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Ref: 15-823-L1
Date: 23rd June 2022

Russell Construction
13 Westpoint Enterprise Park,
Clarence Avenue, Trafford Park
Manchester
M17 1QS

BY Email

Dear Sir/ Madam,

GEOENVIRONMENTAL SUMMARY AND MATERIAL CLASSIFICATION WHITWORTH STREET

1. INTRODUCTION

E3P understands that Russell Construction (herein referred to as the client) are the appointed main contractor for the redevelopment the parcel of land at 10 to 12 Whitworth Street, Manchester.

In summary, the requirement exists for a significant quantum of material to be excavated from the area of the proposed basement beneath the proposed building. It is understood that this material will be removed from site upon excavation and therefore it's waste classification needs to be confirmed.

A WM3 assessment and Waste Acceptance Criteria (WAC) testing has therefore been completed.

1.1. SCOPE OF WORKS

E3P completed a waste classification assessment through the undertaking of:

-  Intrusive field work to provide details of its composition and nature and obtain samples for analysis;
-  Waste Classification using the Environment Agency Technical Guidance, Waste Classification: Guidance on the Classification and Assessment of Waste (WM3), and;
-  Waste Acceptance Criteria Assessment (WAC).

Following the scope of works will allow E3P undertake an assessment to determine the likelihood of re-use of material in respect to both physical and chemical properties that would classify it as either hazardous or non-hazardous in nature in accordance with WM3, and if it is inert, non-hazardous or hazardous in nature in accordance with WAC.



Furthermore, the results obtained from the assessment will provide suitable information to assist the client in obtaining costings for either its recovery or disposal (in line with the 'Waste Hierarchy' requirements of the Waste Framework Directive 2008) and to allow the site to be developed as required.

Prior to works commencing, E3P provided a bespoke risk assessment and method statement (RAMS) covering the occupational safety and health requirements of the activities.

1.2. METHODOLOGY

For the purpose of material sampling, a tracked excavator was used to dig a series of trial pits across the area of proposed 'cut' that will form part of a basement.

Trail pits were excavated across the site in the area of the former warehouse where cut will be required. Exploratory holes were advanced to a range of depths across the area, which ensured representative observations and samples of the material (as shown in drawing 15-823-005).

In total, 13 no. trial pits were excavated, and visual and olfactory observations were taken from each trial pit to support what samples should be taken for laboratory analysis.

The 'as dug' material was placed to the side of each trail pit allowing for observations, photographs and detailed notes to be taken for the generation of suitable material logs.

To determine the chemical composition of the material, samples were obtained from each of the excavated trial pits. Samples from each location were placed into the following containers: 500 ml tub, 250 ml amber glass jar and 60 ml amber glass vials appropriate to the type of determinand identified for analysis.

Samples were stored in accordance with the i2 Analytical Laboratory quality procedures to maintain sample integrity, preservation and to minimise the chance of cross contamination. All samples were transferred with the appropriate chain of custody documentation.



2. GROUND INVESTIGATION SUMMARY

2.1. CURRENT SITE USE

The site is an approximately rectangular parcel of land located at 10-12 Whitworth Street in central Manchester. The site is vacant with no current use on site. The site is relatively level with little variation in topography due to level raising associated with historical development. Surface conditions are predominately soft standing with areas of loose bricks and rubble. An area of hardstanding cobbles is present in the southwest of the site.

The site is bounded by temporary fencing on the northern, eastern, and western boundaries of the site. An approximately 6 m high brick wall forming part of the railway line structure bounds the site on the southern boundary.

2.2. HISTORICAL SITE USE

Historical mapping indicates that the site was used for terraced housing before being converted into a warehouse in circa 1908. Google Earth imagery circa 2008 show that the warehouse is disused. The warehouse was demolished circa pre-2017. Satellite imagery circa 2021 shows the site being utilised as a car park.

2.3. WORKS UNDERTAKEN

Exploratory fieldwork was completed on 8th and 9th June 2022. The works are summarised in Table 2.1

TABLE 2.1 SUMMARY OF FIELDWORK

POTENTIAL SOURCE/RATIONALE	LOCATION HOLE	TYPE	MAXIMUM DEPTH (m bgl)	MONITORING WELLS RESPONSE ZONE (m bgl)
General Ground Conditions Including the determination of hazardous material	TP101	Mechanically Excavated Trial Pit	2.40	N/A
	TP102		2.50	
	TP103		2.40	
	TP104		2.40	
	TP105		2.60	
	TP106		2.00	
	TP107		2.60	
	TP108		2.30	
	TP109		2.90	
	TP110		2.90	
	TP111		2.40	
	TP112		1.80	
	TP113		2.10	



3. E3P GROUND INVESTIGATION SUMMARY

3.1. GROUND INVESTIGATION WORKS

E3P has completed an intrusive ground investigation comprising 60 mechanically excavated trial pits to assess the chemical compounds contained within the strata present within the area of the proposed basement. (drawing 15-823-005).

3.2. GROUND CONDITIONS

3.2.1. MADE GROUND – 0.00M BGL TO 2.50M BGL

Made Ground was encountered in all exploratory locations to a maximum proven depth of 2.50 m bgl. In TP111-113 the full extent of the Made Ground was not proven.

Made Ground was generally encountered in three distinct strata comprising brown clayey sand and gravel with cobbles (0.00-0.80 m bgl), light grey clayey sandy gravel with cobbles (0.30-1.70 m bgl), and dark brown very clayey gravelly sand with cobbles (0.80-2.50 m bgl). Gravel comprises very angular to sub angular brick, concrete, asphalt, rebar, plastic and wires. Cobbles comprise brick concrete and wood. From 0.80-2.50 m bgl, whole brick and wooden planks were encountered.

In TP109, TP110 and TP111 a black reworked sandy gravelly clay was encountered between 0.50-2.50 m bgl with gravel comprising brick, concrete, glass, sandstone and mudstone.

3.2.2. DRIFT – 1.90M BGL TO 2.90 M BGL

The drift deposits are encountered within all exploratory holes where the full depth of Made Ground was penetrated and generally comprised an orangish brown very clayey slightly gravelly SAND with gravel of fin rounded mudstone and sandstone.

3.2.3. SOLID – NOT ENCOUNTERED

The solid geology was not encountered within any of the exploratory holes. However, historical ground investigation information indicates the presence of the Sherwood Sandstone bedrock from 3.20 m bgl.

3.2.4. GROUNDWATER

No groundwater was encountered during the investigation.



4. HUMAN HEALTH RISK ASSESSMENT

At Tier 1 stage, the long term (chronic) human health toxicity of the soil has been assessed by comparing the on-site concentrations of organic and inorganic compounds with reference values published in LQM/CIEH S4UL (S4UL3267).

The results of this comparison have been summarised within Table 4.1.



TABLE 4.1 SUMMARY OF INORGANIC AND HYDROCARBON TOXICITY ASSESSMENT FOR A COMMERCIAL END USE

DETERMINANT	UNIT	GAC	N	MC	LOC. OF EX	PATH-WAY	ASSESSMENT
Arsenic	mg/kg	40	8	18	N/A	1	No Further Action
Cadmium	mg/kg	85	8	0.4	N/A	1	No Further Action
Chromium (VI)	mg/kg	6	8	<1.8	N/A	1	No Further Action
Lead	mg/kg	310	8	400	TP111 0.10m	1	Further Action
Mercury	mg/kg	1.2	8	2.5	TP111 0.10m	3	Further Action
Nickel	mg/kg	180	8	21	N/A	1	No Further Action
Selenium	mg/kg	430	8	<1.0	N/A	1	No Further Action
Copper	mg/kg	7100	8	470	N/A	1	No Further Action
Zinc	mg/kg	40000	8	220	N/A	1	No Further Action
Cyanide – Total	mg/kg	791	8	<1.0	N/A	1	No Further Action
Phenols – Total	mg/kg	210	8	<1.0	N/A	1	No Further Action
Asbestos	Fibres	NFD	8	Not-detected	N/A	4	No Further Action
Naphthalene	mg/kg	2.3	8	1.9	N/A	3	No Further Action
Acenaphthylene	mg/kg	2900	8	0.45	N/A	2	No Further Action
Acenaphthene	mg/kg	3000	8	1.1	N/A	1	No Further Action
Fluorene	mg/kg	2800	8	1.1	N/A	1	No Further Action
Phenanthrene	mg/kg	1300	8	10	N/A	2	No Further Action
Anthracene	mg/kg	31000	8	1.9	N/A	2	No Further Action
Fluoranthene	mg/kg	1500	8	9.9	N/A	2	No Further Action
Pyrene	mg/kg	3700	8	8.8	N/A	2	No Further Action
Benzo(a)Anthracene	mg/kg	11	8	4.3	N/A	2	No Further Action
Chrysene	mg/kg	30	8	4.5	N/A	2	No Further Action
Benzo(b)Fluoranthene	mg/kg	3.9	8	4.8	WAC003	2	Further Action
Benzo(k)Fluoranthene	mg/kg	110	8	1.6	N/A	2	No Further Action
Benzo(a)Pyrene**	mg/kg	3.2	8	3.7	WAC003	2	Further Action
Indeno(123-cd)Pyrene	mg/kg	45	8	1.7	N/A	2	No Further Action
Dibenzo(a,h)Anthracene	mg/kg	0.31	8	0.48 0.40	TP111 0.10m WAC003	2	Further Action
Benzo(ghi)Perylene	mg/kg	360	8	2.3	N/A	2	No Further Action
TPH C5-C6 (aliphatic)*	mg/kg	42	8	< 1.0	N/A	3	No Further Action
TPH C6-C8 (aliphatic)*	mg/kg	100	8	< 0.1	N/A	3	No Further Action



DETERMINANT	UNIT	GAC	N	MC	LOC. OF EX	PATH-WAY	ASSESSMENT
TPH C8-C10 (aliphatic)*	mg/kg	27	8	< 0.1	N/A	3	No Further Action
TPH C10-C12 (aromatic)*	mg/kg	250	8	6.3	N/A	3	No Further Action
TPH C12-C16 (aromatic)*	mg/kg	1800	8	16	N/A	3	No Further Action
TPH C16-C21 (aromatic)*	mg/kg	1900	8	46	N/A	1	No Further Action
TPH C21-C35 (aromatic)*	mg/kg	1900	8	160	N/A	1	No Further Action

Notes

Main pathways: PL1 = soil ingestion, PL2 = dermal contact and ingestion, PL3 = vapour inhalation (indoor), PL4 = dust inhalation; PL5 = vertical/lateral migration; PL6 = corrosion of concrete; PL7=tainting of water supply; PL8 = uptake by plants
Abbreviations: GAC = general assessment criteria, n = number of samples, MC = maximum concentration; Loc of Ex = location of exceedance; NFD = no fibres detected.

A total of 8 soil samples were tested from across the area of proposed basement, for a range of contaminants. Samples to were taken at a range of depths to accurately characterise the materials chemical composition.

When compared to the screening values for residential without plant uptake, as published within LQM/CIEH S4UL (S4UL3267), there are chemical exceedances that would require consideration and potential further assessment.



5. MATERIAL CLASSIFICATION

5.1. WASTE CLASSIFICATION ASSESSMENT (WM3)

The results obtained from the samples have been assessed in relation to the Environment Agency Technical Guidance, Waste Classification: Guidance on the Classification and Assessment of Waste (WM3) to determine whether the waste is hazardous or non-hazardous. All waste needs to be classified so it can be accurately described and apply the relevant List of Waste Code.

The classification:

- ✳ Must be conducted before the waste is moved, disposed of or recovered;
- ✳ Must be included on waste transfer documents and records;
- ✳ Determines the controls that apply to movement of the waste; and,
- ✳ Is needed to identify a suitably authorised waste management option.

E3P completed the required waste classification assessment through the use of the 'Haz Waste Online' modelling software which follows the guidance as defined in WM3. Observations made as to the nature of the stockpile have confirmed the material is most likely to be soil and stone (including natural geological deposits) generated from construction activities, though there is a presence of anthropogenic materials within the stockpile (brick, concrete, asphalt, glass, metal, and plastics).

The List of Waste contains one entry code for soil excavated from sites (including those that are potentially contaminated):

- ✳ 17 05 04 soil and stones other than those mentioned in 17 05 03.

On completion of the WM3 assessment, E3P can confirm all 8 samples have been determined to be non-hazardous.

A copy of the WM3 Classification Report is attached to the rear of this letter.

5.2. WASTE ACCEPTANCE CRITERIA (WAC)

WAC testing has been completed to determine the suitability for the material to be placed within inert or non-hazardous landfills should the requirement for material to be excavated and placed into landfill become necessary.

The results of WAC testing outline the which classification of landfill are suitable for the material to be placed within, and do not classify the material, this is completed via WM3 assessment (see section 3.1 of this report).

There are three possible Landfill Waste Acceptance Classifications;

- ✳ Inert Waste Landfill;
- ✳ Stable Non-reactive Hazardous Waste in non-hazardous landfill; and,
- ✳ Hazardous Waste Landfill

The results of the WAC testing are outlined in Table 4.1.



TABLE 4.1 LANDFILL WASTE ACCEPTANCE CRITERIA SUMMARY

LOCATION	SAMPLE DEPTH (m bgl)	LANDFILL WASTE ACCEPTANCE CLASSIFICATION			REASON FOR NON-INERT CLASSIFICATION	REMARKS
		INERT WASTE LANDFILL	STABLE NON-REACTIVE HAZARDOUS WASTE IN NON-HAZARDOUS LANDFILL	HAZARDOUS WASTE LANDFILL		
TP103	0.30	✓			N/A	-
TP107	1.00	✓			N/A	-
TP108	1.10	✓			N/A	-
TP111	0.40	✓			N/A	-

6. CONCLUSION

- A total of 8 soil samples were tested from across the area of proposed basement, for a range of contaminants. Samples were taken at a range of depths to accurately characterise the materials chemical composition. When compared to the screening values for residential without plant uptake, as published within LQM/CIEH S4UL (S4UL3267), there are chemical exceedances that would require consideration and potential further assessment.
- All samples taken at a range of depths within the material proposed to be cut from the site has classified as non-hazardous in accordance with parameters outlined within WM3.
- All four samples subjected to WAC testing are classified as suitable to be received at inert waste landfills (drawing 15-283-007), and;

I trust that the above information is sufficient at this time and if you require anything further please do not hesitate to contact me

Yours sincerely,
For and on behalf of E3P Ltd

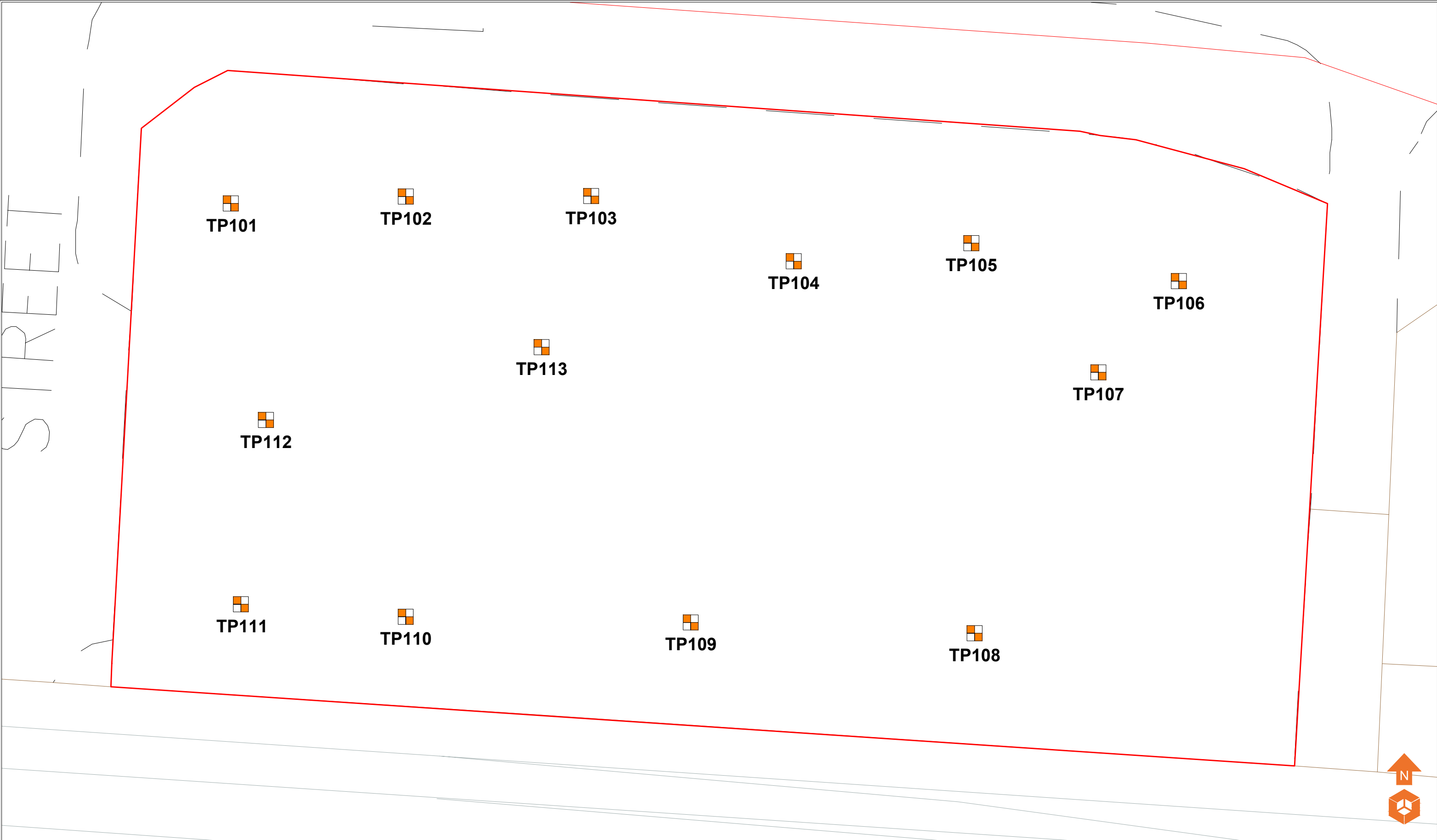
Stuart Ellis
Principal Geoenvironmental Consultant



Enclosed:

Exploratory Hole Logs;
Chemical Testing Results;
WM3 Analysis;
15-823-005 Exploratory Hole Location Plan;
15-823-006 Depth of Made Ground Plan





Location Symbols Approximate Trial Pit Location	Notes:					Client:	Russell WBHO	Job No:	Date:	e3p Environmental Engineering Partnership Ltd Taylor Road, Trafford Park Urmston, Manchester, M41 7JQ Tel: 0161 707 9612 E-mail: info@e3p.co.uk Website: www.e3p.co.uk
								Drawing No:	Scale:	
						005	NTS			
						Job Title:	Whitworth Street	Drawing Title:	Exploratory Hole Location Plan	The client must not amend any drawing, design or other intellectual property produced by E3P Ltd without permission in writing from E3P Ltd in advance of any amendments being made. In the event that such written permission is not obtained in advance of the amendments being made, E3P Ltd shall not be liable for any damage and/or losses occurring as a result of the amended drawing, design or intellectual property.
P1	REVA	28.06.2022	LM	JB						
Phase	Issue	Date	Drawn	Checked						

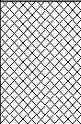
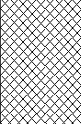
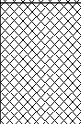
Project Name: Whitworth Street	Project No. 15823	Co-ords: 383562.00 - 397527.00 Level:	Date 08/06/2022
Location: Manchester		Dimensions (m): 1.50 3.50	Scale 1:30
Client: Russell WBHO		Depth 2.40	Logged GH

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.40	ES		0.60			MADE GROUND: Brown clayey sand and gravel with moderate cobble content and fragments of rebar and plastic. Gravel is fine to coarse very angular to sub angular of brick, concrete, and asphalt. Cobbles are very angular to angular of brick and concrete.	
	0.70	WAC					MADE GROUND: Light grey and brown slightly clayey sandy gravel with high cobble content. Gravel is fine to coarse very angular to sub angular of concrete, brick, and clinker. Cobbles are fine to coarse very angular to sub angular of concrete.	1
					1.30		MADE GROUND: Dark brown very clayey gravelly sand with moderate cobble content with fragments of rebar, plastic, wires, and wood planks. Gravel is fine to coarse very angular to sub angular of brick, and concrete. Cobbles are medium to coarse very angular to angular of whole brick.	2
	2.20	ES		2.20			Orangish brown very clayey slightly gravelly SAND. Gravel is fine rounded of mudstone and sandstone.	
				2.40			End of Pit at 2.40m	3
								4

Remarks: 1. Complete. 2. Concrete slab encountered in the north of the pit at 2.20 m bgl.

Stability: Stable

Project Name: Whitworth Street	Project No. 15823	Co-ords: 383568.00 - 397528.00 Level:	Date 08/06/2022
Location: Manchester		Dimensions (m): 1.60 3.50	Scale 1:30
Client: Russell WBHO		Depth 2.50	Logged GH

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.50	B		0.50			MADE GROUND: Brown clayey sand and gravel with moderate cobble content and fragments of rebar and plastic, and plastic sheeting. Gravel is fine to coarse very angular to sub angular of brick, concrete, and asphalt. Cobbles are very angular to angular of brick and concrete.	
	0.70	ES					MADE GROUND: Light grey and brown slightly clayey sandy gravel with high cobble content. Gravel is fine to coarse very angular to sub angular of concrete, brick, and clinker. Cobbles are fine to coarse very angular to sub angular of concrete.	1
	1.50	ES		1.30			MADE GROUND: Dark brown very clayey gravelly sand with moderate cobble content with fragments of rebar, plastic, wires, and wood planks. Gravel is fine to coarse very angular to sub angular of brick, and concrete. Cobbles are medium to coarse very angular to angular of whole brick.	2
				2.20			Orangish brown very clayey slightly gravelly SAND. Gravel is fine rounded of coal, mudstone and sandstone.	
				2.50			End of Pit at 2.50m	3
								4

Remarks: 1. Complete. 2. Concrete slab encountered in the north of the pit at 2.20 m bgl.

Stability: Stable

Trial Pit Log

TrialPit No
TP103
Sheet 1 of 1

Project Name: Whitworth Street

Project No.
15823

Co-ords: 383575.00 - 397527.00
Level:

Date
08/06/2022

Location: Manchester

Dimensions (m): 3.40

Scale
1:30

Client: Russell WBHO

Depth
2.40

Logged
GH

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20 0.30	ES WAC		0.60			MADE GROUND: Brown clayey sand and gravel with moderate cobble content and fragments of rebar and plastic. Gravel is fine to coarse very angular to sub angular of brick, concrete, and asphalt. Cobbles are very angular to angular of brick and concrete.	
				1.40			MADE GROUND: Light grey and brown slightly clayey sandy gravel with high cobble content. Gravel is fine to coarse very angular to sub angular of concrete, brick, and clinker. Cobbles are fine to coarse very angular to sub angular of concrete.	1
	1.60	ES		2.30 2.40			MADE GROUND: Dark brown very clayey gravelly sand with moderate cobble content with fragments of rebar, plastic, wires, and wood planks. Gravel is fine to coarse very angular to sub angular of brick, and concrete. Cobbles are medium to coarse very angular to angular of whole brick.	2
							Orangish brown very clayey slightly gravelly SAND. Gravel is fine rounded of coal, mudstone and sandstone.	
							End of Pit at 2.40m	3
								4

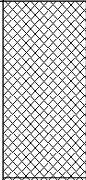
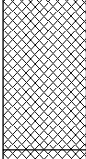
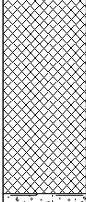
Remarks: 1. Complete. 2. Concrete slab encountered in the north of the pit at 2.20 m bgl.

Stability: Stable

Trial Pit Log

TrialPit No
TP104
Sheet 1 of 1

Project Name: Whitworth Street	Project No. 15823	Co-ords: 383583.00 - 397525.00 Level:	Date 08/06/2022
Location: Manchester		Dimensions (m): 3.20 Depth 2.40	Scale 1:30 Logged GH
Client: Russell WBHO			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.80	ES		0.70			MADE GROUND: Brown clayey sand and gravel with moderate cobble content and fragments of rebar and plastic. Gravel is fine to coarse very angular to sub angular of brick, concrete, and asphalt. Cobbles are very angular to angular of brick and concrete.	
	1.40	B		1.30			MADE GROUND: Light grey and brown slightly clayey sandy gravel with high cobble content. Gravel is fine to coarse very angular to sub angular of concrete, brick, and clinker. Cobbles are fine to coarse very angular to sub angular of concrete.	1
	2.10	ES		2.10			MADE GROUND: Dark brown very clayey gravelly sand with moderate cobble content with fragments of rebar, plastic, wires, and wood planks. Gravel is fine to coarse very angular to sub angular of brick, and concrete. Cobbles are medium to coarse very angular to angular of whole brick.	2
				2.40			Orangish brown very clayey slightly gravelly SAND. Gravel is fine rounded of mudstone and sandstone.	
							End of Pit at 2.40m	3
								4

Remarks: 1. Complete. 2. Concrete slab encountered in the north of the pit at 2.10 m bgl.

Stability: Stable

Project Name: Whitworth Street	Project No. 15823	Co-ords: 383589.00 - 397526.00 Level:	Date 08/06/2022
Location: Manchester		Dimensions (m): 3.40 Depth 2.60	Scale 1:30 Logged GH
Client: Russell WBHO			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.50	ES					MADE GROUND: Brown clayey sand and gravel with moderate cobble content and fragments of rebar, plastic, rope, and wires. Gravel is fine to coarse very angular to sub angular of brick, concrete, and asphalt. Cobbles are very angular to angular of brick and concrete.	
	1.00	ES		0.80			MADE GROUND: Light grey and brown slightly clayey sandy gravel with high cobble content. Gravel is fine to coarse very angular to sub angular of concrete, brick, and clinker. Cobbles are fine to coarse very angular to sub angular of concrete.	1
	1.50	WAC		1.40			MADE GROUND: Dark brown very clayey gravelly sand with moderate cobble content with fragments of rebar, plastic, wires, and wood planks. Gravel is fine to coarse very angular to sub angular of brick, and concrete. Cobbles are medium to coarse very angular to angular of whole brick.	2
				2.00			Orangish brown very clayey slightly gravelly SAND. Gravel is fine rounded of mudstone and sandstone.	
				2.60			End of Pit at 2.60m	3
								4

Remarks: 1. Complete. 2. Concrete slab encountered in the north of the pit at 2.10 m bgl.

Stability: Stable

Project Name: Whitworth Street	Project No. 15823	Co-ords: 383597.00 - 397524.00 Level:	Date 08/06/2022
Location: Manchester		Dimensions (m): 1.70 3.40	Scale 1:30
Client: Russell WBHO		Depth 2.00	Logged GH

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	B					MADE GROUND: Brown clayey sand and gravel with moderate cobble content and fragments of rebar and plastic. Gravel is fine to coarse very angular to sub angular of brick, concrete, and asphalt. Cobbles are very angular to angular of brick and concrete.	
				0.70				
	0.90	ES		1.00			MADE GROUND: Light grey and brown slightly clayey sandy gravel with high cobble content. Gravel is fine to coarse very angular to sub angular of concrete, brick, and clinker. Cobbles are fine to coarse very angular to sub angular of concrete.	1
	1.20	ES					MADE GROUND: Dark brown very clayey gravelly sand with moderate cobble content with fragments of rebar, plastic, wires, and wood planks. Gravel is fine to coarse very angular to sub angular of brick, and concrete. Cobbles are medium to coarse very angular to angular of whole brick.	
				1.90				
				2.00			Orangish brown very clayey slightly gravelly SAND. Gravel is fine rounded of mudstone and sandstone. End of Pit at 2.00m	2
								3
								4

Remarks: 1. Complete. 2. Concrete slab encountered in the north of the pit at 2.00 m bgl.

Stability: Stable

Project Name: Whitworth Street	Project No. 15823	Co-ords: 383594.00 - 397521.00 Level:	Date 08/06/2022
Location: Manchester		Dimensions (m): 4.00 Depth 2.60	Scale 1:30 Logged GH
Client: Russell WBHO			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.40	ES		0.50			MADE GROUND: Brown clayey sand and gravel with moderate cobble content and fragments of rebar and plastic. Gravel is fine to coarse very angular to sub angular of brick, concrete, and asphalt. Cobbles are very angular to angular of brick and concrete.	
	1.00	WAC					MADE GROUND: Light grey and brown slightly clayey sandy gravel with high cobble content. Gravel is fine to coarse very angular to sub angular of concrete, brick, and clinker. Cobbles are fine to coarse very angular to sub angular of concrete.	1
	2.00	ES		1.70			MADE GROUND: Dark brown very clayey gravelly sand with moderate cobble content with fragments of rebar, plastic, wires, and wood planks. Gravel is fine to coarse very angular to sub angular of brick, and concrete. Cobbles are medium to coarse very angular to angular of whole brick.	2
				2.50 2.60			Orangish brown very clayey slightly gravelly SAND. Gravel is fine rounded of mudstone and sandstone. End of Pit at 2.60m	3
								4

Remarks: 1. Complete.

Stability: Stable

Project Name: Whitworth Street	Project No. 15823	Co-ords: 383589.00 - 397512.00 Level:	Date 09/06/2022
Location: Manchester		Dimensions (m): 3.40 Depth 2.30	Scale 1:30 Logged GH
Client: Russell WBHO			

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.40	ES		0.20			MADE GROUND: Brown clayey sand and gravel with moderate cobble content and fragments of rebar and plastic. Gravel is fine to coarse very angular to sub angular of brick, concrete, and asphalt. Cobbles are very angular to angular of brick and concrete.	
	1.10	WAC		0.80			MADE GROUND: Light grey and brown slightly clayey sandy gravel with high cobble content. Gravel is fine to coarse very angular to sub angular of concrete, brick, and clinker. Cobbles are fine to coarse very angular to sub angular of concrete.	1
	2.20	ES		2.10			MADE GROUND: Dark brown very clayey gravelly sand with moderate cobble content with fragments of rebar, plastic, wires, and wood planks. Gravel is fine to coarse very angular to sub angular of brick, and concrete. Cobbles are medium to coarse very angular to angular of whole brick.	2
				2.30			Orangish brown very clayey very gravelly SAND. Gravel is fine to medium rounded of mudstone and sandstone.	3
							End of Pit at 2.30m	4

Remarks: 1. Complete.

Stability: Stable

Project Name: Whitworth Street	Project No. 15823	Co-ords: 383579.00 - 397512.00 Level:	Date 09/06/2022
Location: Manchester		Dimensions (m): 1.50 3.20	Scale 1:30
Client: Russell WBHO		Depth 2.90	Logged GH

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.50	B		0.50			MADE GROUND: Brown clayey sand and gravel with moderate cobble content and fragments of rebar and plastic. Gravel is fine to coarse very angular to sub angular of brick, concrete, and asphalt. Cobbles are very angular to angular of brick and concrete.	
	1.00	ES					MADE GROUND: Black interbedded light grey sandy very gravelly clay (reworked) with fragments of glass. Gravel is fine to coarse very angular to sub angular of brick, concrete, sandstone, and mudstone.	1
				1.40			MADE GROUND: Dark brown very clayey gravelly sand with moderate cobble content with fragments of rebar, plastic, wires, and wood planks. Gravel is fine to coarse very angular to sub angular of brick, and concrete. Cobbles are medium to coarse very angular to angular of whole brick.	2
	2.40 2.50	ES WAC		2.40			MADE GROUND: Orangish brown very clayey slightly gravelly sand with fragments of rebar and glass. Gravel is fine to coarse very angular to rounded of brick, concrete, mudstone and sandstone.	
				2.70			Orangish brown very clayey slightly gravelly SAND. Gravel is fine rounded of mudstone and sandstone.	
				2.90			End of Pit at 2.90m	3
								4

Remarks: 1. Complete.

Stability: Stable



Trial Pit Log

TrialPit No
TP110
Sheet 1 of 1

Project Name: Whitworth Street

Project No.
15823

Co-ords: 383568.00 - 397512.00
Level:

Date
09/06/2022

Location: Manchester

Dimensions (m): 3.30

Scale
1:30

Client: Russell WBHO

Depth
2.90

Logged
GH

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.50			MADE GROUND: Brown clayey sand and gravel with moderate cobble content and fragments of rebar and plastic. Gravel is fine to coarse very angular to sub angular of brick, concrete, and asphalt. Cobbles are very angular to angular of brick and concrete.	
	1.20	ES		1.10			MADE GROUND: Dark brown very clayey gravelly sand with moderate cobble content with fragments of rebar, plastic, wires, and wood planks. Gravel is fine to coarse very angular to sub angular of brick, and concrete. Cobbles are medium to coarse very angular to angular of whole brick.	1
	1.60	ES		1.50			MADE GROUND: Orangish brown clayey gravelly sand. Gravel is fine to medium very angular to sub rounded of brick, concrete, sandstone, and mudstone.	
				2.10			MADE GROUND: Black interbedded light grey sandy very gravelly clay (reworked) with fragments of glass. Gravel is fine to coarse very angular to sub angular of brick, concrete, sandstone, and mudstone.	2
							Orangish brown very clayey slightly gravelly SAND. Gravel is fine rounded of mudstone and sandstone.	
	2.60	B		2.60			Reddish orange gravelly SAND. Gravel is fine to medium sub angular to rounded of sandstone and mudstone.	
				2.90			End of Pit at 2.90m	3
								4

Remarks: 1. Complete.

Stability: Stable



Project Name: Whitworth Street	Project No. 15823	Co-ords: 383562.00 - 397513.00 Level:	Date 09/06/2022
Location: Manchester		Dimensions (m): 3.30 1.80	Scale 1:30
Client: Russell WBHO		Depth 2.40	Logged GH

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES		0.20			MADE GROUND: Brown clayey sand and gravel with moderate cobble content and fragments of rebar and plastic. Gravel is fine to coarse very angular to sub angular of brick, concrete, and asphalt. Cobbles are very angular to angular of brick and concrete.	
	0.40	WAC		0.60			MADE GROUND: Black interbedded light grey sandy very gravelly clay (reworked) with fragments of glass. Gravel is fine to coarse very angular to sub angular of brick, concrete, sandstone, and mudstone.	
	1.00	ES		1.50			MADE GROUND: Orangish brown clayey gravelly sand. Gravel is fine to medium very angular to sub rounded of brick, concrete, sandstone, and mudstone.	1
				2.40			MADE GROUND: MADE GROUND: Dark brown very clayey gravelly sand with moderate cobble content with fragments of rebar, plastic, wires, and wood planks. Gravel is fine to coarse very angular to sub angular of brick, and concrete. Cobbles are medium to coarse very angular to angular of whole brick. AND MADE GROUND: Black interbedded light grey sandy very gravelly clay (reworked) with fragments of glass. Gravel is fine to coarse very angular to sub angular of brick, concrete, sandstone, and mudstone. End of Pit at 2.40m	2
								3
								4

Remarks: 1. Complete. 2. An East-West trending wall present in the base of the pit between 1.50 - 2.40 m bgl. Different fill is used either side of the wall.

Stability: Stable



Trial Pit Log

TrialPit No
TP112
Sheet 1 of 1

Project Name: Whitworth Street Project No. 15823 Co-ords: 383563.00 - 397519.00 Level: Date 09/06/2022

Location: Manchester Dimensions (m): 1.80 3.50 Scale 1:30

Client: Russell WBHO Depth 1.80 Logged GH

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.50	ES		0.40			MADE GROUND: Brown clayey sand and gravel with moderate cobble content and fragments of rebar and plastic. Gravel is fine to coarse very angular to sub angular of brick, concrete, and asphalt. Cobbles are very angular to angular of brick and concrete.	1
				1.30			MADE GROUND: Dark brown sandy gravelly clay (reworked) with low cobble content. Gravel is fine to coarse very angular to sub angular of brick, concrete, sandstone, and mudstone. Cobbles are fine to medium very angular to sub angular of brick.	
	1.50	ES		1.80			MADE GROUND: Dark brown very clayey gravelly sand with moderate cobble content and fragments of rebar, plastic, wires, and wood planks. Gravel is fine to coarse very angular to sub angular of brick, and concrete. Cobbles are medium to coarse very angular to angular of whole brick.	2
							End of Pit at 1.80m	3
								4

Remarks: 1. Complete.

Stability: Stable



Project Name: Whitworth Street	Project No. 15823	Co-ords: 383574.00 - 397522.00 Level:	Date 09/06/2022
Location: Manchester		Dimensions (m): 1.40 3.30	Scale 1:30
Client: Russell WBHO		Depth 2.10	Logged GH

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES		0.30			MADE GROUND: Brown clayey sand and gravel with moderate cobble content and fragments of rebar and plastic. Gravel is fine to coarse very angular to sub angular of brick, concrete, and asphalt. Cobbles are very angular to angular of brick and concrete.	
	0.60	B					MADE GROUND: Light grey and brown slightly clayey sandy gravel with high cobble content. Gravel is fine to coarse very angular to sub angular of concrete, brick, and clinker. Cobbles are fine to coarse very angular to sub angular of concrete.	1
	0.80	WAC		1.00			MADE GROUND: Dark brown very clayey gravelly sand with moderate cobble content and fragments of rebar, plastic, wires, and wood planks. Gravel is fine to coarse very angular to sub angular of brick, and concrete. Cobbles are medium to coarse very angular to angular of whole brick.	2
	1.40	ES		2.10			End of Pit at 2.10m	3
								4

Remarks: 1. Complete.

Stability: Stable

Stuart Ellis

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Analytical Report Number : 22-64200

Project / Site name:	Whitworth St	Samples received on:	10/06/2022
Your job number:	15-823	Samples instructed on/ Analysis started on:	10/06/2022
Your order number:	001854	Analysis completed by:	20/06/2022
Report Issue Number:	1	Report issued on:	20/06/2022
Samples Analysed:	8 soil samples		

Izabela Wójcik
Signed:

Izabela Wójcik
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-64200
 Project / Site name: Whitworth St
 Your Order No: 001854

Lab Sample Number				2309402	2309403	2309404	2309405	2309406
Sample Reference				TP101	TP103	WAC003	TP107	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	1.60	1.50	0.40	2.20
Date Sampled				08/06/2022	08/06/2022	08/06/2022	08/06/2022	09/06/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	11	10	14	9
Total mass of sample received	kg	0.001	NONE	0.4	0.4	1.5	0.4	0.4

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SSZ	SSZ	SSZ	SSZ	SSZ

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	10.1	9.8	8.9	10.2	9.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	5400	5600	5900	3800	1200
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	1.1	0.91	1.6	0.91	0.28
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	2300	1800	3200	1800	560
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	1130	912	1590	908	279
Sulphide	mg/kg	1	MCERTS	27	9	34	31	23
Total Sulphur	mg/kg	50	MCERTS	2200	2200	2200	1600	560
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.6	1.2	1	1.3	0.5

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	1.1	< 0.05	1.3	0.5	1.9
Acenaphthylene	mg/kg	0.05	MCERTS	0.4	< 0.05	0.39	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.69	< 0.05	1.1	0.43	0.57
Fluorene	mg/kg	0.05	MCERTS	0.92	< 0.05	0.92	0.51	0.74
Phenanthrene	mg/kg	0.05	MCERTS	5.8	1.3	10	3.1	4.2
Anthracene	mg/kg	0.05	MCERTS	1.2	0.28	1.9	0.68	0.64
Fluoranthene	mg/kg	0.05	MCERTS	6	1.8	9.9	3.6	3.9
Pyrene	mg/kg	0.05	MCERTS	6.5	1.8	8.8	3.6	3.6
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.4	0.91	4.3	1.9	2
Chrysene	mg/kg	0.05	MCERTS	2.8	0.96	4.5	2	1.6
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.1	0.69	4.8	2.2	1.6
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.95	0.71	1.6	0.92	0.84
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.6	0.85	3.7	1.9	1.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.2	0.37	1.7	1	0.59
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.32	< 0.05	0.4	0.3	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.5	0.57	2.3	1.3	0.84

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	38.5	10.2	57.7	23.9	24.4
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Analytical Report Number: 22-64200
Project / Site name: Whitworth St
Your Order No: 001854

Lab Sample Number				2309402	2309403	2309404	2309405	2309406
Sample Reference				TP101	TP103	WAC003	TP107	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	1.60	1.50	0.40	2.20
Date Sampled				08/06/2022	08/06/2022	08/06/2022	08/06/2022	09/06/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	9.8	12	13	8.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	0.4
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	18	21	19	11
Copper (aqua regia extractable)	mg/kg	1	MCERTS	67	34	73	71	89
Lead (aqua regia extractable)	mg/kg	1	MCERTS	130	66	300	140	56
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	15	17	17	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	110	140	120	80

Petroleum Hydrocarbons

TPH (C5 - C6) HS_1D_TOTAL	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH (C6 - C8) HS_1D_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) HS_1D_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) EH_CU_1D_TOTAL	mg/kg	2	MCERTS	2.2	< 2.0	6.3	< 2.0	2.3
TPH (C12 - C16) EH_CU_1D_TOTAL	mg/kg	4	MCERTS	14	< 4.0	16	9.8	4.9
TPH (C16 - C21) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	35	9.7	46	21	14
TPH (C21 - C35) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	160	50	160	70	34
TPH (C35 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	85	33	52	38	< 10
TPH Total C5 - C40 EH_CU+HS_1D_TOTAL	mg/kg	10	MCERTS	290	93	280	140	56

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-64200
Project / Site name: Whitworth St
Your Order No: 001854

Lab Sample Number				2309407	2309408	2309409
Sample Reference				TP109	TP111	TP113
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.10	1.40
Date Sampled				09/06/2022	09/06/2022	09/06/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	38	39	33
Moisture Content	%	0.01	NONE	11	14	13
Total mass of sample received	kg	0.001	NONE	0.4	0.4	0.4

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SSZ	SSZ	SSZ

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	11.4	10.5	9.5
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	12000	2000	2400
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.61	0.17	0.28
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/kg	2.5	MCERTS	1200	340	570
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	mg/l	1.25	MCERTS	608	172	283
Sulphide	mg/kg	1	MCERTS	46	22	94
Total Sulphur	mg/kg	50	MCERTS	6600	1100	1100
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1	1.3	1.4

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	1	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.45	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.73	0.34
Fluorene	mg/kg	0.05	MCERTS	< 0.05	1.1	0.39
Phenanthrene	mg/kg	0.05	MCERTS	2.4	6.9	3.7
Anthracene	mg/kg	0.05	MCERTS	0.58	1.6	0.76
Fluoranthene	mg/kg	0.05	MCERTS	3.7	7.4	5.3
Pyrene	mg/kg	0.05	MCERTS	3.5	7.8	4.8
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.9	4	2.6
Chrysene	mg/kg	0.05	MCERTS	1.9	3.8	2.6
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	2.1	3.8	2.9
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.86	1.6	1.1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.8	3.7	2.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.89	1.5	1.2
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.22	0.48	0.31
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.1	2	1.5

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	21	47.8	29.9
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Analytical Report Number: 22-64200
Project / Site name: Whitworth St
Your Order No: 001854

Lab Sample Number				2309407	2309408	2309409
Sample Reference				TP109	TP111	TP113
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.10	1.40
Date Sampled				09/06/2022	09/06/2022	09/06/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.9	18	13
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	19	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	470	76	84
Lead (aqua regia extractable)	mg/kg	1	MCERTS	77	400	140
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	2.5	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	21	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	80	220	110

Petroleum Hydrocarbons

TPH (C5 - C6) HS_1D_TOTAL	mg/kg	1	NONE	< 1.0	< 1.0	< 1.0
TPH (C6 - C8) HS_1D_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
TPH (C8 - C10) HS_1D_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) EH_CU_1D_TOTAL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) EH_CU_1D_TOTAL	mg/kg	4	MCERTS	< 4.0	4.7	6.4
TPH (C16 - C21) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	18	20	20
TPH (C21 - C35) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	140	64	110
TPH (C35 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	74	31	61
TPH Total C5 - C40 EH_CU+HS_1D_TOTAL	mg/kg	10	MCERTS	230	120	200

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-64200

Project / Site name: Whitworth St

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2309402	TP101	None Supplied	0.4	Brown loam and sand with gravel and vegetation.
2309403	TP103	None Supplied	1.6	Brown loam and sand with gravel and vegetation.
2309404	WAC003	None Supplied	1.5	Brown loam and sand with gravel and vegetation.
2309405	TP107	None Supplied	0.4	Brown loam and sand with gravel and vegetation.
2309406	TP108	None Supplied	2.2	Brown loam and sand with gravel and vegetation.
2309407	TP109	None Supplied	1	Brown loam and sand with gravel and brick.
2309408	TP111	None Supplied	0.1	Brown loam and sand with gravel and brick.
2309409	TP113	None Supplied	1.4	Brown loam and sand with gravel and brick.

Analytical Report Number : 22-64200

Project / Site name: Whitworth St

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

Analytical Report Number : 22-64200

Project / Site name: Whitworth St

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 22-64202

Project / Site name:	Whitworth St	Samples received on:	10/06/2022
Your job number:	15-823	Samples instructed on/ Analysis started on:	10/06/2022
Your order number:	001854	Analysis completed by:	20/06/2022
Report Issue Number:	1	Report issued on:	20/06/2022
Samples Analysed:	4 wac multi samples		

Signed:

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Waste Acceptance Criteria Analytical Results							
Report No:	22-64202						
					Client: E3P		
Location	Whitworth St						
Lab Reference (Sample Number)	2309412				Landfill Waste Acceptance Criteria		
					Limits		
Sampling Date	08/06/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WAC002						
Depth (m)	0.30						
Solid Waste Analysis							
TOC (%)**	0.9				3%	5%	6%
Loss on Ignition (%) **	2.9				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL #	75				500	--	--
Total PAH (WAC-17) (mg/kg)	40.1				100	--	--
pH (units)**	8.5				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	14				--	To be evaluated	To be evaluated
Eluate Analysis		2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test	
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)		mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)	
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.068	0.037		0.41	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.0062	0.0028		0.033	0.5	10	70
Copper *	0.019	0.016		0.16	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0036	< 0.0030		< 0.020	0.5	10	30
Nickel *	0.0030	0.0030		0.030	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.044	0.5	10	50
Antimony *	0.015	< 0.0050		0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0079	0.0044		0.049	4	50	200
Chloride *	< 4.0	< 4.0		< 15	800	15000	25000
Fluoride	0.65	0.37		4.1	10	150	500
Sulphate *	140	13		310	1000	20000	50000
TDS*	210	59		800	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	5.8	15		140	500	800	1000
Leach Test Information							
Stone Content (%)	36						
Sample Mass (kg)	1.5						
Dry Matter (%)	91						
Moisture (%)	9.4						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.24						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited		

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

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Waste Acceptance Criteria Analytical Results							
Report No:	22-64202						
					Client: E3P		
Location	Whitworth St						
Lab Reference (Sample Number)	2309413				Landfill Waste Acceptance Criteria		
					Limits		
Sampling Date	08/06/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WAC004						
Depth (m)	1.00						
Solid Waste Analysis							
TOC (%)**	0.6				3%	5%	6%
Loss on Ignition (%) **	3.1				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL #	86				500	--	--
Total PAH (WAC-17) (mg/kg)	14.0				100	--	--
pH (units)**	11.1				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	69				--	To be evaluated	To be evaluated
Eluate Analysis		2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test	
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)		mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)	
Arsenic *	< 0.010	< 0.010		< 0.050	0.5	2	25
Barium *	0.030	0.033		0.32	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.090	0.019		0.26	0.5	10	70
Copper *	0.044	0.021		0.23	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.020	0.0053		0.068	0.5	10	30
Nickel *	0.0082	0.0033		0.038	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.046	0.5	10	50
Antimony *	< 0.0050	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0050	0.0081		0.078	4	50	200
Chloride *	7.7	< 4.0		< 15	800	15000	25000
Fluoride	0.17	0.086		0.94	10	150	500
Sulphate *	160	74		820	1000	20000	50000
TDS*	460	250		2700	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	9.0	5.4		58	500	800	1000
Leach Test Information							
Stone Content (%)	64						
Sample Mass (kg)	1.5						
Dry Matter (%)	94						
Moisture (%)	6.1						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.18						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited		

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
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Waste Acceptance Criteria Analytical Results							
Report No:	22-64202						
					Client: E3P		
Location	Whitworth St						
Lab Reference (Sample Number)	2309414				Landfill Waste Acceptance Criteria		
					Limits		
Sampling Date	09/06/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WAC005						
Depth (m)	1.10						
Solid Waste Analysis							
TOC (%)**	0.8				3%	5%	6%
Loss on Ignition (%) **	3.1				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL #	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	18.1				100	--	--
pH (units)**	9.7				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	29				--	To be evaluated	To be evaluated
Eluate Analysis		2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test	
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)		mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)	
Arsenic *	< 0.010	0.012		0.12	0.5	2	25
Barium *	0.015	0.010		0.11	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.014	0.0040		0.051	0.5	10	70
Copper *	0.036	0.025		0.26	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.027	0.0066		0.090	0.5	10	30
Nickel *	0.0058	0.0027		0.031	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.044	0.5	10	50
Antimony *	0.013	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0065	0.0018		0.023	4	50	200
Chloride *	7.2	< 4.0		19	800	15000	25000
Fluoride	0.74	0.34		3.8	10	150	500
Sulphate *	180	48		630	1000	20000	50000
TDS*	240	100		1200	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	13	14		140	500	800	1000
Leach Test Information							
Stone Content (%)	38						
Sample Mass (kg)	1.5						
Dry Matter (%)	89						
Moisture (%)	11						
Stage 1							
Volume Eluate L2 (litres)	0.32						
Filtered Eluate VE1 (litres)	0.20						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited		

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
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Waste Acceptance Criteria Analytical Results							
Report No:	22-64202						
					Client: E3P		
Location	Whitworth St						
Lab Reference (Sample Number)	2309415				Landfill Waste Acceptance Criteria		
					Limits		
Sampling Date	09/06/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WAC007						
Depth (m)	0.40						
Solid Waste Analysis							
TOC (%)**	1.2				3%	5%	6%
Loss on Ignition (%) **	3.5				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.30				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL #	54				500	--	--
Total PAH (WAC-17) (mg/kg)	57.2				100	--	--
pH (units)**	8.9				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	19				--	To be evaluated	To be evaluated
Eluate Analysis		2:1	8:1		Cumulative 10:1	Limit values for compliance leaching test	
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)		mg/l	mg/l		mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)	
Arsenic *	< 0.010	< 0.010		0.080	0.5	2	25
Barium *	0.065	0.019		0.23	20	100	300
Cadmium *	< 0.0005	< 0.0005		< 0.0020	0.04	1	5
Chromium *	0.011	0.0038		0.046	0.5	10	70
Copper *	0.049	0.024		0.27	2	50	100
Mercury *	< 0.0015	< 0.0015		< 0.010	0.01	0.2	2
Molybdenum *	0.0096	< 0.0030		0.033	0.5	10	30
Nickel *	0.0037	0.0018		0.020	0.4	10	40
Lead *	< 0.0050	< 0.0050		0.030	0.5	10	50
Antimony *	0.011	< 0.0050		< 0.020	0.06	0.7	5
Selenium *	< 0.010	< 0.010		< 0.040	0.1	0.5	7
Zinc *	0.0085	0.0024		0.030	4	50	200
Chloride *	11	< 4.0		18	800	15000	25000
Fluoride	0.36	0.29		2.9	10	150	500
Sulphate *	390	65		990	1000	20000	50000
TDS*	320	110		1300	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.13	< 0.13		< 0.50	1	-	-
DOC	11	9.6		97	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	1.5						
Dry Matter (%)	88						
Moisture (%)	12						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.18						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.					* = UKAS accredited (liquid eluate analysis only)		
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited		

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Analytical Report Number : 22-64202

Project / Site name: Whitworth St

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2309412	WAC002	None Supplied	0.3	Brown loam and sand with gravel and brick.
2309413	WAC004	None Supplied	1	Brown loam and sand with gravel and brick.
2309414	WAC005	None Supplied	1.1	Brown loam and gravel with brick and stones.
2309415	WAC007	None Supplied	0.4	Brown loam and gravel with brick and vegetation.

Analytical Report Number : 22-64202

Project / Site name: Whitworth St

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Preparation WAC leachate		In-house method	L043-PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	MCERTS
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033-PL	W	ISO 17025
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L031-PL	W	NONE
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037-PL	W	ISO 17025
PCB's by GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
BTEX (Sum of BTEX compounds) in soil	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance on Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil in Soil C10 - C40	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method based on USEPA 8270	L076-PL	D	NONE
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS

Analytical Report Number : 22-64202

Project / Site name: Whitworth St

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L039-PL	W	ISO 17025

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

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



XSWTX-20K9G-8OWOU

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

Job name

15-823

Description/Comments

This Waste Classification is based on the analytical results provided by E3P on the i2 Analytical Ltd 'Analytical Report' Number 22-64200. Soil Samples Only. During the assessment we have considered the 'worst or most reasonable case' metals compounds as laboratory reports only provide total concentrations of a metal e.g. Cu but not which compound(s) (species) of the metal present within the respective soil samples e.g. CuSO₄. If the assessment is non-hazardous based on these worst case species no further 'species' consideration is required. With TPH, WM3 (EA) require assessment of the potential presence of an unknown 'oil' by assessing the TPH range C6 – C40. Where the concentration of TPH is >0.1% (1000mg/kg) the 'soil' will be classed as HP 7 Carcinogenic and HP 11 Mutagenic, unless the concentration of the marker benzo(a)pyrene is <0.01% of the TPH concentration and confirmation is received that the TPH result has not arisen from petrol or diesel sources. Note that samples consider moisture content correction factors. In the case of any samples exceeding the 1000mg/kg TPH value and also the marker benzo(a)pyrene at <0.01% of the TPH concentration, the moisture correction factor could make it 'non-hazardous'. It is the responsibility of the geo-environmental consultant to target the laboratory analysis suite and testing to appropriately reflect the nature of the site, its activities and its impact on surrounding soils. WM3 states that the assessment of asbestos containing waste considers both the presence of asbestos as a) fibres that are free and dispersed, and b) identifiable pieces of asbestos containing material. If the waste contains fibres that are free and dispersed then the waste will be hazardous if the waste as a whole contains 0.1% or more asbestos. Where the waste contains identifiable pieces of asbestos containing material (i.e. any size that can be identified as potentially being asbestos by a competent person by the naked eye) it is deemed hazardous.

Project

Waste Classification

Site

Whitworth Street

Classified by

Name: **Daniel Enon**
 Date: **22 Jun 2022 09:14 GMT**
 Telephone: **0161 706 0402**
 Company: **RJT Consulting Partnerships Ltd**

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification:

CERTIFIED

Course

Hazardous Waste Classification
 Most recent 3 year Refresher

Date

18 Sep 2019
 02 Aug 2022 *

Next 3 year Refresher due by Sep 2022
 * training course booked

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP101	0.40	Non Hazardous		3
2	TP103	1.60	Non Hazardous		5
3	WAC003	1.50	Non Hazardous		7
4	TP107	0.40	Non Hazardous		9
5	TP108	2.20	Non Hazardous		11
6	TP109	1.00	Non Hazardous		13
7	TP111	0.10	Non Hazardous		15
8	TP113	1.40	Non Hazardous		17

Related documents

#	Name	Description
1	E3P I2 Characterisation Suite 4	waste stream template used to create this Job

Report

Created by: Daniel Enon

Created date: 22 Jun 2022 09:14 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	19
Appendix B: Rationale for selection of metal species	20
Appendix C: Version	21

Classification of sample: TP101

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

Sample details

Sample name:	LoW Code:
TP101	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.40 m	
Moisture content:	
14%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 14% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				10.1 pH		10.1 pH	10.1 pH		
2	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
3	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
4	naphthalene				1.1 mg/kg		0.965 mg/kg	0.0000965 %	✓	
	601-052-00-2	202-049-5	91-20-3							
5	acenaphthylene				0.4 mg/kg		0.351 mg/kg	0.0000351 %	✓	
		205-917-1	208-96-8							
6	acenaphthene				0.69 mg/kg		0.605 mg/kg	0.0000605 %	✓	
		201-469-6	83-32-9							
7	fluorene				0.92 mg/kg		0.807 mg/kg	0.0000807 %	✓	
		201-695-5	86-73-7							
8	phenanthrene				5.8 mg/kg		5.088 mg/kg	0.000509 %	✓	
		201-581-5	85-01-8							
9	anthracene				1.2 mg/kg		1.053 mg/kg	0.000105 %	✓	
		204-371-1	120-12-7							
10	fluoranthene				6 mg/kg		5.263 mg/kg	0.000526 %	✓	
		205-912-4	206-44-0							
11	pyrene				6.5 mg/kg		5.702 mg/kg	0.00057 %	✓	
		204-927-3	129-00-0							
12	benzo[a]anthracene				3.4 mg/kg		2.982 mg/kg	0.000298 %	✓	
	601-033-00-9	200-280-6	56-55-3							
13	chrysene				2.8 mg/kg		2.456 mg/kg	0.000246 %	✓	
	601-048-00-0	205-923-4	218-01-9							
14	benzo[b]fluoranthene				3.1 mg/kg		2.719 mg/kg	0.000272 %	✓	
	601-034-00-4	205-911-9	205-99-2							
15	benzo[k]fluoranthene				0.95 mg/kg		0.833 mg/kg	0.0000833 %	✓	
	601-036-00-5	205-916-6	207-08-9							
16	benzo[a]pyrene; benzo[def]chrysene				2.6 mg/kg		2.281 mg/kg	0.000228 %	✓	
	601-032-00-3	200-028-5	50-32-8							

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
17		indeno[123-cd]pyrene				1.2 mg/kg		1.053 mg/kg	0.000105 %	✓		
			205-893-2	193-39-5								
18		dibenz[a,h]anthracene				0.32 mg/kg		0.281 mg/kg	0.0000281 %	✓		
		601-041-00-2	200-181-8	53-70-3								
19		benzo[ghi]perylene				1.5 mg/kg		1.316 mg/kg	0.000132 %	✓		
			205-883-8	191-24-2								
20		arsenic { arsenic trioxide }				13 mg/kg	1.32	15.056 mg/kg	0.00151 %	✓		
		033-003-00-0	215-481-4	1327-53-3								
21		cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD	
		048-002-00-0	215-146-2	1306-19-0								
22		chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<LOD	
		024-001-00-0	215-607-8	1333-82-0								
23		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				20 mg/kg	1.462	25.641 mg/kg	0.00256 %	✓		
			215-160-9	1308-38-9								
24		copper { dicopper oxide; copper (I) oxide }				67 mg/kg	1.126	66.171 mg/kg	0.00662 %	✓		
		029-002-00-X	215-270-7	1317-39-1								
25		lead { lead chromate }			1	130 mg/kg	1.56	177.874 mg/kg	0.0114 %	✓		
		082-004-00-2	231-846-0	7758-97-6								
26		mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD	
		080-010-00-X	231-299-8	7487-94-7								
27		nickel { nickel chromate }				18 mg/kg	2.976	46.994 mg/kg	0.0047 %	✓		
		028-035-00-7	238-766-5	14721-18-7								
28		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD	
		034-002-00-8										
29		zinc { zinc chromate }				110 mg/kg	2.774	267.681 mg/kg	0.0268 %	✓		
		024-007-00-3	236-878-9	13530-65-9								
30		TPH (C6 to C40) petroleum group				290 mg/kg		254.386 mg/kg	0.0254 %	✓		
				TPH								
Total:									0.0832 %			

Key

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because HP3(i) - Flammable relates to liquids. However, this assessment was undertaken on solid soil samples and therefore this hazardous property does not apply at the concentrations within the data and the threshold can be raised to 1,000mg/kg.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0254%)

Classification of sample: TP103

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

Sample details

Sample name:	LoW Code:
TP103	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1.60 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
11%	
(dry weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				9.8 pH		9.8 pH	9.8 pH		
2	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
3	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
4	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
5	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
6	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
7	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
8	phenanthrene				1.3 mg/kg		1.171 mg/kg	0.000117 %	✓	
		201-581-5	85-01-8							
9	anthracene				0.28 mg/kg		0.252 mg/kg	0.0000252 %	✓	
		204-371-1	120-12-7							
10	fluoranthene				1.8 mg/kg		1.622 mg/kg	0.000162 %	✓	
		205-912-4	206-44-0							
11	pyrene				1.8 mg/kg		1.622 mg/kg	0.000162 %	✓	
		204-927-3	129-00-0							
12	benzo[a]anthracene				0.91 mg/kg		0.82 mg/kg	0.000082 %	✓	
	601-033-00-9	200-280-6	56-55-3							
13	chrysene				0.96 mg/kg		0.865 mg/kg	0.0000865 %	✓	
	601-048-00-0	205-923-4	218-01-9							
14	benzo[b]fluoranthene				0.69 mg/kg		0.622 mg/kg	0.0000622 %	✓	
	601-034-00-4	205-911-9	205-99-2							
15	benzo[k]fluoranthene				0.71 mg/kg		0.64 mg/kg	0.000064 %	✓	
	601-036-00-5	205-916-6	207-08-9							
16	benzo[a]pyrene; benzo[def]chrysene				0.85 mg/kg		0.766 mg/kg	0.0000766 %	✓	
	601-032-00-3	200-028-5	50-32-8							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	indeno[123-cd]pyrene	205-893-2	193-39-5		0.37 mg/kg		0.333 mg/kg	0.0000333 %	✓	
18	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
19	benzo[ghi]perylene	205-883-8	191-24-2		0.57 mg/kg		0.514 mg/kg	0.0000514 %	✓	
20	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		9.8 mg/kg	1.32	11.657 mg/kg	0.00117 %	✓	
21	cadmium { cadmium oxide }	048-002-00-0	215-146-2		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
22	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<LOD
23	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		18 mg/kg	1.462	23.701 mg/kg	0.00237 %	✓	
24	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		34 mg/kg	1.126	34.487 mg/kg	0.00345 %	✓	
25	lead { lead chromate }	082-004-00-2	231-846-0	1	66 mg/kg	1.56	92.746 mg/kg	0.00595 %	✓	
26	mercury { mercury dichloride }	080-010-00-X	231-299-8		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
27	nickel { nickel chromate }	028-035-00-7	238-766-5		15 mg/kg	2.976	40.22 mg/kg	0.00402 %	✓	
28	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
29	zinc { zinc chromate }	024-007-00-3	236-878-9		110 mg/kg	2.774	274.915 mg/kg	0.0275 %	✓	
30	TPH (C6 to C40) petroleum group		TPH		93 mg/kg		83.784 mg/kg	0.00838 %	✓	
Total:								0.0546 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because HP3(i) - Flammable relates to liquids. However, this assessment was undertaken on solid soil samples and therefore this hazardous property does not apply at the concentrations within the data and the threshold can be raised to 1,000mg/kg.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00838%)

Classification of sample: WAC003

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

Sample details

Sample name:	LoW Code:
WAC003	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
10%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 10% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				8.9 pH		8.9 pH	8.9 pH		
2	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
3	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
4	naphthalene				1.3 mg/kg		1.182 mg/kg	0.000118 %	✓	
	601-052-00-2	202-049-5	91-20-3							
5	acenaphthylene				0.39 mg/kg		0.355 mg/kg	0.0000355 %	✓	
		205-917-1	208-96-8							
6	acenaphthene				1.1 mg/kg		1 mg/kg	0.0001 %	✓	
		201-469-6	83-32-9							
7	fluorene				0.92 mg/kg		0.836 mg/kg	0.0000836 %	✓	
		201-695-5	86-73-7							
8	phenanthrene				10 mg/kg		9.091 mg/kg	0.000909 %	✓	
		201-581-5	85-01-8							
9	anthracene				1.9 mg/kg		1.727 mg/kg	0.000173 %	✓	
		204-371-1	120-12-7							
10	fluoranthene				9.9 mg/kg		9 mg/kg	0.0009 %	✓	
		205-912-4	206-44-0							
11	pyrene				8.8 mg/kg		8 mg/kg	0.0008 %	✓	
		204-927-3	129-00-0							
12	benzo[a]anthracene				4.3 mg/kg		3.909 mg/kg	0.000391 %	✓	
	601-033-00-9	200-280-6	56-55-3							
13	chrysene				4.5 mg/kg		4.091 mg/kg	0.000409 %	✓	
	601-048-00-0	205-923-4	218-01-9							
14	benzo[b]fluoranthene				4.8 mg/kg		4.364 mg/kg	0.000436 %	✓	
	601-034-00-4	205-911-9	205-99-2							
15	benzo[k]fluoranthene				1.6 mg/kg		1.455 mg/kg	0.000145 %	✓	
	601-036-00-5	205-916-6	207-08-9							
16	benzo[a]pyrene; benzo[def]chrysene				3.7 mg/kg		3.364 mg/kg	0.000336 %	✓	
	601-032-00-3	200-028-5	50-32-8							

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used	
		EU CLP index number	EC Number	CAS Number									
17		indeno[123-cd]pyrene				1.7	mg/kg		1.545	mg/kg	0.000155 %	✓	
			205-893-2	193-39-5									
18		dibenz[a,h]anthracene				0.4	mg/kg		0.364	mg/kg	0.0000364 %	✓	
			601-041-00-2	200-181-8									
19		benzo[ghi]perylene				2.3	mg/kg		2.091	mg/kg	0.000209 %	✓	
				205-883-8									
20		arsenic { arsenic trioxide }				12	mg/kg	1.32	14.404	mg/kg	0.00144 %	✓	
			033-003-00-0	215-481-4									
21		cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
			048-002-00-0	215-146-2									
22		chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD
			024-001-00-0	215-607-8									
23		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				21	mg/kg	1.462	27.902	mg/kg	0.00279 %	✓	
				215-160-9									
24		copper { dicopper oxide; copper (I) oxide }				73	mg/kg	1.126	74.718	mg/kg	0.00747 %	✓	
			029-002-00-X	215-270-7									
25		lead { lead chromate }			1	300	mg/kg	1.56	425.404	mg/kg	0.0273 %	✓	
			082-004-00-2	231-846-0									
26		mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
			080-010-00-X	231-299-8									
27		nickel { nickel chromate }				17	mg/kg	2.976	45.997	mg/kg	0.0046 %	✓	
			028-035-00-7	238-766-5									
28		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
			034-002-00-8										
29		zinc { zinc chromate }				140	mg/kg	2.774	353.073	mg/kg	0.0353 %	✓	
			024-007-00-3	236-878-9									
30		TPH (C6 to C40) petroleum group				280	mg/kg		254.545	mg/kg	0.0255 %	✓	
				TPH									
Total:									0.11 %				

Key

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because HP3(i) - Flammable relates to liquids. However, this assessment was undertaken on solid soil samples and therefore this hazardous property does not apply at the concentrations within the data and the threshold can be raised to 1,000mg/kg.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0255%)

Classification of sample: TP107

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

Sample details

Sample name:	LoW Code:
TP107	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
14%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 14% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				10.2 pH		10.2 pH	10.2 pH		
2	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
3	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
4	naphthalene				0.5 mg/kg		0.439 mg/kg	0.0000439 %	✓	
	601-052-00-2	202-049-5	91-20-3							
5	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
6	acenaphthene				0.43 mg/kg		0.377 mg/kg	0.0000377 %	✓	
		201-469-6	83-32-9							
7	fluorene				0.51 mg/kg		0.447 mg/kg	0.0000447 %	✓	
		201-695-5	86-73-7							
8	phenanthrene				3.1 mg/kg		2.719 mg/kg	0.000272 %	✓	
		201-581-5	85-01-8							
9	anthracene				0.68 mg/kg		0.596 mg/kg	0.0000596 %	✓	
		204-371-1	120-12-7							
10	fluoranthene				3.6 mg/kg		3.158 mg/kg	0.000316 %	✓	
		205-912-4	206-44-0							
11	pyrene				3.6 mg/kg		3.158 mg/kg	0.000316 %	✓	
		204-927-3	129-00-0							
12	benzo[a]anthracene				1.9 mg/kg		1.667 mg/kg	0.000167 %	✓	
	601-033-00-9	200-280-6	56-55-3							
13	chrysene				2 mg/kg		1.754 mg/kg	0.000175 %	✓	
	601-048-00-0	205-923-4	218-01-9							
14	benzo[b]fluoranthene				2.2 mg/kg		1.93 mg/kg	0.000193 %	✓	
	601-034-00-4	205-911-9	205-99-2							
15	benzo[k]fluoranthene				0.92 mg/kg		0.807 mg/kg	0.0000807 %	✓	
	601-036-00-5	205-916-6	207-08-9							
16	benzo[a]pyrene; benzo[def]chrysene				1.9 mg/kg		1.667 mg/kg	0.000167 %	✓	
	601-032-00-3	200-028-5	50-32-8							

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used	
		EU CLP index number	EC Number	CAS Number									
17		indeno[123-cd]pyrene				1	mg/kg		0.877	mg/kg	0.0000877 %	✓	
			205-893-2	193-39-5									
18		dibenz[a,h]anthracene				0.3	mg/kg		0.263	mg/kg	0.0000263 %	✓	
		601-041-00-2	200-181-8	53-70-3									
19		benzo[ghi]perylene				1.3	mg/kg		1.14	mg/kg	0.000114 %	✓	
			205-883-8	191-24-2									
20		arsenic { arsenic trioxide }				13	mg/kg	1.32	15.056	mg/kg	0.00151 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
21		cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
		048-002-00-0	215-146-2	1306-19-0									
22		chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		<LOD
		024-001-00-0	215-607-8	1333-82-0									
23		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				19	mg/kg	1.462	24.359	mg/kg	0.00244 %	✓	
			215-160-9	1308-38-9									
24		copper { dicopper oxide; copper (I) oxide }				71	mg/kg	1.126	70.121	mg/kg	0.00701 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
25		lead { lead chromate }			1	140	mg/kg	1.56	191.556	mg/kg	0.0123 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
26		mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
27		nickel { nickel chromate }				17	mg/kg	2.976	44.383	mg/kg	0.00444 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
28		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
		034-002-00-8											
29		zinc { zinc chromate }				120	mg/kg	2.774	292.015	mg/kg	0.0292 %	✓	
		024-007-00-3	236-878-9	13530-65-9									
30		TPH (C6 to C40) petroleum group				140	mg/kg		122.807	mg/kg	0.0123 %	✓	
				TPH									
Total:									0.0721 %				

Key

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because HP3(i) - Flammable relates to liquids. However, this assessment was undertaken on solid soil samples and therefore this hazardous property does not apply at the concentrations within the data and the threshold can be raised to 1,000mg/kg.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0123%)

Classification of sample: TP108

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

Sample details

Sample name:	LoW Code:
TP108	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
2.20 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
9%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 9% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				9.4 pH		9.4 pH	9.4 pH		
2	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
3	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
4	naphthalene				1.9 mg/kg		1.743 mg/kg	0.000174 %	✓	
	601-052-00-2	202-049-5	91-20-3							
5	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
6	acenaphthene				0.57 mg/kg		0.523 mg/kg	0.0000523 %	✓	
		201-469-6	83-32-9							
7	fluorene				0.74 mg/kg		0.679 mg/kg	0.0000679 %	✓	
		201-695-5	86-73-7							
8	phenanthrene				4.2 mg/kg		3.853 mg/kg	0.000385 %	✓	
		201-581-5	85-01-8							
9	anthracene				0.64 mg/kg		0.587 mg/kg	0.0000587 %	✓	
		204-371-1	120-12-7							
10	fluoranthene				3.9 mg/kg		3.578 mg/kg	0.000358 %	✓	
		205-912-4	206-44-0							
11	pyrene				3.6 mg/kg		3.303 mg/kg	0.00033 %	✓	
		204-927-3	129-00-0							
12	benzo[a]anthracene				2 mg/kg		1.835 mg/kg	0.000183 %	✓	
	601-033-00-9	200-280-6	56-55-3							
13	chrysene				1.6 mg/kg		1.468 mg/kg	0.000147 %	✓	
	601-048-00-0	205-923-4	218-01-9							
14	benzo[b]fluoranthene				1.6 mg/kg		1.468 mg/kg	0.000147 %	✓	
	601-034-00-4	205-911-9	205-99-2							
15	benzo[k]fluoranthene				0.84 mg/kg		0.771 mg/kg	0.0000771 %	✓	
	601-036-00-5	205-916-6	207-08-9							
16	benzo[a]pyrene; benzo[def]chrysene				1.3 mg/kg		1.193 mg/kg	0.000119 %	✓	
	601-032-00-3	200-028-5	50-32-8							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
17	indeno[123-cd]pyrene	205-893-2	193-39-5		0.59 mg/kg		0.541 mg/kg	0.0000541 %	✓		
18	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
19	benzo[ghi]perylene	205-883-8	191-24-2		0.84 mg/kg		0.771 mg/kg	0.0000771 %	✓		
20	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	8.3 mg/kg	1.32	10.054 mg/kg	0.00101 %	✓		
21	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	0.4 mg/kg	1.142	0.419 mg/kg	0.0000419 %	✓		
22	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %			<LOD
23	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		11 mg/kg	1.462	14.75 mg/kg	0.00147 %	✓		
24	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	89 mg/kg	1.126	91.93 mg/kg	0.00919 %	✓		
25	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	56 mg/kg	1.56	80.137 mg/kg	0.00514 %	✓		
26	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
27	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	14 mg/kg	2.976	38.227 mg/kg	0.00382 %	✓		
28	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
29	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9	80 mg/kg	2.774	203.607 mg/kg	0.0204 %	✓		
30	TPH (C6 to C40) petroleum group		TPH		56 mg/kg		51.376 mg/kg	0.00514 %	✓		
Total:									0.0492 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because HP3(i) - Flammable relates to liquids. However, this assessment was undertaken on solid soil samples and therefore this hazardous property does not apply at the concentrations within the data and the threshold can be raised to 1,000mg/kg.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00514%)

Classification of sample: TP109

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

Sample details

Sample name:	LoW Code:
TP109	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
1.00 m	
Moisture content:	
11%	
(dry weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				11.4 pH		11.4 pH	11.4 pH		
2	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
3	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
4	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
5	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
6	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
7	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
8	phenanthrene				2.4 mg/kg		2.162 mg/kg	0.000216 %	✓	
		201-581-5	85-01-8							
9	anthracene				0.58 mg/kg		0.523 mg/kg	0.0000523 %	✓	
		204-371-1	120-12-7							
10	fluoranthene				3.7 mg/kg		3.333 mg/kg	0.000333 %	✓	
		205-912-4	206-44-0							
11	pyrene				3.5 mg/kg		3.153 mg/kg	0.000315 %	✓	
		204-927-3	129-00-0							
12	benzo[a]anthracene				1.9 mg/kg		1.712 mg/kg	0.000171 %	✓	
	601-033-00-9	200-280-6	56-55-3							
13	chrysene				1.9 mg/kg		1.712 mg/kg	0.000171 %	✓	
	601-048-00-0	205-923-4	218-01-9							
14	benzo[b]fluoranthene				2.1 mg/kg		1.892 mg/kg	0.000189 %	✓	
	601-034-00-4	205-911-9	205-99-2							
15	benzo[k]fluoranthene				0.86 mg/kg		0.775 mg/kg	0.0000775 %	✓	
	601-036-00-5	205-916-6	207-08-9							
16	benzo[a]pyrene; benzo[def]chrysene				1.8 mg/kg		1.622 mg/kg	0.000162 %	✓	
	601-032-00-3	200-028-5	50-32-8							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	indeno[123-cd]pyrene	205-893-2	193-39-5		0.89 mg/kg		0.802 mg/kg	0.0000802 %	✓	
18	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.22 mg/kg		0.198 mg/kg	0.0000198 %	✓	
19	benzo[ghi]perylene	205-883-8	191-24-2		1.1 mg/kg		0.991 mg/kg	0.0000991 %	✓	
20	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		9.9 mg/kg	1.32	11.776 mg/kg	0.00118 %	✓	
21	cadmium { cadmium oxide }	048-002-00-0	215-146-2		0.4 mg/kg	1.142	0.412 mg/kg	0.0000412 %	✓	
22	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<LOD
23	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		21 mg/kg	1.462	27.651 mg/kg	0.00277 %	✓	
24	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		470 mg/kg	1.126	476.727 mg/kg	0.0477 %	✓	
25	lead { lead chromate }	082-004-00-2	231-846-0	1	77 mg/kg	1.56	108.203 mg/kg	0.00694 %	✓	
26	mercury { mercury dichloride }	080-010-00-X	231-299-8		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
27	nickel { nickel chromate }	028-035-00-7	238-766-5		16 mg/kg	2.976	42.901 mg/kg	0.00429 %	✓	
28	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
29	zinc { zinc chromate }	024-007-00-3	236-878-9		80 mg/kg	2.774	199.938 mg/kg	0.02 %	✓	
30	TPH (C6 to C40) petroleum group		TPH		230 mg/kg		207.207 mg/kg	0.0207 %	✓	
Total:								0.106 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because HP3(i) - Flammable relates to liquids. However, this assessment was undertaken on solid soil samples and therefore this hazardous property does not apply at the concentrations within the data and the threshold can be raised to 1,000mg/kg.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0207%)

Classification of sample: TP111

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

Sample details

Sample name:	LoW Code:
TP111	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.10 m	
Moisture content:	
14%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 14% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				10.5 pH		10.5 pH	10.5 pH		
2	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
3	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
4	naphthalene				1 mg/kg		0.877 mg/kg	0.0000877 %	✓	
	601-052-00-2	202-049-5	91-20-3							
5	acenaphthylene				0.45 mg/kg		0.395 mg/kg	0.0000395 %	✓	
		205-917-1	208-96-8							
6	acenaphthene				0.73 mg/kg		0.64 mg/kg	0.000064 %	✓	
		201-469-6	83-32-9							
7	fluorene				1.1 mg/kg		0.965 mg/kg	0.0000965 %	✓	
		201-695-5	86-73-7							
8	phenanthrene				6.9 mg/kg		6.053 mg/kg	0.000605 %	✓	
		201-581-5	85-01-8							
9	anthracene				1.6 mg/kg		1.404 mg/kg	0.00014 %	✓	
		204-371-1	120-12-7							
10	fluoranthene				7.4 mg/kg		6.491 mg/kg	0.000649 %	✓	
		205-912-4	206-44-0							
11	pyrene				7.8 mg/kg		6.842 mg/kg	0.000684 %	✓	
		204-927-3	129-00-0							
12	benzo[a]anthracene				4 mg/kg		3.509 mg/kg	0.000351 %	✓	
	601-033-00-9	200-280-6	56-55-3							
13	chrysene				3.8 mg/kg		3.333 mg/kg	0.000333 %	✓	
	601-048-00-0	205-923-4	218-01-9							
14	benzo[b]fluoranthene				3.8 mg/kg		3.333 mg/kg	0.000333 %	✓	
	601-034-00-4	205-911-9	205-99-2							
15	benzo[k]fluoranthene				1.6 mg/kg		1.404 mg/kg	0.00014 %	✓	
	601-036-00-5	205-916-6	207-08-9							
16	benzo[a]pyrene; benzo[def]chrysene				3.7 mg/kg		3.246 mg/kg	0.000325 %	✓	
	601-032-00-3	200-028-5	50-32-8							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
17	indeno[123-cd]pyrene	205-893-2	193-39-5		1.5 mg/kg		1.316 mg/kg	0.000132 %	✓	
18	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.48 mg/kg		0.421 mg/kg	0.0000421 %	✓	
19	benzo[ghi]perylene	205-883-8	191-24-2		2 mg/kg		1.754 mg/kg	0.000175 %	✓	
20	arsenic { arsenic trioxide }	033-003-00-0	215-481-4		18 mg/kg	1.32	20.847 mg/kg	0.00208 %	✓	
21	cadmium { cadmium oxide }	048-002-00-0	215-146-2		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
22	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8		<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %		<LOD
23	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		19 mg/kg	1.462	24.359 mg/kg	0.00244 %	✓	
24	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7		76 mg/kg	1.126	75.059 mg/kg	0.00751 %	✓	
25	lead { lead chromate }	082-004-00-2	231-846-0	1	400 mg/kg	1.56	547.304 mg/kg	0.0351 %	✓	
26	mercury { mercury dichloride }	080-010-00-X	231-299-8		2.5 mg/kg	1.353	2.968 mg/kg	0.000297 %	✓	
27	nickel { nickel chromate }	028-035-00-7	238-766-5		21 mg/kg	2.976	54.826 mg/kg	0.00548 %	✓	
28	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
29	zinc { zinc chromate }	024-007-00-3	236-878-9		220 mg/kg	2.774	535.362 mg/kg	0.0535 %	✓	
30	TPH (C6 to C40) petroleum group		TPH		120 mg/kg		105.263 mg/kg	0.0105 %	✓	
Total:								0.122 %		

Key

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because HP3(i) - Flammable relates to liquids. However, this assessment was undertaken on solid soil samples and therefore this hazardous property does not apply at the concentrations within the data and the threshold can be raised to 1,000mg/kg.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0105%)

Classification of sample: TP113

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

Sample details

Sample name:	LoW Code:
TP113	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
13%	
(dry weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				9.5 pH		9.5 pH	9.5 pH		
2	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 }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
3	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
4	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
5	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
6	acenaphthene				0.34 mg/kg		0.301 mg/kg	0.0000301 %	✓	
		201-469-6	83-32-9							
7	fluorene				0.39 mg/kg		0.345 mg/kg	0.0000345 %	✓	
		201-695-5	86-73-7							
8	phenanthrene				3.7 mg/kg		3.274 mg/kg	0.000327 %	✓	
		201-581-5	85-01-8							
9	anthracene				0.76 mg/kg		0.673 mg/kg	0.0000673 %	✓	
		204-371-1	120-12-7							
10	fluoranthene				5.3 mg/kg		4.69 mg/kg	0.000469 %	✓	
		205-912-4	206-44-0							
11	pyrene				4.8 mg/kg		4.248 mg/kg	0.000425 %	✓	
		204-927-3	129-00-0							
12	benzo[a]anthracene				2.6 mg/kg		2.301 mg/kg	0.00023 %	✓	
	601-033-00-9	200-280-6	56-55-3							
13	chrysene				2.6 mg/kg		2.301 mg/kg	0.00023 %	✓	
	601-048-00-0	205-923-4	218-01-9							
14	benzo[b]fluoranthene				2.9 mg/kg		2.566 mg/kg	0.000257 %	✓	
	601-034-00-4	205-911-9	205-99-2							
15	benzo[k]fluoranthene				1.1 mg/kg		0.973 mg/kg	0.0000973 %	✓	
	601-036-00-5	205-916-6	207-08-9							
16	benzo[a]pyrene; benzo[def]chrysene				2.5 mg/kg		2.212 mg/kg	0.000221 %	✓	
	601-032-00-3	200-028-5	50-32-8							

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
17		indeno[123-cd]pyrene				1.2 mg/kg		1.062 mg/kg	0.000106 %		✓	
			205-893-2	193-39-5								
18		dibenz[a,h]anthracene				0.31 mg/kg		0.274 mg/kg	0.0000274 %		✓	
			601-041-00-2	200-181-8								
19		benzo[ghi]perylene				1.5 mg/kg		1.327 mg/kg	0.000133 %		✓	
				205-883-8								
20		arsenic { arsenic trioxide }				13 mg/kg	1.32	15.19 mg/kg	0.00152 %		✓	
			033-003-00-0	215-481-4								
21		cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %			<LOD
			048-002-00-0	215-146-2								
22		chromium in chromium(VI) compounds { chromium(VI) oxide }				<1.8 mg/kg	1.923	<3.462 mg/kg	<0.000346 %			<LOD
			024-001-00-0	215-607-8								
23		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				18 mg/kg	1.462	23.281 mg/kg	0.00233 %		✓	
				215-160-9								
24		copper { dicopper oxide; copper (I) oxide }				84 mg/kg	1.126	83.694 mg/kg	0.00837 %		✓	
			029-002-00-X	215-270-7								
25		lead { lead chromate }			1	140 mg/kg	1.56	193.251 mg/kg	0.0124 %		✓	
			082-004-00-2	231-846-0								
26		mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
			080-010-00-X	231-299-8								
27		nickel { nickel chromate }				16 mg/kg	2.976	42.142 mg/kg	0.00421 %		✓	
			028-035-00-7	238-766-5								
28		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
			034-002-00-8									
29		zinc { zinc chromate }				110 mg/kg	2.774	270.05 mg/kg	0.027 %		✓	
			024-007-00-3	236-878-9								
30		TPH (C6 to C40) petroleum group				200 mg/kg		176.991 mg/kg	0.0177 %		✓	
				TPH								
Total:									0.077 %			

Key

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

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because HP3(i) - Flammable relates to liquids. However, this assessment was undertaken on solid soil samples and therefore this hazardous property does not apply at the concentrations within the data and the threshold can be raised to 1,000mg/kg.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0177%)

Appendix A: Classifier defined and non GB MCL determinands

• pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

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

GB MCL 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):
20 Nov 2021 - 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

■ **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

Appendix B: Rationale for selection of metal species

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}

Worst Case

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

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. 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

chromium in chromium(VI) compounds {chromium(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: production stainless steel, electroplating, wood preservation, anti-corrosion agents or coatings, pigments

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

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. Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight

selenium {selenium compounds with the exception of cadmium sulposelenide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case. Pigment cadmium sulposelenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil.

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**

HazWasteOnline Classification Engine Version: 2022.168.5189.9766 (18 Jun 2022)

HazWasteOnline Database: 2022.168.5189.9766 (18 Jun 2022)

This classification utilises the following guidance and legislation:

WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 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

GB MCL List - version 1.1 of 09 June 2021