

Our Ref: DE/14028/WASTE

Your Ref:

Contact: David Emanuel

5th October 2023

Linc Cymru Housing Association

For the attn. of Ms Abbey Kelsey

Dear Ms Kelsey

PRELIMINARY SOIL WASTE CLASSIFICATION: STOCKPILED SOIL: DARRAN ROAD, MOUNTAIN ASH

TFW Group Limited has been retained by Linc Cymru Housing Association to classify soil from an existing stockpile for off-site disposal.

Samples of the stockpile were taken on 10th August 2023.

4 No. samples were subject to Total Analysis and 3 No. samples were subject to Waste Acceptance Criteria analysis. Soil chemical test results are provided in **Annex A**.

On the basis of the soil chemical test results, the soil was classified based on the identified Hazards as defined in accordance with waste classification algorithms detailed in Environment Agency publication WM3 (V1.1. 2018).

Representative compounds were selected for the detected elements for waste classification. Where necessary, appropriate factors were employed to account for discrepancies between elemental and molecular concentrations.

Asbestos was detected in all samples during screening. Quantification revealed <0.001% chrysotile and amosite asbestos.

Visible Asbestos Containing Material (ACM) was not encountered during sampling. If visible ACM is encountered during excavation the classification should be revisited.

TPH was encountered in all samples, at concentrations between 34 mg/kg and 220 mg/kg during TPHCWG Analysis. Free product was not observed and the potential for HP 3 is therefore not expected.

A summary of the soil classification is presented in **Table 1**.

Table 1 Summary of Classification				
Location	Depth	Waste Classification	EWC Code	Additional Comments
Sample 101	-	Non-Hazardous	17 05 04	Contains <0.001% Chrysotile Asbestos
Sample 102	-	Non-Hazardous	17 05 04	Contains <0.001% Chrysotile Asbestos
Sample 201	-	Non-Hazardous	17 05 04	Contains <0.001% Chrysotile Asbestos
Sample 202	-	Non-Hazardous	17 05 04	Contains <0.001% Chrysotile and Amosite Asbestos

An appraisal of the WAC results is presented in **Table 2**.

Table 2 Summary of WAC Testing		
Location	Depth	Comments
Sample 101	-	Fail Inert Chemical Criteria on account of elevated TOC (22%)
Sample 102	-	Fail Inert Chemical Criteria on account of elevated TOC (23%)
Sample 201	-	Fail Inert Chemical Criteria on account of elevated TOC (5.2%)

The classifications do not include an assessment of invasive plant species.

If anomalous materials are encountered during excavation the classification should be revisited.

We trust that the above is to your satisfaction, however, if you have any queries or require any further information please do not hesitate to contact us.

Yours sincerely

for: Terra Firma (Wales) Ltd



Mr D Emanuel

Annex A
Soil Chemical Test Results
23-27071-2



Amended Report

Report No.: 23-27071-2
Initial Date of Issue: 21-Aug-2023
Date of Re-Issue: 25-Sep-2023

Re-Issue Details: This report has been revised and directly supersedes 23-27071-1 in its entirety

Client: Terra Firma (Wales) Ltd

Client Address: 5 Deryn Court
Wharfedale Road
Pentwyn
Cardiff
CF23 7HA

Contact(s): tomas@terrafirmawales.co.uk

Project: Darran Road

Quotation No.: **Date Received:** 11-Aug-2023

Order No.: 14028TM **Date Instructed:** 11-Aug-2023

No. of Samples: 4

Turnaround (Wkdays): 5 **Results Due:** 17-Aug-2023

Date Approved: 21-Aug-2023

Approved By:

Details: Stuart Henderson, Technical Manager

Results - Soil

Project: Darran Road

Client: Terra Firma (Wales) Ltd		Chemtest Job No.:		23-27071	23-27071	23-27071	23-27071
Quotation No.:		Chemtest Sample ID.:		1687346	1687347	1687348	1687349
Order No.: 14028TM		Client Sample Ref.:		SAMPLE 101	SAMPLE 102	SAMPLE 201	SAMPLE 202
		Client Sample ID.:		SAMPLE 101	SAMPLE 102	SAMPLE 201	SAMPLE 202
		Sample Type:		SOIL	SOIL	SOIL	SOIL
		Date Sampled:		10-Aug-2023	10-Aug-2023	10-Aug-2023	10-Aug-2023
		Time Sampled:		12:00	12:00	12:00	12:00
		Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD			
ACM Type	U	2192		N/A	Fibres/Clumps	Fibres/Clumps	Fibres/Clumps
Asbestos Identification	U	2192		N/A	Chrysotile	Chrysotile	Amosite Chrysotile
Asbestos by Gravimetry	U	2192	%	0.001	<0.001	<0.001	<0.001
Total Asbestos	U	2192	%	0.001	<0.001	<0.001	<0.001
Moisture	N	2030	%	0.020	22	20	11
Soil Colour	N	2040		N/A	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones and Roots	Stones	Stones and Roots
Soil Texture	N	2040		N/A	Sand	Sand	Sand
pH	M	2010		4.0	8.6	8.6	9.5
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	0.83	0.87	1.9
Cyanide (Complex)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Sulphate (Acid Soluble)	U	2430	%	0.010	0.17	0.15	0.20
Arsenic	M	2455	mg/kg	0.5	16	7.7	11
Beryllium	U	2455	mg/kg	0.5	8.3	0.5	0.6
Cadmium	M	2455	mg/kg	0.10	6.5	0.59	0.34
Chromium	M	2455	mg/kg	0.5	17	9.8	14
Mercury Low Level	M	2450	mg/kg	0.05	3.7	2.9	0.56
Manganese	M	2455	mg/kg	1.0	280	260	470
Molybdenum	M	2455	mg/kg	0.5	8.6	1.1	1.3
Antimony	N	2455	mg/kg	2.0	6.6	< 2.0	< 2.0
Copper	M	2455	mg/kg	0.50	28	22	19
Nickel	M	2455	mg/kg	0.50	30	21	16
Lead	M	2455	mg/kg	0.50	37	63	73
Selenium	M	2455	mg/kg	0.25	13	0.81	0.62
Zinc	M	2455	mg/kg	0.50	280	400	160
Chromium (Trivalent)	N	2490	mg/kg	1.0	17	9.8	14
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	U	2780	mg/kg	0.05	0.33	0.31	< 0.05
Aliphatic VPH >C7-C8	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	N	2780	mg/kg	0.10	0.33	0.31	< 0.10
Aliphatic VPH >C8-C10	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	U	2780	mg/kg	0.25	0.33	0.31	< 0.25
Aliphatic EPH >C10-C12	M	2690	mg/kg	2.00	2.4	4.0	< 2.0

Results - Soil

Project: Darran Road

Client: Terra Firma (Wales) Ltd		Chemtest Job No.:		23-27071	23-27071	23-27071	23-27071	
Quotation No.:		Chemtest Sample ID.:		1687346	1687347	1687348	1687349	
Order No.: 14028TM		Client Sample Ref.:		SAMPLE 101	SAMPLE 102	SAMPLE 201	SAMPLE 202	
		Client Sample ID.:		SAMPLE 101	SAMPLE 102	SAMPLE 201	SAMPLE 202	
		Sample Type:		SOIL	SOIL	SOIL	SOIL	
		Date Sampled:		10-Aug-2023	10-Aug-2023	10-Aug-2023	10-Aug-2023	
		Time Sampled:		12:00	12:00	12:00	12:00	
		Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	
Determinand	Accred.	SOP	Units	LOD				
Aliphatic EPH >C12-C16	M	2690	mg/kg	1.00	< 1.0	4.0	< 1.0	< 1.0
Aliphatic EPH >C16-C21	M	2690	mg/kg	2.00	< 2.0	3.9	23	23
Aliphatic EPH >C21-C35	M	2690	mg/kg	3.00	< 3.0	< 3.0	90	52
Aliphatic EPH >C35-C40	N	2690	mg/kg	10.00	< 10	< 10	14	< 10
Total Aliphatic EPH >C10-C35	M	2690	mg/kg	5.00	< 5.0	12	110	76
Total Aliphatic EPH >C10-C40	N	2690	mg/kg	10.00	< 10	12	130	76
Aromatic VPH >C5-C7	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C16-C21	U	2690	mg/kg	2.00	16	15	20	21
Aromatic EPH >C21-C35	U	2690	mg/kg	2.00	14	34	65	64
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00	< 1.0	< 1.0	3.6	< 1.0
Total Aromatic EPH >C10-C35	U	2690	mg/kg	5.00	31	49	86	85
Total Aromatic EPH >C10-C40	N	2690	mg/kg	10.00	31	49	89	85
Total VPH >C5-C10	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35	U	2690	mg/kg	10.00	34	62	200	160
Total EPH >C10-C40	N	2690	mg/kg	10.00	34	62	220	160
Naphthalene	M	2700	mg/kg	0.10	< 0.10	2.3	< 0.10	< 0.10
Acenaphthylene	M	2700	mg/kg	0.10	< 0.10	0.53	< 0.10	< 0.10
Acenaphthene	M	2700	mg/kg	0.10	< 0.10	0.28	< 0.10	< 0.10
Fluorene	M	2700	mg/kg	0.10	< 0.10	0.37	< 0.10	< 0.10
Phenanthrene	M	2700	mg/kg	0.10	< 0.10	2.1	1.0	2.1
Anthracene	M	2700	mg/kg	0.10	< 0.10	0.37	0.44	0.63
Fluoranthene	M	2700	mg/kg	0.10	< 0.10	2.5	1.5	4.2
Pyrene	M	2700	mg/kg	0.10	< 0.10	1.7	1.4	3.5
Benzo[a]anthracene	M	2700	mg/kg	0.10	< 0.10	0.89	0.81	3.0
Chrysene	M	2700	mg/kg	0.10	< 0.10	1.2	0.65	3.6
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	< 0.10	1.4	< 0.10	4.2
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	< 0.10	0.69	< 0.10	1.5
Benzo[a]pyrene	M	2700	mg/kg	0.10	< 0.10	0.77	< 0.10	2.3
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	< 0.10	0.60	< 0.10	2.1
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	1.5
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	< 0.10	0.85	< 0.10	2.3
Total Of 16 PAH's	M	2700	mg/kg	2.0	< 2.0	17	5.8	31
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: Darran Road

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:		23-27071	23-27071	23-27071	23-27071
Quotation No.:	Chemtest Sample ID.:		1687346	1687347	1687348	1687349
Order No.: 14028TM	Client Sample Ref.:		SAMPLE 101	SAMPLE 102	SAMPLE 201	SAMPLE 202
	Client Sample ID.:		SAMPLE 101	SAMPLE 102	SAMPLE 201	SAMPLE 202
	Sample Type:		SOIL	SOIL	SOIL	SOIL
	Date Sampled:		10-Aug-2023	10-Aug-2023	10-Aug-2023	10-Aug-2023
	Time Sampled:		12:00	12:00	12:00	12:00
	Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD		
Organic Matter BS1377	N	2930	%	0.10	3.1	3.3
					1.2	1.5

Results - 2 Stage WAC

Project: Darran Road

Chemtest Job No: 23-27071 Chemtest Sample ID: 1687346 Sample Ref: SAMPLE 101 Sample ID: SAMPLE 101 Sample Location: Top Depth(m): Bottom Depth(m): Sampling Date: 10-Aug-2023							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	M	%				22	3	5
Loss On Ignition	2610	M	%				18	--	10
Total BTEX	2760	M	mg/kg				< 0.010	6	--
Total PCBs (7 Congeners)	2815	M	mg/kg				< 0.10	1	--
TPH Total WAC	2670	M	mg/kg				< 10	500	--
Total (Of 17) PAH's	2800	N	mg/kg				8.6	100	--
pH	2010	M					8.6	--	>6
Acid Neutralisation Capacity	2015	N	mol/kg				0.010	--	To evaluate
Eluate Analysis			2:1 mg/l	8:1 mg/l	2:1 mg/kg	Cumulative mg/kg 10:1	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0035	0.0020	0.0068	0.022	0.5	2	25
Barium	1455	U	0.037	0.081	0.072	0.75	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.5	10	70
Copper	1455	U	< 0.0005	< 0.0005	< 0.0005	0.0010	2	50	100
Mercury	1455	U	0.00036	0.00012	0.00069	0.0014	0.01	0.2	2
Molybdenum	1455	U	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	0.0014	< 0.0005	0.0027	0.0015	0.5	10	50
Antimony	1455	U	0.0011	< 0.0005	0.0021	0.0012	0.06	0.7	5
Selenium	1455	U	< 0.0005	0.0006	< 0.0005	0.0052	0.1	0.5	7
Zinc	1455	U	0.009	< 0.003	0.018	0.010	4	50	200
Chloride	1220	U	8.5	24	16	220	800	15000	25000
Fluoride	1220	U	0.22	0.17	< 1.0	1.7	10	150	500
Sulphate	1220	U	5.6	18	11	170	1000	20000	50000
Total Dissolved Solids	1020	N	76	350	150	3100	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	4.3	2.5	< 50	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	22

Leachate Test Information	
Leachant volume 1st extract/l	0.302
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.194

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 - 2 Stage WAC

Project: Darran Road

Chemtest Job No: 23-27071 Chemtest Sample ID: 1687347 Sample Ref: SAMPLE 102 Sample ID: SAMPLE 102 Sample Location: Top Depth(m): Bottom Depth(m): Sampling Date: 10-Aug-2023							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	M	%				23	3	5
Loss On Ignition	2610	M	%				20	--	10
Total BTEX	2760	M	mg/kg				< 0.010	6	--
Total PCBs (7 Congeners)	2815	M	mg/kg				< 0.10	1	--
TPH Total WAC	2670	M	mg/kg				110	500	--
Total (Of 17) PAH's	2800	N	mg/kg				17	100	--
pH	2010	M					8.6	--	>6
Acid Neutralisation Capacity	2015	N	mol/kg				0.0070	--	To evaluate
Eluate Analysis			2:1 mg/l	8:1 mg/l	2:1 mg/kg	Cumulative mg/kg 10:1	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0032	0.0017	0.0062	0.018	0.5	2	25
Barium	1455	U	0.052	0.094	0.10	0.89	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.5	10	70
Copper	1455	U	< 0.0005	0.0005	< 0.0005	0.0008	2	50	100
Mercury	1455	U	0.00031	0.00010	0.00060	0.0012	0.01	0.2	2
Molybdenum	1455	U	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	0.0023	< 0.0005	0.0046	0.0025	0.5	10	50
Antimony	1455	U	0.0007	0.0006	0.0014	0.0057	0.06	0.7	5
Selenium	1455	U	< 0.0005	0.0017	< 0.0005	0.015	0.1	0.5	7
Zinc	1455	U	0.013	0.005	0.026	0.055	4	50	200
Chloride	1220	U	1.9	25	< 10	220	800	15000	25000
Fluoride	1220	U	0.18	0.17	< 1.0	1.7	10	150	500
Sulphate	1220	U	5.1	18	< 10	170	1000	20000	50000
Total Dissolved Solids	1020	N	75	340	150	3100	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	4.0	2.5	< 50	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	20

Leachate Test Information	
Leachant volume 1st extract/l	0.307
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.186

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 - 2 Stage WAC

Project: Darran Road

Chemtest Job No: 23-27071 Chemtest Sample ID: 1687348 Sample Ref: SAMPLE 201 Sample ID: SAMPLE 201 Sample Location: Top Depth(m): Bottom Depth(m): Sampling Date: 10-Aug-2023							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	M	%				5.2	3	5
Loss On Ignition	2610	M	%				7.8	--	10
Total BTEX	2760	M	mg/kg				< 0.010	6	--
Total PCBs (7 Congeners)	2815	M	mg/kg				< 0.10	1	--
TPH Total WAC	2670	M	mg/kg				170	500	--
Total (Of 17) PAH's	2800	N	mg/kg				12	100	--
pH	2010	M					9.5	--	>6
Acid Neutralisation Capacity	2015	N	mol/kg				0.0090	--	To evaluate
Eluate Analysis			2:1 mg/l	8:1 mg/l	2:1 mg/kg	Cumulative mg/kg 10:1	Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg		
Arsenic	1455	U	0.0034	0.0036	0.0068	0.036	0.5	2	25
Barium	1455	U	0.014	0.039	0.028	0.37	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	0.0032	0.0007	0.0064	0.0095	0.5	10	70
Copper	1455	U	0.0014	0.0021	0.0028	0.0015	2	50	100
Mercury	1455	U	0.00006	< 0.00005	0.00012	0.00006	0.01	0.2	2
Molybdenum	1455	U	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	0.0005	< 0.0005	0.0011	0.0006	0.5	10	50
Antimony	1455	U	0.0027	0.0023	0.0053	0.023	0.06	0.7	5
Selenium	1455	U	< 0.0005	0.0009	< 0.0005	0.0084	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	< 0.003	< 0.003	4	50	200
Chloride	1220	U	5.1	24	10	220	800	15000	25000
Fluoride	1220	U	0.13	0.14	< 1.0	1.4	10	150	500
Sulphate	1220	U	23	33	46	320	1000	20000	50000
Total Dissolved Solids	1020	N	85	260	170	2400	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	3.4	2.8	< 50	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	11

Leachate Test Information	
Leachant volume 1st extract/l	0.327
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.188

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.

Test Methods

SOP	Title	Parameters included	Method summary
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
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
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	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.
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.
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
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection

Test Methods

SOP	Title	Parameters included	Method summary
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	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-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
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.
2780	VPH A/A Split	Aliphatics: >C5-C6, >C6-C7, >C7-C8, >C8-C10 Aromatics: >C5-C7, >C7-C8, >C8-C10	Water extraction / Headspace GCxGC FID detection
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.
2930	Organic Matter	Organic Matter	Acid Dichromate digestion/Titration
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	Compliance Test for Leaching of Granular Waste Material and Sludge
650	Characterisation of Waste (Leaching WAC)	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