



Our Ref: 17-07458

ENVIROCHEM

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Analysis Report

Client: L & S Waste Management Ltd
Laveys Lane
Pegham Industrial Park
Fareham
Hampshire
PO15 6SD

Sample Details: 1 soil sample for Top Soil Analysis

Date report issued: 1 September 2017

Number of pages (including this one): 5

Accreditation

All analytes marked **M** have been analysed under the scope of our MCERTS accreditation

All analytes marked **U** have been analysed under the scope of our UKAS accreditation

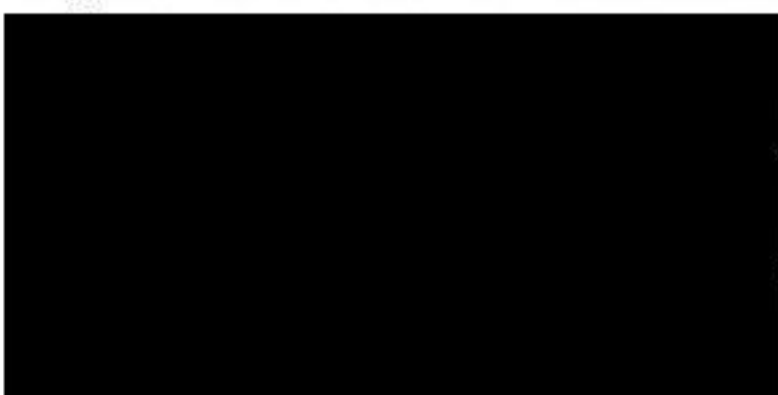
All analytes marked **m** have been subcontracted and analysed under the scope of their MCERTS accreditation

All analytes marked **u** have been subcontracted and analysed under the scope of their UKAS accreditation

All results labelled with an asterisk (*) are non-conforming due to incorrect sample storage or handling. The result may be invalid.

All comments are beyond the scope of our accreditation.

Signed on behalf of Envirochem by an authorised signatory



Amy Hicks

Operations Co-ordinator



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Soil Analysis Report

(Analysed in accordance with BS 3882:2015)

Client: L & S Waste Management Ltd
Sample Lab Reference: Job: 17-07458-Samp. 20146-1
Site Details: Pegham
Sample Point: Sample 1
Date Sampled: 18 August 2017
Date Analysis Started: 23 August 2017
Sample Description: Soil - Silt loam

Sampled By: Client
Date Received: 23 August 2017
Date Completed: 1 September 2017

Table 1 : Soil Texture (% m/m)

Texture	Method	Sample Result	Multipurpose Topsoil Range	Specific Purpose Range				
				Acidic	Calcareous	Low Fertility	Low Fert. Acidic	Low Fert. Calc.
Clay Content (%)	5.05	10						
Silt Content (%)	5.05	60						
Sand Content (%)	5.05	30						
Soil Texture Class	5.05	Silt loam	Note: see soil texture triangle in BS3882:2015 for allowed soils					

Table 2 : Mass Loss on Ignition (%)

Clay percentage	Method	Sample Result	Multipurpose Topsoil Range	Specific Purpose Range				
				Acidic	Calcareous	Low Fertility	Low Fert. Acidic	Low Fert. Calc.
Clay (5 - 20 %)	6.07	3.2	3 - 20	3 - 30	3 - 30	2 - 20	2 - 20	2 - 20
Clay (20 - 35 %)	6.07		5 - 20	5 - 30	5 - 30	2 - 20	2 - 20	2 - 20

Table 3 : Maximum Coarse Fragment Content (% (m/m))

Particle size	Sample Result	Multipurpose Topsoil Range	Specific Purpose Range				
			Acidic	Calcareous	Low Fertility	Low Fert. Acidic	Low Fert. Calc.
> 2 mm	29						
> 20 mm	0						
> 50 mm	0						

Table 4 : Chemical Analysis (air-dried, sieved (<2 mm) soil)

Analyte	Method	Sample Result	Multipurpose Topsoil Range	Specific Purpose Range				
				Acidic	Calcareous	Low Fertility	Low Fert. Acidic	Low Fert. Calc.
soil pH Value ^M	5.03	7.45 *	5.5 - 8.5	3.5 - 5.5	7.5 - 9.0	3.5 - 9.0	3.5 - 5.5	7.5 - 9.0
Calcium Carbonate (%)	6.07	10.2	-	-	> 1	-	-	> 1



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Table 5 : Available Plant Nutrient Content

Analyte	Method	Sample Result	Multipurpose Topsoil Range	Specific Purpose Range				
				Acidic	Calcareous	Low Fertility	Low Fert. Acidic	Low Fert. Calc.
Nitrogen (% m/m)		0.16	> 0.15	> 0.15	> 0.15	-	-	-
Extractable Phosphate (mg/l)	6.08	< 3.0	16 - 140	16 - 140	16 - 140	< 20	< 20	< 20
Extractable Potassium (mg/l)	6.08	128	121 - 1500	121-1500	121-1500	-	-	-
Extractable Magnesium (mg/l)	6.08	52.9	51 - 600	51 - 600	51 - 600	-	-	-
Carbon:Nitrogen Ratio		23.3	< 20:1	< 20:1	< 20:1	< 35:1	< 35:1	< 35:1
Soil Electrical Conductivity		1641.0	< 3300	-				
Exchangeable Sodium (%) 1)	6.08	2.63	< 15					

1) Need be measured only if the electrical conductivity is greater than 2800 us/cm

Table 6 : Phytotoxic Contaminants (by soil pH) (mg/kg) analyses carried out on air dried samples

	Method	Sample	Multipurpose and Specific purpose Topsoils		
Soil pH Range			< 6.0	6.0 - 7.0	> 7.0
Zinc M	6.08	241	< 200	< 200	< 300
Copper M	6.08	60.4	< 100	< 135	< 200
Nickel M	6.08	16.1	< 60	< 75	< 110

Table 7 : Additional Physical characteristics

	Method	Sample
Water Content	6.01	12.2
Total Organic Carbon	6.07	2.5
Soil Organic Matter	6.09	4.3
Visible Contaminants		Glass 0.9g

Comments: (including details of weeds and other visible contaminants - all comments are beyond the scope of our accreditation)

Results marked with an asterisk (*) are non conforming due to sampling handling time or conditions. Therefore the result may be invalid.



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Table 8 : Additional metals (all results in mg/kg dry weight)

Analyte	Method	Sample	Soil Guideline Values		
			Residential	Allotment	Commercial
Arsenic M	5.03, 6.08	12.0	32 †	43 †	640 †
Antimony	5.03, 6.08	< 10.0	-	-	-
WS Boron	5.03, 6.08	—	-	3	-
Cadmium M	5.03, 6.08	4.9	10 †	1.8 †	230 †
Chromium (total) M	5.03, 6.08	20.0	600 †††	600 †††	1000 †††
Cobalt	5.03, 6.08	—	-	-	-
Copper M	5.03, 6.08	60.4	2330 ††	524 ††	71700 ††
Mercury	5.03, 6.08	1.07	1.0 †	26 †	26 †
Molybdenum	5.03, 6.08	—	-	-	-
Nickel M	5.03, 6.08	16.1	130 †	230 †	1800 †
Lead M	5.03, 6.08	217	500 †††	500 †††	2000 †††
Selenium	5.03, 6.08	< 3.0	350 †	120 †	13000 †
Thallium	5.03, 6.08	—	-	-	-
Vanadium	5.03, 6.08	—	75 ††	18 ††	3160 ††
Zinc M	5.03, 6.08	241	3750 ††	618 ††	66500 ††

All analytes marked **M** have been analysed under the scope of our MCERTS accreditation

Comments: (comments are beyond the scope of our accreditation)

Limits Notes:

†" are soil guideline values from Defra 2002 (information taken from: Using Soil Guideline Values: Science Report: SC050021/SGC introduction & www.environment-agency.gov.uk/clea

††" are LQM Soil Guideline Values

†††" are ICRL 59/83 trigger concentrations. These do not differentiate between domestic and allotments

For antimony values of less than 30mg/kg are typical of uncontaminated soil - as taken from 'Site investigation and materials problems', proc Conference on Reclamation of Contaminated Land, Eastbourne, Oct 79.



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Table 9: PAH in soil (all results in mg/kg dry weight)

Analyte	Method	Sample	Soil Guideline Values		
			Residential	Allotment	Commercial
PAH (total)	6.05	< 10.0	—	—	—
Naphthalene	6.05	< 1.0	8.7	23	1100
Acenaphthylene	6.05	< 1.0	850	160	100000
Acenaphthene	6.05	< 1.0	1000	200	100000
Fluorene	6.05	< 1.0	780	160	71000
Phenanthrene	6.05	< 1.0	380	90	23000
Anthracene	6.05	< 1.0	9200	2200	500000
Fluoranthene	6.05	< 1.0	670	290	23000
Pyrene	6.05	< 1.0	1600	620	54000
Benz(a)anthracene	6.05	< 1.0	5.9	10	97
Chrysene	6.05	< 1.0	9.3	12	140
Benzo(b)fluoranthene	6.05	< 1.0	7	13	100
Benzo(k)fluoranthene	6.05	< 1.0	7	13	100
Benzo(a)pyrene	6.05	< 0.1	1	2.1	14
Dibenz(a,h)anthracene	6.05	< 0.9	0.9	2.3	13
Benzo(g,h,i)perylene	6.05	< 1.0	47	160	660
Indeno(1,2,3-c,d)pyrene	6.05	< 1.0	4.2	7.1	62

Comments: (comments are beyond the scope of UKAS accreditation)

Limits are soil guideline values from Defra 2002 (information taken from: Using Soil Guideline Values: Science Report: SC050021/SGV introduction & www.environment-agency.gov.uk/clea)

Table 10: TPH in soil (all results in mg/kg dry weight)

Analyte	Method	Sample	Soil Guideline Values		
			Residential	Allotment	Commercial
TPH total (C10 - C40)	6.04	359	—	—	—
TPH aromatic (C8 - C10)	6.04	< 10.0	151	51	18000
TPH aromatic (C10 - C12)	6.04	< 10.0	346	74	34500
TPH aromatic (C12 - C16)	6.04	< 10.0	593	130	37800
TPH aromatic (C16 - C21)	6.04	17.6	770	260	1600
TPH aromatic (C21 - C40)	6.04	< 10.0	1230	1600	28000
TPH aliphatic (C8 - C10)	6.04	< 10.0	110	1700	12000
TPH aliphatic (C10 - C12)	6.04	< 10.0	540	7300	49000
TPH aliphatic (C12 - C16)	6.04	< 10.0	3000	13000	91000
TPH aliphatic (C16 - C21)	6.04	30.1	76000	270000	1800000
TPH aliphatic (C21 - C40)	6.04	102	76000	270000	1800000