



Our Ref: 18-13690
Your Ref: PO350/SKD

ENVIROCHEM

Analytical Laboratories Ltd.

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Analysis Report

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

Sample Details: 2 soil samples for Waste Acceptance Criteria (WAC) analysis

Date report issued: 17 December 2018

Number of pages (including this one): 7

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



Dr James Drynan

Authorised Signatory



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Table 3: parameters determined on aqua regia digest (all results in mg/kg dry weight)

Analyte	Method	Sample Lab Ref: Job: 18-13690 Samp. 36603	Soil Guideline Values		
			Residential	Allotment	Commercial
Arsenic M	5.16, 6.08	11.5	37†	43 †	640 †
Antimony	5.16, 6.08	< 5.0	—	—	—
Barium M	5.16, 6.08	339 *	---	---	---
Cadmium M	5.16, 6.08	< 1.0 *	11†	1.9†	190†
Chromium (total) M	5.16, 6.08	30.8 *	—	—	—
Cobalt	5.16, 6.08	7.9	—	—	—
Copper M	5.16, 6.08	23.2 *	2400†	520†	68000†
Mercury M	5.16, 6.08	< 1.00	1.2 †	21†	25.8†
Molybdenum M	5.16, 6.08	< 5.0	---	—	—
Nickel M	5.16, 6.08	27.3 *	180 †	230 †	980 †
Lead M	5.16, 6.08	< 60.0 *	210 ††	84 ††	1100 ††
Selenium M	5.16, 6.08	< 2.0	250 †	88 †	12000 †
Thallium M	5.16, 6.08	< 2.0	—	—	—
Vanadium M	5.16, 6.08	64.0	410 †	91 †	9000 †
Zinc M	5.16, 6.08	118 *	3700 ††	620 ††	73000 ††

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

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

Limits labelled '†' are LQM/CIEH S4ULs (suitable 4 use levels) taken from The LQM/CIEH S4ULs for Human Risk Assessment published by Land Quality Press 2015

Limits labelled '††' are provisional C4SLs (Category 4 Screening Levels) taken from Appendix H Provisional C4SLs for Lead, these are based upon soil guideline values published by DEFRA and the HPA Compendium of Chemical Hazards document



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Table 4: PAH in soil (all results in mg/kg dry weight)

Analyte	Method	Sample Lab Ref: Job: 18-13690 Samp. 36603	Soil Guideline Values		
			Residential	Allotment	Commercial
PAH (total)	6.05	< 10.0	---	---	---
Naphthalene	6.05	< 0.10	2.3	4.1	190
Acenaphthylene	6.05	< 0.10	170	28	83000
Acenaphthene	6.05	0.11	210	34	84000
Fluorene	6.05	< 0.10	170	27	63000
Phenanthrene	6.05	< 0.10	95	15	22000
Anthracene	6.05	1.00	2400	380	520000
Fluoranthene	6.05	1.99	280	52	23000
Pyrene	6.05	1.74	620	110	54000
Benz(a)anthracene	6.05	1.11	7.2	2.9	170
Chrysene	6.05	0.13	15	4.1	350
Benzo(b)fluoranthene	6.05	< 0.10	2.6	0.99	44
Benzo(k)fluoranthene	6.05	0.13	77	37	1200
Benzo(a)pyrene	6.05	1.12	2.2	0.97	35
Dibenz(a,h)anthracene	6.05	< 0.10	0.24	0.14	3.5
Benzo(g,h,i)perylene	6.05	0.12	320	290	3900
Indeno(1,2,3-c,d)pyrene	6.05	0.49	27	9.5	500

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

Limits are LQM/CIEH S4ULs (suitable 4 use levels) taken from "The LQM/CIEH S4ULs for Human Risk Assessment published by Land Quality Press 2015" and based upon 1% Soil Organic Matter

Table 5: TPH in soil (all results in mg/kg dry weight)

Analyte	Method	Sample Lab Ref: Job: 18-13690 Samp. 36603	Soil Guideline Values		
			Residential	Allotment	Commercial
TPH total (C10 - C40)	6.04	443	---	---	---
TPH aromatic (C8 - C10)	6.04	< 5.00	34	8.6	3500
TPH aromatic (C10 - C12)	6.04	< 5.0	74	13	16000
TPH aromatic (C12 - C16)	6.04	8.8	140	23	36000
TPH aromatic (C16 - C21)	6.04	48.2	260	46	28000
TPH aromatic (C21 - C40)	6.04	280	1100	370	28000
TPH aliphatic (C8 - C10)	6.04	< 5.00	27	320	2000
TPH aliphatic (C10 - C12)	6.04	< 5.0	130	2200	9700
TPH aliphatic (C12 - C16)	6.04	10.5	1100	11000	59000
TPH aliphatic (C16 - C21)	6.04	17.7	65000	260000	1600000
TPH aliphatic (C21 - C40)	6.04	71.5	65000	260000	1600000



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Table 3: parameters determined on aqua regia digest (all results in mg/kg dry weight)

Analyte	Method	Sample Lab Ref: Job: 18-13690 Samp. 36604	Soil Guideline Values		
			Residential	Allotment	Commercial
Arsenic M	5.16, 6.08	10.4	37†	43 †	640 †
Antimony	5.16, 6.08	< 5.0	—	—	—
Barium M	5.16, 6.08	101 *	---	---	---
Cadmium M	5.16, 6.08	< 1.0 *	11†	1.9†	190†
Chromium (total) M	5.16, 6.08	30.5 *	—	—	—
Cobalt	5.16, 6.08	12.1	—	—	—
Copper M	5.16, 6.08	18.4 *	2400†	520†	68000†
Mercury M	5.16, 6.08	< 1.00	1.2 †	21†	25.8†
Molybdenum M	5.16, 6.08	< 5.0	---	—	—
Nickel M	5.16, 6.08	14.8 *	180 †	230 †	980 †
Lead M	5.16, 6.08	87.5 *	210 ††	84 ††	1100 ††
Selenium M	5.16, 6.08	213	250 †	88 †	12000 †
Thallium M	5.16, 6.08	< 2.0	—	—	—
Vanadium M	5.16, 6.08	40.5	410 †	91 †	9000 †
Zinc M	5.16, 6.08	143 *	3700 ††	620 ††	73000 ††

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

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

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			Residential	Allotment	Commercial
PAH (total)	6.05	< 10.0	---	---	---
Naphthalene	6.05	< 0.10	2.3	4.1	190
Acenaphthylene	6.05	< 0.10	170	28	83000
Acenaphthene	6.05	< 0.10	210	34	84000
Fluorene	6.05	< 0.10	170	27	63000
Phenanthrene	6.05	< 0.10	95	15	22000
Anthracene	6.05	< 0.10	2400	380	520000
Fluoranthene	6.05	0.31	280	52	23000
Pyrene	6.05	0.30	620	110	54000
Benz(a)anthracene	6.05	0.30	7.2	2.9	170
Chrysene	6.05	< 0.10	15	4.1	350
Benzo(b)fluoranthene	6.05	< 0.10	2.6	0.99	44
Benzo(k)fluoranthene	6.05	< 0.10	77	37	1200
Benzo(a)pyrene	6.05	0.12	2.2	0.97	35
Dibenz(a,h)anthracene	6.05	< 0.10	0.24	0.14	3.5
Benzo(g,h,i)perylene	6.05	0.10	320	290	3900
Indeno(1,2,3-c,d)pyrene	6.05	< 0.10	27	9.5	500

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Table 5: TPH in soil (all results in mg/kg dry weight)

Analyte	Method	Sample Lab Ref: Job: 18-13690 Samp. 36604	Soil Guideline Values		
			Residential	Allotment	Commercial
TPH total (C10 - C40)	6.04	92.3	---	---	---
TPH aromatic (C8 - C10)	6.04	< 5.00	34	8.6	3500
TPH aromatic (C10 - C12)	6.04	< 5.0	74	13	16000
TPH aromatic (C12 - C16)	6.04	< 5.0	140	23	36000
TPH aromatic (C16 - C21)	6.04	10.5	260	46	28000
TPH aromatic (C21 - C40)	6.04	42.3	1100	370	28000
TPH aliphatic (C8 - C10)	6.04	< 5.00	27	320	2000
TPH aliphatic (C10 - C12)	6.04	< 5.0	130	2200	9700
TPH aliphatic (C12 - C16)	6.04	< 5.0	1100	11000	59000
TPH aliphatic (C16 - C21)	6.04	5.8	65000	260000	1600000
TPH aliphatic (C21 - C40)	6.04	21.8	65000	260000	1600000