Soiltechnics Limited
Registered in England 2680759
Registered office: Cedar Barn, NN6 9PY

soiltechnics
environmental ▪ geotechnical ▪ building fabric

Unit 9
Clarence Avenue
Trafford Park
Manchester
M17 1QS

t: 0161 9470270
e: mail@soiltechnics.net
w: www.soiltechnics.net

FAO Emily Wright
Storefield Aggregates
Sent by email: emily@storefield.co.uk

Date: 21st September 2023
Your Ref: WAC Extended Suite
Our Ref: L-STP3966D-WAC-01

Dear Emily,

Rockingham Enterprise Area, Corby – Waste Acceptance Criteria (WAC) testing IBA ash extended suite

Further to our recent discussions we are pleased to provide the following results of the extended WAC testing undertaken on the screened samples of the IBA ash, from your process site at Corby. It is understood that the waste stream is being considered for inclusion within the backfill materials for the construction of the development platform at the Corby Enterprise Site, where the specified acceptable wastes to be detailed within the Waste Recovery Plan will be limited to inert wastes.

Previous Works

Soiltechnics has previously undertaken an evaluation of Client provided laboratory testing (WAC testing), which indicated the presence of very high metals, which would traditionally trigger a 'hazardous waste' classification.

However, research into UK domestic refuse IBA waste shows that the metal compounds formed are not typically ecotoxic and with detailed consideration can be classified as non-hazardous. Further information can be found to support this conclusion in WRc document 'Assessment of Hazardous Classification of UK IBA'. Report for the January to December 2011 IBA dataset'. Ref: UC9213.05. December 2012.

In order to support the above, Soiltechnics has undertaken further sampling, taken from the fine and coarse grade processed material stream for WAC analysis, Cr VI, alkaline reserve testing with pH analysis, and for dioxins and furans.

Current Works

The following samples were taken from the process:

- SP01.3 (fine grained process materials); and
- SP02.3 (coarse grained processed materials).

Samples were submitted for the above detailed extended suite stage 1 analysis (hazardous waste assessment) and further WAC analysis. The results are reported in Chemtest report 23-28353-4 (19th September 2023) and Marchwood Report 23-28353 (19th September 2023).

Laboratory test Results – Hazardous Classification

The supplementary analysis indicates that the hazardous waste limit for dioxins of 15µg/kg is not exceeded in either the fine or coarse grained processed samples, with test results ranging between 0.04 to 0.06µg/l.

The pH of the samples ranged between 10.9 (fine grained sample) and 10.6 (coarse grained sample). Due to elevated pH results in previous rounds of analysis, an alkali reserve test was also undertaken to provide a more detailed assessment on corrosivity. The detailed analysis for corrosivity in both samples indicates that the pH + 1/12th of the alkaline reserve test is also below the corrosivity threshold of 14.5. Therefore the material is not considered corrosive.

Concentrations of Chromium (VI) ranged between 0.57mg/kg and <0.5mg/kg, which is significantly below any hazardous waste threshold.

Overall, the additional Stage 1 analysis on the material confirms no other hazard statement applies, and the material can be considered 'non-hazardous' waste.

Laboratory test Results – WAC Assessment

The WAC analysis shows the presence of elevated concentrations of antimony, chloride, sulphate, and total dissolved solids in both samples above the threshold for inert waste.

Therefore, the materials would not be classified as an Inert Waste, based on the current testing.

It should also be noted that previous analysis on the processed IBA material also failed the inert waste criteria. Antimony and chloride and TDS being a common failure point in both rounds.

Conclusions

Based on the extended suite Stage 1 testing and WAC testing, the waste stream could be classified as non-hazardous material, pending agreement from the Environment Agency regarding the applicability of research into the low-toxicity of the metal compounds typically present in domestic IBA material.

However, WAC analysis shows that an Inert classification cannot be applied, and therefore any receiving facility must be permitted to accept non-hazardous waste.

It is recommended that a formal discussion is held with the Environment Agency to request acceptance of this waste stream as infill in the development platform at Rockingham Enterprise Area, as a specific exemption may need to be included within the permit.

Yours sincerely,

Claire Moreira BSc (Hons) MSc, MSc, CSci. FGS. DoWCoP QP 422
Senior Geo-environmental Consultant, Soiltechnics Limited

Enc: Laboratory test results 23-28353-4 (Chemtest) & 23-28353 (Marchwood), dated 19th September 2023

CERTIFICATE OF ANALYSIS

MSSL reference: 23-58813

Report date: 19-09-2023

Customer: Eurofins Chemtest Ltd
Depot Road,
Newmarket,
Suffolk,
CB8 0AL

Customer contact(s): Amy Woolston

Customer reference: 23-28353
Customer PO: 25477
Customer sampling date: 21-08-2023
Date received: 25-08-2023

Analysis started: 13-09-2023
Analysis complete: 19-09-2023
Conforming: YES

Results only relate to the items tested. Results apply to the samples as received.

Conformance is contingent upon accurate information being provided by the customer and customer compliance with relevant sample handling and storage conditions prior to receipt at the laboratory.

All opinions and interpretations expressed within this report are outside Marchwood's scope of accreditation.

Accreditation Key:
Y : ISO/IEC 17025 M : MCERTS
N : Non Accredited (S) : Subcontracted

Notes:

Reported by: Aleksandra Olas
Position: Scientist

Approved by: Giuseppe Reitano
Position: Technical Laboratory Manager
For/on behalf of Marchwood Scientific Services Ltd

UKAS TESTING
1668

t: 02380 786979 w: www.cawood.co.uk/marchwood
Marchwood, 371 Millbrook Road West, Southampton SO15 0HW

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Supporting a safer, healthier planet
www.cawood.co.uk

333889 Dioxin Results Summary

Sample Type : Soil
MSS Sample Ref : 333889
Customer Sample Ref : 1692631 SP01
Sample Condition : Conforming
Test Method : 2002a

Dioxins/ Furans

Analysis	Accreditation	Lower Bound	Upper Bound
WHO2005 TEQ	Y	0.302	0.814
Fish TEQ	Y	0.793	1.29
Birds TEQ	Y	0.121	0.996
I-TEQ	Y	0.335	0.784

333889 Dioxin Results

Sample Type : Soil
MSS Sample Ref : 333889
Customer Sample Ref : 1692631 SP01
Sample Condition : Conforming
Test Method : 2002a

Congener	LOD	Detected	Lower Bound	Upper Bound	Recovery	UKAS
Dioxins/Furans	ng/Kg	ng/Kg	ng/Kg TEQ	ng/Kg TEQ	%	
2378-TCDD	0.0774	< 0.0774	0.00000	0.0774	97	Y
12378-PeCDD	0.220	< 0.220	0.00000	0.220	128	Y
123478-HxCDD	0.266	1.49	0.149	0.149	82	Y
123678-HxCDD	0.287	< 0.287	0.00000	0.0287	80	Y
123789-HxCDD	0.284	< 0.284	0.00000	0.0284		Y
1234678-HpCDD	0.354	10.8	0.108	0.108	71	Y
OCDD	0.462	43.7	0.0131	0.0131	88	Y
Dioxins total		56.0	0.270	0.625		
2378-TCDF	0.246	< 0.246	0.00000	0.0246	65	Y
12378-PeCDF	0.208	< 0.208	0.00000	0.00625	101	Y
23478-PeCDF	0.219	< 0.219	0.00000	0.0657	88	Y
123478-HxCDF	0.151	< 0.151	0.00000	0.0151	68	Y
123678-HxCDF	0.142	< 0.142	0.00000	0.0142	68	Y
234678-HxCDF	0.140	< 0.140	0.00000	0.0140	68	Y
123789-HxCDF	0.151	< 0.151	0.00000	0.0151	67	Y
1234678-HpCDF	0.183	3.12	0.0312	0.0312	59	Y
1234789-HpCDF	0.192	< 0.192	0.00000	0.00192	72	Y
OCDF	0.150	2.54	0.00076	0.00076		Y
Furans total		5.66	0.0320	0.189		
Dioxin/Furan total		61.7	0.302	0.814		

333890 Dioxin Results Summary

Sample Type : Soil
MSS Sample Ref : 333890
Customer Sample Ref : 1692632 SP02
Sample Condition : Conforming
Test Method : 2002a

Dioxins/ Furans

Analysis	Accreditation	Lower Bound	Upper Bound
WHO2005 TEQ	Y	0.205	0.672
Fish TEQ	Y	0.565	1.02
Birds TEQ	Y	0.0789	0.773
I-TEQ	Y	0.229	0.600

333890 Dioxin Results

Sample Type : Soil
MSS Sample Ref : 333890
Customer Sample Ref : 1692632 SP02
Sample Condition : Conforming
Test Method : 2002a

Congener	LOD	Detected	Lower Bound	Upper Bound	Recovery	UKAS
Dioxins/Furans	ng/Kg	ng/Kg	ng/Kg TEQ	ng/Kg TEQ	%	
2378-TCDD	0.0789	< 0.0789	0.00000	0.0789	102	Y
12378-PeCDD	0.249	< 0.249	0.00000	0.249	119	Y
123478-HxCDD	0.185	1.08	0.108	0.108	72	Y
123678-HxCDD	0.193	< 0.193	0.00000	0.0193	74	Y
123789-HxCDD	0.191	< 0.191	0.00000	0.0191		Y
1234678-HpCDD	0.259	7.20	0.0720	0.0720	74	Y
OCDD	0.443	34.6	0.0104	0.0104	86	Y
Dioxins total		42.9	0.190	0.556		
2378-TCDF	0.161	< 0.161	0.00000	0.0161	74	Y
12378-PeCDF	0.161	< 0.161	0.00000	0.00482	87	Y
23478-PeCDF	0.126	< 0.126	0.00000	0.0379	97	Y
123478-HxCDF	0.105	< 0.105	0.00000	0.0105	68	Y
123678-HxCDF	0.107	< 0.107	0.00000	0.0107	63	Y
234678-HxCDF	0.105	< 0.105	0.00000	0.0105	64	Y
123789-HxCDF	0.103	< 0.103	0.00000	0.0103	70	Y
1234678-HpCDF	0.0682	1.42	0.0142	0.0142	58	Y
1234789-HpCDF	0.0735	< 0.0735	0.00000	0.00074	69	Y
OCDF	0.119	< 0.119	0.00000	0.00004		Y
Furans total		1.42	0.0142	0.116		
Dioxin/Furan total		44.3	0.205	0.672		

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

Interim Report

Report No.:	23-28353-0
Initial Date of Issue:	
Re-Issue Details:	
Client	Soiltechnics Limited
Client Address:	1st Floor Unit 9 Westpoint Enterprise Park Clarence Avenue Trafford Park Manchester M17 1QS
Contact(s):	Admin
Project	STP3966D Rockingham Enterprise Area, Corby

Quotation No.:	Q23-32322	**Date Received:**	23-Aug-2023
Order No.:	POR016257	**Date Instructed:**	23-Aug-2023
No. of Samples:	2		
Turnaround (Wkdays):	7	**Results Due:**	01-Sep-2023
Date Approved:		**Subcon Results Due:**	14-Sep-2023
Approved By:			

Details:

Please note that the interim data available has passed our Quality Control Criteria but has not been verified by an approved signatory and may be subject to amendment on approval. Chemtest cannot therefore be held responsible for decisions made on interim data sets but only for the data submitted on a final report containing an approval date and signature.

Results - Soil

Project: STP3966D Rockingham Enterprise Area, Corby

Client: Soiltechnics Limited			**Chemtest Job No.:**		23-28353	23-28353
Quotation No.: Q23-32322			**Chemtest Sample ID.:**		1692631	1692632
Order No.: POR016257			Client Sample Ref.:		3	3
			Client Sample ID.:		SP01.3	SP02.3
			Sample Location:		SP01	SP02
			Sample Type:		SOIL	SOIL
			Top Depth (m):		0.00	0.00
			Date Sampled:		21-Aug-2023	21-Aug-2023
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
Moisture	N	2030	%	0.020	8.0	5.0
Alkali Reserve	N	2105	g NaOH eq	0.010	< 0.010	< 0.010
Dioxin (Subcon)	S		ng/kg	N/A	To Follow	To Follow
Furans (Subcon)	S		ng/kg	N/A	To Follow	To Follow
pH	M	2010		4.0	10.9	10.6
Chromium (Hexavalent)	N	2490	mg/kg	0.50	0.57	< 0.50

Results - 2 Stage WAC

Project: STP3966D Rockingham Enterprise Area, Corby

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	23-28353								
Chemtest Sample ID:	1692631								
Sample Ref:	3								
Sample ID:	SP01.3						**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample Location:	SP01								
Top Depth(m):	0.00								
Bottom Depth(m):									
Sampling Date:	21-Aug-2023								
Determinand	**SOP**	**Accred.**	**Units**						
Total Organic Carbon	2625	M	%			0.24	3	5	6
Loss On Ignition	2610	M	%			2.9	--	--	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	2700	N	mg/kg			< 2.0	100	--	--
pH	2010	M				10.9	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg			0.0080	--	To evaluate	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	0.0010	< 0.0002	0.0019	0.0010	0.5	2	25
Barium	1455	U	0.012	0.006	0.023	0.070	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	< 0.0005	0.0040	< 0.0005	0.036	0.5	10	70
Copper	1455	U	0.0098	0.020	0.020	0.010	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.012	0.036	0.023	0.34	0.5	10	30
Nickel	1455	U	0.0021	< 0.0005	0.0041	0.0021	0.4	10	40
Lead	1455	U	< 0.0005	0.0032	< 0.0005	0.029	0.5	10	50
Antimony	1455	U	0.0023	0.047	0.0047	0.43	0.06	0.7	5
Selenium	1455	U	0.0020	0.0017	0.0039	0.017	0.1	0.5	7
Zinc	1455	U	< 0.003	0.031	< 0.003	0.28	4	50	200
Chloride	1220	U	1100	130	2300	2300	800	15000	25000
Fluoride	1220	U	0.24	< 0.050	< 1.0	< 1.0	10	150	500
Sulphate	1220	U	820	150	1600	2200	1000	20000	50000
Total Dissolved Solids	1020	N	4400	800	8700	12000	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	70	9.9	140	160	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	8.0

Leachate Test Information	
Leachant volume 1st extract/l	0.335
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.178

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: STP3966D Rockingham Enterprise Area, Corby

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	23-28353								
Chemtest Sample ID:	1692632								
Sample Ref:	3								
Sample ID:	SP02.3								
Sample Location:	SP02								
Top Depth(m):	0.00								
Bottom Depth(m):									
Sampling Date:	21-Aug-2023								
Determinand	**SOP**	**Accred.**	**Units**				**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	M	%			0.46	3	5	6
Loss On Ignition	2610	M	%			3.2	--	--	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	2700	N	mg/kg			< 2.0	100	--	--
pH	2010	M				10.6	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg			0.0040	--	To evaluate	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	0.0027	0.0003	0.0053	0.0049	0.5	2	25
Barium	1455	U	0.005	< 0.005	0.011	0.0033	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	0.018	0.0088	0.037	0.012	2	50	100
Mercury	1455	U	0.00021	< 0.00005	0.00041	0.00013	0.01	0.2	2
Molybdenum	1455	U	0.21	0.020	0.42	0.32	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	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	0.040	0.028	0.080	0.29	0.06	0.7	5
Selenium	1455	U	0.017	0.0017	0.034	0.027	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	< 0.003	< 0.003	4	50	200
Chloride	1220	U	960	46	1900	1000	800	15000	25000
Fluoride	1220	U	0.14	< 0.050	< 1.0	< 1.0	10	150	500
Sulphate	1220	U	800	92	1600	1400	1000	20000	50000
Total Dissolved Solids	1020	N	4100	1700	8200	19000	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	54	4.2	110	74	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	5.0

Leachate Test Information	
Leachant volume 1st extract/l	0.341
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.110

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
2105	Alkali Reserve	Alkali Reserve	Titration
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
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.
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge
650	Characterisation of Waste (Leaching WAC)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

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

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

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

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

Sample Deviation Codes

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

Sample Retention and Disposal

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

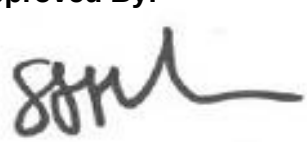
If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

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

Amended Report

Report No.:	23-28353-4		
Initial Date of Issue:	19-Sep-2023	**Date of Re-Issue:**	19-Sep-2023
Re-Issue Details:	This report has been revised and directly supersedes 23-28353-3 in its entirety		
Client	Soiltechnics Limited		
Client Address:	1st Floor Unit 9 Westpoint Enterprise Park Clarence Avenue Trafford Park Manchester M17 1QS		
Contact(s):	Admin		
Project	STP3966D Rockingham Enterprise Area, Corby		
Quotation No.:	Q23-32322	**Date Received:**	23-Aug-2023
Order No.:	POR016257	**Date Instructed:**	23-Aug-2023
No. of Samples:	2		
Turnaround (Wkdays):	7	**Results Due:**	01-Sep-2023
Date Approved:	19-Sep-2023	**Subcon Results Due:**	14-Sep-2023

Approved By:



Details: Stuart Henderson, Technical Manager

Results - Soil

Project: STP3966D Rockingham Enterprise Area, Corby

Client: Soiltechnics Limited			**Chemtest Job No.:**		23-28353	23-28353
Quotation No.: Q23-32322			**Chemtest Sample ID.:**		1692631	1692632
Order No.: POR016257			Client Sample Ref.:		3	3
			Client Sample ID.:		SP01.3	SP02.3
			Sample Location:		SP01	SP02
			Sample Type:		SOIL	SOIL
			Top Depth (m):		0.00	0.00
			Date Sampled:		21-Aug-2023	21-Aug-2023
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
Moisture	N	2030	%	0.020	8.0	5.0
Alkali Reserve	N	2105	g NaOH eq	0.010	< 0.010	< 0.010
Dioxin (Subcon)	S		ng/kg	N/A	See Attached	See Attached
Furans (Subcon)	S		ng/kg	N/A	See Attached	See Attached
pH	M	2010		4.0	10.9	10.6
Chromium (Hexavalent)	N	2490	mg/kg	0.50	0.57	< 0.50

Results - 2 Stage WAC

Project: STP3966D Rockingham Enterprise Area, Corby

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	23-28353								
Chemtest Sample ID:	1692631								
Sample Ref:	3								
Sample ID:	SP01.3						**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample Location:	SP01								
Top Depth(m):	0.00								
Bottom Depth(m):									
Sampling Date:	21-Aug-2023								
Determinand	**SOP**	**Accred.**	**Units**						
Total Organic Carbon	2625	M	%			0.24	3	5	6
Loss On Ignition	2610	M	%			2.9	--	--	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	2700	N	mg/kg			< 2.0	100	--	--
pH	2010	M				10.9	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg			0.0080	--	To evaluate	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	0.0010	< 0.0002	0.0019	0.0010	0.5	2	25
Barium	1455	U	0.012	0.006	0.023	0.070	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	< 0.0005	0.0040	< 0.0005	0.036	0.5	10	70
Copper	1455	U	0.0098	0.020	0.020	0.010	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.012	0.036	0.023	0.34	0.5	10	30
Nickel	1455	U	0.0021	< 0.0005	0.0041	0.0021	0.4	10	40
Lead	1455	U	< 0.0005	0.0032	< 0.0005	0.029	0.5	10	50
Antimony	1455	U	0.0023	0.047	0.0047	0.43	0.06	0.7	5
Selenium	1455	U	0.0020	0.0017	0.0039	0.017	0.1	0.5	7
Zinc	1455	U	< 0.003	0.031	< 0.003	0.28	4	50	200
Chloride	1220	U	1100	130	2300	2300	800	15000	25000
Fluoride	1220	U	0.24	< 0.050	< 1.0	< 1.0	10	150	500
Sulphate	1220	U	820	150	1600	2200	1000	20000	50000
Total Dissolved Solids	1020	N	4400	800	8700	12000	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	70	9.9	140	160	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	8.0

Leachate Test Information	
Leachant volume 1st extract/l	0.335
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.178

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: STP3966D Rockingham Enterprise Area, Corby

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	23-28353								
Chemtest Sample ID:	1692632								
Sample Ref:	3								
Sample ID:	SP02.3								
Sample Location:	SP02								
Top Depth(m):	0.00								
Bottom Depth(m):									
Sampling Date:	21-Aug-2023								
Determinand	**SOP**	**Accred.**	**Units**				**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	M	%			0.46	3	5	6
Loss On Ignition	2610	M	%			3.2	--	--	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	2700	N	mg/kg			< 2.0	100	--	--
pH	2010	M				10.6	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg			0.0040	--	To evaluate	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	0.0027	0.0003	0.0053	0.0049	0.5	2	25
Barium	1455	U	0.005	< 0.005	0.011	0.0033	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	0.018	0.0088	0.037	0.012	2	50	100
Mercury	1455	U	0.00021	< 0.00005	0.00041	0.00013	0.01	0.2	2
Molybdenum	1455	U	0.21	0.020	0.42	0.32	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	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	0.040	0.028	0.080	0.29	0.06	0.7	5
Selenium	1455	U	0.017	0.0017	0.034	0.027	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	< 0.003	< 0.003	4	50	200
Chloride	1220	U	960	46	1900	1000	800	15000	25000
Fluoride	1220	U	0.14	< 0.050	< 1.0	< 1.0	10	150	500
Sulphate	1220	U	800	92	1600	1400	1000	20000	50000
Total Dissolved Solids	1020	N	4100	1700	8200	19000	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	54	4.2	110	74	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	5.0

Leachate Test Information	
Leachant volume 1st extract/l	0.341
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.110

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
2105	Alkali Reserve	Alkali Reserve	Titration
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
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.
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge
650	Characterisation of Waste (Leaching WAC)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

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

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

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

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

Sample Deviation Codes

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

Sample Retention and Disposal

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

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