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Waste Characterisation Assessment

St Evin's Park,

Monasterevin,

Co. Kildare

Prepared For: -

IGSL Limited
Unit F
M7 Business Park
Naas
County Kildare

Prepared By: -

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

August 2023

Project		Waste Characterisation: St Evin's Park, Monasterevin, Co. Kildare		
Client		IGSL Limited		
Report No	Date	Status	Prepared By	Reviewed By
230012701	04/08/2023	Final	Austin Hynes PGeo MSc	Sean Moran B.Sc. MSc

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1 INTRODUCTION

IGSL Limited requested O’Callaghan Moran & Associates (OCM) to undertake a waste characterisation assessment of five (5 No.) samples of made and natural ground collected from one (1 No.) cable percussion boreholes and four (4 No.) trial pits from a site at St Evin’s Park, Monasterevin, Co. Kildare.

1.1 Methodology

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

2 WASTE CLASSIFICATION ASSESSMENT

2.1 Soil Sampling and Laboratory Analysis

2.1.1 Site Investigation

The site investigation was completed by IGSL Limited in April and May 2023 and included the collection of five (5 No.) composite samples from one (1 No.) cable percussion borehole and four (4 No.) trial pits. The location of the samples is shown on Figure 2.1. The logs for the samples are in Appendix 1.

There is topsoil at the surface of all locations.

The subsurface comprises Made Ground underlain by Natural Ground. The made Ground is between 0.70-1.00m in thickness and comprises soft to firm, sandy gravelly SILT/CLAY. The Made Ground at BH01 and TP/SA04 contains non-natural material including fragments of concrete, brick and plastic <2% of the soil matrix.

The underlying Natural Ground comprises firm to stiff, sandy gravelly CLAY with cobble and boulder content to between 2.00-2.50 mbgl. At BH01 and TP/SA02, dense, silty sandy GRAVEL with cobble and boulder content we encountered below 1.50 mbgl.

2.1.2 Sample Collection

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

2.1.3 Laboratory Analysis

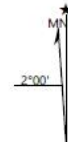
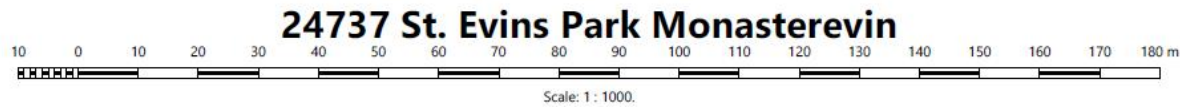
The samples were tested for, metals (arsenic, barium, cadmium, chromium, copper, mercury, molybdenum, nickel, lead, antimony, selenium and zinc), total organic carbon (TOC), BTEX (benzene, toluene, ethylbenzene and xylene) aliphatic and aromatic hydrocarbons, polychlorinated biphenyls (PCB), mineral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

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

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



ExpertGPS



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Title:

Figure 2.1 Sample Location Plan

Legend

This drawing is the property of O'Callaghan Moran & Associates and shall not be used, reproduced or disclosed to anyone without the prior written permission of O'Callaghan Moran & Associates and shall be returned upon request.

Client:

IGSL Limited

2.2 Waste Classification

The Haz Waste Online Classification Engine, developed in the UK by One Touch Data Ltd, was used to determine the waste classification. This tool was developed specifically to establish whether waste is non-hazardous or hazardous and has been approved for use in Ireland by the Environmental Protection Agency. The full Waste Classification Report is in Appendix 3 and the results are summarised in Table 2.1.

Table 2.1 Waste Classification

Sample No.	Depth	Classification	LoW Code
BH01	1.00	Non-Hazardous	17 05 04
TP/SA01	0.70	Non-Hazardous	17 05 04
TP/SA02	0.50	Non-Hazardous	17 05 04
TP/SA03	0.60	Non-Hazardous	17 05 04
TP/SA04	0.50	Non-Hazardous	17 05 04

Asbestos was not detected in any of the samples tested.

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

2.3 Waste Acceptance Criteria

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

All samples meet the inert WAC.

Table 2.2 WAC Results


Parameter	Unit	BH01	TP/SA01	TP/SA02	TP/SA03	TP/SA04	Inert Landfill	Inert Landfill Increased Limits	Non-Hazardous Landfill	Hazardous Landfill
Depth	m	1.00	0.70	0.50	0.60	0.50				
Antimony	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	0.0080	0.06	0.18	0.7	5
Arsenic	mg/kg	0.012	0.015	0.018	0.021	0.049	0.5	1.5	2	25
Barium	mg/kg	0.14	0.053	0.054	0.058	0.13	20	20	100	300
Cadmium	mg/kg	<0.0011	<0.0011	<0.0011	<0.0011	0.0015	0.04	0.04	1	5
Chromium	mg/kg	0.022	0.023	0.025	0.024	0.068	0.5	0.5	10	70
Copper	mg/kg	0.036	0.035	0.028	0.030	0.054	2	2	50	100
Lead	mg/kg	0.013	0.019	0.039	0.028	0.061	0.5	0.5	10	50
Molybdenum	mg/kg	0.031	0.014	0.0077	0.013	0.015	0.5	1.5	10	30
Nickel	mg/kg	0.018	0.051	0.020	0.048	0.11	0.4	0.4	10	40
Selenium	mg/kg	0.0054	<0.0050	0.012	0.013	0.025	0.1	0.3	0.5	7
Zinc	mg/kg	0.27	0.28	0.46	0.45	0.52	4	4	50	200
Mercury	mg/kg	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.01	0.01	0.2	2
Phenol	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	1	1	NE	NE
Fluoride	mg/kg	3.4	5.1	2.7	3.6	4.0	10	10	150	500
Chloride	mg/kg	<10	17	23	<10	18	800	2,400	15,000	25,000
Sulphate	mg/kg	11	39	<10	<10	40	1000*	3,000	20000*	50,000
DOC **	mg/kg	87	71	79	62	81	500	500	800	1,000
pH	pH units	8.7	8.9	8.7	8.7	8.7	NE	NE	NE	NE
TDS ***	mg/kg	840	550	490	490	590	4,000	12,000	60,000	100,000
TOC	%	1.6	<0.20	0.25	<0.20	0.9	3	6	NE	6
Benzene	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	6	6	NE	NE
Toluene	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	6	6	NE	NE
Ethylbenzene	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	6	6	NE	NE
m/p-Xylene	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	6	6	NE	NE
o-Xylene	mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	6	6	NE	NE
PCB Total of 7	mg/kg	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	1	1	NE	NE
Total 17 PAH's	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20	NE	100	NE	NE
Mineral Oil	mg/kg	<10	<10	<10	<10	<10	500	500	NE	NE
Asbestos	% mass	NAD	NAD	NAD	NAD	NAD	NE	NE	NE	NE

NAD denotes No Asbestos Detected

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

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

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

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

2.4 Waste Management Options

All of the soils are suitable for retention on site for landscaping or similar purposes. However if the soils are removed from the site options for recovery or disposal are outlined in this section.

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

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

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

Table 2.3 Soil Recovery Site Criteria

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

All samples meet the soil recovery criteria.

The soil and stone cannot be sent to soil recovery sites if the trigger levels for a particular domain are exceeded. There is however some flexibility in applying the limits. A derogation applies where up to three parameters can exceed the limit for a sample provided the concentration in the samples is no more than 1.5 times the trigger level. The site which is subject to this investigation is located in Domain 2 and the trigger levels are listed in Table 2.4.

Table 2.4 Soil Recovery Trigger Levels

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

All samples meet the soil recovery criteria for metal concentrations.

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

Table 2.5 Waste Management Options

Sample No.	Depth	Classification	LoW Code	Category
BH01	1.00	Non-Hazardous	17 05 04	A
TP/SA01	0.70	Non-Hazardous	17 05 04	A
TP/SA02	0.50	Non-Hazardous	17 05 04	A
TP/SA03	0.60	Non-Hazardous	17 05 04	A
TP/SA04	0.50	Non-Hazardous	17 05 04	A

A	Meets Soil Recovery Criteria
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3 CONCLUSIONS AND RECOMMENDATIONS

3.1 Conclusions

3.1.1 *Waste Classification*

Asbestos was not detected in any of the samples tested.

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

If the soils have to be removed from the site the recovery/disposal options are discussed in Section 2.4.

3.2 Recommendations

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

Appendix 1

Borehole and Trial Pit Logs



GEOTECHNICAL BORING RECORD

REPORT NUMBER

24737

CONTRACT St.Evins Park , Monasterevin , Co.Kildare		BOREHOLE NO. BH01
CO-ORDINATES 662,878.74 E 710,989.58 N		SHEET Sheet 1 of 1
GROUND LEVEL (m AOD)	RIG TYPE Dando 2000	DATE COMMENCED 31/05/2023
	BOREHOLE DIAMETER (mm) 200	DATE COMPLETED 31/05/2023
CLIENT Kildare Co.Co.	SPT HAMMER REF. NO.	BORED BY P.Thomas
ENGINEER DOBA	ENERGY RATIO (%)	PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL			0.10						
	MADE GROUND (Comprised of brown sandy gravelly CLAY with brick and concrete pieces)									
1	Firm brown sandy SILT/CLAY with occasional gravel			1.00	AA199363	B	1.00	N = 18 (2, 2, 3, 3, 5, 7)		
	Medium dense to dense grey fine to coarse slightly silty sandy GRAVEL with some cobble			1.40						
2					AA199364	B	2.00	N = 50 (4, 5, 6, 8, 15, 21)		
					AA199365	B	2.50	N = 50/150 mm (18, 21, 29)		
3	Obstruction End of Borehole at 2.90 m			2.90						
4										
5										
6										
7										
8										
9										

HARD STRATA BORING/CHISELLING				WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.3	2.5	0.75		2.10	2.10	No	1.50	20	Moderate
2.7	2.9	1							

INSTALLATION DETAILS					GROUNDWATER PROGRESS				
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
31-05-23	3.10	1.00	3.10	50mm SP					

REMARKS CAT scanned location and hand dug inspection pit was carried out .	Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) UT - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample
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IGSL BH LOG 24737.GPJ IGSL.GDT 15/6/23



GEOTECHNICAL BORING RECORD

REPORT NUMBER

24737

CONTRACT St.Evins Park , Monasterevin , Co.Kildare		BOREHOLE NO. BH02
CO-ORDINATES 662,949.75 E 711,012.49 N		SHEET Sheet 1 of 1
GROUND LEVEL (m AOD)	RIG TYPE Dando 2000	DATE COMMENCED 31/05/2023
	BOREHOLE DIAMETER (mm) 200	DATE COMPLETED 31/05/2023
	BOREHOLE DEPTH (m) 3.10	
CLIENT Kildare Co.Co.	SPT HAMMER REF. NO.	BORED BY P.Thomas
ENGINEER DOBA	ENERGY RATIO (%)	PROCESSED BY F.C

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL			0.10						
	Soft to firm brown sandy SILT/CLAY with occasional gravel									
1	Stiff grey/brown sandy SILT/CLAY with some gravel			1.00	AA199366	B	1.00		N = 20 (3, 3, 5, 4, 5, 6)	
2	Dense grey fine to coarse slightly clayey GRAVEL with some cobbles and occasional boulders			2.10	AA199367	B	2.00		N = 35 (4, 6, 6, 8, 9, 12)	
3	Obstruction End of Borehole at 3.10 m			3.10	AA199368	B	3.00		N = 50/150 mm (15, 10, 23, 27)	

HARD STRATA BORING/CHISELLING				WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.6	2.8	1		2.60	2.60	2.70	No	20	Slow
3	3.1	1.5							

INSTALLATION DETAILS					GROUNDWATER PROGRESS				
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments

REMARKS CAT scanned location and hand dug inspection pit was carried out .	Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) UT - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample
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IGSL BH LOG 24737.GPJ IGSL.GDT 15/6/23



GEOTECHNICAL BORING RECORD

REPORT NUMBER

24737

CONTRACT St.Evins Park , Monasterevin , Co.Kildare				BOREHOLE NO. BH03	
CO-ORDINATES 663,032.05 E 711,038.50 N		RIG TYPE Dando 2000		SHEET Sheet 1 of 1	
GROUND LEVEL (m AOD)		BOREHOLE DIAMETER (mm) 200		DATE COMMENCED 01/06/2023	
		BOREHOLE DEPTH (m) 3.80		DATE COMPLETED 01/06/2023	
CLIENT Kildare Co.Co.		SPT HAMMER REF. NO.		BORED BY P.Thomas	
ENGINEER DOBA		ENERGY RATIO (%)		PROCESSED BY F.C	

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL			0.10						
	MADE GROUND (Comprised of brown sandy gravelly CLAY with with plastic fragments)			0.90						
1	Stiff grey brown sandy SILT/CLAY with some gravel			1.70	AA199369	B	1.00		N = 24 (2, 3, 5, 5, 7, 7)	
2	Medium dense to dense grey fine to coarse silty GRAVEL with frequent cobbles and boulders				AA199370	B	2.00		N = 27 (4, 5, 6, 6, 7, 8)	
3					AA199371	B	3.00		N = 50 (6, 7, 9, 9, 14, 18)	
4	Obstruction End of Borehole at 3.80 m			3.80	AA199372	B	3.70		N = 50/75 mm (25, 31, 50)	

HARD STRATA BORING/CHISELLING				WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
3.3	3.5	1		2.60	2.60	2.80	2.50	20	Slow
3.7	3.8	1.5							

INSTALLATION DETAILS					GROUNDWATER PROGRESS				
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
01-06-23	3.80	1.00	2.80	50mm SP					

REMARKS CAT scanned location and hand dug inspection pit was carried out .	Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) UT - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample
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IGSL BH LOG 24737.GPJ IGSL.GDT 15/6/23



TRIAL PIT RECORD

REPORT NUMBER

24737

CONTRACT St.Evins Park , Monasterevin , Co.Kildare		TRIAL PIT NO.	TP/SA01
LOGGED BY I.Reder		SHEET	Sheet 1 of 1
CO-ORDINATES 662,947.91 E 710,988.82 N		DATE STARTED	02/06/2023
GROUND LEVEL (m) 63.79		DATE COMPLETED	02/06/2023
CLIENT ENGINEER Kildare Co.Co. DOBA		EXCAVATION METHOD	6T Tracked machine

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples			Vane Test (KPa)	Hand Penetrometer (KPa)
						Sample Ref	Type	Depth		
0.0	TOPSOIL									
	Soft to firm, brown/grey mottled, very sandy slightly gravelly SILT		0.30	63.49						
	Stiff, brown/grey mottled, sandy gravelly SILT with high subangular to subrounded cobbles content		0.90	62.89		AA196569	B	0.70		
	Firm, grey, very sandy very gravelly SILT/CLAY with low subangular cobbles content (possible very clayey/silty gravelly sand)		1.80	61.99	↓ (Moderate)	AA196570	B	1.60		
	End of Trial Pit at 2.50m		2.50	61.29		AA196571	B	2.40		

Groundwater Conditions
Moderate water flow at 2.0m

Stability
TP slightly unstable form 1.8m

General Remarks
SA01 done in location - for all details see SA01 log



TRIAL PIT RECORD

REPORT NUMBER

24737

CONTRACT St.Evins Park , Monasterevin , Co.Kildare		TRIAL PIT NO.	TP/SA02
LOGGED BY I.Redder		SHEET	Sheet 1 of 1
CO-ORDINATES 662,996.28 E 711,008.95 N		DATE STARTED	02/06/2023
GROUND LEVEL (m) 63.81		DATE COMPLETED	02/06/2023
CLIENT ENGINEER Kildare Co.Co. DOBA		EXCAVATION METHOD	6T Tracked machine

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples			Vane Test (KPa)	Hand Penetrometer (KPa)
						Sample Ref	Type	Depth		
0.0	TOPSOIL									
	Soft to firm, brown/grey mottled, very sandy slightly gravelly SILT		0.25	63.56		AA196572	B	0.50		
	Stiff, brown/grey mottled, sandy gravelly SILT with high subangular to subrounded cobbles and low boulders content		0.80	63.01						
1.0										
	Dense, grey, very silty sandy fine to coarse GRAVEL with high subangular to subrounded cobbles and low boulders content		1.50	62.31		AA196573	B	1.40		
2.0										
	End of Trial Pit at 2.10m		2.10	61.71	↓ (Slow)	AA196574	B	2.00		
3.0										
4.0										

Groundwater Conditions
Slow water flow at 2.1m

Stability
TP unstable form 1.5m

General Remarks
SA02 done in location - for all details see SA02 log

IGSL TP LOG 24737 GPJ IGSL GDT 15/6/23



TRIAL PIT RECORD

REPORT NUMBER

24737

CONTRACT St.Evins Park , Monasterevin , Co.Kildare		TRIAL PIT NO. TP/SA03
LOGGED BY I.Redder		SHEET Sheet 1 of 1
CO-ORDINATES 663,031.87 E 710,995.67 N		DATE STARTED 02/06/2023
GROUND LEVEL (m) 63.97		DATE COMPLETED 02/06/2023
CLIENT ENGINEER Kildare Co.Co. DOBA	EXCAVATION METHOD 6T Tracked machine	

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples			Vane Test (KPa)	Hand Penetrometer (KPa)
						Sample Ref	Type	Depth		
0.0	TOPSOIL									
	Soft to irm, brown/grey mottled, very sandy slightly gravelly SILT/CLAY		0.25	63.72						
	Stiff, brown/grey mottled, sandy gravelly SILT/CLAY with high subangular to subrounded cobbles and low boulders content		0.80	63.17		AA196575	B	0.60		
1.0										
	Firm, grey, sandy very gravelly SILT/CLAY with low subangular cobbles content (possible very clayey/silty gravel)		2.00	61.97						
2.0	End of Trial Pit at 2.20m		2.20	61.77	↓ (Slow)	AA196577	B	2.20		
3.0										
4.0										

Groundwater Conditions
Slow water flow at 2.2m

Stability
TP unstable form 2.0m

General Remarks
SA03 done in location - for all details see SA03 log



TRIAL PIT RECORD

REPORT NUMBER

24737

CONTRACT St.Evins Park , Monasterevin , Co.Kildare		TRIAL PIT NO.	TP/SA04
LOGGED BY I.Reder		SHEET	Sheet 1 of 1
CO-ORDINATES 663,041.34 E 710,945.46 N		DATE STARTED	02/06/2023
GROUND LEVEL (m) 63.88		DATE COMPLETED	02/06/2023
CLIENT ENGINEER Kildare Co.Co. DOBA		EXCAVATION METHOD	6T Tracked machine

Depth (m)	Geotechnical Description	Legend	Depth (m)	Elevation	Water Strike	Samples			Vane Test (KPa)	Hand Penetrometer (KPa)
						Sample Ref	Type	Depth		
0.0	TOPSOIL									
	Soft to firm, brown/grey mottled, very sandy slightly gravelly SILT/CLAY with some plastic rubbish and hair roots (possible FILL)		0.25	63.63						
	Firm to stiff, brown/grey mottled, sandy gravelly SILT/CLAY with high subangular to subrounded cobbles and low boulders content		0.70	63.18		AA196578	B	0.50		
1.0										
	Firm, brownish grey, slightly sandy gravelly SILT/CLAY with high subangular to subrounded cobbles and boulders content		1.70	62.18		AA196579	B	1.30		
2.0										
	End of Trial Pit at 2.30m		2.30	61.58	↓ (Seepage)	AA196580	B	2.00		
3.0										
4.0										

Groundwater Conditions
Seepage flow at 2.2m

Stability
TP stable

General Remarks
SA04 done in location - for all details see SA04 log

IGSL TP LOG 24737 GPJ IGSL GDT 15/6/23

Appendix 2
Laboratory Report



Final Report

Report No.: 23-21180-1
Initial Date of Issue: 05-Jul-2023

Re-Issue Details:

Client: IGSL
Client Address: M7 Business Park
Naas
County Kildare
Ireland
Contact(s): Darren Keogh
Project: 24737 St Evins Park Monaservin
Kildare

Quotation No.: Q20-21693	Date Received: 22-Jun-2023
Order No.:	Date Instructed: 22-Jun-2023
No. of Samples: 8	
Turnaround (Wkdays): 7	Results Due: 30-Jun-2023
Date Approved: 05-Jul-2023	

Approved By:

Details: Stuart Henderson, Technical
Manager

Results - Leachate

Project: 24737 St Evins Park Monaservin Kildare

Client: IGSL		Chemtest Job No.:		23-21180	23-21180	23-21180	23-21180	23-21180	23-21180	
Quotation No.: Q20-21693		Chemtest Sample ID.:		1662178	1662180	1662182	1662183	1662185		
Order No.:		Client Sample Ref.:		AA199363	AA196569	AA196572	AA196575	AA196578		
		Sample Location:		BH01	TP/SA01	TP/SA02	TP/SA03	TP/SA04		
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL		
		Top Depth (m):		1.00	0.70	0.50	0.60	0.50		
Determinand	Accred.	SOP	Type	Units	LOD					
pH	U	1010	10:1		N/A	8.3	8.6	8.4	8.7	8.5
Ammonium	U	1220	10:1	mg/l	0.050	0.11	0.15	0.079	0.064	0.085
Ammonium	N	1220	10:1	mg/kg	0.10	1.2	1.8	0.90	0.81	1.0
Boron (Dissolved)	U	1455	10:1	mg/kg	0.01	< 0.01	< 0.01	0.12	0.10	0.10
Benzofluranthene	N	1800	10:1	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Results - Soil

Project: 24737 St Evins Park Monaservin Kildare

Client: IGSL		Chemtest Job No.:		23-21180	23-21180	23-21180	23-21180	23-21180	23-21180	23-21180	23-21180
Quotation No.: Q20-21693		Chemtest Sample ID.:		1662178	1662179	1662180	1662181	1662182	1662183	1662184	1662185
Order No.:		Client Sample Ref.:		AA199363	AA199366	AA196569	AA196570	AA196572	AA196575	AA196576	AA196578
		Sample Location:		BH01	BH02	TP/SA01	TP/SA01	TP/SA02	TP/SA03	TP/SA03	TP/SA04
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):		1.00	1.00	0.70	1.60	0.50	0.60	1.40	0.50
		Asbestos Lab:		COVENTRY		COVENTRY		COVENTRY	COVENTRY		COVENTRY
Determinand	Accred.	SOP	Units	LOD							
ACM Type	U	2192		N/A	-		-		-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected		No Asbestos Detected		No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	14	13	11	14	15	10	18
pH (2.5:1)	N	2010		4.0		[A] 8.9		[A] 9.0		[A] 8.9	
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	[A] 0.48		[A] < 0.40		[A] < 0.40	[A] < 0.40	[A] 0.65
Magnesium (Water Soluble)	N	2120	g/l	0.010		[A] < 0.010		[A] < 0.010		[A] < 0.010	
Magnesium (Water Soluble)	U	2120	mg/kg	20		[A] < 20		[A] < 20		[A] < 20	
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010		[A] < 0.010		[A] < 0.010		[A] < 0.010	
Total Sulphur	U	2175	%	0.010		[A] 0.030		[A] 0.020		[A] 0.026	
Sulphur (Elemental)	U	2180	mg/kg	1.0	[A] < 1.0		[A] 1.0		[A] 3.6	[A] 1.2	[A] < 1.0
Chloride (Water Soluble)	U	2220	g/l	0.010		[A] < 0.010		[A] < 0.010		[A] < 0.010	
Nitrate (Water Soluble)	N	2220	g/l	0.010		< 0.010		< 0.010		< 0.010	
Cyanide (Total)	U	2300	mg/kg	0.50	[A] < 0.50		[A] < 0.50		[A] < 0.50	[A] < 0.50	[A] 0.70
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	[A] 4.3		[A] 5.0		[A] 3.5	[A] 6.4	[A] 4.0
Ammonium (Water Soluble)	U	2220	g/l	0.01		< 0.01		< 0.01		< 0.01	
Sulphate (Acid Soluble)	U	2430	%	0.010	[A] 0.034	[A] 0.10	[A] < 0.010	[A] 0.069	[A] < 0.010	[A] 0.017	[A] 0.067
Arsenic	U	2455	mg/kg	0.5	2.3		3.4		2.9	3.6	3.3
Barium	U	2455	mg/kg	0	23		38		37	36	53
Cadmium	U	2455	mg/kg	0.10	0.28		0.62		0.17	0.39	0.25
Chromium	U	2455	mg/kg	0.5	6.5		8.1		9.4	9.0	9.6
Molybdenum	U	2455	mg/kg	0.5	< 0.5		< 0.5		< 0.5	< 0.5	< 0.5
Antimony	N	2455	mg/kg	2.0	< 2.0		< 2.0		< 2.0	< 2.0	< 2.0
Copper	U	2455	mg/kg	0.50	4.9		7.4		3.5	4.9	4.8
Mercury	U	2455	mg/kg	0.05	< 0.05		< 0.05		0.06	< 0.05	0.07
Nickel	U	2455	mg/kg	0.50	11		18		12	16	14
Lead	U	2455	mg/kg	0.50	8.4		9.4		9.0	8.6	13
Selenium	U	2455	mg/kg	0.25	< 0.25		< 0.25		< 0.25	< 0.25	0.27
Zinc	U	2455	mg/kg	0.50	32		33		36	28	30
Chromium (Trivalent)	N	2490	mg/kg	1.0	6.5		8.1		9.4	9.0	9.6
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50		< 0.50		< 0.50	< 0.50	< 0.50
Mineral Oil (TPH Calculation)	N	2670	mg/kg	10	< 10		< 10		< 10	< 10	< 10
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C8-C10	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C10-C12	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C12-C16	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C16-C21	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Aliphatic TPH >C21-C35	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0

Results - Soil

Project: 24737 St Evins Park Monaservin Kildare

Client: IGSL		Chemtest Job No.:		23-21180	23-21180	23-21180	23-21180	23-21180	23-21180	23-21180	23-21180
Quotation No.: Q20-21693		Chemtest Sample ID.:		1662178	1662179	1662180	1662181	1662182	1662183	1662184	1662185
Order No.:		Client Sample Ref.:		AA199363	AA199366	AA196569	AA196570	AA196572	AA196575	AA196576	AA196578
		Sample Location:		BH01	BH02	TP/SA01	TP/SA01	TP/SA02	TP/SA03	TP/SA03	TP/SA04
		Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):		1.00	1.00	0.70	1.60	0.50	0.60	1.40	0.50
		Asbestos Lab:		COVENTRY		COVENTRY		COVENTRY	COVENTRY		COVENTRY
Determinand	Accred.	SOP	Units	LOD							
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	[A] < 5.0		[A] < 5.0		[A] < 5.0	[A] < 5.0	[A] < 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C8-C10	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C10-C12	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C12-C16	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C16-C21	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	[A] < 5.0		[A] < 5.0		[A] < 5.0	[A] < 5.0	[A] < 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	[A] < 10		[A] < 10		[A] < 10	[A] < 10	[A] < 10
Benzene	U	2760	µg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Toluene	U	2760	µg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Ethylbenzene	U	2760	µg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
m & p-Xylene	U	2760	µg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
o-Xylene	U	2760	µg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Methyl Tert-Butyl Ether	U	2760	µg/kg	1.0	[A] < 1.0		[A] < 1.0		[A] < 1.0	[A] < 1.0	[A] < 1.0
Naphthalene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Acenaphthylene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Acenaphthene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Fluorene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Phenanthrene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Anthracene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Fluoranthene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Pyrene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Benzo[a]anthracene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Chrysene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Benzo[b]fluoranthene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Benzo[k]fluoranthene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Benzo[a]pyrene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Indeno(1,2,3-c,d)Pyrene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Benzo[g,h,i]perylene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Coronene	N	2800	mg/kg	0.010	[A] < 0.010		[A] < 0.010		[A] < 0.010	[A] < 0.010	[A] < 0.010
Total Of 17 PAH's	N	2800	mg/kg	0.20	[A] < 0.20		[A] < 0.20		[A] < 0.20	[A] < 0.20	[A] < 0.20
PCB 28	N	2815	mg/kg	0.0010	[A] < 0.0010		[A] < 0.0010		[A] < 0.0010	[A] < 0.0010	[A] < 0.0010
PCB 52	N	2815	mg/kg	0.0010	[A] < 0.0010		[A] < 0.0010		[A] < 0.0010	[A] < 0.0010	[A] < 0.0010
PCB 90+101	N	2815	mg/kg	0.0010	[A] < 0.0010		[A] < 0.0010		[A] < 0.0010	[A] < 0.0010	[A] < 0.0010

Results - Soil

Project: 24737 St Evins Park Monaservin Kildare

Client: IGSL	Chemtest Job No.:		23-21180	23-21180	23-21180	23-21180	23-21180	23-21180	23-21180	23-21180
Quotation No.: Q20-21693	Chemtest Sample ID.:		1662178	1662179	1662180	1662181	1662182	1662183	1662184	1662185
Order No.:	Client Sample Ref.:		AA199363	AA199366	AA196569	AA196570	AA196572	AA196575	AA196576	AA196578
	Sample Location:		BH01	BH02	TP/SA01	TP/SA01	TP/SA02	TP/SA03	TP/SA03	TP/SA04
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		1.00	1.00	0.70	1.60	0.50	0.60	1.40	0.50
	Asbestos Lab:		COVENTRY		COVENTRY		COVENTRY	COVENTRY		COVENTRY
Determinand	Accred.	SOP	Units	LOD						
PCB 118	N	2815	mg/kg	0.0010	[A] < 0.0010		[A] < 0.0010		[A] < 0.0010	[A] < 0.0010
PCB 153	N	2815	mg/kg	0.0010	[A] < 0.0010		[A] < 0.0010		[A] < 0.0010	[A] < 0.0010
PCB 138	N	2815	mg/kg	0.0010	[A] < 0.0010		[A] < 0.0010		[A] < 0.0010	[A] < 0.0010
PCB 180	N	2815	mg/kg	0.0010	[A] < 0.0010		[A] < 0.0010		[A] < 0.0010	[A] < 0.0010
Total PCBs (7 congeners)	N	2815	mg/kg	0.0010	[A] < 0.0010		[A] < 0.0010		[A] < 0.0010	[A] < 0.0010
Total Phenols	U	2920	mg/kg	0.10	< 0.10		< 0.10		< 0.10	< 0.10

Results - Single Stage WAC

Project: 24737 St Evins Park Monaservin Kildare

Chemtest Job No: 23-21180 Chemtest Sample ID: 1662178 Sample Ref: AA199363 Sample ID: Sample Location: BH01 Top Depth(m): 1.00 Bottom Depth(m): Sampling Date:				Landfill Waste Acceptance Criteria			
				Limits			
				Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill	
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	U	%	[A] 1.6	3	5	6
Loss On Ignition	2610	U	%	4.1	--	--	10
Total BTEX	2760	U	mg/kg	[A] < 0.010	6	--	--
Total PCBs (7 congeners)	2815	N	mg/kg	[A] < 0.0010	1	--	--
TPH Total WAC	2670	U	mg/kg	[A] < 10	500	--	--
Total Of 17 PAH's	2800	N	mg/kg	[A] < 0.20	100	--	--
pH	2010	U		8.7	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.015	--	To evaluate	To evaluate
Eluate Analysis			10:1 Eluate mg/l	10:1 Eluate mg/kg	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0012	0.012	0.5	2	25
Barium	1455	U	0.014	0.14	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	0.0022	0.022	0.5	10	70
Copper	1455	U	0.0036	0.036	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	0.0031	0.031	0.5	10	30
Nickel	1455	U	0.0018	0.018	0.4	10	40
Lead	1455	U	0.0013	0.013	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0050	0.06	0.7	5
Selenium	1455	U	0.0005	0.0054	0.1	0.5	7
Zinc	1455	U	0.027	0.27	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.34	3.4	10	150	500
Sulphate	1220	U	1.1	11	1000	20000	50000
Total Dissolved Solids	1020	N	84	840	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	8.7	87	500	800	1000

Solid Information

Dry mass of test portion/kg	0.090
Moisture (%)	14

Waste Acceptance Criteria

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

Results - Single Stage WAC

Project: 24737 St Evins Park Monaservin Kildare

Chemtest Job No: 23-21180 Chemtest Sample ID: 1662180 Sample Ref: AA196569 Sample ID: Sample Location: TP/SA01 Top Depth(m): 0.70 Bottom Depth(m): Sampling Date:				Landfill Waste Acceptance Criteria Limits			
				Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill	
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	U	%	[A] < 0.20	3	5	6
Loss On Ignition	2610	U	%	1.6	--	--	10
Total BTEX	2760	U	mg/kg	[A] < 0.010	6	--	--
Total PCBs (7 congeners)	2815	N	mg/kg	[A] < 0.0010	1	--	--
TPH Total WAC	2670	U	mg/kg	[A] < 10	500	--	--
Total Of 17 PAH's	2800	N	mg/kg	[A] < 0.20	100	--	--
pH	2010	U		8.9	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.014	--	To evaluate	To evaluate
Eluate Analysis			10:1 Eluate mg/l	10:1 Eluate mg/kg	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0015	0.015	0.5	2	25
Barium	1455	U	0.005	0.053	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	0.0023	0.023	0.5	10	70
Copper	1455	U	0.0035	0.035	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	0.0014	0.014	0.5	10	30
Nickel	1455	U	0.0051	0.051	0.4	10	40
Lead	1455	U	0.0019	0.019	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0050	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0050	0.1	0.5	7
Zinc	1455	U	0.028	0.28	4	50	200
Chloride	1220	U	1.7	17	800	15000	25000
Fluoride	1220	U	0.51	5.1	10	150	500
Sulphate	1220	U	3.9	39	1000	20000	50000
Total Dissolved Solids	1020	N	55	550	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	7.1	71	500	800	1000

Solid Information

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

Waste Acceptance Criteria

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

Results - Single Stage WAC

Project: 24737 St Evins Park Monaservin Kildare

Chemtest Job No: 23-21180					Landfill Waste Acceptance Criteria Limits		
Chemtest Sample ID: 1662182					Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample Ref: AA196572							
Sample ID:							
Sample Location: TP/SA02							
Top Depth(m): 0.50							
Bottom Depth(m):							
Sampling Date:							
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	U	%	[A] 0.25	3	5	6
Loss On Ignition	2610	U	%	1.7	--	--	10
Total BTEX	2760	U	mg/kg	[A] < 0.010	6	--	--
Total PCBs (7 congeners)	2815	N	mg/kg	[A] < 0.0010	1	--	--
TPH Total WAC	2670	U	mg/kg	[A] < 10	500	--	--
Total Of 17 PAH's	2800	N	mg/kg	[A] < 0.20	100	--	--
pH	2010	U		8.7	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.012	--	To evaluate	To evaluate
Eluate Analysis			10:1 Eluate mg/l	10:1 Eluate mg/kg	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0017	0.018	0.5	2	25
Barium	1455	U	0.005	0.054	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	0.0025	0.025	0.5	10	70
Copper	1455	U	0.0028	0.028	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	0.0008	0.0077	0.5	10	30
Nickel	1455	U	0.0020	0.020	0.4	10	40
Lead	1455	U	0.0039	0.039	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0050	0.06	0.7	5
Selenium	1455	U	0.0012	0.012	0.1	0.5	7
Zinc	1455	U	0.046	0.46	4	50	200
Chloride	1220	U	2.3	23	800	15000	25000
Fluoride	1220	U	0.27	2.7	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	50	490	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	7.9	79	500	800	1000

Solid Information

Dry mass of test portion/kg	0.090
Moisture (%)	14

Waste Acceptance Criteria

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

Results - Single Stage WAC

Project: 24737 St Evins Park Monaservin Kildare

Chemtest Job No: 23-21180 Chemtest Sample ID: 1662183 Sample Ref: AA196575 Sample ID: Sample Location: TP/SA03 Top Depth(m): 0.60 Bottom Depth(m): Sampling Date:				Landfill Waste Acceptance Criteria			
				Limits			
				Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill	
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	U	%	[A] < 0.20	3	5	6
Loss On Ignition	2610	U	%	1.6	--	--	10
Total BTEX	2760	U	mg/kg	[A] < 0.010	6	--	--
Total PCBs (7 congeners)	2815	N	mg/kg	[A] < 0.0010	1	--	--
TPH Total WAC	2670	U	mg/kg	[A] < 10	500	--	--
Total Of 17 PAH's	2800	N	mg/kg	[A] < 0.20	100	--	--
pH	2010	U		8.7	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.0090	--	To evaluate	To evaluate
Eluate Analysis			10:1 Eluate mg/l	10:1 Eluate mg/kg	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0021	0.021	0.5	2	25
Barium	1455	U	0.006	0.058	20	100	300
Cadmium	1455	U	< 0.00011	< 0.0011	0.04	1	5
Chromium	1455	U	0.0024	0.024	0.5	10	70
Copper	1455	U	0.0030	0.030	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	0.0013	0.013	0.5	10	30
Nickel	1455	U	0.0048	0.048	0.4	10	40
Lead	1455	U	0.0028	0.028	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0050	0.06	0.7	5
Selenium	1455	U	0.0013	0.013	0.1	0.5	7
Zinc	1455	U	0.045	0.45	4	50	200
Chloride	1220	U	< 1.0	< 10	800	15000	25000
Fluoride	1220	U	0.36	3.6	10	150	500
Sulphate	1220	U	< 1.0	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	49	490	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	6.2	62	500	800	1000

Solid Information

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

Waste Acceptance Criteria

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

Results - Single Stage WAC

Project: 24737 St Evins Park Monaservin Kildare

Chemtest Job No: 23-21180 Chemtest Sample ID: 1662185 Sample Ref: AA196578 Sample ID: Sample Location: TP/SA04 Top Depth(m): 0.50 Bottom Depth(m): Sampling Date:				Landfill Waste Acceptance Criteria Limits			
				Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill	
Determinand	SOP	Accred.	Units				
Total Organic Carbon	2625	U	%	[A] 0.90	3	5	6
Loss On Ignition	2610	U	%	6.1	--	--	10
Total BTEX	2760	U	mg/kg	[A] < 0.010	6	--	--
Total PCBs (7 congeners)	2815	N	mg/kg	[A] < 0.0010	1	--	--
TPH Total WAC	2670	U	mg/kg	[A] < 10	500	--	--
Total Of 17 PAH's	2800	N	mg/kg	[A] < 0.20	100	--	--
pH	2010	U		8.7	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg	0.013	--	To evaluate	To evaluate
Eluate Analysis			10:1 Eluate mg/l	10:1 Eluate mg/kg	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0049	0.049	0.5	2	25
Barium	1455	U	0.013	0.13	20	100	300
Cadmium	1455	U	0.00015	0.0015	0.04	1	5
Chromium	1455	U	0.0068	0.068	0.5	10	70
Copper	1455	U	0.0054	0.054	2	50	100
Mercury	1455	U	< 0.00005	< 0.00050	0.01	0.2	2
Molybdenum	1455	U	0.0015	0.015	0.5	10	30
Nickel	1455	U	0.011	0.11	0.4	10	40
Lead	1455	U	0.0061	0.061	0.5	10	50
Antimony	1455	U	0.0008	0.0080	0.06	0.7	5
Selenium	1455	U	0.0025	0.025	0.1	0.5	7
Zinc	1455	U	0.052	0.52	4	50	200
Chloride	1220	U	1.8	18	800	15000	25000
Fluoride	1220	U	0.40	4.0	10	150	500
Sulphate	1220	U	4.0	40	1000	20000	50000
Total Dissolved Solids	1020	N	59	590	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.30	1	-	-
Dissolved Organic Carbon	1610	U	8.1	81	500	800	1000

Solid Information

Dry mass of test portion/kg	0.090
Moisture (%)	18

Waste Acceptance Criteria

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

Deviations

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

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1662178	AA199363		BH01		A	Amber Glass 250ml
1662178	AA199363		BH01		A	Plastic Tub 500g
1662179	AA199366		BH02		A	Amber Glass 250ml
1662179	AA199366		BH02		A	Plastic Tub 500g
1662180	AA196569		TP/SA01		A	Amber Glass 250ml
1662180	AA196569		TP/SA01		A	Plastic Tub 500g
1662181	AA196570		TP/SA01		A	Amber Glass 250ml
1662181	AA196570		TP/SA01		A	Plastic Tub 500g
1662182	AA196572		TP/SA02		A	Amber Glass 250ml
1662182	AA196572		TP/SA02		A	Plastic Tub 500g
1662183	AA196575		TP/SA03		A	Amber Glass 250ml
1662183	AA196575		TP/SA03		A	Plastic Tub 500g
1662184	AA196576		TP/SA03		A	Amber Glass 250ml
1662184	AA196576		TP/SA03		A	Plastic Tub 500g
1662185	AA196578		TP/SA04		A	Amber Glass 250ml
1662185	AA196578		TP/SA04		A	Plastic Tub 500g

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2180	Sulphur (Elemental) in Soils by HPLC	Sulphur	Dichloromethane extraction / HPLC with UV detection
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measurement by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate.
2300	Cyanides & Thiocyanate in Soils	Free (or easily liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.

Test Methods

SOP	Title	Parameters included	Method summary
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8, >C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35–C44 Aromatics: >C5–C7, >C7–C8, >C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35–C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and Trimethylphenols Note: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	Compliance Test for Leaching of Granular Waste Material and Sludge

Report Information

Key

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied

B - Sample age exceeds stability time (sampling to extraction)

C - Sample not received in appropriate containers

D - Broken Container

E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com

Appendix 3

Waste Classification Report

Waste Classification Report

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

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



9CIWT-94LXE-GKANL

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

Job name

23-001-27 Monasterevin

Description/Comments

5 No. Composite Samples from 1 No. Cable Percussion Borehole and 4 No. Trial Pits

Project

23-001-27

Site

Monasterevin

Classified by

Name:

Austin Hynes

Date:

03 Aug 2023 15:37 GMT

Telephone:

+353 (0)21 4345366

Company:

O'Callaghan Moran & Associates

Unit 15 Melbourne Business Park,

Model Farm Road

Cork

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

HazWasteOnline™ Certification:

CERTIFIED

Course

Hazardous Waste Classification

Date

06 Oct 2022

Next 3 year Refresher due by Oct 2025

Purpose of classification

7 - Disposal of Waste

Address of the waste

St Evin's Park, Monasterevin, Co. Kildare

Post Code NA

SIC for the process giving rise to the waste

41202 Construction of domestic buildings

Description of industry/producer giving rise to the waste

Site Investigation

Description of the specific process, sub-process and/or activity that created the waste

Excavation

Description of the waste

Soil and Stone



Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	BH01	1.00	Non Hazardous		3
2	TP/SA01	0.70	Non Hazardous		6
3	TP/SA02	0.50	Non Hazardous		9
4	TP/SA03	0.60	Non Hazardous		12
5	TP/SA04	0.50	Non Hazardous		15

Related documents

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

Report

Created by: Austin Hynes

Created date: 03 Aug 2023 15:37 GMT

Appendices	Page
Appendix A: Classifier defined and non EU CLP determinands	18
Appendix B: Rationale for selection of metal species	19
Appendix C: Version	20

Classification of sample: BH01

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

Sample details

Sample name:	LoW Code:	
BH01	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:		
14%		
(no correction)		

Hazard properties

None identified

Determinands

Moisture content: 14% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
2	arsenic { arsenic trioxide }				2.3 mg/kg	1.32	3.037 mg/kg	0.000304 %		
	033-003-00-0	215-481-4	1327-53-3							
3	boron { diboron trioxide }				0.48 mg/kg	3.22	1.546 mg/kg	0.000155 %		
	005-008-00-8	215-125-8	1303-86-2							
4	cadmium { cadmium oxide }				0.28 mg/kg	1.142	0.32 mg/kg	0.000032 %		
	048-002-00-0	215-146-2	1306-19-0							
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				6.5 mg/kg	1.462	9.5 mg/kg	0.00095 %		
		215-160-9	1308-38-9							
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
		024-017-00-8								
7	copper { dicopper oxide; copper (I) oxide }				4.9 mg/kg	1.126	5.517 mg/kg	0.000552 %		
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead chromate }			1	8.4 mg/kg	1.56	13.102 mg/kg	0.00084 %		
	082-004-00-2	231-846-0	7758-97-6							
9	mercury { mercury dichloride }				<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				<0.5 mg/kg	1.5	<0.75 mg/kg	<0.000075 %		<LOD
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel chromate }				11 mg/kg	2.976	32.739 mg/kg	0.00327 %		
	028-035-00-7	238-766-5	14721-18-7							
12	selenium { nickel selenate }				<0.25 mg/kg	2.554	<0.638 mg/kg	<0.0000638 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
13	zinc { zinc chromate }				32 mg/kg	2.774	88.773 mg/kg	0.00888 %		
	024-007-00-3	236-878-9	13530-65-9							
14	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							







environmental management for business

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
17	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
18	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
19	xylene				<0.001 mg/kg		<0.001 mg/kg	<0.000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
20	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
	006-007-00-5									
21	naphthalene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	benzo[a]pyrene; benzo[def]chrysene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
34	indeno[123-cd]pyrene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-893-2	193-39-5							
35	dibenz[a,h]anthracene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
36	benzo[ghi]perylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-883-8	191-24-2							
37	phenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
38	polychlorobiphenyls; PCB				<0.001 mg/kg		<0.001 mg/kg	<0.000001 %		<LOD
	602-039-00-4	215-648-1	1336-36-3							
Total:								0.0166 %		



environmental management for business

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
CLP: Note 1	Only the metal concentration has been used for classification



Classification of sample: TP/SA01

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

Sample details

Sample name:	LoW Code:	
TP/SA01	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)
0.70 m		
Moisture content:		
11%		
(no correction)		

Hazard properties

None identified

Determinands

Moisture content: 11% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
2	arsenic { arsenic trioxide }				3.4 mg/kg	1.32	4.489 mg/kg	0.000449 %		
	033-003-00-0	215-481-4	1327-53-3							
3	boron { diboron trioxide }				<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
4	cadmium { cadmium oxide }				0.62 mg/kg	1.142	0.708 mg/kg	0.0000708 %		
	048-002-00-0	215-146-2	1306-19-0							
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				8.1 mg/kg	1.462	11.839 mg/kg	0.00118 %		
		215-160-9	1308-38-9							
6	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
	024-017-00-8									
7	copper { dicopper oxide; copper (I) oxide }				7.4 mg/kg	1.126	8.332 mg/kg	0.000833 %		
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead chromate }			1	9.4 mg/kg	1.56	14.662 mg/kg	0.00094 %		
	082-004-00-2	231-846-0	7758-97-6							
9	mercury { mercury dichloride }				<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				<0.5 mg/kg	1.5	<0.75 mg/kg	<0.000075 %		<LOD
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel chromate }				18 mg/kg	2.976	53.573 mg/kg	0.00536 %		
	028-035-00-7	238-766-5	14721-18-7							
12	selenium { nickel selenate }				<0.25 mg/kg	2.554	<0.638 mg/kg	<0.0000638 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
13	zinc { zinc chromate }				33 mg/kg	2.774	91.547 mg/kg	0.00915 %		
	024-007-00-3	236-878-9	13530-65-9							
14	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							

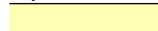





environmental management for business

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
17	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
18	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
19	xylene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
20	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
	006-007-00-5									
21	naphthalene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	benzo[a]pyrene; benzo[def]chrysene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
34	indeno[123-cd]pyrene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-893-2	193-39-5							
35	dibenz[a,h]anthracene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
36	benzo[ghi]perylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-883-8	191-24-2							
37	phenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
38	polychlorobiphenyls; PCB				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-039-00-4	215-648-1	1336-36-3							
Total:								0.0197 %		



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
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP/SA02

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

Sample details

Sample name:	LoW Code:	
TP/SA02	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)
0.50 m		
Moisture content:		
14%		
(no correction)		

Hazard properties

None identified

Determinands

Moisture content: 14% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
2	arsenic { arsenic trioxide }				2.9 mg/kg	1.32	3.829 mg/kg	0.000383 %		
	033-003-00-0	215-481-4	1327-53-3							
3	boron { diboron trioxide }				<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
4	cadmium { cadmium oxide }				0.17 mg/kg	1.142	0.194 mg/kg	0.0000194 %		
	048-002-00-0	215-146-2	1306-19-0							
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				9.4 mg/kg	1.462	13.739 mg/kg	0.00137 %		
		215-160-9	1308-38-9							
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
	024-017-00-8									
7	copper { dicopper oxide; copper (I) oxide }				3.5 mg/kg	1.126	3.941 mg/kg	0.000394 %		
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead chromate }			1	9 mg/kg	1.56	14.038 mg/kg	0.0009 %		
	082-004-00-2	231-846-0	7758-97-6							
9	mercury { mercury dichloride }				0.06 mg/kg	1.353	0.0812 mg/kg	0.00000812 %		
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				<0.5 mg/kg	1.5	<0.75 mg/kg	<0.000075 %		<LOD
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel chromate }				12 mg/kg	2.976	35.715 mg/kg	0.00357 %		
	028-035-00-7	238-766-5	14721-18-7							
12	selenium { nickel selenate }				<0.25 mg/kg	2.554	<0.638 mg/kg	<0.0000638 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
13	zinc { zinc chromate }				36 mg/kg	2.774	99.869 mg/kg	0.00999 %		
	024-007-00-3	236-878-9	13530-65-9							
14	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							







environmental management for business

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
17	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
18	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							
19	xylene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
20	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
	006-007-00-5									
21	naphthalene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
22	acenaphthylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-917-1	208-96-8							
23	acenaphthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-469-6	83-32-9							
24	fluorene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-695-5	86-73-7							
25	phenanthrene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		201-581-5	85-01-8							
26	anthracene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		204-371-1	120-12-7							
27	fluoranthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-912-4	206-44-0							
28	pyrene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		204-927-3	129-00-0							
29	benzo[a]anthracene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
33	benzo[a]pyrene; benzo[def]chrysene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
34	indeno[123-cd]pyrene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-893-2	193-39-5							
35	dibenz[a,h]anthracene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
36	benzo[ghi]perylene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		205-883-8	191-24-2							
37	phenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
38	polychlorobiphenyls; PCB				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-039-00-4	215-648-1	1336-36-3							
Total:								0.0184 %		



environmental management for business

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
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP/SA03

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

Sample details

Sample name:	LoW Code:	
TP/SA03	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)
0.60 m		
Moisture content:		
15%		
(no correction)		

Hazard properties

None identified

Determinands

Moisture content: 15% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
2	arsenic { arsenic trioxide }				3.6 mg/kg	1.32	4.753 mg/kg	0.000475 %		
	033-003-00-0	215-481-4	1327-53-3							
3	boron { diboron trioxide }				<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
4	cadmium { cadmium oxide }				0.39 mg/kg	1.142	0.446 mg/kg	0.0000446 %		
	048-002-00-0	215-146-2	1306-19-0							
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				9 mg/kg	1.462	13.154 mg/kg	0.00132 %		
		215-160-9	1308-38-9							
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
	024-017-00-8									
7	copper { dicopper oxide; copper (I) oxide }				4.9 mg/kg	1.126	5.517 mg/kg	0.000552 %		
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead chromate }			1	8.6 mg/kg	1.56	13.414 mg/kg	0.00086 %		
	082-004-00-2	231-846-0	7758-97-6							
9	mercury { mercury dichloride }				<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				<0.5 mg/kg	1.5	<0.75 mg/kg	<0.000075 %		<LOD
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel chromate }				16 mg/kg	2.976	47.62 mg/kg	0.00476 %		
	028-035-00-7	238-766-5	14721-18-7							
12	selenium { nickel selenate }				<0.25 mg/kg	2.554	<0.638 mg/kg	<0.0000638 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
13	zinc { zinc chromate }				28 mg/kg	2.774	77.676 mg/kg	0.00777 %		
	024-007-00-3	236-878-9	13530-65-9							
14	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							

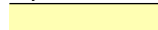





environmental management for business

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	benzene 601-020-00-8 200-753-7 71-43-2				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
17	toluene 601-021-00-3 203-625-9 108-88-3				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
18	ethylbenzene 601-023-00-4 202-849-4 100-41-4				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
19	xylene 601-022-00-9 202-422-2 [1] 95-47-6 [1] 203-396-5 [2] 106-42-3 [2] 203-576-3 [3] 108-38-3 [3] 215-535-7 [4] 1330-20-7 [4]				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
20	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
21	naphthalene 601-052-00-2 202-049-5 91-20-3				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
22	acenaphthylene 205-917-1 208-96-8				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
23	acenaphthene 201-469-6 83-32-9				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
24	fluorene 201-695-5 86-73-7				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
25	phenanthrene 201-581-5 85-01-8				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
26	anthracene 204-371-1 120-12-7				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
27	fluoranthene 205-912-4 206-44-0				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
28	pyrene 204-927-3 129-00-0				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
29	benzo[a]anthracene 601-033-00-9 200-280-6 56-55-3				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
30	chrysene 601-048-00-0 205-923-4 218-01-9				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
31	benzo[b]fluoranthene 601-034-00-4 205-911-9 205-99-2				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
32	benzo[k]fluoranthene 601-036-00-5 205-916-6 207-08-9				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
33	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3 200-028-5 50-32-8				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
34	indeno[123-cd]pyrene 205-893-2 193-39-5				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
35	dibenz[a,h]anthracene 601-041-00-2 200-181-8 53-70-3				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
36	benzo[ghi]perylene 205-883-8 191-24-2				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
37	phenol 604-001-00-2 203-632-7 108-95-2				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
38	polychlorobiphenyls; PCB 602-039-00-4 215-648-1 1336-36-3				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
Total:								0.0175 %		



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
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP/SA04

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

Sample details

Sample name:	LoW Code:	
TP/SA04	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)
0.50 m		
Moisture content:		
18%		
(no correction)		

Hazard properties

None identified

Determinands

Moisture content: 18% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	antimony { antimony trioxide }				<2 mg/kg	1.197	<2.394 mg/kg	<0.000239 %		<LOD
	051-005-00-X	215-175-0	1309-64-4							
2	arsenic { arsenic trioxide }				3.3 mg/kg	1.32	4.357 mg/kg	0.000436 %		
	033-003-00-0	215-481-4	1327-53-3							
3	boron { diboron trioxide }				0.65 mg/kg	3.22	2.093 mg/kg	0.000209 %		
	005-008-00-8	215-125-8	1303-86-2							
4	cadmium { cadmium oxide }				0.25 mg/kg	1.142	0.286 mg/kg	0.0000286 %		
	048-002-00-0	215-146-2	1306-19-0							
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				9.6 mg/kg	1.462	14.031 mg/kg	0.0014 %		
		215-160-9	1308-38-9							
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
		024-017-00-8								
7	copper { dicopper oxide; copper (I) oxide }				4.8 mg/kg	1.126	5.404 mg/kg	0.00054 %		
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead chromate }			1	13 mg/kg	1.56	20.278 mg/kg	0.0013 %		
	082-004-00-2	231-846-0	7758-97-6							
9	mercury { mercury dichloride }				0.07 mg/kg	1.353	0.0947 mg/kg	0.00000947 %		
	080-010-00-X	231-299-8	7487-94-7							
10	molybdenum { molybdenum(VI) oxide }				<0.5 mg/kg	1.5	<0.75 mg/kg	<0.000075 %		<LOD
	042-001-00-9	215-204-7	1313-27-5							
11	nickel { nickel chromate }				14 mg/kg	2.976	41.668 mg/kg	0.00417 %		
	028-035-00-7	238-766-5	14721-18-7							
12	selenium { nickel selenate }				0.27 mg/kg	2.554	0.69 mg/kg	0.000069 %		
	028-031-00-5	239-125-2	15060-62-5							
13	zinc { zinc chromate }				30 mg/kg	2.774	83.224 mg/kg	0.00832 %		
	024-007-00-3	236-878-9	13530-65-9							
14	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
15	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							







environmental management for business

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	benzene 601-020-00-8	200-753-7	71-43-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
17	toluene 601-021-00-3	203-625-9	108-88-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
18	ethylbenzene 601-023-00-4	202-849-4	100-41-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
19	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
20	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				0.7 mg/kg	1.884	1.319 mg/kg	0.000132 %		
21	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
22	acenaphthylene 205-917-1		208-96-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
23	acenaphthene 201-469-6		83-32-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
24	fluorene 201-695-5		86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
25	phenanthrene 201-581-5		85-01-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
26	anthracene 204-371-1		120-12-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
27	fluoranthene 205-912-4		206-44-0		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
28	pyrene 204-927-3		129-00-0		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
29	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
30	chrysene 601-048-00-0	205-923-4	218-01-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
31	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
32	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
33	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
34	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
35	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
36	benzo[ghi]perylene 205-883-8		191-24-2		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
37	phenol 604-001-00-2	203-632-7	108-95-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
38	polychlorobiphenyls; PCB 602-039-00-4	215-648-1	1336-36-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
Total:								0.0181 %		



environmental management for business

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
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non EU CLP determinands

- **chromium(III) oxide (worst case)** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332, Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Resp. Sens. 1; H334, Skin Sens. 1; H317, Repr. 1B; H360FD, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

- **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Flam. Liq. 3; H226, Asp. Tox. 1; H304, STOT RE 2; H373, Muta. 1B; H340, Carc. 1B; H350, Repr. 2; H361d, Aquatic Chronic 2; H411

- **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

EU CLP index number: 601-023-00-4

Description/Comments:

Additional Hazard Statement(s): Carc. 2; H351

Reason for additional Hazards Statement(s):

03 Jun 2015 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

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

EU CLP index number: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazards Statement(s):

14 Dec 2015 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

- **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302, Acute Tox. 1; H330, Acute Tox. 1; H310, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315

- **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Aquatic Chronic 2; H411

- **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

- **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Carc. 2; H351, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Skin Irrit. 2; H315

- **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

- **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4; H302, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

• **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2; H351

• **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 23 Jul 2015

Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **polychlorobiphenyls; PCB** (EC Number: 215-648-1, CAS Number: 1336-36-3)

EU CLP index number: 602-039-00-4

Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

29 Sep 2015 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

Appendix B: Rationale for selection of metal species

antimony {antimony trioxide}

Worst case CLP species based on hazard statements/molecular weight and low solubility. Industrial sources include: flame retardants in electrical apparatus, textiles and coatings (edit as required)

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

boron {diboron trioxide}

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

cadmium {cadmium oxide}

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

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

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

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

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

copper {dicopper oxide; copper (I) oxide}

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

lead {lead chromate}

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

mercury {mercury dichloride}

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

molybdenum {molybdenum(VI) oxide}

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

nickel {nickel chromate}

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

selenium {nickel selenate}

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

zinc {zinc chromate}

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

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

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

Appendix C: VersionHazWasteOnline Classification Engine: **WM3 1st Edition v1.1.NI - Jan 2021**

HazWasteOnline Classification Engine Version: 2023.208.5698.10490 (27 Jul 2023)

HazWasteOnline Database: 2023.208.5698.10490 (27 Jul 2023)

This classification utilises the following guidance and legislation:

WM3 v1.1.NI - Waste Classification - 1st Edition v1.1.NI - Jan 2021**CLP Regulation** - Regulation 1272/2008/EC of 16 December 2008**1st ATP** - Regulation 790/2009/EC of 10 August 2009**2nd ATP** - Regulation 286/2011/EC of 10 March 2011**3rd ATP** - Regulation 618/2012/EU of 10 July 2012**4th ATP** - Regulation 487/2013/EU of 8 May 2013**Correction to 1st ATP** - Regulation 758/2013/EU of 7 August 2013**5th ATP** - Regulation 944/2013/EU of 2 October 2013**6th ATP** - Regulation 605/2014/EU of 5 June 2014**WFD Annex III replacement** - Regulation 1357/2014/EU of 18 December 2014**Revised List of Waste 2014** - Decision 2014/955/EU of 18 December 2014**7th ATP** - Regulation 2015/1221/EU of 24 July 2015**8th ATP** - Regulation (EU) 2016/918 of 19 May 2016**9th ATP** - Regulation (EU) 2016/1179 of 19 July 2016**10th ATP** - Regulation (EU) 2017/776 of 4 May 2017**HP14 amendment** - Regulation (EU) 2017/997 of 8 June 2017**13th ATP** - Regulation (EU) 2018/1480 of 4 October 2018**14th ATP** - Regulation (EU) 2020/217 of 4 October 2019**15th ATP** - Regulation (EU) 2020/1182 of 19 May 2020**The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)****Regulations 2020** - UK: 2020 No. 1567 of 16th December 2020**The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020** - UK:

2020 No. 1540 of 16th December 2020

17th ATP - Regulation (EU) 2021/849 of 11 March 2021**18th ATP** - Regulation (EU) 2022/692 of 16 February 2022