CO-ORDINATES**	
		DATE STARTED	14/04/2022
		DATE COMPLETED	14/04/2022
CLIENT	Lioncor	**GROUND LEVEL (m)**	
ENGINEER	Punch C.E	**EXCAVATION METHOD**	JCB

Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples: Sample Ref	Samples: Type	Samples: Depth	Vane Test (KPa)	Hand Penetrometer (KPa)
0.0 TOPSOIL		0.30							
Firm, brown, slightly sandy slightly gravelly CLAY		0.70			AA173106	B	0.50		
Firm, greyish brown, slightly sandy very gravelly CLAY with high subangular cobbles low boulders and sandy gravel lenses content					AA173107	B	1.50		
2.0 Soft to firm, greyish brown, sandy very gravelly CLAY with high subangular to subrounded cobbles and medium boulders content		2.00		1 (Seepage)	AA173108	B	2.50		
				2 (Slow)					
3.0 End of Trial Pit at 3.00m		3.00							
4.0									

Groundwater Conditions
Seepage flow at 2.0m; slow water flow at 2.8m

Stability
TP unstable from 2.0m

General Remarks

Appendix 2

Laboratory Report

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-16335-1
Initial Date of Issue:	11-May-2022
Client	IGSL
Client Address:	M7 Business Park Naas County Kildare Ireland
Contact(s):	John Clancy
Project	24013 Fortfield Rd Terenure (Punch)

Quotation No.:	Q20-19951	**Date Received:**	04-May-2022
Order No.:		**Date Instructed:**	04-May-2022
No. of Samples:	7		
Turnaround (Wkdays):	7	**Results Due:**	12-May-2022
Date Approved:	11-May-2022		

Approved By:

Details: Stuart Henderson, Technical Manager

Results - Leachate

Project: 24013 Fortfield Rd Terenure (Punch)

Client: IGSL				**Chemtest Job No.:**		22-16335	22-16335	22-16335	22-16335	22-16335	22-16335	22-16335
Quotation No.: Q20-19951				**Chemtest Sample ID.:**		1421621	1421622	1421623	1421624	1421625	1421626	1421627
Order No.:				Client Sample Ref.:		AA175560	AA175553	AA175566	AA163096	AA163099	AA173103	AA173106
				Sample Location:		BH01	BH03	BH04	TP01	TP02	TP03	TP04
				Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		1.0	1.0	2.0	0.70	1.0	0.80	0.50
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**							
pH	U	1010	10:1		N/A	8.4	8.5	8.6	8.5	8.5	8.5	8.5
Ammonium	U	1220	10:1	mg/l	0.050	0.12	0.055	0.098	0.10	0.078	0.081	< 0.050
Ammonium	N	1220	10:1	mg/kg	0.10	1.4	0.64	1.2	1.2	0.92	0.95	0.57
Boron (Dissolved)	U	1455	10:1	mg/kg	0.01	< 0.01	< 0.01	0.12	0.12	< 0.01	0.12	0.13
Benzo[j]fluoranthene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Results - Soil

Project: 24013 Fortfield Rd Terenure (Punch)

Client: IGSL			**Chemtest Job No.:**		22-16335	22-16335	22-16335	22-16335	22-16335	22-16335	22-16335
Quotation No.: Q20-19951			**Chemtest Sample ID.:**		1421621	1421622	1421623	1421624	1421625	1421626	1421627
Order No.:			Client Sample Ref.:		AA175560	AA175553	AA175566	AA163096	AA163099	AA173103	AA173106
			Sample Location:		BH01	BH03	BH04	TP01	TP02	TP03	TP04
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		1.0	1.0	2.0	0.70	1.0	0.80	0.50
			Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**							
ACM Type	U	2192		N/A	-	-	-	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	12	15	11	19	12	13	13
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	[A] 0.44	[A] 1.9	[A] 0.43	[A] 23	[A] 0.65	[A] 3.8	[A] 2.0
Sulphur (Elemental)	U	2180	mg/kg	1.0	[A] < 1.0	[A] 2.8	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] 1.7
Cyanide (Total)	U	2300	mg/kg	0.50	[A] < 0.50	[A] < 0.50	[A] < 0.50	[A] < 0.50	[A] < 0.50	[A] < 0.50	[A] < 0.50
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	[A] 12	[A] 4.2	[A] 13	[A] 2.4	[A] 16	[A] 9.4	[A] 4.7
Sulphate (Acid Soluble)	U	2430	%	0.010	[A] 0.016	[A] 0.026	[A] < 0.010	[A] 0.055	[A] 0.017	[A] 0.032	[A] 0.026
Arsenic	U	2455	mg/kg	0.5	9.8	7.3	9.3	22	9.4	9.5	7.0
Barium	U	2455	mg/kg	0	50	33	53	140	71	38	37
Cadmium	U	2455	mg/kg	0.10	1.6	0.55	1.6	2.4	1.5	1.4	0.58
Chromium	U	2455	mg/kg	0.5	14	12	16	25	13	13	15
Molybdenum	U	2455	mg/kg	0.5	2.5	0.8	2.7	3.7	2.7	2.2	0.9
Antimony	N	2455	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Copper	U	2455	mg/kg	0.50	25	10	25	26	25	21	11
Mercury	U	2455	mg/kg	0.05	0.06	0.06	0.05	0.09	0.05	0.05	< 0.05
Nickel	U	2455	mg/kg	0.50	37	15	43	56	37	31	16
Lead	U	2455	mg/kg	0.50	15	15	17	26	14	15	12
Selenium	U	2455	mg/kg	0.25	1.3	0.97	1.5	2.4	1.5	1.2	1.1
Zinc	U	2455	mg/kg	0.50	64	51	79	95	72	69	50
Chromium (Trivalent)	N	2490	mg/kg	1.0	14	12	16	25	13	13	15
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Mineral Oil (TPH Calculation)	N	2670	mg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	[A] < 5.0	[A] < 5.0	[A] < 5.0	[A] < 5.0	[A] < 5.0	[A] < 5.0	[A] < 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0

Results - Soil

Project: 24013 Fortfield Rd Terenure (Punch)

Client: IGSL					**Chemtest Job No.:**	22-16335	22-16335	22-16335	22-16335	22-16335	22-16335
Quotation No.: Q20-19951					**Chemtest Sample ID.:**	1421621	1421622	1421623	1421624	1421625	1421626	1421627
Order No.:					Client Sample Ref.:	AA175560	AA175553	AA175566	AA163096	AA163099	AA173103	AA173106
					Sample Location:	BH01	BH03	BH04	TP01	TP02	TP03	TP04
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	1.0	1.0	2.0	0.70	1.0	0.80	0.50
					Asbestos Lab:	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
Aromatic TPH >C21-C35	U	2680	mg/kg	1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0		[A] < 5.0	[A] < 5.0	[A] < 5.0	[A] < 5.0	[A] < 5.0	[A] < 5.0	[A] < 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0		[A] < 10	[A] < 10	[A] < 10	[A] < 10	[A] < 10	[A] < 10	[A] < 10
Benzene	U	2760	µg/kg	1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Toluene	U	2760	µg/kg	1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Ethylbenzene	U	2760	µg/kg	1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
m & p-Xylene	U	2760	µg/kg	1.0		[A] 3.2	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
o-Xylene	U	2760	µg/kg	1.0		[A] 2.1	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Methyl Tert-Butyl Ether	U	2760	µg/kg	1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0	[A] < 1.0
Naphthalene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Acenaphthylene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Acenaphthene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Fluorene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Phenanthrene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Anthracene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Fluoranthene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Pyrene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Benzo[a]anthracene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Chrysene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Benzo[b]fluoranthene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Benzo[k]fluoranthene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Benzo[a]pyrene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Indeno(1,2,3-c,d)Pyrene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Benzo[g,h,i]perylene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Coronene	N	2800	mg/kg	0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Total Of 17 PAH's	N	2800	mg/kg	0.20		[A] < 0.20	[A] < 0.20	[A] < 0.20	[A] < 0.20	[A] < 0.20	[A] < 0.20	[A] < 0.20
PCB 28	N	2815	mg/kg	0.0010		[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010
PCB 52	N	2815	mg/kg	0.0010		[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010
PCB 90+101	N	2815	mg/kg	0.0010		[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010
PCB 118	N	2815	mg/kg	0.0010		[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010
PCB 153	N	2815	mg/kg	0.0010		[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010
PCB 138	N	2815	mg/kg	0.0010		[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010
PCB 180	N	2815	mg/kg	0.0010		[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010
Total PCBs (7 congeners)	N	2815	mg/kg	0.0010		[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010	[A] < 0.0010
Total Phenols	U	2920	mg/kg	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Single Stage WAC

Project: 24013 Fortfield Rd Terenure (Punch)

					Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-16335						
Chemtest Sample ID:	1421621						
Sample Ref:	AA175560						
Sample ID:							
Sample Location:	BH01						
Top Depth(m):	1.0						
Bottom Depth(m):							
Sampling Date:							
Determinand	**SOP**	**Accred.**	**Units**		**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	U	%	[A] 0.46	3	5	6
Loss On Ignition	2610	U	%	2.7	--	--	10
Total BTEX	2760	U	mg/kg	[A] < 0.010	6	--	--
Total PCBs (7 congeners)	2815	N	mg/kg	[A] < 0.0010	1	--	--
TPH Total WAC	2670	U	mg/kg	[A] < 10	500	--	--
Total Of 17 PAH's	2800	N	mg/kg	[A] < 0.20	100	--	--
pH	2010	U		9.1	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.016	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	< 0.0002	< 0.0002	0.5	2	25
Barium	1455	U	< 0.005	< 0.0005	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	0.0007	0.0065	0.5	10	70
Copper	1455	U	0.0010	0.010	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0080	0.080	0.5	10	30
Nickel	1455	U	0.0005	0.0052	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.37	3.7	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	72	710	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	6.0	60	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	12

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: 24013 Fortfield Rd Terenure (Punch)

					Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-16335						
Chemtest Sample ID:	1421622						
Sample Ref:	AA175553						
Sample ID:							
Sample Location:	BH03						
Top Depth(m):	1.0						
Bottom Depth(m):							
Sampling Date:							
Determinand	**SOP**	**Accred.**	**Units**		**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	U	%	[A] 0.93	3	5	6
Loss On Ignition	2610	U	%	3.4	--	--	10
Total BTEX	2760	U	mg/kg	[A] < 0.010	6	--	--
Total PCBs (7 congeners)	2815	N	mg/kg	[A] < 0.0010	1	--	--
TPH Total WAC	2670	U	mg/kg	[A] < 10	500	--	--
Total Of 17 PAH's	2800	N	mg/kg	[A] < 0.20	100	--	--
pH	2010	U		8.8	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.017	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0006	0.0064	0.5	2	25
Barium	1455	U	< 0.005	< 0.0005	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	0.0008	0.0078	0.5	10	70
Copper	1455	U	0.0021	0.021	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0031	0.031	0.5	10	30
Nickel	1455	U	0.0009	0.0089	0.4	10	40
Lead	1455	U	0.0006	0.0055	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	4	50	200
Chloride	1220	U	1.0	10	800	15000	25000
Fluoride	1220	U	0.36	3.6	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	59	580	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	4.9	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	15

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: 24013 Fortfield Rd Terenure (Punch)

					Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-16335						
Chemtest Sample ID:	1421623						
Sample Ref:	AA175566						
Sample ID:							
Sample Location:	BH04						
Top Depth(m):	2.0						
Bottom Depth(m):							
Sampling Date:							
Determinand	**SOP**	**Accred.**	**Units**		**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	U	%	[A] 0.47	3	5	6
Loss On Ignition	2610	U	%	2.1	--	--	10
Total BTEX	2760	U	mg/kg	[A] < 0.010	6	--	--
Total PCBs (7 congeners)	2815	N	mg/kg	[A] < 0.0010	1	--	--
TPH Total WAC	2670	U	mg/kg	[A] < 10	500	--	--
Total Of 17 PAH's	2800	N	mg/kg	[A] < 0.20	100	--	--
pH	2010	U		8.9	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.0060	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	< 0.0002	< 0.0002	0.5	2	25
Barium	1455	U	< 0.005	< 0.0005	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	0.0005	0.0052	0.5	10	70
Copper	1455	U	0.0007	0.0073	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.010	0.10	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.25	2.5	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	59	580	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	2.6	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	11

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: 24013 Fortfield Rd Terenure (Punch)

					Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-16335						
Chemtest Sample ID:	1421624						
Sample Ref:	AA163096						
Sample ID:							
Sample Location:	TP01						
Top Depth(m):	0.70						
Bottom Depth(m):							
Sampling Date:							
Determinand	**SOP**	**Accred.**	**Units**		**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	U	%	[A] 0.85	3	5	6
Loss On Ignition	2610	U	%	3.8	--	--	10
Total BTEX	2760	U	mg/kg	[A] < 0.010	6	--	--
Total PCBs (7 congeners)	2815	N	mg/kg	[A] < 0.0010	1	--	--
TPH Total WAC	2670	U	mg/kg	[A] < 10	500	--	--
Total Of 17 PAH's	2800	N	mg/kg	[A] < 0.20	100	--	--
pH	2010	U		8.6	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.0080	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	< 0.0002	< 0.0002	0.5	2	25
Barium	1455	U	< 0.005	< 0.0005	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	0.0005	0.0053	0.5	10	70
Copper	1455	U	0.0011	0.012	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0023	0.023	0.5	10	30
Nickel	1455	U	0.0005	0.0054	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.58	5.8	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	72	710	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	4.6	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	19

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: 24013 Fortfield Rd Terenure (Punch)

					Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-16335						
Chemtest Sample ID:	1421625						
Sample Ref:	AA163099						
Sample ID:							
Sample Location:	TP02						
Top Depth(m):	1.0						
Bottom Depth(m):							
Sampling Date:							
Determinand	**SOP**	**Accred.**	**Units**		**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	U	%	[A] 0.44	3	5	6
Loss On Ignition	2610	U	%	2.7	--	--	10
Total BTEX	2760	U	mg/kg	[A] < 0.010	6	--	--
Total PCBs (7 congeners)	2815	N	mg/kg	[A] < 0.0010	1	--	--
TPH Total WAC	2670	U	mg/kg	[A] < 10	500	--	--
Total Of 17 PAH's	2800	N	mg/kg	[A] < 0.20	100	--	--
pH	2010	U		9.0	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.010	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	< 0.0002	< 0.0002	0.5	2	25
Barium	1455	U	< 0.005	< 0.0005	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	0.0006	0.0057	0.5	10	70
Copper	1455	U	0.0008	0.0082	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0052	0.052	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.35	3.5	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	59	580	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	3.8	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	12

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: 24013 Fortfield Rd Terenure (Punch)

					Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-16335						
Chemtest Sample ID:	1421626						
Sample Ref:	AA173103						
Sample ID:							
Sample Location:	TP03						
Top Depth(m):	0.80						
Bottom Depth(m):							
Sampling Date:							
Determinand	**SOP**	**Accred.**	**Units**		**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	U	%	[A] 0.54	3	5	6
Loss On Ignition	2610	U	%	3.3	--	--	10
Total BTEX	2760	U	mg/kg	[A] < 0.010	6	--	--
Total PCBs (7 congeners)	2815	N	mg/kg	[A] < 0.0010	1	--	--
TPH Total WAC	2670	U	mg/kg	[A] < 10	500	--	--
Total Of 17 PAH's	2800	N	mg/kg	[A] < 0.20	100	--	--
pH	2010	U		8.8	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.022	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	< 0.0002	< 0.0002	0.5	2	25
Barium	1455	U	< 0.005	< 0.0005	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	0.0006	0.0056	0.5	10	70
Copper	1455	U	0.0011	0.011	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0064	0.064	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.36	3.6	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	65	650	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	6.0	60	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	13

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: 24013 Fortfield Rd Terenure (Punch)

					Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-16335						
Chemtest Sample ID:	1421627						
Sample Ref:	AA173106						
Sample ID:							
Sample Location:	TP04						
Top Depth(m):	0.50						
Bottom Depth(m):							
Sampling Date:							
Determinand	**SOP**	**Accred.**	**Units**		**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	U	%	[A] 0.74	3	5	6
Loss On Ignition	2610	U	%	3.1	--	--	10
Total BTEX	2760	U	mg/kg	[A] < 0.010	6	--	--
Total PCBs (7 congeners)	2815	N	mg/kg	[A] < 0.0010	1	--	--
TPH Total WAC	2670	U	mg/kg	[A] < 10	500	--	--
Total Of 17 PAH's	2800	N	mg/kg	[A] < 0.20	100	--	--
pH	2010	U		8.8	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.019	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0006	0.0064	0.5	2	25
Barium	1455	U	< 0.005	< 0.0005	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	0.0009	0.0087	0.5	10	70
Copper	1455	U	0.0017	0.017	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0026	0.026	0.5	10	30
Nickel	1455	U	0.0008	0.0085	0.4	10	40
Lead	1455	U	0.0005	0.0050	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.47	4.7	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	78	780	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	5.2	52	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	13

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1421621	AA175560		BH01		A	Amber Glass 250ml
1421621	AA175560		BH01		A	Plastic Tub 500g
1421622	AA175553		BH03		A	Amber Glass 250ml
1421622	AA175553		BH03		A	Plastic Tub 500g
1421623	AA175566		BH04		A	Amber Glass 250ml
1421623	AA175566		BH04		A	Plastic Tub 500g
1421624	AA163096		TP01		A	Amber Glass 250ml
1421624	AA163096		TP01		A	Plastic Tub 500g
1421625	AA163099		TP02		A	Amber Glass 250ml
1421625	AA163099		TP02		A	Plastic Tub 500g
1421626	AA173103		TP03		A	Amber Glass 250ml
1421626	AA173103		TP03		A	Plastic Tub 500g
1421627	AA173106		TP04		A	Amber Glass 250ml
1421627	AA173106		TP04		A	Plastic Tub 500g

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2180	Sulphur (Elemental) in Soils by HPLC	Sulphur	Dichloromethane extraction / HPLC with UV detection
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N–dimethyl-p-phenylenediamine.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID

Test Methods

SOP	Title	Parameters included	Method summary
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-17076-1		
Initial Date of Issue:	18-May-2022		
Client	IGSL		
Client Address:	M7 Business Park Naas County Kildare Ireland		
Contact(s):	John Clancy		
Project	24013 Fortfield Road Terenure (Punch)		
Quotation No.:	Q20-19951	**Date Received:**	10-May-2022
Order No.:		**Date Instructed:**	10-May-2022
No. of Samples:	6		
Turnaround (Wkdays):	7	**Results Due:**	18-May-2022
Date Approved:	18-May-2022		
Approved By:			
Details:	Stuart Henderson, Technical Manager		

Results - Leachate

Project: 24013 Fortfield Road Terenure (Punch)

Client: IGSL				**Chemtest Job No.:**		22-17076	22-17076
Quotation No.: Q20-19951				**Chemtest Sample ID.:**		1424873	1424874
				Client Sample ID.:		AA175571	AA171709
				Sample Location:		BH05	BH06
				Sample Type:		SOIL	SOIL
				Top Depth (m):		2.0	1.0
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**		
pH	U	1010	10:1		N/A	8.4	8.7
Ammonium	U	1220	10:1	mg/l	0.050	0.18	0.59
Ammonium	N	1220	10:1	mg/kg	0.10	2.1	7.5
Boron (Dissolved)	U	1455	10:1	mg/kg	0.01	< 0.01	< 0.01
Benzo[j]fluoranthene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010

Results - Soil

Project: 24013 Fortfield Road Terenure (Punch)

Client: IGSL			**Chemtest Job No.:**		22-17076	22-17076	22-17076	22-17076	22-17076	22-17076
Quotation No.: Q20-19951			**Chemtest Sample ID.:**		1424870	1424871	1424872	1424873	1424874	1424875
			Client Sample ID.:		AA175561	AA175554	AA175567	AA175571	AA171709	AA171710
			Sample Location:		BH01	BH03	BH04	BH05	BH06	BH06
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		2.0	2.0	3.0	2.0	1.0	2.0
			Asbestos Lab:					DURHAM	DURHAM	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
ACM Type	U	2192		N/A				-	-	
Asbestos Identification	U	2192		N/A				No Asbestos Detected	No Asbestos Detected	
Moisture	N	2030	%	0.020	11	11	13	11	16	9.7
pH (2.5:1)	N	2010		4.0	[A] 8.8	[A] 9.4	[A] 9.0			[A] 9.2
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40				[A] < 0.40	[A] < 0.40	
Magnesium (Water Soluble)	N	2120	g/l	0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010			[A] < 0.010
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	[A] 0.012	[A] 0.047	[A] 0.022			[A] 0.013
Total Sulphur	U	2175	%	0.010	[A] 0.025	[A] 0.023	[A] 0.046			[A] 0.026
Sulphur (Elemental)	U	2180	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Chloride (Water Soluble)	U	2220	g/l	0.010	[A] < 0.010	[A] < 0.010	[A] 0.014			[A] 0.023
Nitrate (Water Soluble)	N	2220	g/l	0.010	< 0.010	< 0.010	< 0.010			< 0.010
Cyanide (Total)	U	2300	mg/kg	0.50				[A] < 0.50	[A] < 0.50	
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50				[A] 18	[A] 24	
Ammonium (Water Soluble)	U	2220	g/l	0.01	< 0.01	< 0.01	< 0.01			< 0.01
Sulphate (Acid Soluble)	U	2430	%	0.010	[A] < 0.010	[A] 0.014	[A] < 0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Arsenic	U	2455	mg/kg	0.5				1.4	1.7	
Barium	U	2455	mg/kg	0				8	12	
Cadmium	U	2455	mg/kg	0.10				0.21	0.27	
Chromium	U	2455	mg/kg	0.5				1.9	1.9	
Molybdenum	U	2455	mg/kg	0.5				< 0.5	< 0.5	
Antimony	N	2455	mg/kg	2.0				< 2.0	< 2.0	
Copper	U	2455	mg/kg	0.50				3.2	3.4	
Mercury	U	2455	mg/kg	0.05				< 0.05	< 0.05	
Nickel	U	2455	mg/kg	0.50				4.2	5.5	
Lead	U	2455	mg/kg	0.50				2.9	2.3	
Selenium	U	2455	mg/kg	0.25				0.25	< 0.25	
Zinc	U	2455	mg/kg	0.50				11	9.1	
Chromium (Trivalent)	N	2490	mg/kg	1.0				1.9	1.9	
Chromium (Hexavalent)	N	2490	mg/kg	0.50				< 0.50	< 0.50	
Mineral Oil (TPH Calculation)	N	2670	mg/kg	10				< 10	< 10	
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	

Results - Soil

Project: 24013 Fortfield Road Terenure (Punch)

Client: IGSL			**Chemtest Job No.:**		22-17076	22-17076	22-17076	22-17076	22-17076	22-17076
Quotation No.: Q20-19951			**Chemtest Sample ID.:**		1424870	1424871	1424872	1424873	1424874	1424875
			Client Sample ID.:		AA175561	AA175554	AA175567	AA175571	AA171709	AA171710
			Sample Location:		BH01	BH03	BH04	BH05	BH06	BH06
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		2.0	2.0	3.0	2.0	1.0	2.0
			Asbestos Lab:					DURHAM	DURHAM	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0				[A] < 5.0	[A] < 5.0	
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Aromatic TPH >C21-C35	U	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0				[A] < 1.0	[A] < 1.0	
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0				[A] < 5.0	[A] < 5.0	
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0				[A] < 10	[A] < 10	
Benzene	U	2760	µg/kg	1.0				[A] < 1.0	[A] < 1.0	
Toluene	U	2760	µg/kg	1.0				[A] < 1.0	[A] < 1.0	
Ethylbenzene	U	2760	µg/kg	1.0				[A] < 1.0	[A] < 1.0	
m & p-Xylene	U	2760	µg/kg	1.0				[A] < 1.0	[A] < 1.0	
o-Xylene	U	2760	µg/kg	1.0				[A] < 1.0	[A] < 1.0	
Methyl Tert-Butyl Ether	U	2760	µg/kg	1.0				[A] < 1.0	[A] < 1.0	
Naphthalene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Acenaphthylene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Acenaphthene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Fluorene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Phenanthrene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Anthracene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Fluoranthene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Pyrene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Benzo[a]anthracene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Chrysene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Benzo[b]fluoranthene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Benzo[k]fluoranthene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Benzo[a]pyrene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Indeno(1,2,3-c,d)Pyrene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Benzo[g,h,i]perylene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Coronene	N	2800	mg/kg	0.010				[A] < 0.010	[A] < 0.010	
Total Of 17 PAH's	N	2800	mg/kg	0.20				[A] < 0.20	[A] < 0.20	
PCB 28	N	2815	mg/kg	0.0010				[A] < 0.0010	[A] < 0.0010	
PCB 52	N	2815	mg/kg	0.0010				[A] < 0.0010	[A] < 0.0010	
PCB 90+101	N	2815	mg/kg	0.0010				[A] < 0.0010	[A] < 0.0010	
PCB 118	N	2815	mg/kg	0.0010				[A] < 0.0010	[A] < 0.0010	

Results - Soil

Project: 24013 Fortfield Road Terenure (Punch)

Client: IGSL					**Chemtest Job No.:**	22-17076	22-17076	22-17076	22-17076	22-17076
Quotation No.: Q20-19951					**Chemtest Sample ID.:**	1424870	1424871	1424872	1424873	1424874	1424875
					Client Sample ID.:	AA175561	AA175554	AA175567	AA175571	AA171709	AA171710
					Sample Location:	BH01	BH03	BH04	BH05	BH06	BH06
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	2.0	2.0	3.0	2.0	1.0	2.0
					Asbestos Lab:				DURHAM	DURHAM	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**							
PCB 153	N	2815	mg/kg	0.0010					[A] < 0.0010	[A] < 0.0010	
PCB 138	N	2815	mg/kg	0.0010					[A] < 0.0010	[A] < 0.0010	
PCB 180	N	2815	mg/kg	0.0010					[A] < 0.0010	[A] < 0.0010	
Total PCBs (7 congeners)	N	2815	mg/kg	0.0010					[A] < 0.0010	[A] < 0.0010	
Total Phenols	U	2920	mg/kg	0.10					< 0.10	< 0.10	

Results - Single Stage WAC

Project: 24013 Fortfield Road Terenure (Punch)

					Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-17076						
Chemtest Sample ID:	1424873						
Sample Ref:							
Sample ID:	AA175571						
Sample Location:	BH05						
Top Depth(m):	2.0						
Bottom Depth(m):							
Sampling Date:							
Determinand	**SOP**	**Accred.**	**Units**		**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	U	%	[A] 0.33	3	5	6
Loss On Ignition	2610	U	%	5.6	--	--	10
Total BTEX	2760	U	mg/kg	[A] < 0.010	6	--	--
Total PCBs (7 congeners)	2815	N	mg/kg	[A] < 0.0010	1	--	--
TPH Total WAC	2670	U	mg/kg	[A] < 10	500	--	--
Total Of 17 PAH's	2800	N	mg/kg	[A] < 0.20	100	--	--
pH	2010	U		8.8	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.0070	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	< 0.0002	< 0.0002	0.5	2	25
Barium	1455	U	< 0.005	< 0.0005	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	0.0012	0.013	0.5	10	70
Copper	1455	U	0.0010	0.0095	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0079	0.079	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	0.004	0.036	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.24	2.4	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	59	580	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	9.9	99	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	11

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - Single Stage WAC

Project: 24013 Fortfield Road Terenure (Punch)

					Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-17076						
Chemtest Sample ID:	1424874						
Sample Ref:							
Sample ID:	AA171709						
Sample Location:	BH06						
Top Depth(m):	1.0						
Bottom Depth(m):							
Sampling Date:							
Determinand	**SOP**	**Accred.**	**Units**		**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	U	%	[A] 0.42	3	5	6
Loss On Ignition	2610	U	%	2.9	--	--	10
Total BTEX	2760	U	mg/kg	[A] < 0.010	6	--	--
Total PCBs (7 congeners)	2815	N	mg/kg	[A] < 0.0010	1	--	--
TPH Total WAC	2670	U	mg/kg	[A] < 10	500	--	--
Total Of 17 PAH's	2800	N	mg/kg	[A] < 0.20	100	--	--
pH	2010	U		8.6	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.015	--	To evaluate	To evaluate
Eluate Analysis			**10:1 Eluate mg/l**	**10:1 Eluate mg/kg**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	< 0.0002	< 0.0002	0.5	2	25
Barium	1455	U	< 0.005	< 0.0005	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	0.0007	0.0069	0.5	10	70
Copper	1455	U	0.0011	0.011	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0077	0.077	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.41	4.1	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	59	580	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	6.5	65	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.090
Moisture (%)	16

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1424870		AA175561	BH01		A	Amber Glass 250ml
1424870		AA175561	BH01		A	Plastic Tub 500g
1424871		AA175554	BH03		A	Amber Glass 250ml
1424871		AA175554	BH03		A	Plastic Tub 500g
1424872		AA175567	BH04		A	Amber Glass 250ml
1424872		AA175567	BH04		A	Plastic Tub 500g
1424873		AA175571	BH05		A	Amber Glass 250ml
1424873		AA175571	BH05		A	Plastic Tub 500g
1424874		AA171709	BH06		A	Amber Glass 250ml
1424874		AA171709	BH06		A	Plastic Tub 500g
1424875		AA171710	BH06		A	Amber Glass 250ml
1424875		AA171710	BH06		A	Plastic Tub 500g

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2180	Sulphur (Elemental) in Soils by HPLC	Sulphur	Dichloromethane extraction / HPLC with UV detection
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measurememrnt by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate.
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N–dimethyl-p-phenylenediamine.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.

Test Methods

SOP	Title	Parameters included	Method summary
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Appendix 3

Waste Classification 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:

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

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

9PO0T-9R4XH-6DEF3

Job name

22-001-20 Fortfield Terenure

Description/Comments

Project

22-001-20

Site

Fortfield Terenure

Classified by

Name:
Austin Hynes
Date:
19 May 2022 13:55 GMT
Telephone:
+353 (0)21 4345366

Company:
O'Callaghan Moran & Associates
Unit 15 Melbourne Business Park,
Model Farm Road
Cork

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: -

Course	Date
Hazardous Waste Classification	-

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	BH01	1.0	Non Hazardous		2
2	BH03	1.0	Non Hazardous		5
3	BH04	2.0	Non Hazardous		8
4	BH05	2.0	Non Hazardous		11
5	BH06	1.0	Non Hazardous		14
6	TP01	0.70	Non Hazardous		17
7	TP02	1.0	Non Hazardous		20
8	TP03	0.80	Non Hazardous		23
9	TP04	0.50	Non Hazardous		26

Related documents

#	Name	Description
1	OCM Waste Stream Updated 2021	waste stream template used to create this Job

Report

Created by: Austin Hynes

Created date: 19 May 2022 13:55 GMT

Classification of sample: BH01

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH01
Sample Depth:
1.0 m
Moisture content:
12%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<LOD
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.8 mg/kg	1.32	11.553 mg/kg	0.00116 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.44 mg/kg	3.22	1.265 mg/kg	0.000126 %	✓	
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.6 mg/kg	1.142	1.632 mg/kg	0.000163 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		14 mg/kg	1.462	18.269 mg/kg	0.00183 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	25.131 mg/kg	0.00251 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	20.89 mg/kg	0.00134 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.06 mg/kg	1.353	0.0725 mg/kg	0.00000725 %	✓	
10	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		2.5 mg/kg	1.5	3.349 mg/kg	0.000335 %	✓	
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		37 mg/kg	2.976	98.323 mg/kg	0.00983 %	✓	
12	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1.3 mg/kg	2.554	2.964 mg/kg	0.000296 %	✓	
13	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		64 mg/kg	2.774	158.523 mg/kg	0.0159 %	✓	
14	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
16		benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
17		toluene	601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
18		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
19		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]		0.0053 mg/kg		0.0047 mg/kg	0.000000473 %	✓	
20		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
22		acenaphthylene		205-917-1	208-96-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
23		acenaphthene		201-469-6	83-32-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
24		fluorene		201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
25		phenanthrene		201-581-5	85-01-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
26		anthracene		204-371-1	120-12-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
27		fluoranthene		205-912-4	206-44-0		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
28		pyrene		204-927-3	129-00-0		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
30		chrysene	601-048-00-0	205-923-4	218-01-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
34		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
35		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
36		benzo[ghi]perylene		205-883-8	191-24-2		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
37		phenol	604-001-00-2	203-632-7	108-95-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
38		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
									Total:	0.0349 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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 Can be discounted as this is a solid waste without a free draining liquid phase.

Hazard Statements hit:

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

Because of determinand:

xylene: (conc.: 4.73e-07%)

Classification of sample: BH03

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH03
Sample Depth:
1.0 m
Moisture content:
15%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 15% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<**LOD**
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.3 mg/kg	1.32	8.381 mg/kg	0.000838 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.9 mg/kg	3.22	5.32 mg/kg	0.000532 %	✓	
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.55 mg/kg	1.142	0.546 mg/kg	0.0000546 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		12 mg/kg	1.462	15.251 mg/kg	0.00153 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10 mg/kg	1.126	9.79 mg/kg	0.000979 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	20.345 mg/kg	0.0013 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.06 mg/kg	1.353	0.0706 mg/kg	0.00000706 %	✓	
10	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		0.8 mg/kg	1.5	1.044 mg/kg	0.000104 %	✓	
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		15 mg/kg	2.976	38.821 mg/kg	0.00388 %	✓	
12	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		0.97 mg/kg	2.554	2.154 mg/kg	0.000215 %	✓	
13	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		51 mg/kg	2.774	123.027 mg/kg	0.0123 %	✓	
14	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<**LOD**
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
17		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
18		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
19		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<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]									
20		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
21		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38		polychlorobiphenyls; PCB				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0232 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH04

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH04
Sample Depth:
2.0 m
Moisture content:
11%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<**LOD**
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.3 mg/kg	1.32	11.062 mg/kg	0.00111 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.43 mg/kg	3.22	1.247 mg/kg	0.000125 %	✓	
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.6 mg/kg	1.142	1.647 mg/kg	0.000165 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		16 mg/kg	1.462	21.067 mg/kg	0.00211 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	25.358 mg/kg	0.00254 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	17 mg/kg	1.56	23.889 mg/kg	0.00153 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.05 mg/kg	1.353	0.061 mg/kg	0.0000061 %	✓	
10	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		2.7 mg/kg	1.5	3.649 mg/kg	0.000365 %	✓	
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		43 mg/kg	2.976	115.297 mg/kg	0.0115 %	✓	
12	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1.5 mg/kg	2.554	3.451 mg/kg	0.000345 %	✓	
13	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		79 mg/kg	2.774	197.439 mg/kg	0.0197 %	✓	
14	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<**LOD**
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**

#		Determinand	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number									
16		benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2							
17		toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3							
18		ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4							
19		xylene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<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]							
20		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
		006-007-00-5									
21		naphthalene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3							
22		acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8							
23		acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9							
24		fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7							
25		phenanthrene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8							
26		anthracene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7							
27		fluoranthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0							
28		pyrene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0							
29		benzo[a]anthracene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3							
30		chrysene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9							
31		benzo[b]fluoranthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2							
32		benzo[k]fluoranthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9							
33		benzo[a]pyrene; benzo[def]chrysene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8							
34		indeno[123-cd]pyrene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5							
35		dibenz[a,h]anthracene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3							
36		benzo[ghi]perylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2							
37		phenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		604-001-00-2	203-632-7	108-95-2							
38		polychlorobiphenyls; PCB				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		602-039-00-4	215-648-1	1336-36-3							
								Total:	0.041 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH05

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH05
Sample Depth:
2.0 m
Moisture content:
11%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<**LOD**
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		1.4 mg/kg	1.32	1.665 mg/kg	0.000167 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.21 mg/kg	1.142	0.216 mg/kg	0.0000216 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		1.9 mg/kg	1.462	2.502 mg/kg	0.00025 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		3.2 mg/kg	1.126	3.246 mg/kg	0.000325 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	2.9 mg/kg	1.56	4.075 mg/kg	0.000261 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<**LOD**
10	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		<0.5 mg/kg	1.5	<0.75 mg/kg	<0.000075 %		<**LOD**
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		4.2 mg/kg	2.976	11.262 mg/kg	0.00113 %	✓	
12	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		0.25 mg/kg	2.554	0.575 mg/kg	0.0000575 %	✓	
13	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		11 mg/kg	2.774	27.492 mg/kg	0.00275 %	✓	
14	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<**LOD**
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
17		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
18		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
19		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<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]									
20		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
21		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38		polychlorobiphenyls; PCB				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.00664 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: BH06

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH06
Sample Depth:
1.0 m
Moisture content:
16%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 16% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<LOD
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		1.7 mg/kg	1.32	1.935 mg/kg	0.000193 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.27 mg/kg	1.142	0.266 mg/kg	0.0000266 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		1.9 mg/kg	1.462	2.394 mg/kg	0.000239 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		3.4 mg/kg	1.126	3.3 mg/kg	0.00033 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	2.3 mg/kg	1.56	3.093 mg/kg	0.000198 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
10	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		<0.5 mg/kg	1.5	<0.75 mg/kg	<0.000075 %		<LOD
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		5.5 mg/kg	2.976	14.112 mg/kg	0.00141 %	✓	
12	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<0.25 mg/kg	2.554	<0.638 mg/kg	<0.0000638 %		<LOD
13	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		9.1 mg/kg	2.774	21.763 mg/kg	0.00218 %	✓	
14	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
16		benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
17		toluene	601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
18		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
19		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]		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
20		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
22		acenaphthylene		205-917-1	208-96-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
23		acenaphthene		201-469-6	83-32-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
24		fluorene		201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
25		phenanthrene		201-581-5	85-01-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
26		anthracene		204-371-1	120-12-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
27		fluoranthene		205-912-4	206-44-0		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
28		pyrene		204-927-3	129-00-0		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
30		chrysene	601-048-00-0	205-923-4	218-01-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
34		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
35		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
36		benzo[ghi]perylene		205-883-8	191-24-2		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
37		phenol	604-001-00-2	203-632-7	108-95-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
38		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
									Total:	0.00632 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP01

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP01
Sample Depth:
0.70 m
Moisture content:
19%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 19% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<**LOD**
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		22 mg/kg	1.32	24.409 mg/kg	0.00244 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		23 mg/kg	3.22	62.233 mg/kg	0.00622 %	✓	
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.4 mg/kg	1.142	2.304 mg/kg	0.00023 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		25 mg/kg	1.462	30.705 mg/kg	0.00307 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		26 mg/kg	1.126	24.599 mg/kg	0.00246 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	26 mg/kg	1.56	34.08 mg/kg	0.00218 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.09 mg/kg	1.353	0.102 mg/kg	0.0000102 %	✓	
10	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		3.7 mg/kg	1.5	4.664 mg/kg	0.000466 %	✓	
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		56 mg/kg	2.976	140.06 mg/kg	0.014 %	✓	
12	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2.4 mg/kg	2.554	5.151 mg/kg	0.000515 %	✓	
13	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		95 mg/kg	2.774	221.465 mg/kg	0.0221 %	✓	
14	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<**LOD**
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
17		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
18		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
19		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<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]									
20		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
21		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38		polychlorobiphenyls; PCB				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0552 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP02

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP02
Sample Depth:
1.0 m
Moisture content:
12%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<LOD
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.4 mg/kg	1.32	11.081 mg/kg	0.00111 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		0.65 mg/kg	3.22	1.869 mg/kg	0.000187 %	✓	
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.5 mg/kg	1.142	1.53 mg/kg	0.000153 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		13 mg/kg	1.462	16.964 mg/kg	0.0017 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	25.131 mg/kg	0.00251 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	14 mg/kg	1.56	19.498 mg/kg	0.00125 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.05 mg/kg	1.353	0.0604 mg/kg	0.00000604 %	✓	
10	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		2.7 mg/kg	1.5	3.617 mg/kg	0.000362 %	✓	
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		37 mg/kg	2.976	98.323 mg/kg	0.00983 %	✓	
12	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1.5 mg/kg	2.554	3.42 mg/kg	0.000342 %	✓	
13	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		72 mg/kg	2.774	178.338 mg/kg	0.0178 %	✓	
14	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
16		benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
17		toluene	601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
18		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
19		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]		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
20		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
22		acenaphthylene		205-917-1	208-96-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
23		acenaphthene		201-469-6	83-32-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
24		fluorene		201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
25		phenanthrene		201-581-5	85-01-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
26		anthracene		204-371-1	120-12-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
27		fluoranthene		205-912-4	206-44-0		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
28		pyrene		204-927-3	129-00-0		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
30		chrysene	601-048-00-0	205-923-4	218-01-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
34		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
35		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
36		benzo[ghi]perylene		205-883-8	191-24-2		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
37		phenol	604-001-00-2	203-632-7	108-95-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
38		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
									Total:	0.0368 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP03

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP03
Sample Depth:
0.80 m
Moisture content:
13%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 13% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<**LOD**
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.5 mg/kg	1.32	11.1 mg/kg	0.00111 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		3.8 mg/kg	3.22	10.828 mg/kg	0.00108 %	✓	
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.4 mg/kg	1.142	1.415 mg/kg	0.000142 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		13 mg/kg	1.462	16.814 mg/kg	0.00168 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		21 mg/kg	1.126	20.924 mg/kg	0.00209 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	15 mg/kg	1.56	20.706 mg/kg	0.00133 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.05 mg/kg	1.353	0.0599 mg/kg	0.00000599 %	✓	
10	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		2.2 mg/kg	1.5	2.921 mg/kg	0.000292 %	✓	
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		31 mg/kg	2.976	81.65 mg/kg	0.00816 %	✓	
12	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1.2 mg/kg	2.554	2.712 mg/kg	0.000271 %	✓	
13	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		69 mg/kg	2.774	169.395 mg/kg	0.0169 %	✓	
14	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<**LOD**
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16		benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
17		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
18		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
19		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<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]									
20		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
21		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38		polychlorobiphenyls; PCB				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
										Total:	0.0346 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP04

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP04
Sample Depth:
0.50 m
Moisture content:
13%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 13% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	antimony { antimony trioxide }	051-005-00-X	215-175-0	1309-64-4		<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<LOD
2	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7 mg/kg	1.32	8.179 mg/kg	0.000818 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		2 mg/kg	3.22	5.699 mg/kg	0.00057 %	✓	
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.58 mg/kg	1.142	0.586 mg/kg	0.0000586 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		15 mg/kg	1.462	19.401 mg/kg	0.00194 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		11 mg/kg	1.126	10.96 mg/kg	0.0011 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	12 mg/kg	1.56	16.564 mg/kg	0.00106 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
10	molybdenum { molybdenum(VI) oxide }	042-001-00-9	215-204-7	1313-27-5		0.9 mg/kg	1.5	1.195 mg/kg	0.000119 %	✓	
11	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		16 mg/kg	2.976	42.142 mg/kg	0.00421 %	✓	
12	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1.1 mg/kg	2.554	2.486 mg/kg	0.000249 %	✓	
13	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		50 mg/kg	2.774	122.75 mg/kg	0.0123 %	✓	
14	TPH (C6 to C40) petroleum group			TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
16		benzene	601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
17		toluene	601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
18		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
19		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]		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
20		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
22		acenaphthylene		205-917-1	208-96-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
23		acenaphthene		201-469-6	83-32-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
24		fluorene		201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
25		phenanthrene		201-581-5	85-01-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
26		anthracene		204-371-1	120-12-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
27		fluoranthene		205-912-4	206-44-0		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
28		pyrene		204-927-3	129-00-0		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
30		chrysene	601-048-00-0	205-923-4	218-01-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
34		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
35		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
36		benzo[ghi]perylene		205-883-8	191-24-2		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
37		phenol	604-001-00-2	203-632-7	108-95-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
38		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
									Total:	0.0239 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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

salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex

EU CLP index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s):
14 Dec 2015 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

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

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)

boron {diboron trioxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

molybdenum {molybdenum(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide] (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: EU WM3 1st Edition v1.1.NI using the EU LoW
HazWasteOnline Classification Engine Version: 2022.103.5089.9622 (13 Apr 2022)
HazWasteOnline Database: 2022.103.5089.9622 (13 Apr 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