



Certificate of Analysis

Certificate Number 22-24414

Issued: 06-Dec-22

Client The Testing Laboratory
Unit 2 James Road
Adwick-le-Street
Doncaster
DN6 7HH

Our Reference 22-24414

Client Reference J219176

Order No (not supplied)

Contract Title (not supplied)

Description 4 Soil samples, 8 Leachate samples.

Date Received 28-Nov-22

Date Started 28-Nov-22

Date Completed 06-Dec-22

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

A handwritten signature in black ink, appearing to read "K. Bridgewood".

Kirk Bridgewood
General Manager



Summary of Chemical Analysis

Soil Samples

Our Ref 22-24414

Client Ref J219176

Contract Title

Lab No	2091020	2091021	2091022	2091023
Sample ID	2	5	8	10
Depth				
Other ID				
Sample Type	SOIL	SOIL	SOIL	SOIL
Sampling Date	n/s	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	16	20	13	17
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	0.5	0.6	0.6	0.5
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.2	0.3	0.2
Chromium	DETSC 2301#	0.15	mg/kg	20	17	13	16
Copper	DETSC 2301#	0.2	mg/kg	78	120	88	72
Lead	DETSC 2301#	0.3	mg/kg	51	63	50	42
Mercury	DETSC 2325#	0.05	mg/kg	0.21	0.18	0.11	0.12
Nickel	DETSC 2301#	1	mg/kg	36	37	28	33
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	72	70	58	55

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 22-24414

Client Ref J219176

Contract Title

Sample Id 2

Sample Numbers 2091020 2091024 2091025

Date Analysed 05/12/2022

Test Results On Waste		
Determinand and Method Reference	Units	Result
DETSC 2084# Total Organic Carbon	%	9.0
DETSC 2003# Loss On Ignition	%	6.7
DETSC 3321# BTEX	mg/kg	< 0.04
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01
DETSC 3311# TPH (C10 - C40)	mg/kg	980.0
DETSC 3301 PAHs	mg/kg	230.0
DETSC 2008# pH	pH Units	10.2
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0

WAC Limit Values		
Inert Waste	SNRHW	Hazardous Waste
3	5	6
n/a	n/a	10
6	n/a	n/a
1	n/a	n/a
500	n/a	n/a
100	n/a	n/a
n/a	>6	n/a
n/a	TBE	TBE
n/a	TBE	TBE

Test Results On Leachate				
Determinand and Method Reference	Conc in Eluate ug/l		Amount Leached* mg/kg	
	2:1	8:1	LS2	LS10
DETSC 2306 Arsenic as As	6	4.4	0.012	0.047
DETSC 2306 Barium as Ba	6.8	3.5	< 0.02	< 0.1
DETSC 2306 Cadmium as Cd	< 0.030	< 0.030	< 0.004	< 0.02
DETSC 2306 Chromium as Cr	0.68	< 0.25	< 0.02	< 0.1
DETSC 2306 Copper as Cu	8.5	4.1	0.017	0.048
DETSC 2306 Mercury as Hg	< 0.010	< 0.010	< 0.0004	< 0.002
DETSC 2306 Molybdenum as Mo	26	7.4	0.05	0.1
DETSC 2306 Nickel as Ni	1.6	< 0.50	< 0.02	< 0.1
DETSC 2306 Lead as Pb	0.43	0.42	< 0.01	< 0.05
DETSC 2306 Antimony as Sb	0.33	< 0.17	< 0.01	< 0.05
DETSC 2306 Selenium as Se	3.9	1.4	0.008	< 0.03
DETSC 2306 Zinc as Zn	5.7	1.6	0.011	0.023
DETSC 2055 Chloride as Cl	14000	2300	28	< 100
DETSC 2055* Fluoride as F	400	160	0.8	2
DETSC 2055 Sulphate as SO4	110000	6000	220	233.2
DETSC 2009* Total Dissolved Solids	94000	32000	188	423.3
DETSC 2130 Phenol Index	< 100	< 100	< 0.2	< 1
DETSC 2085 Dissolved Organic Carbon	8100	7300	16.2	74.3

WAC Limit Values		
Limit values for LS10 Leachate		
Inert Waste	SNRHW	Hazardous Waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15,000	25,000
10	150	500
1000	20,000	50,000
4000	60,000	100,000
1	n/a	n/a
500	800	1000

Additional Information		
DETSC 2008 pH	7.0	8.5
DETSC 2009 Conductivity uS/cm	134.0	46.1
* Temperature*	17.0	17.0

Mass of Sample Kg*	0.140
Mass of dry Sample Kg*	0.125

Stage 1

Volume of Leachant L2*	0.235
Volume of Eluate VE1*	0.208

Stage 2

Volume of Leachant L8*	0.999
Volume of Eluate VE2*	0.948

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 22-24414

Client Ref J219176

Contract Title

Sample Id 5

Sample Numbers 2091021 2091026 2091027

Date Analysed 05/12/2022

Test Results On Waste		
Determinand and Method Reference	Units	Result
DETSC 2084# Total Organic Carbon	%	14.0
DETSC 2003# Loss On Ignition	%	9.2
DETSC 3321# BTEX	mg/kg	< 0.04
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01
DETSC 3311# TPH (C10 - C40)	mg/kg	7800.0
DETSC 3301 PAHs	mg/kg	1900.0
DETSC 2008# pH	pH Units	10.6
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0

WAC Limit Values		
Inert Waste	SNRHW	Hazardous Waste
3	5	6
n/a	n/a	10
6	n/a	n/a
1	n/a	n/a
500	n/a	n/a
100	n/a	n/a
n/a	>6	n/a
n/a	TBE	TBE
n/a	TBE	TBE

Test Results On Leachate				
Determinand and Method Reference	Conc in Eluate ug/l		Amount Leached* mg/kg	
	2:1	8:1	LS2	LS10
DETSC 2306 Arsenic as As	0.51	0.34	< 0.002	< 0.01
DETSC 2306 Barium as Ba	22	7.7	0.04	0.1
DETSC 2306 Cadmium as Cd	< 0.030	< 0.030	< 0.004	< 0.02
DETSC 2306 Chromium as Cr	0.31	< 0.25	< 0.02	< 0.1
DETSC 2306 Copper as Cu	3.3	1.7	0.007	< 0.02
DETSC 2306 Mercury as Hg	< 0.010	< 0.010	< 0.0004	< 0.002
DETSC 2306 Molybdenum as Mo	10	3.4	0.02	< 0.1
DETSC 2306 Nickel as Ni	< 0.50	< 0.50	< 0.02	< 0.1
DETSC 2306 Lead as Pb	1.2	0.25	< 0.01	< 0.05
DETSC 2306 Antimony as Sb	0.22	< 0.17	< 0.01	< 0.05
DETSC 2306 Selenium as Se	0.97	0.26	< 0.006	< 0.03
DETSC 2306 Zinc as Zn	8.8	3.2	0.018	0.042
DETSC 2055 Chloride as Cl	11000	1900	22	< 100
DETSC 2055* Fluoride as F	360	120	0.72	1.62
DETSC 2055 Sulphate as SO4	92000	16000	184	292.9
DETSC 2009* Total Dissolved Solids	210000	42000	420	713.9
DETSC 2130 Phenol Index	< 100	< 100	< 0.2	< 1
DETSC 2085 Dissolved Organic Carbon	4800	5300	< 10	52.1

WAC Limit Values		
Limit values for LS10 Leachate		
Inert Waste	SNRHW	Hazardous Waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15,000	25,000
10	150	500
1000	20,000	50,000
4000	60,000	100,000
1	n/a	n/a
500	800	1000

Additional Information

DETSC 2008 pH	6.7	7.8
DETSC 2009 Conductivity uS/cm	294.0	59.5
* Temperature*	17.0	15.0

Mass of Sample Kg*	0.140
Mass of dry Sample Kg*	0.122

Stage 1

Volume of Leachant L2*	0.227
Volume of Eluate VE1*	0.214

Stage 2

Volume of Leachant L8*	0.979
Volume of Eluate VE2*	0.93

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 22-24414

Client Ref J219176

Contract Title

Sample Id 8

Sample Numbers 2091022 2091028 2091029

Date Analysed 05/12/2022

Test Results On Waste		
Determinand and Method Reference	Units	Result
DETSC 2084# Total Organic Carbon	%	8.0
DETSC 2003# Loss On Ignition	%	8.1
DETSC 3321# BTEX	mg/kg	< 0.04
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01
DETSC 3311# TPH (C10 - C40)	mg/kg	2000.0
DETSC 3301 PAHs	mg/kg	440.0
DETSC 2008# pH	pH Units	10.0
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0

WAC Limit Values		
Inert Waste	SNRHW	Hazardous Waste
3	5	6
n/a	n/a	10
6	n/a	n/a
1	n/a	n/a
500	n/a	n/a
100	n/a	n/a
n/a	>6	n/a
n/a	TBE	TBE
n/a	TBE	TBE

Test Results On Leachate				
Determinand and Method Reference	Conc in Eluate ug/l		Amount Leached* mg/kg	
	2:1	8:1	LS2	LS10
DETSC 2306 Arsenic as As	3.1	2	0.006	0.022
DETSC 2306 Barium as Ba	11	7.6	0.02	< 0.1
DETSC 2306 Cadmium as Cd	< 0.030	0.068	< 0.004	< 0.02
DETSC 2306 Chromium as Cr	1.1	1	< 0.02	< 0.1
DETSC 2306 Copper as Cu	3.9	5.6	0.008	0.053
DETSC 2306 Mercury as Hg	< 0.010	0.032	< 0.0004	< 0.002
DETSC 2306 Molybdenum as Mo	8.2	6.2	< 0.02	< 0.1
DETSC 2306 Nickel as Ni	0.56	0.6	< 0.02	< 0.1
DETSC 2306 Lead as Pb	0.43	1.9	< 0.01	< 0.05
DETSC 2306 Antimony as Sb	0.52	0.34	< 0.01	< 0.05
DETSC 2306 Selenium as Se	0.91	1.6	< 0.006	< 0.03
DETSC 2306 Zinc as Zn	4	3	0.008	0.032
DETSC 2055 Chloride as Cl	16000	2700	32	< 100
DETSC 2055* Fluoride as F	430	< 100	0.86	0.7
DETSC 2055 Sulphate as SO4	26000	5700	52	< 100
DETSC 2009* Total Dissolved Solids	110000	31000	220	439.2
DETSC 2130 Phenol Index	< 100	< 100	< 0.2	< 1
DETSC 2085 Dissolved Organic Carbon	11000	8500	22	89.1

WAC Limit Values		
Limit values for LS10 Leachate		
Inert Waste	SNRHW	Hazardous Waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15,000	25,000
10	150	500
1000	20,000	50,000
4000	60,000	100,000
1	n/a	n/a
500	800	1000

Additional Information		
DETSC 2008 pH	6.9	7.6
DETSC 2009 Conductivity uS/cm	163.0	43.9
* Temperature*	17.0	15.0

Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.117

Stage 1	
Volume of Leachant L2*	0.222
Volume of Eluate VE1*	0.192

Stage 2	
Volume of Leachant L8*	0.939
Volume of Eluate VE2*	0.891

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 22-24414

Client Ref J219176

Contract Title

Sample Id 10

Sample Numbers 2091023 2091030 2091031

Date Analysed 05/12/2022

Test Results On Waste		
Determinand and Method Reference	Units	Result
DETSC 2084# Total Organic Carbon	%	7.4
DETSC 2003# Loss On Ignition	%	16.0
DETSC 3321# BTEX	mg/kg	< 0.04
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01
DETSC 3311# TPH (C10 - C40)	mg/kg	1100.0
DETSC 3301 PAHs	mg/kg	260.0
DETSC 2008# pH	pH Units	10.5
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0

WAC Limit Values		
Inert Waste	SNRHW	Hazardous Waste
3	5	6
n/a	n/a	10
6	n/a	n/a
1	n/a	n/a
500	n/a	n/a
100	n/a	n/a
n/a	>6	n/a
n/a	TBE	TBE
n/a	TBE	TBE

Test Results On Leachate				
Determinand and Method Reference	Conc in Eluate ug/l		Amount Leached* mg/kg	
	2:1	8:1	LS2	LS10
DETSC 2306 Arsenic as As	2.8	3.7	0.006	0.035
DETSC 2306 Barium as Ba	12	7.8	0.02	< 0.1
DETSC 2306 Cadmium as Cd	< 0.030	< 0.030	< 0.004	< 0.02
DETSC 2306 Chromium as Cr	0.6	< 0.25	< 0.02	< 0.1
DETSC 2306 Copper as Cu	14	5.1	0.028	0.066
DETSC 2306 Mercury as Hg	0.023	< 0.010	< 0.0004	< 0.002
DETSC 2306 Molybdenum as Mo	24	6.5	0.05	< 0.1
DETSC 2306 Nickel as Ni	2.9	0.61	< 0.02	< 0.1
DETSC 2306 Lead as Pb	0.87	1.3	< 0.01	< 0.05
DETSC 2306 Antimony as Sb	0.3	< 0.17	< 0.01	< 0.05
DETSC 2306 Selenium as Se	4.5	1.6	0.009	< 0.03
DETSC 2306 Zinc as Zn	3.4	6.2	0.007	0.057
DETSC 2055 Chloride as Cl	16000	3300	32	< 100
DETSC 2055* Fluoride as F	490	180	0.98	2.33
DETSC 2055 Sulphate as SO4	22000	5900	44	< 100
DETSC 2009* Total Dissolved Solids	200000	130000	400	1420.8
DETSC 2130 Phenol Index	< 100	< 100	< 0.2	< 1
DETSC 2085 Dissolved Organic Carbon	9300	7900	18.6	81.4

WAC Limit Values		
Limit values for LS10 Leachate		
Inert Waste	SNRHW	Hazardous Waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15,000	25,000
10	150	500
1000	20,000	50,000
4000	60,000	100,000
1	n/a	n/a
500	800	1000

Additional Information

DETSC 2008 pH	9.7	10.9
DETSC 2009 Conductivity uS/cm	283.0	179.0
* Temperature*	17.0	15.0

Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.116

Stage 1

Volume of Leachant L2*	0.219
Volume of Eluate VE1*	0.201

Stage 2

Volume of Leachant L8*	0.932
Volume of Eluate VE2*	0.884

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

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Information in Support of the Analytical Results

Our Ref 22-24414
Client Ref J219176
Contract

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2091020	2 SOIL		PT 1L x2	Sample date not supplied, ANC (1095 days), Boron (365 days), BTEX (14 days), Mercury (28 days), ICP WS Boron (182 days), Metals ICP (182 days), Metals ICP Prep (182 days), Loss on Ignition (730 days), Naphthalene (14 days), Organic Matter (Auto) (28 days), PAH FID (14 days), PCB (30 days), pH + Conductivity (7 days), EPH/TPH (14 days)	BTEX, Naphthalene, PAH FID, PCB, EPH/TPH
2091021	5 SOIL		PT 1L x2	Sample date not supplied, ANC (1095 days), Boron (365 days), BTEX (14 days), Mercury (28 days), ICP WS Boron (182 days), Metals ICP (182 days), Metals ICP Prep (182 days), Loss on Ignition (730 days), Naphthalene (14 days), Organic Matter (Auto) (28 days), PAH FID (14 days), PCB (30 days), pH + Conductivity (7 days), EPH/TPH (14 days)	BTEX, Naphthalene, PAH FID, PCB, EPH/TPH
2091022	8 SOIL		PT 1L x2	Sample date not supplied, ANC (1095 days), Boron (365 days), BTEX (14 days), Mercury (28 days), ICP WS Boron (182 days), Metals ICP (182 days), Metals ICP Prep (182 days), Loss on Ignition (730 days), Naphthalene (14 days), Organic Matter (Auto) (28 days), PAH FID (14 days), PCB (30 days), pH + Conductivity (7 days), EPH/TPH (14 days)	BTEX, Naphthalene, PAH FID, PCB, EPH/TPH
2091023	10 SOIL		PT 1L x2	Sample date not supplied, ANC (1095 days), Boron (365 days), BTEX (14 days), Mercury (28 days), ICP WS Boron (182 days), Metals ICP (182 days), Metals ICP Prep (182 days), Loss on Ignition (730 days), Naphthalene (14 days), Organic Matter (Auto) (28 days), PAH FID (14 days), PCB (30 days), pH + Conductivity (7 days), EPH/TPH (14 days)	BTEX, Naphthalene, PAH FID, PCB, EPH/TPH
2091024	2 LEACHATE		PT 1L x2	Sample date not supplied	
2091025	2 LEACHATE		PT 1L x2	Sample date not supplied	

Information in Support of the Analytical Results

Our Ref 22-24414

Client Ref J219176

Contract

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2091026	5 LEACHATE		PT 1L x2	Sample date not supplied	
2091027	5 LEACHATE		PT 1L x2	Sample date not supplied	
2091028	8 LEACHATE		PT 1L x2	Sample date not supplied	
2091029	8 LEACHATE		PT 1L x2	Sample date not supplied	
2091030	10 LEACHATE		PT 1L x2	Sample date not supplied	
2091031	10 LEACHATE		PT 1L x2	Sample date not supplied	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report