

IP 0006/13

WEEE TREATMENT FACILITY AT WEEE RECYCLE LTD, HAL FAR

APPLICATION FOR IPPC PERMIT

VOLUME 4: BASELINE LAND MONITORING REPORT



Version 3: May 2019



Report Reference:

En-Sure Ltd, 2019. WEEE Treatment Facility at WEEE Recycle Ltd, Hal Far. Application for IPPC Permit: Volume 4: Baseline Land Monitoring Report (Version number: 1). San Gwann, May 2019; iv + 18 pp. + 3 Appendices.

**THIS IS A DIGITAL COPY OF THE REPORT
RESPECT THE ENVIRONMENT - KEEP IT DIGITAL**

Quality Assurance

WEEE Treatment Facility at WEEE Recycle Ltd, Hal Far
Application for IPPC Permit: Volume 4
 May 2019

Report for: WEEE Recycle Ltd

Revision Schedule

Rev	Date	Details	Prepared by	Reviewed by	Approved by
00	Feb. 2017	Submission to client	Rachel Decelis Consultant	Rachel Xuereb Director	Adrian Mallia Managing Director
01	May 2019	Final consolidated IPPC application	Rachel Decelis Senior Consultant	Rachel Xuereb Director	Adrian Mallia Managing Director

File ref: N:_Completed Projects\Environmental Permitting\ES_WEE001 - WEEE Recycle IPPC\IPPC application\FNL consolidated - Apr 2019\Vol 4 - Land monitoring report.docx



En-Sure Ltd
Kappara Business Centre
113 Birkirkara Road
San Gwann SGN 4197

Tel.: 21378180
Email: info@ensure.com.mt
Web: www.ensure.com.mt



This document has been prepared in accordance with the scope of En-Sure's appointment with its client and is subject to the terms of that appointment. It is addressed to and for the sole and confidential use and reliance of En-Sure's client. En-Sure accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided. No person other than the client may copy (in whole or in part) use or rely on the contents of this document, without the prior written permission of En-Sure Ltd. Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole. The contents of this document do not provide legal or tax advice or opinion.

© En-Sure Ltd 2019

CONTENTS

Baseline Land Monitoring Report.....	1
Introduction.....	1
Terms of Reference	1
Monitoring Methodology	3
Aims.....	3
Sampling Strategy.....	3
Sampling Points.....	3
Sampling Method	4
Analysis.....	8
Results.....	11
Baseline Testing	11
Waste Acceptance Testing.....	14

FIGURES

Figure 1: Site location	2
Figure 2: Sampling points	5

TABLES

Table 1: Sampling points	3
Table 2: Sample logs.....	6
Table 3: Methods for analysis of land samples	8
Table 4: Waste characterisation testing	9
Table 5: Leachability testing	10
Table 6: Baseline test results – metals	11
Table 7: Baseline test results – other parameters	13
Table 8: Waste characterisation test results – dioxins	16
Table 9: Waste characterisation test results – other parameters	17
Table 10: Leaching test results.....	18



APPENDICES

Appendix 1: Method statement, including laboratory certification

Appendix 2: Laboratory test reports

Appendix 3: Hazardous property assessment report

BASELINE LAND MONITORING REPORT

Introduction

1. This report provides details of the baseline land monitoring undertaken at the site of a proposed WEEE treatment facility at Hal Far. Monitoring was required by the Environment and Resources Authority (ERA) as part of the IPPC application for the facility (IP 0006/13).
2. The facility, hereinafter referred to as the “Scheme”, will comprise an industrial unit for the recycling and treatment of Waste Electrical and Electronic Equipment (WEEE) as well as shredding of wood. The site, located at HHF 040, Hal Far Industrial Estate (**Figure 1**), is currently abandoned and undeveloped. Planning approval (PA 00441/16) was granted on 6th October 2016.
3. The project is proposed by Mr Charles Galea, on behalf of WEEE Recycle Ltd.

Terms of Reference

4. Section B.1.4.1 of the IPPC application form requires the submission of:
A site report, providing a history of the site (including current and past uses) and describing the condition of the site of that part of the installation in respect of which you are applying for a permit, and, in particular, identifying any substance in, on or under the land which may constitute a pollution risk. A baseline report assessing the state of the groundwater and land may also be required by the Authority.
5. In respect of the baseline report, the requirements in the Industrial Emissions (Integrated Pollution Prevention and Control) Regulations (Legal Notice 10 of 2013 as amended, S.L. 549.77) apply, notably Regulations 5(1) and 16(2) and (3).
6. The European Commission has also published guidance on preparing baseline reports (Communication 2014/C 136/03).
7. A Method Statement for land monitoring was submitted to ERA on 18th October 2016. It was accepted, after revisions, on 28th November 2016. The Method Statement is included in **Appendix 1**.

Figure 1: Site location



Monitoring Methodology

Aims

8. The principal aim of the analytical programme was to assess baseline levels of pollutants, to enable a quantified comparison to be made with the contamination levels upon decommissioning.
9. A secondary aim was to determine whether the rock to be excavated during construction works is to be considered hazardous, non hazardous or inert, to enable identification of the appropriate waste disposal / recovery route. Therefore a proposal for waste acceptance testing is included.

Sampling Strategy

10. Considering that contaminants will need to first permeate through the land strata to reach the groundwater, a phased monitoring strategy was agreed to with ERA, starting with land monitoring from cores on site taken at the surface and at a depth of 2 m. Material from depths of 1 metre and 3 metres was also sampled in the event that ERA requires further testing following the analysis of contaminants at surface and 2 metres. These samples are being kept by En-Sure.
11. Should further testing show the 3 m core is also contaminated, groundwater monitoring would also be considered, in consultation with ERA and the Malta Resources Authority (MRA), and preferably making use of existing boreholes.

Sampling Points

12. Sampling was carried out on 3rd January 2017. Weather conditions were sunny during sampling. ERA officials were also present during part of the sampling exercise.
13. Samples were taken from the five sampling points shown in **Figure 2**, selected to correspond to the potential location for future emissions, as described in **Table 1**.

Table 1: Sampling points

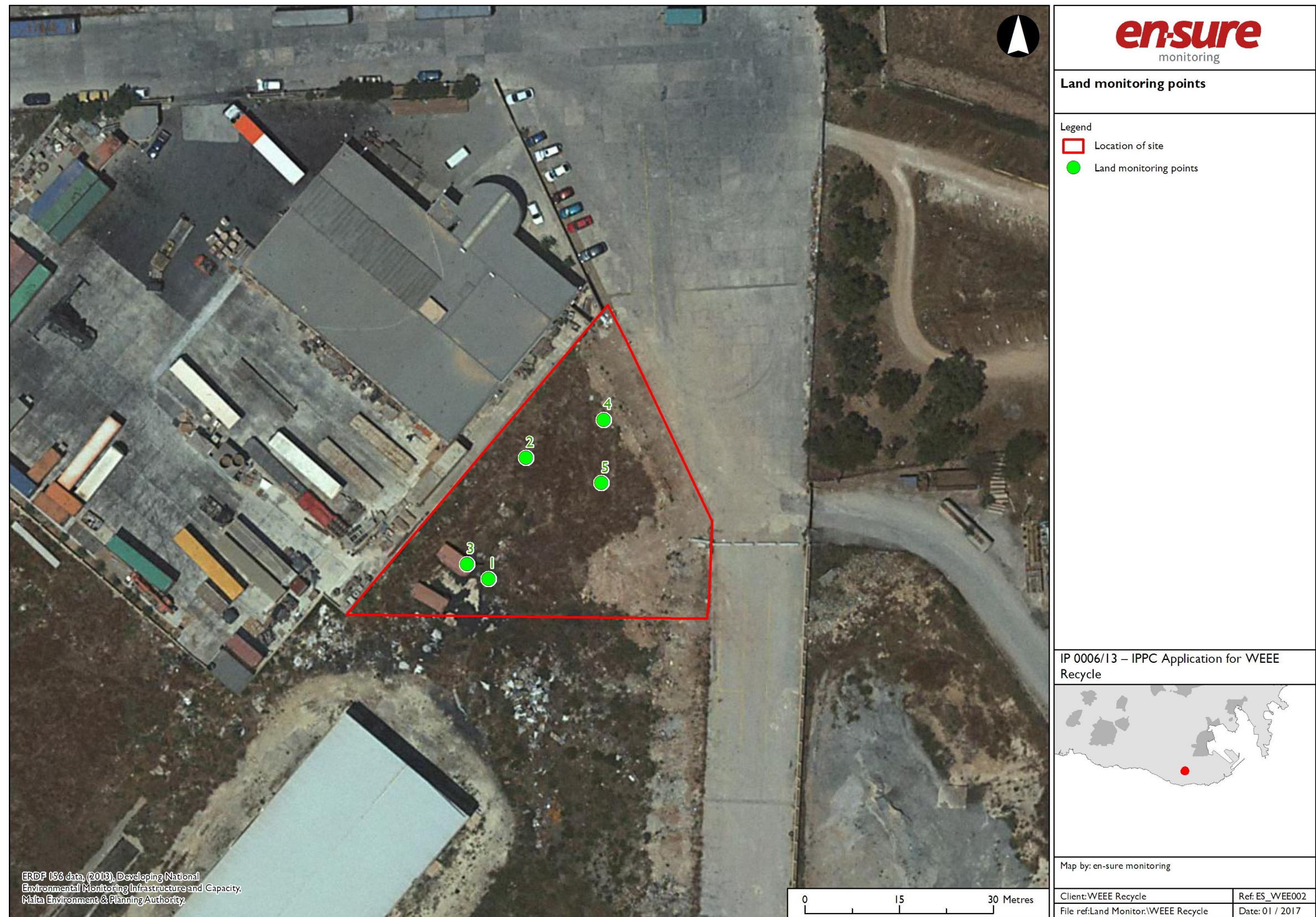
Point No.	Coordinates (European Datum 1950 - UTM)	Rationale	Notes
1	456517.0892013, 3963464.3537096	At the location of the fluorescent tube cesspit; the point is close to the emission point to air from the fluorescent tube crushing room	-
2	456523.0803691, 3963483.6584157	Outside the CRT processing room	Location shifted slightly from the agreed location, to ensure the coring equipment was on a level surface
3	456513.6519805, 3963466.6969335	Outside the WEEE treatment building	Location shifted slightly from the agreed location, to ensure the coring equipment was on a level surface.
4	456535.4777797, 3963489.6876145	At the oil-water separator	-

Point No.	Coordinates (European Datum 1950 - UTM)	Rationale	Notes
5	456535.0809039, 3963479.6334277	Outdoor area, at the weighbridge	-

Sampling Method













14. Land investigations were conducted in accordance with BS 4019: 1993: *Rotary core drilling equipment*, and BS 5930: 1999: *Code of practice for geological site investigations*. Sampling was supervised by En-Sure's chemist.
15. The sample drilled using a Beretta drill rig fitted with a rotary corer. A decision was made to use this method since the presence of hard rock in the area would have made it difficult to use an auger. Hard rock was in fact encountered in sampling points 1, 2 and 3. It was also necessary to use water to lubricate the corer, since without it the core barrel became stuck after the first sample was taken.
16. Samples were taken at four depths (surface, 1 m, 2 m and 3 m) to determine the vertical distribution of any pollutants. However:
 - a sample at 3 m depth could not be taken from monitoring points 4 and 5, since at a depth of 2 m the core barrel and core bit started rotating on their own axis. It is possible that this occurrence was the result of faulting, since the site is in an area where the Globigerina Limestone outcrop borders the Lower Coralline Limestone outcrop; and
 - the rock at sampling points 4 and 5 was very clayey, and compaction of the core was noted (e.g. from point 5 over 2 metres only a 40 cm core was collected). It was therefore assumed that the centre of the core approximated a depth of 1 m.
17. After each of the five points was sampled, the drill rig was cleaned with fresh water from a bowser. Voids were backfilled using the remaining part of the core not sent for analysis (if any was left).
18. The cores were placed in trays, broken into smaller pieces with a mallet and placed in plastic jars. A small portion of the surface and 2 m samples were also placed in a small glass vial, to be used by the lab for testing of volatile substances.
19. All samples were photographed, labelled, and logged before being sent to the laboratory. This record is presented in **Table 2**. Additionally, the samples were checked for any visual or olfactory evidence of contamination; however, none of the samples showed any stains or odours indicative of contamination.







Figure 2: Sampling points



INDICATIVE ONLY - Not to be used for direct interpretation

Table 2: Sample logs

Sampling point		Depth			
		Surface	1 m	2 m	3 m
1	Sample ID	WEE-1-Surface	WEE-1-1m	WEE-1-2m	WEE-1-3m
	Photograph				
	Notes	-	-	-	-
2	Sample ID	WEE-2-Surface	WEE-2-1m	WEE-2-2m	WEE-2-3m
	Photograph				
	Notes	-	-	-	-
3	Sample ID	WEE-3-Surface	WEE-3-1m	WEE-3-2m	WEE-3-3m
	Photograph				
	Notes	-	-	-	-

Sampling point		Depth			
		Surface	1 m	2 m	3 m
4	Sample ID	WEE-4-Surface	WEE-4-1m	WEE-4-2m	-
	Photograph				
Notes		-	The core extracted was compacted; it was assumed that the centre of the core approximated a depth of 1 m.	-	Sample could not be taken, possibly due to faulting.
5	Sample ID	WEE-5-Surface	WEE-5-1m	WEE-5-2m	-
	Photograph				
Notes		-	The core extracted was compacted (40 cm was collected in a 2 m core); it was assumed that the centre of the core approximated a depth of 1 m.	-	Sample could not be taken, possibly due to faulting.

Analysis

20. The surface and 2 m samples were delivered for analysis at a UK laboratory accredited to ISO 17025 as well as for certain specific tests as indicated in **Table 3**. A copy of the laboratory's certification schedule is included as part of **Appendix 1**.
21. Delivery took place by courier; the samples were kept chilled during transport.
22. The 1 m and 3 m samples have been retained locally in plastic jars (chilled) until ERA confirms whether analysis is required.

Baseline Testing

23. **Table 3** presents the methodology used for analysis and associated limits of detection. The laboratory uses in-house methods for analysis based on international reference standards. The in-house method refers to the international standards referred to in this table.

Table 3: Methods for analysis of land samples

Analyte	Analytical methodology	Reference standard	Limit of detection	Test-specific accreditation
Total petroleum hydrocarbons	GC-FID	EPA Method 8015B, Revision 2; TNRCC Method 1006	1 mg/kg	No
BTEX	GC-MS (Headspace)	EPA Method 8260, Revision B	1 µg/kg	Yes (soil)
MTBE	GC-MS (Headspace)	EPA Method 8260, Revision B	1 µg/kg	Yes (soil)
PAHs	GC-MS	EPA Method 8270, Revision C	0.1 mg/kg	Yes (soil)
Cyanide (total)	Colorimetry	DOE Methods for the Examination of Waters and Associated Materials, published by HMSO (1988) (equivalent to EPA 9014)	1 mg/kg	Yes (soil)
Metals, as follows: - As, Cd, Co, Cr, CrVI, Cu, Hg, Mn, Ni, Pb, Se, Sb, Sn, Tl, V, Zn	ICP-OES	MEWAM (ISBN 0117516155), HMSO 1981, APHA-AWWA-WPCF (1992, 18 th Ed.)	1 mg/kg: As, Cd, Cr, Cu, Hg, Mn, Ni, Pb, Zn 2 mg/kg: Sn 10 mg/kg: Co, Se, Sb, Tl, V	Yes (soil)
- Additional metals: Ag, Al, Ba, Ca	ICP-OES	MEWAM (ISBN 0117516155), HMSO 1981, APHA-AWWA-WPCF (1992, 18 th Ed.)	1 mg/kg	No

Analyte	Analytical methodology	Reference standard	Limit of detection	Test-specific accreditation
- Rare earth metals: Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Sc, Tb, Tm, Yb, Y	ICP-OES	MEWAM (ISBN 0117516155), HMSO 1981, APHA-AWWA-WPCF (1992, 18 th Ed.)	1 mg/kg: Eu, Gd, Ho, Sm 5 mg/kg: Ce, Y 10 mg/kg: Dy, Er, La, Lu, Nd, Pr, Sc, Tb, Tm, Yb	No
Sulphuric acid	Ion chromatography ¹	BS EN 12457-3; BS EN 14791:2005	1 mg/kg	No
PCBs	GC-MS (HR) / GC-MS (SIR)	EPA Method 8082; EPA Method 1668	0.5 µg/kg	Yes (soil)
Asbestos	Polarised light microscopy	HSG248	Presence / absence; if asbestos is detected the quantification test has a LoD of 0.001%	Yes (soil)

24. The core samples taken from the surface were analysed for all the analytes in **Table 3**; the 2 m samples were analysed for all the analytes except for asbestos, additional metals and rare earth metals.

Waste Acceptance Testing

25. As mentioned, it was also necessary to determine whether the excavated material is to be treated as hazardous or inert waste, and whether disposal in landfill is acceptable.
26. Waste acceptance testing was carried out on all the five surface samples, and on the 2 m samples corresponding to the proposed location of one of the cesspits (sampling point 1) and the reservoir (sampling point 4).
27. Waste characterisation testing consisted of the parameters listed in **Table 4**.

Table 4: Waste characterisation testing

Analyte	Analytical methodology	Reference standard	Limit of detection	Test-specific accreditation
Total petroleum hydrocarbons	GC-FID	EPA Method 8015B, Revision 2; TNRCC Method 1006	1 mg/kg	No
BTEX	GC-MS (Headspace)	EPA Method 8260, Revision B	1 µg/kg	Yes (soil)

¹ Analysis is for sulphate; sulphuric acid is calculated from the sulphate result.

Analyte	Analytical methodology	Reference standard	Limit of detection	Test-specific accreditation
Metals, as follows: As, Ba, Cd, Co, Cr, CrVI, Cu, Hg, Mn, Mo, Ni, Pb, Se, Sb, Sn, Tl, V, Zn	ICP-OES	MEWAM (ISBN 0117516155), HMSO 1981, APHA-AWWA-WPCF (1992, 18 th Ed.)	1 mg/kg: As, Ba, Cd, Cr, Cu, Hg, Mn, Ni, Pb, Zn 2 mg/kg: Sn 10 mg/kg: Co, Mo, Se, Sb, Tl, V	Yes (soil)
PAHs	GC-MS	EPA Method 8270, Revision C	0.1 mg/kg	Yes (soil)
PCBs	GC-MS (HR) / GC-MS (SIR)	EPA Method 8082; EPA Method 1668	0.5 µg/kg	Yes (soil)
Dioxins ²	GC-MS (HR)	EPA Method 1613	0.5 ng/kg TEQ	Yes (soil)
Asbestos	Polarised light microscopy	HSG248	Presence / absence; if asbestos is detected the quantification test has a LoD of 0.001%	Yes (soil)
Total Organic Carbon	Oxidation - Infra Red	MCERTS guidance note 7, ISO 10694:1995	0.1%	No
Acid neutralising capacity (pH4, pH7)	Titration	EA NEN 7371:2004	2 mol/kg	No
Loss on Ignition	Gravimetry	BS 1377:1990	0.1%	No
Moisture	Gravimetry	n/a	0.1%	No
pH	Probe	BS 1377:Part 3:1990, MEWAM (ISBN 0117514284), HMSO (1978), APHA-AWWA-WPCF (1992, 18 th Ed.)	-	Yes

28. A hazardous waste classification (H1-H14) assessment was then carried out taking into account the waste characterisation results.
29. Leachability testing was also carried out by preparing a 10:1 leachate sample (according to BS EN 12457-2) and testing it for the parameters listed in **Table 5**.

Table 5: Leachability testing

Analyte	Analytical methodology	Reference standard	Limit of detection	Test-specific accreditation
As (dissolved)	ICP-MS (Filtered)	MEWAM (ISBN 0117516155), HMSO (1981),	0.2 µg/L	Yes
Ba (dissolved)			1 µg/L	
Cd (dissolved)			0.02 µg/L	

² In agreement with ERA, testing is limited to the surface and 2 m samples taken from sampling point 4. If these two samples are found to be contaminated with dioxins, further testing of the remaining samples may be carried out as requested by ERA following evaluation of the results.

Analyte	Analytical methodology	Reference standard	Limit of detection	Test-specific accreditation
Cr (dissolved)		APHA-AWWA-WPCF (1992, 18 th Ed.)	1 µg/L	
Cu (dissolved)			0.5 µg/L	
Hg (dissolved)			0.05 µg/L	
Mo (dissolved)			1 µg/L	
Ni (dissolved)			1 µg/L	
Pb (dissolved)			0.3 µg/L	
Sb (dissolved)			1 µg/L	
Se (dissolved)			0.5 µg/L	
Zn (dissolved)			2 µg/L	
Total dissolved solids	Gravimetry	n/a	100 mg/L	No
Phenols (total-mono)	Colorimetry	APHA-AWWA-WPCFM Part 5530	0.1 mg/L	Yes
Dissolved organic carbon	Oxidation - Infra Red	APHA-AWWA-WEF Part 5310 (1998, 20 th Ed.), BS EN 1484:1997	1 mg/L	No
Electrical conductivity	Probe	n/a	10 µS/cm	No
Chloride	Discrete analyser	HMSO (1981)	1 mg/L	Yes
Fluoride	Discrete analyser	HMSO (1981)	0.05 mg/L	Yes
Sulphate	Discrete analyser	HMSO (1981)	0.5 mg/L	Yes

Results

Baseline Testing

30. The full laboratory test reports are presented in **Appendix 2**. The results for baseline testing are summarised in **Table 6** and **Table 7**. Results are given as dry weight for metals, and on the sample as received for the other parameters.

Table 6: Baseline test results – metals

Group	Element		Result (mg/kg)				
		Sampling point no.:	1	2	3	4	5
		Depth:					
General	Arsenic	Surface	6	3	4	2	3
		2 m	3	4	4	4	3
	Cadmium	Surface	<1	<1	<1	<1	<1
		2 m	<1	<1	<1	<1	<1
	Cobalt	Surface	<10	<10	<10	<10	<10
		2 m	<10	<10	<10	<10	<10
	Chromium	Surface	15	17	13	18	14
		2 m	15	14	14	18	17
	Chromium VI	Surface	<1	<1	<1	<1	<1
		2 m	<1	<1	<1	<1	<1
	Copper	Surface	7	22	5	4	5
		2 m	8	8	7	6	5
	Mercury	Surface	1	1	1	<1	<1

Group	Element		Result (mg/kg)				
		Sampling point no.:	1	2	3	4	5
		Depth:					
		2 m	<1	1	1	1	<1
	Manganese	Surface	76	63	53	66	47
		2 m	58	51	53	61	87
	Nickel	Surface	11	12	7	7	8
		2 m	9	8	7	10	14
	Lead	Surface	2	2	1	2	1
		2 m	2	1	<1	2	2
	Selenium	Surface	<10	<10	<10	<10	<10
		2 m	<10	<10	<10	<10	<10
	Antimony	Surface	<10	<10	<10	<10	<10
		2 m	<10	<10	<10	<10	<10
	Tin	Surface	<2	<2	<2	<2	<2
		2 m	<2	<2	<2	<2	<2
	Thallium	Surface	<10	<10	<10	<10	<10
		2 m	<10	<10	<10	<10	<10
	Vanadium	Surface	13	13	12	12	11
		2 m	12	12	11	13	12
	Zinc	Surface	21	27	19	16	18
		2 m	22	21	19	22	22
Additional metals	Silver	Surface	<1	<1	<1	<1	<1
	Aluminium	Surface	7,700	6,300	3,700	5,900	4,000
	Barium	Surface	8	10	5	17	8
		2 m ³	5	-	-	8	-
	Calcium	Surface	400,000	370,000	420,000	370,000	370,000
	Molybdenum ³	Surface	<10	<10	<10	<10	<10
		2 m	<10	-	-	<10	-
Rare earth metals	Europium, Gadolinium, Holmium, Samarium ⁴	Surface	<1	<1	<1	<1	<1
	Cerium	Surface	<5	<5	<5	<5	<5
	Yttrium	Surface	7	<5	<5	9	<5
	Dysprosium, Erbium, Lanthanum, Lutetium, Neodymium, Praseodymium, Scandium, Terbium, Thulium, Ytterbium ⁴	Surface	<10	<10	<10	<10	<10

³ This analysis was carried out as part of the waste characterisation assessment, but is presented here for ease of reference.

⁴ Each of determinands in this suite were below the detection limit.

Table 7: Baseline test results – other parameters

Analyte		Results					Units
	Sampling point no.:	1	2	3	4	5	
	Depth:						
TPH C10-C40 (sum)	Surface	6	2	6	8	2	mg/kg
	2 m	7	6	2	2	1	
Total petroleum hydrocarbons (C35-C40)	Surface	<1	<1	<1	<1	<1	mg/kg
	2 m	<1	<1	<1	<1	<1	
BTEX (sum)	Surface	<0.004	<0.004	<0.004	<0.004	<0.004	mg/kg
	2 m	<0.004	<0.004	<0.004	<0.004	<0.004	
BTEX: ⁴ Benzene Toluene M/P Xylene Xylene EthylBenzene	Surface	<1	<1	<1	<1	<1	µg/kg
	2 m	<1	<1	<1	<1	<1	
MTBE	Surface	<1	<1	<1	<1	<1	µg/kg
	2 m	<1	<1	<1	<1	<1	
PAHs (sum)	Surface	<1.6	<1.6	<1.6	<1.6	<1.6	mg/kg
	2 m	<1.6	<1.6	<1.6	<1.6	<1.6	
PAHs: ⁴ Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b/k)fluoranthene Benzo(ghi)perylene Chrysene Coronene Dibenzo(ah)anthracene Fluoranthene Fluorene Indeno(123-cd)pyrene Naphthalene Phenanthrene Pyrene	Surface	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg
	2 m	<0.1	<0.1	<0.1	<0.1	<0.1	
Cyanide (total)	Surface	<1	<1	<1	<1	<1	mg/kg
	2 m	<1	<1	<1	<1	<1	
Sulphuric acid	Surface	57	39	53	87	83	mg/kg
	2 m	29	30	61	48	27	
PCBs (sum)	Surface	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	mg/kg
	2 m	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	
PCBs: ⁴	Surface	<0.5	<0.5	<0.5	<0.5	<0.5	µg/kg

Analyte		Results					Units
	Sampling point no.:	1	2	3	4	5	
	Depth:						
PCB BZ#28 PCB BZ#52 PCB BZ#101 PCB BZ#118 PCB BZ#138 PCB BZ#153 PCB BZ#180	2 m	<0.5	<0.5	<0.5	<0.5	<0.5	
Asbestos	Surface	N.D. ⁵	N.D.	N.D.	N.D.	N.D.	Presence
	2 m	N.D.	- ⁶	-	N.D.	-	/ absence

31. Many of the analytes were detected at low concentrations or even below detection limit (including various metals, BTEX, MTBE, PAHs, cyanide, PCBs and asbestos). For this reason, there is no clear concentration gradient from the surface to the 2 m sample. The results also suggest that testing of the 1 m and 3 m samples, and groundwater testing is not warranted.
32. Additionally, it is noted that asbestos, silver, and most of the rare earth metals were not detected in any of the surface samples; therefore it is recommended that further testing of the 2 m samples for these parameters may also be waived.

Waste Acceptance Testing

33. The full waste acceptance tests are included in **Appendix 2**.
34. Waste characterisation results are summarised in **Table 8** and **Table 9**. **Table 9** also includes a comparison against the waste acceptance criteria for landfilling set by Decision 2003/33/EC. The test results for metals and asbestos were already included with the baseline test results (**Table 6** and **Table 7**) and are not repeated below. However, the test results for total petroleum hydrocarbons, BTEX, PAHs, PCBs are summarised in **Table 9** to facilitate comparison against the waste acceptance criteria set by Decision 2003/33/EC.
35. Leaching test results for 10:1 leachate samples are summarised in **Table 10**.
36. The hazardous property assessment carried out on the basis of the waste characterisation testing is included in **Appendix 3**. The report concludes that all samples are non-hazardous, and that further testing for dioxins / furans is not required. The samples are classified under an inert waste code, EWC 01 04 08 (waste gravel and crushed rocks other than those mentioned in 01 04 07, i.e. not containing dangerous substances).

⁵ N.D. = Not detected.

⁶ - = Not tested.

37. Additionally, none of the leaching limit values for inert landfills in Decision 2003/33/EC were exceeded in any of the samples.
38. While the inert landfill threshold of 3% total organic carbon (TOC) content was exceeded in one of the samples (WEE-1-Surface, which had TOC of 4.3%), the leachate test for this sample gave a result of 50 mg/kg dissolved organic carbon, well below the allowed threshold of 500 mg/kg for soils. Since only one sample had a higher TOC content (i.e. there is no pattern of high TOC at the Scheme site), and there is no reason to suspect contamination by external sources (as evidenced both by visual observations during sampling, and the results of the waste characterisation and hazardous property assessment), it is considered justified to deposit all excavation waste from the Scheme site at an inert waste landfill, or to reuse it for construction purposes.

Table 8: Waste characterisation test results – dioxins

Analyte	Results (ng/kg)	
	WEE-4-Surface	WEE-4-2m
2,3,7,8-TCDD	<0.22	<0.30
1,2,3,7,8-PeCDD	<0.20	<0.30
1,2,3,4,7,8-HxCDD	<0.27	<0.20
1,2,3,6,7,8-HxCDD	<0.26	<0.20
1,2,3,7,8,9-HxCDD	<0.26	<0.20
1,2,3,4,6,7,8-HpCDD	<1.0	<0.80
Octachlorodibenzo-p-dioxin	<1.3	1.3
2,3,7,8-TCDF	<0.24	<0.40
1,2,3,7,8-PeCDF	<0.20	<0.20
2,3,4,7,8-PeCDF	<0.20	<0.20
1,2,3,4,7,8-HxCDF	<0.33	<0.29
1,2,3,6,7,8-HxCDF	<0.33	<0.28
2,3,4,6,7,8-HxCDF	<0.27	<0.20
1,2,3,7,8,9-HxCDF	<0.24	<0.21
1,2,3,4,6,7,8-HpCDF	<0.80	<0.80
1,2,3,4,7,8,9-HpCDF	<0.80	<0.80
Octachlorodibenzofuran	<0.80	<0.80
PCDD/F WHO2005 TEQ Lower Bound	0.0	0.00039
PCDD/F WHO2005 TEQ Upper Bound	0.73	0.89

Table 9: Waste characterisation test results – other parameters

Analyte	Units	Results							Waste acceptance criteria (Decision 2003/33/EC)		
		WEE-1-Surface	WEE-1-2m	WEE-2-Surface	WEE-3-Surface	WEE-4-Surface	WEE-4-2m	WEE-5-Surface	Inert landfill	Non-hazardous landfill	Hazardous landfill
Total petroleum hydrocarbons (C10-C40)	mg/kg	6	7	2	6	8	2	2	500	-	-
BTEX (sum)	mg/kg	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	6	-	-
PAHs (sum)	mg/kg	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	Member States to set limit value	-	-
PCBs	mg/kg	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	<0.0035	1	-	-
Total organic carbon	%	4.3	2.8	<0.1	2.7	1.5	0.9	1	3 ⁷	5	6
Acid neutralising capacity (pH4)	mol/kg	<2	<2	<2	<2	<2	<2	<2	-	Must be evaluated	Must be evaluated
Acid neutralising capacity (pH7)	mol/kg	<2	<2	<2	<2	<2	<2	<2			
Loss on Ignition	%	1.1	0.9	1.7	1	1.5	1.7	1.1	-	-	10
Moisture	%	8.4	10.5	14.2	6.3	13.2	14.5	11	-	-	-
pH	-	8.1	8.3	8.6	8.3	8.2	8.3	8.4	-	>6	-

⁷ In the case of soils, a higher limit value maybe admitted by the competent authority, provided the dissolved organic carbon value of 500 mg/kg is achieved in the leaching test, at a liquid to solid ratio of 10 L/kg, either at the soil's own pH or at a pH value between 7.5 and 8.0.

Table 10: Leaching test results

Analyte	Units	Results							Leaching limit values (Decision 2003/33/EC)		
		WEE-1-Surface	WEE-1-2m	WEE-2-Surface	WEE-3-Surface	WEE-4-Surface	WEE-4-2m	WEE-5-Surface	Inert landfill	Non-hazardous landfill	Hazardous landfill
As	mg/kg	0.012	0.0073	0.016	0.017	0.0043	0.015	0.0074	0.5	2	25
Ba	mg/kg	0.011	0.01	<0.010	<0.010	0.01	<0.010	<0.010	20	100	300
Cd	mg/kg	0.0003	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.04	1	5
Cr	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.5	10	70
Cu	mg/kg	0.012	0.0063	0.0081	0.0058	0.0091	<0.0050	0.0078	2	50	100
Hg	mg/kg	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.01	0.2	2
Mo	mg/kg	0.012	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.5	10	30
Ni	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.4	10	40
Pb	mg/kg	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.5	10	50
Sb	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.06	0.7	5
Se	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.1	0.5	7
Zn	mg/kg	0.043	<0.020	0.021	0.02	0.33	<0.020	<0.020	4	50	200
Total dissolved solids	mg/kg	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	<1,000	4,000	60,000	100,000
Phenols (total-mono)	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1	-	-
Dissolved organic carbon	mg/kg	50	47	66	57	63	64	52	500	800	1,000
Electrical conductivity	µS/cm	140	66	70	80	130	76	64	-	-	-
Chloride	mg/kg	240	36	26	64	210	43	69	800	15,000	25,000
Fluoride	mg/kg	4.3	4.7	4.8	4.2	8.1	5.6	4.4	10	150	500
Sulphate	mg/kg	45	37	27	40	59	33	25	1,000	20,000	50,000

Appendix 1: Method statement, including laboratory certification

IP 0006/13

BASELINE MONITORING AT WEEE RECYCLE LTD, HAL FAR

METHOD STATEMENT



Version 3: November 2016



Report Reference:

En-Sure Ltd, 2016. IP 0006/13: Baseline Monitoring at WEEE Recycle Ltd, Hal Far. Method Statement (Version number: 3). San Gwann, November, 2016; vi + 29 pp. + 1 Appendix.

**THIS IS A DIGITAL COPY OF THE REPORT
RESPECT THE ENVIRONMENT - KEEP IT DIGITAL**

Quality Assurance

Baseline Monitoring at WEEE Recycle Ltd, Hal Far Method Statement November 2016

Report for: WEEE Recycle Ltd

Revision Schedule

Rev	Date	Details	Prepared by	Reviewed by	Approved by
00	Oct. 2016	Submission to client	Rachel Decelis Consultant	Rachel Xuereb Director	Adrian Mallia Managing Director
01	Nov. 2016	Submission to ERA	Rachel Decelis Consultant	Rachel Xuereb Director	Adrian Mallia Managing Director
02	Nov. 2016	Addition of dioxins to waste testing	Rachel Decelis Consultant	Rachel Xuereb Director	Adrian Mallia Managing Director

File ref: \\adi-fs1\EN-SURE\Active Projects\Contamination studies\Monitoring\ES_WEE002 - Land contamination study\Method Statement\Method Statement FNL_FNL.docx



En-Sure Ltd
Kappara Business Centre
113 Birkirkara Road
San Gwann SGN 4197

Tel.: 21378180
Email: info@ensure.com.mt
Web: www.ensure.com.mt



This document has been prepared in accordance with the scope of En-Sure's appointment with its client and is subject to the terms of that appointment. It is addressed to and for the sole and confidential use and reliance of En-Sure's client. En-Sure accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided. No person other than the client may copy (in whole or in part) use or rely on the contents of this document, without the prior written permission of En-Sure Ltd. Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole. The contents of this document do not provide legal or tax advice or opinion.

© En-Sure Ltd 2016

CONTENTS

Method Statement.....	1
Introduction.....	1
Terms of Reference	1
Description of the Site and the Surroundings.....	6
Description of the Scheme.....	7
WEEE Processing	7
Wood Processing.....	8
Pollutant Linkages.....	13
Monitoring Methodology	17
Aims.....	17
Sampling Strategy.....	17
Analytical Programme	17
Sampling Points.....	21
Sampling Methods	21
Analysis.....	25
Laboratory Quality Assurance and Quality Control (QA / QC)	28
Assessment of Results.....	29

FIGURES

Figure 1: Site location	3
Figure 2: Scheme layout.....	9
Figure 3: Scheme plans (central building) and sections	11
Figure 4: Proposed sampling points	23

TABLES

Table 1: Pollution pathway identification.....	15
Table 2: Proposed analytes (baseline monitoring)	19
Table 3: Sampling points	21

Table 4: Methods for analysis of land samples	25
Table 5: Waste characterisation testing	27
Table 6: Leachability testing	28

APPENDIX

Appendix 1: Laboratory certification

METHOD STATEMENT

Introduction

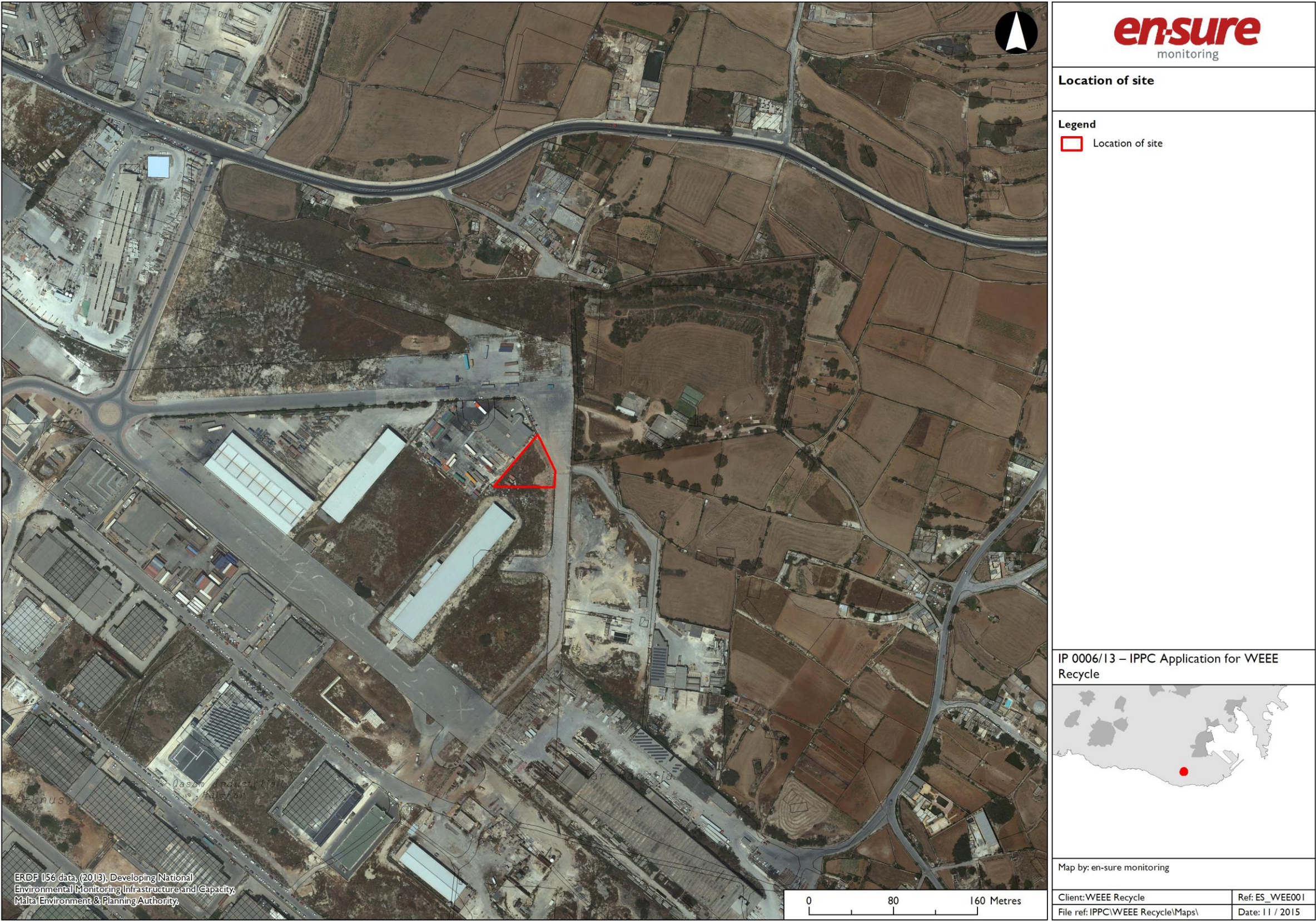
1. This method statement outlines the proposed methodology for baseline monitoring at the site of a proposed WEEE treatment facility at Hal Far, as requested by the Environment and Resources Authority (ERA) as part of the IPPC application for the facility (IP 0006/13).
2. The facility, hereinafter referred to as the “Scheme”, will comprise an industrial unit for the recycling and treatment of Waste Electrical and Electronic Equipment (WEEE) as well as shredding and gasification of wood (the latter as a longer-term project). The site, located at HHF 040, Hal Far Industrial Estate (**Figure 1**), is currently abandoned and undeveloped. Planning approval (PA 00441/16) was granted on 6th October 2016.
3. The project is proposed by Mr Charles Galea, on behalf of WEEE Recycle Ltd, hereinafter referred to as ‘the Applicant’.

Terms of Reference

4. Section B.1.4.1 of the IPPC application form requires the submission of:

A site report, providing a history of the site (including current and past uses) and describing the condition of the site of that part of the installation in respect of which you are applying for a permit, and, in particular, identifying any substance in, on or under the land which may constitute a pollution risk. A baseline report assessing the state of the groundwater and land may also be required by the Authority.

Figure 1: Site location



5. In respect of the baseline report, the requirements in the Industrial Emissions (Integrated Pollution Prevention and Control) Regulations (Legal Notice 10 of 2013 as amended, S.L. 549.77) apply:

Regulation 5 (1): An application for a permit shall include a description of the following:

(d) the conditions of the site of the installation;

(e) where applicable, a baseline report in accordance with regulation 16(2);

Regulation 16 (2): Where the activity involves the use, production or release of relevant hazardous substances and having regard to the possibility of soil and groundwater contamination at the site of the installation, the operator shall prepare and submit to the competent authority a baseline report before starting operation of an installation or before a permit for an installation is updated for the first time after 7 January 2013.

The baseline report shall contain the information necessary to determine the state of soil and groundwater contamination so as to make a quantified comparison with the state upon definitive cessation of activities provided for under sub-regulation (3).

The baseline report shall contain at least the following information:

(a) information on the present use and, where available, on past uses of the site;

(b) where available, existing information on soil and groundwater measurements that reflect the state at the time the report is drawn up or, alternatively, new soil and groundwater measurements having regard to the possibility of soil and groundwater contamination by those hazardous substances to be used, produced or released by the installation concerned.

Where information produced pursuant to other national or European Union law fulfils the requirements of this sub-regulation, that information may be included in, or attached to, the submitted baseline report.

In the preparation of the baseline report, the operator shall take into account any guidance published by the European Commission on the content of the baseline report.

(3) (a) Upon definitive cessation of the activities, the operator shall assess the state of soil and groundwater contamination by

relevant hazardous substances used, produced or released by the installation. Where the installation has caused significant pollution of soil or groundwater by relevant hazardous substances compared to the state established in the baseline report referred to in sub-regulation (2), the operator shall take the necessary measures to address that pollution so as to return the site to that state. For that purpose, the technical feasibility of such measures may be taken into account.

(b) Without prejudice to paragraph (a), upon definitive cessation of the activities, and where the contamination of soil and groundwater at the site poses a significant risk to human health or the environment as a result of the permitted activities carried out by the operator before the permit for the installation is updated for the first time after 7 January 2013 and taking into account the conditions of the site of the installation established in accordance with regulation 5(1)(d), the operator shall take the necessary actions aimed at the removal, control, containment or reduction of relevant hazardous substances, so that the site, taking into account its current or approved future use, ceases to pose such a risk.

6. The European Commission has also published guidance on preparing baseline reports (Communication 2014/C 136/03). According to this guidance, the first step is to determine whether a baseline report is needed, since baseline land / groundwater measurements are only required when the activity involves the use, production or release of relevant hazardous substances, and taking into account the possibility of soil and groundwater contamination by the Scheme.
7. A risk assessment was submitted to ERA in December 2015¹; this concluded that the risks to land and groundwater from the Scheme are low and very low, with no risk to land / groundwater being detected in the case of spillages of hydrocarbon-based products and a fire in fluorescent tube crushing room.
8. However, ERA² advised that baseline monitoring was to be carried out in view of the history of the site (notably its former use as an airfield, and the more recent dumping of predominantly construction waste) as well as the site surroundings (industrial and agricultural).

Description of the Site and the Surroundings

9. The Scheme site covers an area of approximately 1,600 m² and is located close to the eastern boundary of the Hal Far Industrial Estate, as shown in **Figure 1**.

¹ En-Sure Ltd, 2015. *WEEE Treatment Facility at WEEE Recycle Ltd, Hal Far: Land and Groundwater Risk Assessment* (Version 1). San Ġwann, November 2015; vi + 60 pp. + 6 Appendices.

² Natalie Ellul (email), 15th September 2016.

10. The Scheme was formerly an airfield (in use until the 1970s) and until recently was covered with mainly construction / demolition waste, which was removed in June 2015. Details of the history of the site are included in the Land and Groundwater Risk Assessment submitted for the Scheme.
11. The predominant land uses in the surrounding area are industrial and agricultural, and include concrete batching plants and an open-air shooting range. Further details on the surrounding land uses are included in the Land and Groundwater Risk Assessment prepared for the Scheme.
12. With regard to the geo-environment, the exposed rock formation at the Scheme site is Lower Globigerina Limestone and Lower Coralline Limestone. The mean sea level aquifer is the principal hydrogeological feature in the area, and the groundwater at the Scheme site is found at a depth of around 56 to 60 m below the land surface. The site is located outside the Groundwater Safeguard Zone; however, there are seven groundwater boreholes located within around 400 m of the site.

Description of the Scheme

13. This section describes the key elements of the Scheme. A detailed description of the proposed activities, including mitigation, is included in the IPPC application submitted for the Scheme³.
14. The Scheme is mainly intended for the storage and treatment of various WEEE categories.
15. Batteries will also be accepted for storage prior to export.
16. The Scheme will also shred clean wood waste to generate a product that can be used for animal bedding or briquettes; the latter wood treatment option will be used until the gasification plant is commissioned and / or to act as a backup for the gasification plant. The Scheme will also operate a gasification plant for treatment of wood; this is planned as a future project.
17. The proposed layout of the Scheme is shown in **Figure 2** and **Figure 3**.

WEEE Processing

18. Treatment of each WEEE stream will be carried out in accordance with an ERA-approved work plan.⁴ In general, the process will involve the following steps:
 - Receipt of goods and storage in a designated area (labelled as “day storage” in **Figure 2**);
 - Sorting and storage of waste in designated areas, depending on the type of waste;

³ En-Sure Ltd, 2015. *WEEE Treatment Facility at WEEE Recycle Ltd, Hal Far: IPPC Application* (Version 1). San Gwann, November 2015; viii + 145 pp. + 14 Annexes.

⁴ Work plans and flow diagrams are included in section B2.2.1 and B2.2.3 of the IPPC application.

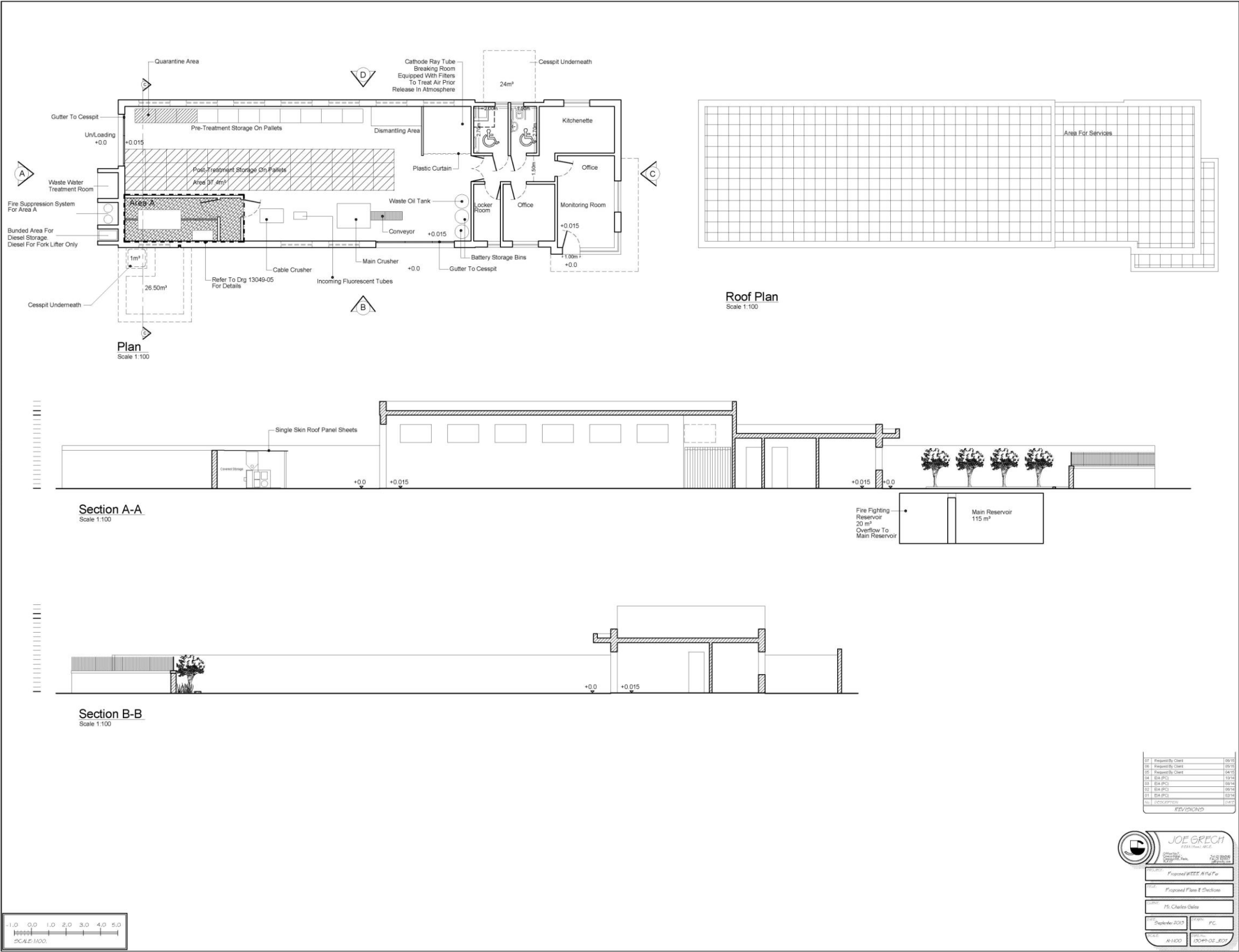
- Manual dismantling and segregation of components into different waste streams;
 - Crushing of certain components using one of three crushers, as described in further detail below; and
 - Storage of each waste stream, segregated by type, in designated areas prior to transfer to authorised facilities, locally or abroad.
19. Manual dismantling and segregation of most components will be carried out in the dismantling area identified in **Figure 3**. However, CRT monitors and TV sets will be dismantled in the purpose-built CRT breaking room. Dismantling of CRT monitors will be carried out by first dismantling the casings and circuitry, then breaking the glass neck.
20. Three crushers are proposed:
- Main crusher for non-hazardous waste;
 - Cable crusher; and
 - Fluorescent tube crusher.
21. Certain WEEE streams will be stored on site (typically in the shed) prior to shipment, without any dismantling or processing, except for any packaging necessary for shipment. This option is planned for those categories of WEEE that the site will not be equipped to treat, such as refrigeration equipment containing ozone-depleting substances. Similarly, waste batteries will also be accepted on site for temporary storage in a bunded area in the main building prior to shipment to an authorised facility abroad.

Wood Processing

22. Wood may be processed at the Scheme in two ways:
- Shredded, using the main crusher, to generate a product that can be used for animal bedding or briquettes; and / or
 - Used for production of syngas in a gasification plant; the syngas is then combusted in a CHP plant for the generation of heat and electricity.
23. Shredding of clean non-hazardous waste wood for reuse will be carried out until the gasification plant is commissioned and / or to act as a backup for the gasification plant when necessary.



Figure 3: Scheme plans (central building) and sections



Pollutant Linkages

24. **Table 1** identifies the principal potential source-pathway-receptor linkages for land and groundwater contamination at the site; these linkages cover emissions from historical activities that occurred at the site, releases from surrounding activities, and emissions from Scheme operation (without the mitigation measures proposed).
25. Environmental risk occurs when there is a means by which a hazard can result in a deleterious impact on the surrounding environment, i.e. receptors. The presence of a hazard alone does not constitute a risk. A risk is only present if there is a pathway which links the source (hazard) to the receptor. This is known as the source-pathway-receptor linkage.⁵
26. If any of the three elements are absent then there is no complete linkage and thus no unacceptable risk to the environment. It is noted that the risk assessment concludes that as a result of the planned mitigation measures, risks to land and groundwater from the Scheme are low and very low, with no risk to land / groundwater being detected in the case of spillages of hydrocarbon-based products and a fire in fluorescent tube crushing room.

⁵ Defra (2002) *Groundwater Protection Code: Petrol Stations and other Fuel Dispensing Facilities involving Underground Storage Tanks*
http://www.adlib.ac.uk/resources/000/082/529/groundwater_petrol_code.pdf.

Table 1: Pollution pathway identification

Source	Pathway	Receptor	Potential sources of land / groundwater contamination		
			Scheme operation ⁶	Historical activities	Surrounding activities
Spillage of fuel / oils / coolants / lubricants	Permeable strata above water table; rainwater runoff	Land Groundwater	<ul style="list-style-type: none"> • Diesel, oils and oily waste stored and handled on site • Leaks from vehicles / equipment / maintenance activities 	Leaks of fuel, oils, coolants and lubricants, from aircraft / equipment / maintenance activities occurring in the airfield	n/a
Metal emissions	Air dispersion (prevailing wind direction); wastewater from floor washing / used fire fighting water (Scheme); rainwater runoff	Land Groundwater	<ul style="list-style-type: none"> • Dismantling of general WEEE • Fluorescent tube crushing (including generation of wash water) • Breaking of CRT monitors • Leaks during storage of lead-acid batteries • Leaks during storage / use of fuels and lubricants • Generation of used fire fighting water in the event of a fire 	Leaks during use of fuels, lubricating oils and batteries	Concrete batching plants; Shooting range (lead pellets)
Leakage of acid from batteries	Permeable strata above water table; wastewater from floor washing (Scheme); rainwater runoff	Land Groundwater	Lead-acid batteries	Lead-acid batteries	n/a
Release of asbestos	Air dispersion (prevailing wind direction); Direct contamination	Land	n/a	<ul style="list-style-type: none"> • Historically used in brake linings • Potentially included with the construction waste dumped on site 	n/a

⁶ The identification of these sources at the Scheme does not consider the presence of mitigation, which reduces risk levels and in some instances removes the pollutant linkage entirely (as described in the Land and Groundwater Risk Assessment prepared for the Scheme).

Monitoring Methodology

Aims

27. The principal aim of the analytical programme is to assess baseline levels of pollutants, to enable a quantified comparison to be made with the contamination levels upon decommissioning.
28. A secondary aim is to determine whether the rock to be excavated during construction works is to be considered hazardous, non hazardous or inert, to enable identification of the appropriate waste disposal / recovery route. Therefore a proposal for waste acceptance testing is included.

Sampling Strategy

29. With regard to the baseline assessment, considering that contaminants will need to first permeate through the land strata to reach the groundwater, a phased approach is proposed.
30. Initially land monitoring will be carried out from cores on site taken at the surface and at a depth of 2 m. However, material from depths of 1 metre and 3 metres will be kept in the event that ERA requires further testing following the analysis of contaminants at surface and 2 metres.
31. Should further testing show the 3 m core is also contaminated, groundwater monitoring would also be considered, in consultation with ERA and the Malta Resources Authority (MRA), and preferably making use of existing boreholes.
32. Since the purpose of the baseline assessment is to enable a comparison of the current condition of the land with that upon definitive cessation of activities, a targeted sampling strategy is proposed that takes into account the planned location of the Scheme activities involving potential release of hazardous substances.

Analytical Programme

33. **Table 2** presents a proposed list of analytes proposed for the baseline testing and a rationale for their inclusion, based on the potential pollutant linkages identified in **Table 1**. In the context of the Scheme, the reference to potential sources of contamination in **Table 2** does not consider the mitigation measures that will be in place.

Table 2: Proposed analytes (baseline monitoring)

Analyte	Rationale for inclusion	Potential sources of site contamination		
		Scheme operation	Historical activities	Surrounding activities
Total petroleum hydrocarbons	Main constituents of fuels, oils, coolants and lubricants.	✓	✓	
Total petroleum hydrocarbons (C35-C40)		✓	✓	
Total petroleum hydrocarbons (C10-C40) (sum)		✓	✓	
BTEX (benzene, toluene, ethylbenzene, xylene)	Fuel additives.	✓	✓	
MTBE	Formerly used as an anti-knocking agent, to improve the octane rating of fuel (including jet fuel).		✓	
PAHs ⁷	Components of fuel, lubricating oil.	✓	✓	
Cyanide (total)	Component of lubricating oil.	✓	✓	
Metals, as follows: - As, Cd, Co, Cr, Cr VI, Cu, Hg, Mn, Ni, Pb, Se, Sb, Sn, Tl, V, Zn	Certain metals are / used to be components of fuels, lubricating oils, batteries, and WEEE; the nearby concrete batching plants and shooting range may also release metals.	✓	✓	✓
- Additional metals: Ag, Al, Ba, Ca	Components of certain WEEE.	✓		
- Rare earth metals: Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Sc, Tb, Tm, Yb, Y	Components of certain WEEE.	✓		
Sulphuric acid	Component of lead-acid batteries.	✓	✓	
PCBs ⁸	PCBs were formerly used in transformer cooling oils. It is noted that the Scheme will not accept PCB-containing waste (EWC codes 16 02 09* and 16 02 10* are not included in the IPPC application), therefore the inclusion of PCBs in the analytical programme is precautionary.	✓		
Asbestos	Historically used in brake linings, and may also have been included with the waste dumped on site.		✓	

⁷ 16 US EPA PAHs, as follows: acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b/k)fluoranthene, benzo(ghi)perylene, chrysene, dibenzo(ah)anthracene, fluoranthene, fluorene, indeno(123-cd)pyrene, naphthalene, phenanthrene, pyrene.

⁸ EC7 congeners: BZ#28, BZ#52, BZ#101, BZ#118, BZ#138, BZ#153, BZ#180.

Sampling Points

34. The proposed sampling points are shown in **Figure 4**. In accordance with MEPA⁹ guidance on previous projects, five sampling points are proposed to ensure adequate site representation. The sampling locations have been selected to correspond to the potential location for future emissions, as described in **Table 3**.

Table 3: Sampling points

Point No.	Coordinates (European Datum 1950 - UTM)	Rationale
1	456517.0892013, 3963464.3537096	At the location of the fluorescent tube cesspit; the point is close to the emission point to air from the fluorescent tube crushing room
2	456521.9178568, 3963485.9834404	Outside the CRT processing room
3	456510.6730426, 3963467.8594458	Outside the WEEE treatment building
4	456535.4777797, 3963489.6876145	At the oil-water separator
5	456535.0809039, 3963479.6334277	Outdoor area, at the weighbridge

35. International guidance^{10,11} recommends that samples are taken at three depths to determine whether there has been any vertical distribution of pollutants; in Malta this is typically done by taking the first sample from the surface, the second at 1 m depth, and the third at 2 m depth.
36. However, since construction works (including installation of an impermeable geotextile membrane) will begin once sampling is concluded, therefore limiting the possibility for samples at deeper depths to be taken, a sample will also be taken at 3 m depth. The 3 m sample and the 1 m sample will be retained in a glass jar until the results for the surface and 2 m samples are received. Once the results are reviewed, should ERA require testing of the 1 m and 3 m samples, these samples will also be sent for analysis. Exclusion of the 1 m sample from the initial analysis is justified by the fact that the risk assessment identifies the Scheme as presenting low and very low risks of land / groundwater contamination, and this has been agreed to with ERA.
37. Each core sample will be around 15 cm in length.

Sampling Methods

38. Land investigations will be conducted in accordance with BS 4019: 1993: *Rotary core drilling equipment*, and BS 5930: 1999: *Code of practice for geological site investigations*. Sampling will be supervised by a chemist.

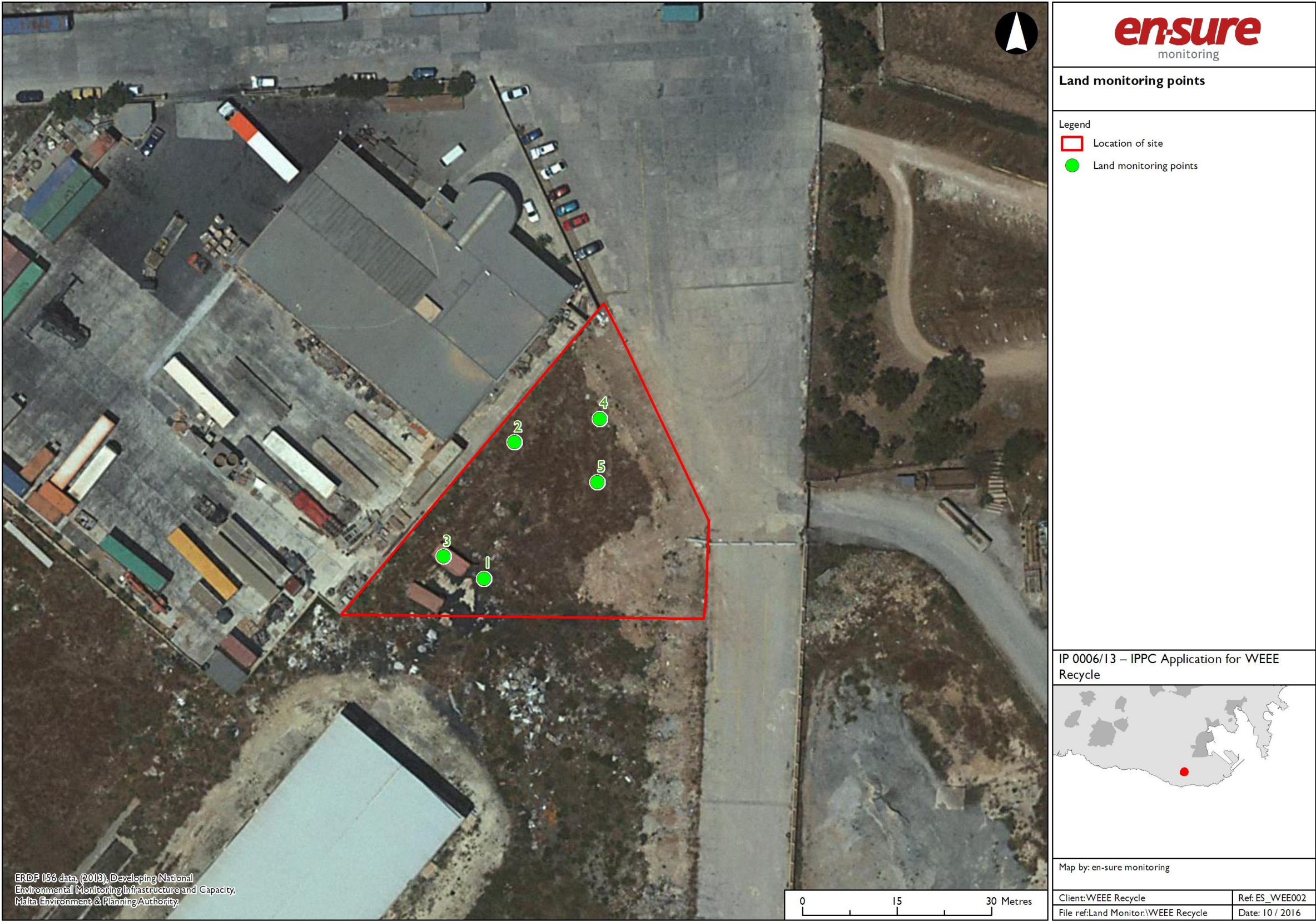
⁹ MEPA has now been split into the Planning Authority and the ERA.

¹⁰ Environmental Protection Department (2011) *Practice Guide for Investigation and Remediation of Contaminated Land* http://www.epd.gov.hk/epd/sites/default/files/epd/english/environmentinhk/waste/guide_ref/files/pg_conland_eng_2011.pdf.

¹¹ Ministry for the Environment (2011) *Contaminated Land Management Guidelines No. 5: Site Investigation and Analysis of Soils* <http://www.mfe.govt.nz/publications/land-hazards/contaminated-land-management-guidelines-no-5-site-investigation-and->

39. The sampling point will be cleared and the core sample drilled using a Beretta T44 drill rig fitted with an auger to drill through soil and rock. This technique removes the material from the base of the borehole towards the top, and does not require the use of circulation fluids.
40. After each of the five points has been sampled, the drill rig will be moved to a wash-down area and cleaned using a power wash. Voids will be backfilled using the remaining part of the core not sent for analysis.
41. Core samples will be stored in glass jars, and a small portion of each sample will also be placed in a 40 mL vial immediately upon sampling. The vial will be used by the lab for testing of volatile substances.
42. All samples will be photographed, labelled, and logged before being sent to the laboratory. Additionally, a record will be kept of any visual or olfactory evidence of contamination (e.g. stains, hydrocarbon odours).

Figure 4: Proposed sampling points



INDICATIVE ONLY - Not to be used for direct interpretation

Analysis

43. The surface and 2 m samples will be delivered for analysis at a UK laboratory accredited to ISO 17025 as well as for certain specific tests as indicated in **Table 4**. A copy of the laboratory's certification schedule is included in **Appendix 1**.
44. Delivery will take place by courier within two working days of sampling, although typically this will be done within 12-24 hours. The vials will be kept chilled during transport.
45. The 1 m and 3 m samples will be retained locally in glass jars (chilled) for possible later analysis.

Baseline Testing

46. **Table 4** presents the proposed methodology for analysis and associated limits of detection. The laboratory uses in-house methods for analysis based on international reference standards.

Table 4: Methods for analysis of land samples

Analyte	Analytical methodology	Reference standard ¹²	Limit of detection	Test-specific accreditation
Total petroleum hydrocarbons	GC-FID	EPA Method 8015B, Revision 2; TNRCC Method 1006	1 mg/kg	No
BTEX	GC-MS (Headspace)	EPA Method 8260, Revision B	1 µg/kg	Yes (soil)
MTBE	GC-MS (Headspace)	EPA Method 8260, Revision B	1 µg/kg	Yes (soil)
PAHs	GC-MS	EPA Method 8270, Revision C	0.1 mg/kg	Yes (soil)
Cyanide (total)	Colorimetry	DOE Methods for the Examination of Waters and Associated Materials, published by HMSO (1988) (equivalent to EPA 9014)	1 mg/kg	Yes (soil)
Metals, as follows: - As, Cd, Co, Cr, CrVI, Cu, Hg, Mn, Ni, Pb, Se, Sb, Sn, Tl, V, Zn	ICP-OES	MEWAM (ISBN 0117516155), HMSO 1981, APHA-AWWA-WPCF (1992, 18 th Ed.)	1 mg/kg: As, Cd, Cr, Cu, Hg, Mn, Ni, Pb, Zn 2 mg/kg: Sn 10 mg/kg: Co, Se, Sb, Tl, V	Yes (soil)

¹² The laboratory uses a documented in-house method based on the analytical methodology identified in the table. The in-house method refers to the international standards referred to in this table.

Analyte	Analytical methodology	Reference standard ¹²	Limit of detection	Test-specific accreditation
- Additional metals: Ag, Al, Ba, Ca	ICP-OES	MEWAM (ISBN 0117516155), HMSO 1981, APHA-AWWA-WPCF (1992, 18 th Ed.)	1 mg/kg	No
- Rare earth metals: Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Sc, Tb, Tm, Yb, Y	ICP-OES	MEWAM (ISBN 0117516155), HMSO 1981, APHA-AWWA-WPCF (1992, 18 th Ed.)	1 mg/kg: Eu, Gd, Ho, Sm 5 mg/kg: Ce, Y 10 mg/kg: Dy, Er, La, Lu, Nd, Pr, Sc, Tb, Tm, Yb	No
Sulphuric acid	Ion chromatography	BS EN 12457-3; BS EN 14791:2005	1 mg/kg	No
PCBs	GC-MS (HR) / GC-MS (SIR)	EPA Method 8082; EPA Method 1668	0.5 µg/kg	Yes (soil)
Asbestos	Polarised light microscopy	HSG248	Presence / absence; if asbestos is detected the quantification test has a LoD of 0.001%	Yes (soil)

47. The core samples taken from the surface will be analysed for all the analytes in **Table 4**; the 2 m samples will be analysed for all the analytes except for:
- Asbestos, which is not soluble and therefore does not migrate below the surface;
 - Additional metals and rare earth metals, since there are no known sources of these substances at present.
48. It is expected that ERA will confirm whether testing for asbestos, additional metals and rare earth metals in the 2 m samples is required following a review of the testing results for the surface samples.

Waste Acceptance Testing

49. As mentioned, it is also necessary to determine whether the excavated material is to be treated as hazardous or inert waste, and whether disposal in landfill is acceptable.
50. Waste acceptance testing will be carried out on all the five surface samples, and on the 2 m samples corresponding to the proposed location of one of the cesspits (sampling point 1) and the reservoir (sampling point 4).
51. Waste characterisation testing will consist of the parameters listed in **Table 5**; it is noted that some of these parameters will already have been analysed as part of the baseline testing, however they are included in Table 5 for ease of reference.

Table 5: Waste characterisation testing

Analyte	Analytical methodology	Reference standard ¹³	Limit of detection	Test-specific accreditation
Total petroleum hydrocarbons	GC-FID	EPA Method 8015B, Revision 2; TNRCC Method 1006	1 mg/kg	No
BTEX	GC-MS (Headspace)	EPA Method 8260, Revision B	1 µg/kg	Yes (soil)
Metals, as follows: As, Ba, Cd, Co, Cr, CrVI, Cu, Hg, Mn, Mo, Ni, Pb, Se, Sb, Sn, Tl, V, Zn	ICP-OES	MEWAM (ISBN 0117516155), HMSO 1981, APHA-AWWA-WPCF (1992, 18 th Ed.)	1 mg/kg: As, Ba, Cd, Cr, Cu, Hg, Mn, Ni, Pb, Zn 2 mg/kg: Sn 10 mg/kg: Co, Mo, Se, Sb, Tl, V	Yes (soil)
PAHs	GC-MS	EPA Method 8270, Revision C	0.1 mg/kg	Yes (soil)
PCBs	GC-MS (HR) / GC-MS (SIR)	EPA Method 8082; EPA Method 1668	0.5 µg/kg	Yes (soil)
Dioxins ¹⁴	GC-MS (HR)	EPA Method 1613	0.5 ng/kg TEQ	Yes (soil)
Total Organic Carbon	Oxidation - Infra Red	MCERTS guidance note 7, ISO 10694:1995	0.1%	No
Acid neutralising capacity (pH4, pH7)	Titration	EA NEN 7371:2004	2 mol/kg	No
Loss on Ignition	Gravimetry	BS 1377:1990	0.1%	No
Moisture	Gravimetry	n/a	0.1%	No
pH	Probe	BS 1377:Part 3:1990, MEWAM (ISBN 0117514284), HMSO (1978), APHA-AWWA-WPCF (1992, 18 th Ed.)	-	Yes

52. A hazardous waste classification (H1-H14) assessment will then be carried out taking into account the waste characterisation results.
53. Leachability testing will also be carried out by preparing a 10:1 leachate sample (according to BS EN 12457-2) and testing it for the parameters listed in **Table 6**.

¹³ The laboratory uses a documented in-house method based on the analytical methodology identified in the table. The in-house method refers to the international standards referred to in this table.

¹⁴ In agreement with ERA, testing is limited to the surface and 2 m samples taken from sampling point 4. If these two samples are found to be contaminated with dioxins, further testing of the remaining samples may be carried out as requested by ERA following evaluation of the results.

Table 6: Leachability testing

Analyte	Analytical methodology	Reference standard ¹³	Limit of detection	Test-specific accreditation
As (dissolved)	ICP-MS (Filtered)	MEWAM (ISBN 0117516155), HMSO (1981), APHA-AWWA-WPCF (1992, 18 th Ed.)	0.2 µg/L	Yes
Ba (dissolved)			1 µg/L	
Cd (dissolved)			0.02 µg/L	
Cr (dissolved)			1 µg/L	
Cu (dissolved)			0.5 µg/L	
Hg (dissolved)			0.05 µg/L	
Mo (dissolved)			1 µg/L	
Ni (dissolved)			1 µg/L	
Pb (dissolved)			0.3 µg/L	
Sb (dissolved)			1 µg/L	
Se (dissolved)			0.5 µg/L	
Zn (dissolved)			2 µg/L	
Total dissolved solids	Gravimetry	n/a	100 mg/L	No
Phenols (total-mono)	Colorimetry	APHA-AWWA-WPCFM Part 5530	0.1 mg/L	Yes
Dissolved organic carbon	Oxidation - Infra Red	APHA-AWWA-WEF Part 5310 (1998, 20 th Ed.), BS EN 1484:1997	1 mg/L	No
Electrical conductivity	Probe	n/a	10 µS/cm	No
Chloride	Discrete analyser	HMSO (1981)	1 mg/L	Yes
Fluoride	Discrete analyser	HMSO (1981)	0.05 mg/L	Yes
Sulphate	Discrete analyser	HMSO (1981)	0.5 mg/L	Yes

54. Following analysis, all samples will be appropriately disposed of by the laboratory in accordance with regulations.

Laboratory Quality Assurance and Quality Control (QA / QC)

55. The laboratory maintains several QA/QC procedures, including:
- Multi-point calibration with authentic standards (with defined minimum performance characteristics);
 - Analysis of control samples within each analytical batch, such as independent standards, matrix spikes or reference materials;
 - Analysis of reagent / method blanks within each analytical batch;
 - Ongoing quality assurance through the use of control charts in conjunction with warning and action limits for the QC sample data; and
 - Participation in external proficiency testing and inter-laboratory schemes.

Assessment of Results

56. The baseline monitoring data will be reviewed to establish the concentration gradient of each pollutant in different areas and at different depths.
57. This assessment will also be used to determine whether analysis of the 1 m and 3 m land samples is necessary. It will also help determine whether the aquifer is at risk of contamination and therefore whether groundwater monitoring is required.
58. If the results show that the samples at 3 m below the surface are significantly contaminated, a method statement for groundwater monitoring will be prepared, in consultation with ERA and MRA. The method statement would preferably making use of existing boreholes where possible, and the analytical programme would focus on those pollutants that have been shown to be at significantly elevated concentrations below the surface.
59. As mentioned, the waste acceptance test results will be used to determine whether the excavation waste is hazardous, and the results will also be compared to the limit values set out in the Annex to Decision 2003/33/EC, to confirm the acceptability or otherwise of such excavation waste being disposed of in landfill.

Appendix 1: Laboratory certification

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK



1549

Accredited to
ISO/IEC 17025:2005

Scientific Analysis Laboratories Ltd

Issue No: 077 Issue date: 16 August 2016

Hadfield House
Hadfield Street
Old Trafford
Manchester
M16 9FE

Contact: Mr. Graham Small
Tel: +44 (0)161 874 2400
Fax: +44 (0)161 874 2404
E-Mail: salsales@saltd.co.uk
Website: www.saltd.co.uk

Testing performed by the Organisation at the locations specified

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details	Activity	Location code
Address Hadfield House Hadfield Street Old Trafford Manchester M16 9FE Local contact Mrs. Jeanette Gibson Tel: +44 (0)161 874 2400 Fax: +44 (0)161 874 2404 E-Mail: salsales@saltd.co.uk Website: www.saltd.co.uk	Environmental Analysis, Air, Food and Feed Analysis	A
Address 3 Crittal Drive Springwood Industrial Estate Braintree Essex CM7 2RT Local contact Ms Louise Tanous Tel: +44 (0)1376 328646 Fax: +44 (0)1376 552923 E-Mail: salsales@saltd.co.uk Website: www.saltd.co.uk	Environmental Analysis	B
Address Unit 2 The Links Bar Hill Cambridge CB23 8UD Local contact Contact: Ms Louise Tanous Tel: +44 (0)1954 782791 Fax: +44 (0)1954 782183 E-Mail: salsales@saltd.co.uk Website: www.saltd.co.uk	Microbiological (Food and Process Waters) Nutrition Analysis Pesticide Residue Analysis	C
Address 69A Killyman Street Moy Co Tyrone Northern Ireland BT71 7EA Local contact Mrs K A Simpson Tel: +44 (0)28 8778 9599 Fax: +44 (0)28 8778 9552 E-Mail: salsales@saltd.co.uk Website: www.saltd.co.uk	Microbiological (Food, Milk and Process Waters)	D
Address 16 Langlands Place Kelvin South Business Park East Kilbride Glasgow G75 0YF Local contact Contact: Mrs Y Croft Tel: +44 (0)1355 573340 Fax: +44 (0)1355 573341 E-Mail: scotsales@saltd.co.uk Website: www.saltd.co.uk	Environmental Analysis	E



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
STACK GASES FLY ASH SOILS SEDIMENTS (liquid and solid matrix) VEGETATION EFFLUENT DUST CHEMICALS WATERS - SURFACE WATER, GROUND WATER and POTABLE WATER (Non-Regulatory) BIOLOGICAL MATERIALS including mussels and blood FOODS (Fatty Materials and Edible Oils)	<u>Chemical Tests</u> Poly Chlorinated Dibenzo-p-Dioxins (PCDD): 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,6,7,8-HxCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD Poly Chlorinated Dibenzo Furans (PCDF): 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	Documented In-House Method Organic MSOP1 based on USEPA Method 1613 and US Federal Register Method 23, Volume 56, No 30 (Feb 13, 1991) using Gas Chromatography - High Resolution Mass Spectrometry (GC-MS) and labelled internal standards	A
STACK GASES, FLY ASH SOILS, SEDIMENTS (liquid and solid matrix), VEGETATION, EFFLUENT DUST, CHEMICALS WATERS - SURFACE WATER, GROUND WATER and POTABLE WATER (Non-Regulatory) BIOLOGICAL MATERIALS including mussels and blood FOODS (Fatty Materials and Edible Oils) MECHANICAL OILS	Poly Chlorinated Biphenyls (PCBs): EC7 PCBs: Trichloro, BZ #28 Tetrachloro, BZ #52 Pentachloro, BZ#101 Pentachloro, BZ #118 Hexachloro, BZ #153 Hexachloro, BZ #138 Heptachloro, BZ #180	Documented In-House Method MSOP11 based on USEPA Method 8082 using Gas Chromatography - High Resolution Mass Spectrometry and labelled internal standards	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
STACK GASES FLY ASH SOILS SEDIMENTS (liquid and solid matrix) VEGETATION EFFLUENT DUST CHEMICALS WATERS - SURFACE WATER, GROUND WATER and POTABLE WATER (Non-Regulatory) BIOLOGICAL MATERIALS including mussels and blood FOODS (Fatty Materials and Edible Oils)	<u>Chemical Tests</u> (cont'd) Poly Chlorinated Biphenyls (PCBs) (cont'd): Who 12 PCBs: Pentachloro, BZ #105 Pentachloro, BZ #114 Pentachloro, BZ #118 Pentachloro, BZ #123 Hexachloro, BZ #156 Hexachloro, BZ #157 Hexachloro, BZ #167 Heptachloro, BZ #189 Tetrachloro, BZ#81 Tetrachloro, BZ#77 Pentachloro, BZ#126 Hexachloro, BZ#169 Total PCB (Tri-Hepta)	Documented In-House Method MSOP11 based on USEPA Method 8082 using Gas Chromatography - High Resolution Mass Spectrometry and labelled internal standards	A
STACK GASES AMBIENT AIR SOILS SEDIMENTS (liquid and solid matrix) VEGETATION EFFLUENT WATERS - SURFACE WATER, GROUND WATER and POTABLE WATER (Non-Regulatory) BIOLOGICAL MATERIALS including mussels and blood FOODS (Fatty Materials and Edible Oils)	Semi-Volatile Organic Compounds (SVOC) with boiling points between 180 - 550 °C <i>The organisation holds a flexible scope of accreditation for these tests. Please contact the organisation for details of the individual compounds they can analyse using this method.</i>	Methods Developed and Validated according to In-House Method GSOP12. Using one or more of the following techniques: Solvent Desorption GC-MS Direct Injection GC-MS (With or Without Prior Extraction) SIR/SIM/Scanning GC-MS TOF GC-MS TD-GC-TOF-MS	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
<p>STACK GASES AMBIENT AIR SOILS SEDIMENTS (liquid and solid matrix) VEGETATION EFFLUENT WATERS - SURFACE WATER, GROUND WATER and POTABLE WATER (Non-Regulatory) BIOLOGICAL MATERIALS including mussels and blood FOODS (Fatty Materials and Edible Oils)</p> <p>SOILS, SEDIMENTS (Liquid and Solid Matrix), WATERS Raw and Potable (Non-Regulatory)</p>	<p><u>Chemical Tests</u> (cont'd)</p> <p>Volatile Organic Compounds (VOC) with boiling points between -50 to 220 °C</p> <p><i>The organisation holds a flexible scope of accreditation for these tests. Please contact the organisation for details of the individual compounds they can analyse using this method.</i></p> <p>Polynuclear Aromatic Hydrocarbons (EPA 16): Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benz (a) anthracene Chrysene Benzo (b) fluoranthene Benzo (k) fluoranthene Benzo (a) pyrene Indeno (123cd) pyrene Dibenzo (ah) anthracene Benzo (ghi) perylene Total PAH (Sum of 16 Above) Phenols (Speciated): Phenol 2-Methylphenol (o-Cresol) 3/4-Methylphenol (m+p-Cresol) 2,6-Dimethylphenol (Xylenol) 2,5-Dimethylphenol (Xylenol) 2,3-Dimethylphenol (Xylenol)</p>	<p>Methods Developed and Validated according to In-House Method GSOP12. Using one or more of the following techniques: Purge and Trap GC-MS Solvent Desorption GC-MS Thermal Desorption GC-MS Direct Injection GC-MS (With or Without Prior Extraction) SIR/SIM/Scanning GC-MS TOF GC-MS TD-GC-TOF-MS</p> <p>Documented In-House Method MSOP12A using GC-MS</p> <p>Documented In-House Method MSOP12B using GC-MS</p>	<p>A</p> <p>A</p> <p>A</p>



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS, SEDIMENTS (Liquid and Solid Matrix), WATERS Raw and Potable (Non-Regulatory) (cont'd)	<u>Chemical Tests (cont'd)</u> Semi-Volatile Organic Compounds <u>EPA 625 Suite:</u> Phenol Bis (2-chloroethyl) ether 2-Chlorophenol 1,3-Dichlorobenzene Nitrobenzene Isophorone 1,4-Dichlorobenzene 1,2-Dichlorobenzene Bis (2-chloroisopropyl) ether 2-Methylphenol 3/4 Methylphenol Hexachloroethane 2-Nitrophenol 2,4-Dimethylphenol Bis (2-chloroethoxy) methane 2,4-Dichlorophenol 1,2,4-Trichlorobenzene Naphthalene 4-Chloroaniline (p) Hexachlorobutadiene 4-Chloro, 3-methylphenol 2-Methylnaphthalene Hexachlorocyclopentadiene 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2-Chloronaphthalene 2-Nitroaniline Dimethyl phthalate 2,6-Dinitrotoluene Acenaphthylene Acenaphthene 3-Nitroaniline (m) Dibenzofuran 2,4-Dinitrotoluene Diethyl phthalate Fluorene 4-Chlorophenylphenyl ether	Documented In-House Method MSOP12E using GC-MS	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS, SEDIMENTS (Liquid and Solid Matrix), WATERS Raw and Potable (Non-Regulatory) (cont'd)	<u>Chemical Tests (cont'd)</u> Semi-Volatile Organic Compounds (cont'd) <u>EPA 625 Suite:</u> 4-Nitroaniline Azobenzene 4-Bromophenylphenyl ether Hexachlorobenzene Pentachlorophenol Phenanthrene Anthracene Carbazole Dibutyl phthalate Fluoranthrene Pyrene Butyl benzyl phthalate Benzo (a) anthracene Chrysene Bis (2-ethylhexyl) phthalate Di-octyl phthalate Benzo (b) fluoranthrene Benzo (k) fluoranthrene Benzo (a) pyrene Indeno (123cd) pyrene Dibenz (ah) anthracene Benzo (ghi) perylene	Documented In-House Method MSOP12E using GC-MS	A
	Volatile Organic Compounds <u>EPA 624 Suite:</u> Dichlorodifluoromethane Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane 1,1-Dichloroethylene Methylene Chloride 1,1-Dichloroethane Trans-1,2-Dichloroethylene MTBE 2,2-Dichloropropane cis-1,2-Dichloroethylene Bromochloromethane	Documented In-House Method MSOP12I and MSOP12J using GC-MS	A



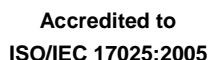
Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS, SEDIMENTS (Liquid and Solid Matrix), WATERS Raw and Potable (Non-Regulatory) (cont'd)	<u>Chemical Tests (cont'd)</u> Volatile Organic Compounds (cont'd) <u>EPA 624 Suite:</u> Chloroform 1,1,1-Trichloroethane Carbon Tetrachloride 1,1-Dichloropropene Benzene 1,2-Dichloroethane Trichloroethylene 1,2-Dichloropropane Dibromomethane Bromodichloromethane cis-1,3-Dichloropropene Toluene trans-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethylene 1,3-Dichloropropane Chlorodibromomethane 1,2-Dibromomethane Chlorobenzene 1,1,1,2-Tetrachloroethane Ethylbenzene m+p-Xylene o-Xylene Stryene Bromoform Isopropylbenzene 1,1,2,2-Tetrachloroethane Bromobenzene 1,2,3-Trichloropropane Propylbenzene 2-Chlorotoluene 1,3,5-Trimethylbenzene 4-Chlorotoluene tert-Butylbenzene 1,2,4-Trimethylbenzene sec-Butylbenzene p-Isopropyltoluene 1,3-Dichlorobenzene 1,4-Dichlorobenzene n-Butylbenzene	Documented In-House Method MSOP12I and MSOP12J using GCMS	A



Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS, SEDIMENTS (Liquid and Solid Matrix), WATERS Raw and Potable (Non-Regulatory) (cont'd)	<u>Chemical Tests</u> (cont'd) Volatile Organic Compounds (cont'd) <u>EPA 624 Suite:</u> 1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane 1,2,4-Trichlorobenzene Hexachlorobutadiene Naphthalene 1,2,3-Trichlorobenzene Tertiary Amyl Methyl Ether	Documented In-House Method MSOP12I and MSOP12J using GCMS	A
SOILS	Organochlorine Pesticides: Alpha-HCH HCB Gamma-HCH (Lindane) Beta-HCH Heptachlor Aldrin Isodrin Heptachlor Epoxide Cis-Chlordane Trans-Chlordane Alpha-Endosulphan p,p-DDE Dieldrin Endrin p,p-DDD p,p-DDT	Documented In-House Method MSOP12C using GC-MS	A
	Dichlorvos Mevinphos Trifluralin Dimethoate Diazinon Pirimiphos-Methyl Malathion Fenitrothion Chlorpyrifos Parathion Clofenvinfos Carbofenthion Azinphos Methyl	Documented In-House Method MSOP12D using GC-MS	A



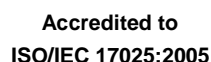
Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS, LEACHATES, EFFLUENTS, GROUND WATER and POTABLE WATER (Non-Regulatory), FILTERS (non stack emissions)	<u>Chemical Tests</u> (cont'd) Trace elements (heavy metals): <i>The organisation holds a flexible scope of accreditation for these tests. Please contact the organisation for details of the individual elements they can analyse using this method.</i>	Procedures Manual Inorganic MSOPIN16 Using ICP-MS and ICP-OES analysis	A
LEACHATES, SOILS, SLUDGES and SEDIMENTS WATERS, Raw and Potable (Non-Regulatory) WASTE WATERS, Treated and Untreated, Industrial and Domestic Waste	<u>Chemical Tests</u> 	Documented In-House Methods based on Methods for the Examination of Water and Associated Materials (MEWAM), Department of the Environment Standing Committee Analysts and Standard Methods for the Examination of Water and Wastewater, American Public Health Association - American Water Works Association - Water Pollution Control Federation, (APHA-AWWA-WPCF) 1989, 17th Edition and 1992, 18th Edition	A
LEACHATES, WATERS, Raw and Potable (Non-Regulatory) WASTE WATERS, Treated and Untreated, Industrial and Domestic Waste	Total and speciated petroleum hydrocarbons Ammonia	Documented In-House Method MSOP6 using GC-FID Procedure Manual (Inorganic) MSOPIN14 based on MEWAM ISBN 0117516139, HMSO 1981 by Spectrophotometry	A A



issued by

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Assessment Manager: FB



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
LEACHATES, SOILS, SLUDGES and SEDIMENTS WATERS, Raw and Potable (Non-Regulatory) WASTE WATERS, Treated and Untreated, Industrial and Domestic FILTERS STACK GAS ABSORPTION SOLUTIONS	<u>Chemical Tests</u> (cont'd) METALS: Aluminium Antimony Arsenic Barium Beryllium Cadmium Chromium Cobalt Copper Iron Lead Manganese Mercury Molybdenum Nickel Selenium Tin Vanadium Zinc	Documented In-House Methods based on Methods for the Examination of Water and Associated Materials (MEWAM), Department of the Environment Standing Committee Analysts and Standard Methods for the Examination of Water and Wastewater, American Public Health Association - American Water Works Association - Water Pollution Control Federation, (APHA-AWWA-WPCF) 1989, 17th Edition and 1992, 18th Edition Procedures Manual (Inorganic) MSOPIN18 based on MEWAM ISBN 0117516155, HMSO 1981, and, APHA-AWWA-WPCF 1992, 18th Edition by Inductively Coupled Plasma Optical Emission Spectrometry	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS, Potable (Non-Regulatory) and Ground LEACHATES, Landfill and Prepared	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on Methods for the Examination of Water and Associated Materials (MEWAM), Department of the Environment Standing Committee Analysts and Standard Methods for the Examination of Water and Wastewater, American Public Health Association - American Water Works Association - Water Pollution Control Federation, (APHA-AWWA-WPCF) 1989, 17th Edition and 1992, 18th Edition	
	METALS: Antimony Arsenic Barium Beryllium Cadmium Chromium Cobalt Copper Iron Lead Manganese Mercury Molybdenum Nickel Selenium Vanadium Zinc	Procedures Manual (Inorganic) MSOPIN23 using ICP-MS	A
LEACHATES (Soils and Landfill), SURFACE WATER and GROUNDWATER	Ammonia Chloride Chromium VI Fluoride Nitrate Nitrite Phosphate Sulphate Total Oxidisable Nitrogen	Procedures Manual (Inorganic) MSOPIN15 by colorimetric analysis	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on Methods for the Examination of Water and Associated Materials (MEWAM), Department of the Environment Standing Committee Analysts and Standard Methods for the Examination of Water and Wastewater, American Public Health Association - American Water Works Association - Water Pollution Control Federation, (APHA-AWWA-WPCF) 1989, 17th Edition and 1992, 18th Edition	
WATERS, Raw, Potable (Non-Regulatory), LEACHATES (prepared soil leachates)	Total Organic Carbon	Documented In-House Method SAL Organic MSOP13 based upon Part 5310, APHA-AWWA-WEF 1995 and EN 1484:1987 by High Temperature Catalytic Combustion and Infrared	A
Ash	METALS: Antimony Arsenic Cadmium Chromium Cobalt Copper Lead Manganese Mercury Molybdenum Nickel Tin Thallium Vanadium Zinc	Procedures Manual (Inorganic) MSOPIN18 based on MEWAM ISBN 0117516155, HMSO 1981, and, APHA-AWWA-WPCF 1992, 18th Edition by Inductively Coupled Plasma Optical Emission Spectrometry	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS	<u>Chemical Tests</u>	Documented In-House Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil	
	Phenols (Monohydric)	Procedures Manual (Inorganic) MSOPIN24 based on APHA-AWWA-WPCFM Part 5530 using continuous flow colorimetric analysis	A
	Cyanide (Total and free)	Procedures Manual (Inorganic) MSOPIN24 based on ISO 14403:2002, APHA-AWWA-WPCFM Part 4500 continuous flow colorimetric analysis	A
	pH	Procedures Manual (Inorganic) MSSOIN19 based on BS 1377:Part 3:1990, MEWAM ISBN 011 751 428 4, HMSO 1978, and APHA-AWWA-WPCF 1992, 18 th Edition	A
	Polynuclear Aromatic Hydrocarbons: Naphthalene Acenaphthylene Acenaphthene Fluorene Phenathrene Anthracene Benz(a)anthracene Chrysene	Documented In-House Generic Method MSOP12A using GC-MS SIM	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil (cont'd)	
	Poly Chlorinated Biphenyls (PCBs): IUPAC No 28 52 101 118 153 138 180	Documented In-House Method MSOP11 based on USEPA Method 8082 using Gas Chromatography - High Resolution Mass Spectrometry and labelled internal standards	A
	Total and speciated Petroleum Hydrocarbons: (C ₁₀ - C ₃₅) Also banding, including: C10-C12, >C12-C16, >C16-C21, >C21-C35	Documented In-House Method MSOP6 using GC-FID	A
	Total and speciated Petroleum Hydrocarbons - Aromatic/Aliphatic Split: (C10 - C35) Also banding, including: C10-C12, >C12-C16, >C16-C21, >C21-C35	Documented In-House Method MSOP6 using GC-FID	A
Soils	Speciated Petroleum Hydrocarbons - Aromatic/Aliphatic Split: banding, including: >C10-C12, >C12-C16, >C16-C21, >C21-C35	Documented In-House Method MSOP6 using 2 –Dimensional GC/FID	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil (cont'd)	A
	<p>METALS:</p> <p>Arsenic Cadmium Chromium Cobalt Copper Lead Manganese Mercury Molybdenum Nickel Selenium Tin Vanadium Zinc</p> <p>Volatile Organic Compounds (VOC): Dichlorodifluoromethane Vinyl Chloride Chloroethane Trichlorofluoromethane 1,1-Dichloroethene Dichloromethane MTBE Trans-1,2-Dichloroethene 1,1-Dichloroethane Cis-1,2-Dichloroethene Chloroform Bromochloromethane 1,1,1-Trichloroethane 1,1-Dichloropropene Carbon Tetrachloride 1,2-Dichloroethane Benzene 1,2-Dichloropropane Trichloroethene Bromodichloromethane Dibromomethane</p>	<p>Procedures Manual (Inorganic) MSOPIN18 based on MEWAM ISBN 0117516155, HMSO 1981, and, APHA-AWWA-WPCF 1992, 18th Edition by Inductively Coupled Plasma Optical Emission Spectrometry</p> <p>Documented In-House Method MSOP12J using GC-MS Scan</p>	



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil (cont'd)	A
	Documented In-House Method MSOP12J using GC-MS Scan Volatile Organic Compounds (VOC) (cont'd): Cis-1,3-dichloropropene Toluene Trans-1,3-Dichloropropene 1,1,2-Trichloroethane 1,3-Dichloropropane Dibromochloromethane 1,2-Dibromoethane Chlorobenzene 1,1,1,2-Tetrachloroethane Ethyl Benzene m,p-Xylene o-Xylene Bromoform Isopropylbenzene n-Propylbenzene Bromobenzene 1,3,5-Trimethylbenzene Tert-Butylbenzene 1,2,4-Trimethylbenzene Sec-Butylbenzene p-Isopropyltoluene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Tertiary Amyl Methyl Ether Semi-Volatile Organic Compounds (SVOC): Phenol Bis (2-chloroethyl) ether 2-Chlorophenol 1,3-Dichlorobenzene Nitrobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Bis (2-chloroisopropyl) ether 2-Methylphenol 3/4 Methylphenol	Documented In-House Method MSOP12E using GC-MS Scan	



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	<u>Chemical Tests</u> (cont'd) Semi-Volatile Organic Compounds (SVOC): (cont'd) Bis (2-chloroethoxy) methane 1,2,4-Trichlorobenzene Naphthalene Hexachlorobutadiene 4-Chloro, 3-methylphenol 2-Methylnaphthalene 2-Chloronaphthalene 2-Nitroaniline Acenaphthene Dibenzofuran 2,4-Dinitrotoluene Fluorene 4-Chlorophenylphenyl ether 4-Bromophenylphenyl ether Hexachlorobenzene Phenanthrene Dibutyl phthalate Fluoranthrene Pyrene Benz (a) anthracene Chrysene Bis (2-ethylhexyl) phthalate Di-octyl phthalate Benzo (b) fluoranthrene Benzo (k) fluoranthrene Benzo (a) pyrene Indeno (123cd) pyrene Dibenz (ah) anthracene Benzo (ghi) perylene	Documented In-House Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil (cont'd) Documented In-House Method MSOP12E using GC-MS Scan	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES, AMBIENT AIR and PROCESS AIR	<u>Sensory Test</u> Odour concentration measurement including sample pre-dilution	Documented In-House Methods based on the following national, international and other recognised standards BS EN 13725:2003 by dynamic olfactometry (Organic Procedures MSOP16)	A
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - AMBIENT AIR	<u>Chemical Tests</u>		
Molecular Sieve Tubes	Nitrous Oxide (N ₂ O)	Documented In-House Method MSOP12R using Thermal desorption and GC-MS	A
PUF/Filter Samples	Polynuclear Aromatic Hydrocarbons: Acenaphthene Acenaphthylene Anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(ghi)perylene Benzo(k)fluoranthene Benzo(a)anthracene Chrysene Dibenz(ah)anthracene Fluoranthrene Fluorene Indeno(123cd)pyrene Naphthalene Phenanthrene Pyrene	Documented In-House Method MSOP12Z using GC-MS	A
Tenax tubes	BTEX: Benzene EthylBenzene Meta/Para-Xylene Ortho-Xylene Toluene Naphthalene	Documented In-House Method MSOP12_27 Thermal Desorption/GC- MS	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - AMBIENT AIR (cont'd)	<u>Chemical Tests</u> (cont'd)		
Thermal Desorption Tubes	<u>C5-C16 Aliphatic TPH</u> <u>C5-C16 Aromatic TPH</u>	Documented in house method using ATD/GC/MS using in house MSOP12_27	A
Anasorb C300 Passive Sampling Tubes	Mercury	MDHS 16/2 using CV-AFS analysis (Inorganic Procedures MSOPIN22)	A
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES & AMBIENT AIR	<u>Chemical Tests</u>		
Carbon tubes	Siloxanes: Hexamethyldisiloxane Hexamethylcyclotrisiloxane Octamethyltrisiloxane Octamethylcyclotetrasiloxane Decamethyltetrasiloxane Decamethylcyclopentasiloxane	Documented In-House Method MSOP12S using GC-MS	A
Carbon tubes	Speciated VOC's: Pentane Isopropyl alcohol Methyl acrylate Chloroform Tetrahydrofuran Cyclohexane Carbon tetrachloride 2-Methoxy ethanol Heptane Trichloroethylene Ethylacrylate Methylcyclohexane Octane Tetrachloroethylene Nonane Styrene Cyclohexanone Decane Dodecane	Documented In-House Method MSOP12Q using GC-MS	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES & AMBIENT AIR (cont'd)	<u>Chemical Tests</u> (cont'd)		
Carbon tubes	Dichloromethane (DCM)	Documented In-House Method MSOP12T using GC-MS	A
Carbon Tubes	Arsenic	Documented in House method MSOPIN18 using ICP-OES	A
Treated XAD tubes	Aldehydes: Formaldehyde Acetaldehyde Acrolein Butyraldehyde Isobutyraldehyde Crotonaldehyde Isovaleraldehyde Hexanal Heptanal Furfural Valeraldehyde	Documented In-House Method MSOP12U using GC-MS	A
DNPH Treated Silica Gel Tubes	Acetaldehyde Benzaldehyde Butyraldehyde Crotonaldehyde Formaldehyde Isovaleraldehyde Valeraldehyde	Documented in house method SOP 19 using HPLC	A
TENAX tubes	BTEX/VOC: Benzene Styrene Naphthalene Ethanol Acetone Hexane MEK Ethyl Acetate Isobutanol Isopropylacetate Butanol	Documented In-House Methods MSOP12G using GC-MS	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES & AMBIENT AIR (cont'd)	<u>Chemical Tests</u> (cont'd)		
TENAX tubes (cont'd)	BTEX/VOC (cont'd): 1-Methoxy-2-propanol MIBK MTBE Toluene Butyl Acetate Ethylbenzene 1-Methoxy-2-propyl acetate m+p Xylene o-Xylene 1,3,5-Trimethylbenzene 1,2,4-Trimethylbenzene 1,2,3-Trimethylbenzene	Documented In-House Methods MSOP12G using GC-MS MSOP12G using GC-MS	A
Treated XAD tubes (phosphoric acid treated)	Triethylamine	Documented In-House Method MSOP12X using GC-MS	A
XAD tubes	Polynuclear Aromatic Hydrocarbons (EPA 16): Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Flouranthene Pyrene Benz (a) anthracene Chrysene Benzo (b) fluoranthene Benzo (k) fluoranthene Benzo (a) pyrene Indeno (123cd) pyrene Diben (ah) anthracene Benzo (ghi) perylene	Documented In-House Method MSOP12P using GC-MS	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES & AMBIENT AIR	<u>Chemical Tests</u> (cont'd)		
XAD tubes (cont'd)	Phenols: Phenol 2-Methylphenol (o-Cresol) 3/4-Methylphenol (m+p-Cresol) 2,6-Dimethylphenol (Xylenol) 2,5-Dimethylphenol (Xylenol) 2,3-Dimethylphenol (Xylenol) Cresol Xylenol	Documented In-House Method MSOP12P using GC-MS	A
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES	<u>Chemical Tests</u>		
Sorbent tubes (Carbon)	Total Petroleum Hydrocarbons	Documented In-House Method SAL MSOP6 using GC FID	A
Sorbent tubes (Carbon)	Volatile Organic compounds Benzene Toluene Ethyl benzene m,p and o Xylene Ethanol Acetone MTBE Hexane Ethyl acetate Isobutanol Isopropyl acetate Butanol 1-Methoxy-2-propanol MIBK Butyl acetate 1-Methoxy-2-propyl acetate 1,3,5-Trimethyl benzene 1,2,4-Trimethyl benzene 1,2,3-Trimethyl benzene	PD CEN/TS 13649:2014 using solvent extraction and GC MS analysis (MSOP12F)	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
FILTERS - MCE	<u>Chemical Tests</u>		
MCE Filters (25mm), GFA Filters (25mm), Surface Swabs	Lactose, Manitol	Documented in house MSOP18 using Ion chromatography	A
FILTERS - MCE	Sum of phenanthrene carboxylic acids [colophony]	Documented In-House Method MSOP12O using GC-MS	A
ADSORBENT BADGES	<u>Chemical Tests</u>		
	Sevoflurane Halothane Isoflurane	MSOP12N by GC-MS	A
LANDFILL GASES	<u>Chemical Tests</u>		
Composite sorbent tube (tenax, carbon and molecular sieve)	1-pentene 1,1-dichloroethane Dichloroethylene 1,2-dichloroethylene 1,3-butadiene 1-propanethiol Benzene Chloromethane Carbon tetrachloride Dimethyl sulphide n-butyl mercaptan Trichloroethylene Vinyl chloride monomer	Documented In-House Method MSOP12Y using GC-MS	A
	<u>Physical Tests</u>		
COLLECTION SUBSTRATES (Filters), I.O.M CASSETTES and PUF's, including EMFAB filters	Particulate Weights	Documented in House Method SAL Organic MSOP14 (Based on MDHS 14-4)	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES	<u>Physical Tests</u>	Documented In-House Methods based on the following national, international and other recognised standards	
Filter Papers and Rinse Solutions	Weighing of Particulate Matter	Documented In-House Method SAL Organic MSOP14 to BS EN 13284-1:2002, MID 13284-1	A
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES	<u>Chemical Tests</u>	Documented In-House Methods based on the following national, international and other recognised standards	
Impinger solutions (Toluene) Filters (coated with 1-(2-methoxyphenyl) piperazine)	Isocyanates: 1,6-hexamethylene diisocyanate 2,4-toluene diisocyanate 2,6-toluene diisocyanate 4,4'-methylene(bis) phenylisocyanate isophorone diisocyanate dicyclohexylmethane diisocyanate	HSE MDHS 25/3 using HPLC analysis (MSOP 15)	A
Impinger Solutions (sodium hydroxide)	Fluoride Chloride Nitrite Nitrate Bromide Phosphate Sulphate	US EPA Method 26 using Ion Chromatography analysis (Inorganic Procedures MSOPIN11)	A
Impinger Solutions (water)	Fluoride Chloride Nitrite Nitrate Bromide Phosphate Sulphate	Ion Chromatography analysis by Inorganic Procedures MSOPIN11	A
Impinger Solutions (water)	Hydrogen Chloride	BS EN 1911:2010 using Ion Chromatography analysis (Procedures Manual Inorganic MSOPIN11)	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on the following national, international and other recognised standards	
Impinger Solutions (sodium hydroxide)	Hydrogen Fluoride	BS ISO 15713:2006 (modified) using Ion Chromatography analysis (Procedures Manual Inorganic MSOPIN11)	A
Impinger Solutions (hydrogen peroxide)	Sulphur Dioxide	BS EN 14791:2005 using Ion Chromatography analysis (Procedures Manual Inorganic MSOPIN11)	A
Impinger Solutions (sulphuric acid)	Ammonia	In-house method using colorimetric analysis (Procedures Manual Inorganic MSOPIN14)	A
Filters Probe rinses (nitric acid) Impinger Solutions (nitric acid/hydrogen peroxide)	Trace elements (heavy metals): Arsenic, Antimony, Cadmium, Cobalt, Chromium, Copper, Manganese, Nickel, Lead, Thallium, Vanadium, Beryllium	BS EN 14385:2004 Using microwave and HF digestion followed by: ICP-MS analysis (Procedures Manual Inorganic MSOPIN21)	A
Filters Probe rinses (nitric acid) Impinger Solutions (nitric acid/hydrogen peroxide)	Trace elements (heavy metals): <i>The organisation holds a flexible scope of accreditation for these tests. Please contact the organisation for details of the individual elements they can analyse using this method.</i>	BS EN 14385:2004 Using microwave and HF digestion followed by: ICP-MS analysis (Procedures Manual Inorganic MSOPIN16)	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on the following national, international and other recognised standards	
Filters probe rinses (nitric acid) Impinger Solutions (nitric acid/hydrogen peroxide, sulphuric acid/potassium permanganate, nitric acid/potassium dichromate)	Trace elements (heavy metals): Arsenic, Antimony, Beryllium, Cadmium, Cobalt, Chromium, Copper, Manganese, Mercury, Nickel, Lead, Thallium, Vanadium	MID 14385 (BS EN 14385:2004, BS EN 13211:2001 and BS EN 1483:2007) Using microwave and HF digestion followed by: ICP-MS analysis (Procedures Manual Inorganic MSOPIN21)	A
Filters Probe rinses (nitric acid) Impinger Solutions (sulphuric acid/potassium permanganate, nitric acid/potassium dichromate)	Trace elements (heavy metals): Mercury	BS EN 13211:2001 (BS EN 1483:2007) Using microwave and HF digestion followed by: AFS analysis (Procedures Manual Inorganic MSOPIN22)	A
Filters Probe and impinger rinses (acetone, toluene, hexane and water) XAD-2 resin trap	Polycyclic aromatic hydrocarbons (PAHs): Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benz(a)anthracene Chrysene Benzo (b) fluoranthene Benzo (k) fluoranthene Benzo (a) pyrene Indeno (1,2,3-cd) pyrene Dibenz (a,h) anthracene Benzo (ghi) perylene Benzo(b)naphtho (2,1-D)-thiophene Benzo(c) phenanthrene Retene	BS ISO 11338-2:2003 Extraction followed by GCMS analysis (Organic Procedures MSOP12K)	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on the following national, international and other recognised standards	
Filters Probe and impinger rinses (acetone, toluene, hexane and water) XAD-2 resin trap (cont'd)	Polycyclic aromatic hydrocarbons (PAHs): (cont'd) Cyclopenta (cd) pyrene Benzo (j) fluoranthene Benzo (e) pyrene Perylene Anthanthrene Dibenzo (a,i) pyrene Dibenzo (a,l) pyrene Dibenzo (a,e) pyrene Dibenzo (a,h) pyrene Cholanthrene	BS ISO 11338-2:2003 Extraction followed by GCMS analysis (Organic Procedures MSOP12K) (cont'd)	A
Filters Probe and impinger rinses (toluene, acetone and water) XAD-2 resin trap	Polychlorinated biphenyls (PCBs): PCB #28 PCB #52 PCB # 77 PCB # 81 PCB #101 PCB #105 PCB #114 PCB #118 PCB #123 PCB # 126 PCB #138 PCB #153 PCB #156 PCB #157 PCB #167 PCB #169 PCB #180 PCB #189	BS EN 1948-4:2010, and A1:2013 Extraction followed by GCHRMS analysis (Organic Procedures MSOP1 and MSOP11 and MSOP20)	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ATMOSPHERIC POLLUTANTS AND EFFLUENTS - STACK GAS SAMPLES (cont'd)	<p><u>Chemical Tests</u> (cont'd)</p> <p>Poly Chlorinated Dibenzo-p-Dioxins (PCDD): 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,6,7,8-HxCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD</p> <p>Poly Chlorinated Dibenzo Furans (PCDF): 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF</p>	<p>Documented In-House Methods based on the following national, international and other recognised standards</p> <p>BS EN 1948-2:2006 and BS EN 1948-3:2006 Extraction followed by GCHRMS analysis (Organic Procedures MSOP1)</p>	<p>A</p> <p>A</p>



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ANIMAL FEEDING STUFFS	Trace elements (heavy metals): <i>The organisation holds a flexible scope of accreditation for these tests. Please contact the organisation for details of the individual elements they can analyse using this method.</i>	Procedures Manual Inorganic MSOPIN16 Using ICP-MS analysis	
	Poly Chlorinated Dibenzo-p-Dioxins (PCDD): 2,3,7,8-TCDD 1,2,3,7,8-PeCDD 1,2,3,6,7,8-HxCDD 1,2,3,4,7,8-HxCDD 1,2,3,7,8,9-HxCDD 1,2,3,4,6,7,8-HpCDD OCDD	Documented In-House Method MSOP12W using accelerated Solvent Extraction and HR-GC-MS	A
	Poly Chlorinated Dibenzo Furans (PCDF): 2,3,7,8-TCDF 1,2,3,7,8-PeCDF 2,3,4,7,8-PeCDF 1,2,3,4,7,8-HxCDF 1,2,3,6,7,8-HxCDF 2,3,4,6,7,8-HxCDF 1,2,3,7,8,9-HxCDF 1,2,3,4,6,7,8-HpCDF 1,2,3,4,7,8,9-HpCDF OCDF	Documented In-House Method MSOP12W using accelerated Solvent Extraction and HR-GC-MS	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ANIMAL FEEDING STUFFS (cont'd)	<u>Chemical Tests</u> (cont'd) Poly Chlorinated Biphenyls (PCBs): Who 12 PCBs: Tetrachloro, BZ#77 Tetrachloro, BZ#81 Pentachloro, BZ #105 Pentachloro, BZ #114 Pentachloro, BZ #118 Pentachloro, BZ #123 Pentachloro, BZ#126 Hexachloro, BZ #156 Hexachloro, BZ #157 Hexachloro, BZ #167 Hexachloro, BZ#169 Heptachloro, BZ #189	Documented In-House Method MSOP12W using accelerated Solvent Extraction and HR-GC-MS	A
Mineral Animal Feeds	Trace elements (heavy metals): Arsenic	Procedures Manual (Inorganic) MSOPIN18 based on MEWAM ISBN 0117516155, HMSO 1981, and, APHA-AWWA-WPCF 1992, 18th Edition by Inductively Coupled Plasma Optical Emission Spectrometry	A
	Fluoride	Procedures Manual MSOPIN25 by ISE	A
Animal Feeds Mineral Origin	Mercury	Procedures Manual (Inorganic) MSOPIN22 In house method Mercury by CV-AFS	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ANIMAL FEEDING STUFFS	<u>Chemical Tests</u> (cont'd)		
Animal Feed and Edible Products	Arsenic Barium Beryllium Bismuth Cadmium Cobalt Chromium Mercury Molybdenum Nickel Lead Selenium Antimony Tin Thallium Vanadium	In house method MSOPIN16 using ICPMS analysis	A
Animal Feedstuffs, Compound Feed and Mineral Feed	Alpha HCH HCB Beta HCH Gamma HCH Heptachlor Aldrin Isodrin Heptachlor Epoxide Trans-Chlordane Cis-Chlordane Endosulphan I p,p-DDE Dieldrin Endrin p,p-DDD Endosulphan II p,p-DDT	In house method MSOP12-28 using GCMS	A
HUMAN BODY FLUIDS	<u>Chemical Tests</u>	Documented In-House Methods	
Urine	Mercury	Procedures Manual Inorganic MSOPIN22 Using AFS analysis	A
Urine	Benzene metabolite s-phenylmercapturic acid [SPMA]	Documented In-House Method MSOP12V using GC-MS	A



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS SEDIMENTS EFFLUENT SAMPLING MEDIA FOODSTUFF SURFACE, GROUND and POTABLE WATER (non regulatory)	<u>Chemical Tests and Physical Tests</u> Semi-Volatile Organic Compounds (SVOC) with boiling points between 180 - 550 °C <i>The organisation holds a flexible scope of accreditation for these tests. Please contact the organisation for details of the individual gaseous compounds they can analyse using this method.</i>	Methods developed and validated under a flexible scope according to In-House Method GSOP12 Using GC-MS	B
	Volatile Organic Compounds (VOC) with boiling points between -50 to 220 °C <i>The organisation holds a flexible scope of accreditation for these tests. Please contact the organisation for details of the individual gaseous compounds they can analyse using this method.</i>	Methods developed and validated under a flexible scope according to In-House Method GSOP12 Using GC-MS	B
	<u>Chemical Tests and Physical Tests</u> Semi-Volatile Organic Compounds (SVOC): 2,4-dinitrotoluene 2-methyl phenol 3-nitroaniline 4-chloroaniline 4-nitroaniline acenaphthylene carbazole dibutyl phthalate naphthalene	Documented In-House Procedures In-House Method BSOP12E using GC-MS	B



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOIL (cont'd)	<u>Chemical Tests and Physical Tests (cont'd)</u> Semi-Volatile Organic Compounds (SVOC): (cont'd) phenanthrene 1,2,4-trichlorobenzene 1,2-dichlorobenzene 1,3-dichlorobenzene 1,4-dichlorobenzene 2,4-dichlorophenol 2,6-dinitrotoluene 2-chlorophenol 2-chloronaphthalene 2-methyl naphthalene 2-nitroaniline 3/4 methyl phenol 4-bromophenyl phenyl ether 4-chloro, 3-methyl phenol 4-chlorophenylphenyl ether acenaphthene anthracene azobenzene benzo (a) anthracene benzo(a) pyrene benzo(b) fluoranthene benzo(ghi) perylene (total benzo(b)fluoranthene & benzo(k) fluoranthene) bis (2-chloroisopropyl) ether bis (2-chloroethoxy) methane bis (2-chloroethyl) ether chrysene di-octyl phthalate dibenz(ah) anthracene dibenzofuran diethyl phthalate dimethyl phthalate fluorene hexachlorobenzene hexachlorobutadiene hexachloroethane indeno(123cd)pyrene isophorone nitrobenzene phenol	Documented In-House Procedures In-House Method BSOP12E using GC-MS	B



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOIL (cont'd)	<u>Chemical Tests and Physical Tests (cont'd)</u>	Documented In-House Procedures	
	Polynuclear Aromatic Hydrocarbons (Total sum of EPA 16)	Documented In-House Method BSOP12E using GC-MS	B
	Metals, acid extractable: Aluminium Barium Beryllium Magnesium Manganese Molybdenum Mercury Selenium Sodium Strontium Thallium Tin Titanium Vanadium	BSOPIN27 Hotblock digestion followed by ICP-OES	B
	pH	BSOPIN05 by pH Meter	B
	Extractable Petroleum Hydrocarbons (EPH) C ₁₀ -C ₄₀	BSOP6 Microwave Solvent Extraction followed by GC-FID	B
	Also banding, including: C10-C12, >C12-C16, >C16-C21, >C21-C35 And C10-C20, >C20-C30, >C30-C40		
	Volatile Organic Compounds (VOC's): Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane 1,1-Dichloroethene Dichloromethane	BSOP12J using Headspace GC-MS	B



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOIL (cont'd)	<u>Chemical Tests and Physical Tests (cont'd)</u> Volatile Organic Compounds (VOC's): (cont'd) MTBE (methyl-tert, butyl Ether) Trans-1,2-Dichloroethene 1,1-Dichloroethane Cis-1,2-Dichloroethene 2,2-Dichloropropane Chloroform Bromochloromethane 1,1,1-Trichloroethane 1,2,3-Trimethylbenzene 1,1-Dichloropropene Carbon Tetrachloride 1,2-Dichloroethane Benzene 1,2-Dichloropropane Trichloroethene Bromodichloromethane Dibromomethane Cis-1,3-dichloropropene Toluene Trans-1,3-Dichloropropene 1,1,2-Trichloroethane 1,3-Dichloropropane Tetrachloroethene Dibromochloromethane 1,2-Dibromoethane Chlorobenzene 1,1,1,2-Tetrachloroethane Ethyl Benzene m,p-Xylene o-Xylene Styrene Bromoform Isopropylbenzene 1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane n-Propylbenzene Bromobenzene 1,3,5-Trimethylbenzene	Documented In-House Procedures BSOP12J using Headspace GC-MS	B



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOIL (cont'd)	<u>Chemical Tests and Physical Tests (cont'd)</u>	Documented In-House Procedures	
	Volatile Organic Compounds (VOC's): (cont'd) Tert-Butylbenzene 1,2,4-Trimethylbenzene Sec-Butylbenzene p-Isopropyltoluene 2-Chlorotoluene 4-Chlorotoluene 1,3-Dichlorobenzene 1,4-Dichlorobenzene n-Butylbenzene 1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane 1,2,4-Trichlorobenzene Hexachlorobutadiene Naphthalene 1,2,3-Trichlorobenzene TAME (tert-amyl methyl ether) m/p-ethyl Toluene 2-ethyl Toluene	BSOP12J using Headspace GC-MS	B
	Oxidisable Sulphate	BSOPIN27 Calculation based on total sulphur and total sulphate	B
	PCB EC7 Congeners PCB#28 2,4,4'-Trichlorobiphenyl PCB#52 2,2',5,5'-Tetrachlorobiphenyl PCB#101 2,2',4,5,5'-Pentachlorobiphenyl PCB#118 2,3',4,4',5-Pentachlorobiphenyl PCB#138 2,2',3,4,4',5'-Hexachlorobiphenyl PCB#153 2,2',4,4',5,5'-Hexachlorobiphenyl PCB#180 2,2',3,3',5,5',6'-Heptachlorobiphenyl	BSOP12K using GCMS	B



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOIL (cont'd)	<u>Chemical Tests and Physical Tests (cont'd)</u>	Documented In-House Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil	
	Cyanide (total, free and complex – by calculation) Monohydric phenols (Total)	BSOPIN24 using Continuous Flow Analyser	B
	Loss on Ignition	BSOPIN31 by Gravimetry	B
	pH	BSOPIN05 by pH Meter	B
	Metals: Arsenic Cadmium Chromium Cobalt Copper Lead Nickel Zinc	BSOPIN27 Hotblock digestion followed by ICP-OES	B
	Sulphate, water soluble (2:1)	BSOPIN28 by ICP-OES	B
	Total Sulphate	BSOPIN27 by hotblock digestion and ICP-OES	B
	Total Sulphur	BSOPIN27 by hotblock digestion and ICP-OES	B
	Thiocyanate	BSOPIN02 by Colorimetry	B
	Extractable Petroleum Hydrocarbons (EPH) C ₁₀ -C ₄₀	BSOP6 Microwave Solvent Extraction followed by GC-FID	B
	Semi-Volatile Organic Compounds (SVOC): 1,2,4-trichlorobenzene 1,2-diclorobenzene	In-House Method BSOP12E using GC-MS	B



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOIL (cont'd)	<u>Chemical Tests and Physical Tests (cont'd)</u> Semi-Volatile Organic Compounds (SVOC): (cont'd) 1,3-dichlorobenzene 1,4-dichlorobenzene 2,4-dichlorophenol 2,6-dinitrotoluene 2-chlorophenol 2-chloronaphthalene 2-methyl naphthalene 2-nitroaniline 3/4 methyl phenol 4-bromophenyl phenyl ether 4-chloro, 3-methyl phenol 4-chlorophenylphenyl ether acenaphthene anthracene azobenzene benzo (a) anthracene benzo(a) pyrene benzo(b) fluoranthene benzo(ghi) perylene (total benzo(b)fluoranthene and benzo(k) fluoranthene) bis (2-chloroisopropyl) ether bis (2-chloroethoxy) methane bis (2-chloroethyl) ether chrysene di-octyl phthalate dibenz(ah) anthracene dibenzofuran diethyl phthalate dimethyl phthalate fluorene hexachlorobenzene hexachlorobutadiene hexachloroethane indeno(123cd)pyrene isophorone nitrobenzene phenol	Documented In-House Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil (cont'd) In-House Method BSOP12E using GC-MS	B



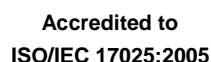
Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOIL (cont'd)	<u>Chemical Tests and Physical Tests (cont'd)</u> Volatile Organic Compounds (VOC's): Vinyl Chloride Trichlorofluoromethane 1,1-Dichloroethene Dichloromethane MTBE (methyl-tert, butyl Ether) Trans-1,2-Dichloroethene 1,1-Dichloroethane Cis-1,2-Dichloroethene 2,2-Dichloropropane Chloroform Bromochloromethane 1,1,1-Trichloroethane 1,2,3-Trimethylbenzene 1,1-Dichloropropene Carbon Tetrachloride 1,2-Dichloroethane Benzene 1,2-Dichloropropane Trichloroethene Bromodichloromethane Dibromomethane Cis-1,3-dichloropropene Toluene Trans-1,3-Dichloropropene Tetrachloroethane Dibromochloromethane Chlorobenzene Ethyl Benzene m,p-Xylene o-Xylene Styrene Isopropylbenzene n-Propylbenzene Bromobenzene 1,3,5-Trimethylbenzene Tert-Butylbenzene 1,2,4-Trimethylbenzene	Documented In-House Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil (cont'd) BSOP12J using Headspace GC-MS	B



issued by

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Assessment Manager: FB



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS	<u>Chemical Tests</u>	Documented In-House Procedures based on/incorporating published procedures in the HMSO series 'Methods for the Examination of Waters and Associated Materials', (MEWAM), referenced by the ISBN number and year. Any additional or alternative reference is identified.	
WATERS, ground water and potable water (non regulatory)	Thiocyanate	BSOPIN02 by Colorimetry	B
	Alkalinity	BSOPIN04 by Titrimetry	B
	Conductivity	BSOPIN03 by Conductivity Meter	B
WATERS ground water, pure water, potable water (non regulatory) and prepared soil leachate	Metals: Aluminium Antimony Arsenic Barium Beryllium Bismuth Cadmium Cobalt Chromium Copper Iron Lead Manganese	BSOPIN27 by ICP-OES	B



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Procedures based on/incorporating published procedures in the HMSO series 'Methods for the Examination of Waters and Associated Materials', (MEWAM), referenced by the ISBN number and year. Any additional or alternative reference is identified. (cont'd)	
WATERS ground water, pure water, potable water (non regulatory) and prepared soil leachate	Metals: (cont'd) Molybdenum Nickel Phosphorus Selenium Thallium Titanium Vanadium Zinc	BSOPIN27 by ICP-OES	B
Landfill leachates, WATERS, ground water and potable water (non regulatory)	Calcium Magnesium Potassium Sodium	BSOPIN29 by ICP-OES	B
Landfill leachate and prepared soil leachates, Potable water (non-regulatory), deionised water, groundwater, surface water and waste water (industrial effluent)	Metals: Arsenic Aluminium Barium Beryllium Boron Cadmium Cobalt Chromium Copper Iron Mercury Manganese Molybdenum Nickel Lead Antimony	BSOPIN32 by ICP-MS	B



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Procedures based on/incorporating published procedures in the HMSO series 'Methods for the Examination of Waters and Associated Materials', (MEWAM), referenced by the ISBN number and year. Any additional or alternative reference is identified. (cont'd)	
Landfill leachate and prepared soil leachates, Potable water (non-regulatory), deionised water, groundwater, surface water and waste water (industrial effluent) (cont'd)	Metals: (cont'd) Selenium Tin Vanadium Zinc	BSOPIN32 by ICP-MS	B
	Total Hardness by calculation	BSOPIN29 by calculation	B
Groundwater and potable water (non regulatory)	pH	BSOPIN05 by pH Meter	B
Landfill leachates	pH Alkalinity Conductivity	BSOPIN05 by pH Meter BSOPIN04 by Titrimetry BSOPIN03 by Conductivity Meter	B B B
De-ionised water, Tap Water (non-regulatory), Ground water, Surface Water, Waste Water, Landfill Leachate, Prepared Soil Leachate	Ammonia Chloride Hexavalent Chromium Fluoride Nitrate Nitrite Total Oxidised Nitrogen Phosphate Sulphate	GSOPIN15 by Selective Chemistry Analyser	B
Tap water (non-regulatory), Process Water, Waste Water (Trade Effluent), Landfill leachate, Prepared soil Leachate, Groundwater, and Surface water	Cyanide ((total,free, and Complex – by calculation) Monohydric phenols (Total)	BSOPIN24 using Continuous Flow Analyser	B



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Procedures based on/incorporating published procedures in the HMSO series 'Methods for the Examination of Waters and Associated Materials', (MEWAM), referenced by the ISBN number and year. Any additional or alternative reference is identified. (cont'd)	
Groundwater	Extractable Petroleum Hydrocarbons (EPH) C ₁₀ -C ₄₀ Also banding, including: C10-C12, >C12-C16, >C16-C21, >C21-C35 And C10-C20, >C20-C30, >C30-C40	BSOP6 Liquid to Liquid Extraction using Dichloromethane followed by GC-FID	B
Pure water, potable water (non regulatory), ground water, landfill leachate and prepared leachate	Total Organic Carbon (TOC) Dissolved Organic Carbon (DOC)	BSOP13 by TOC analyser	B
Groundwater	Polyaromatic hydrocarbons (PAHs): Acenaphthylene Acenaphthene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(ghi)perylene Benzo(k)fluoranthene Chrysene Dibenz(ah)anthracene Fluoranthrene Fluorene Indeno(123cd)pyrene Naphthalene Phenanthrene Pyrene	BSOP12A by GC-MS	B



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Procedures based on/incorporating published procedures in the HMSO series 'Methods for the Examination of Waters and Associated Materials', (MEWAM), referenced by the ISBN number and year. Any additional or alternative reference is identified. (cont'd)	
Groundwater (cont'd)	Semi-Volatile Organic Compounds (SVOC's): Bis(2-chloroethyl)ether 2-Chlorophenol 1,3-Dichlorobenzene Nitrobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene Bis(2-chloroisopropyl)ether Hexachloroethane Isophorone 2-Nitrophenol Bis(2-chloroethoxy)methane 2,4-Dichlorophenol 1,2,4-Trichlorobenzene Naphthalene 4-Chloroaniline Hexachlorobutadiene 4-Chloro, 3-methylphenol 2-Methylnaphthalene 2-Chloronaphthalene 2-Nitroaniline Dimethylphthalate 2,6-Dinitrotoluene Acenaphthylene Acenaphthene 3-Nitroaniline Dibenzofuran 2,4-Dinitrotoluene Diethylphthalate Fluorene 4-Chlorophenylphenylether 4-Nitroaniline Azobenzene 4-Bromophenylphenylether	BSOP12E by GC-MS	B



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Procedures based on/incorporating published procedures in the HMSO series 'Methods for the Examination of Waters and Associated Materials', (MEWAM), referenced by the ISBN number and year. Any additional or alternative reference is identified. (cont'd)	
Groundwater (cont'd)	Semi-Volatile Organic Compounds (SVOC's) (cont'd): Hexachlorobenzene Phenanthrene Anthracene Carbazole Dibutylphthalate Fluoranthrene Pyrene Butylbenzylphthalate Benzo(a)anthracene Chrysene Dioctylphthalate Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(123cd)pyrene Dibenz(ah)anthracene Benzo(ghi)perylene	BSOP12E by GC-MS	B
	PCB EC7 Congeners PCB#28 2,4,4'- Trichlorobiphenyl PCB#52 2,2',5,5'- Tetrachlorobiphenyl PCB#101 2,2',4,5,5'- Pentachlorobiphenyl PCB#1182,3',4,4',5 Pentachlorobiphenyl PCB#138 2,2',3,4,4',5'- Hexachlorobiphenyl PCB#153 2,2',4,4',5,5'- Hexachlorobiphenyl PCB#180 2,2',3,3',5,5',6'- Heptachlorobiphenyl	BSOP12 K using GCMS	B



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Procedures based on/incorporating published procedures in the HMSO series 'Methods for the Examination of Waters and Associated Materials', (MEWAM), referenced by the ISBN number and year. Any additional or alternative reference is identified. (cont'd)	
Potable water (non regulatory), Ground Water and prepared leachate	Volatile Organic Compounds (VOC's): Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane Chloromethane (CTD) 1,1-Dichloroethene Dichloromethane MTBE (methyl-tert, butyl Ether) Trans-1,2-Dichloroethene 1,1-Dichloroethane Cis-1,2-Dichloroethene 2,2-Dichloropropane Chloroform Bromochloromethane 1,1,1-Trichloroethane Bromochloromethane 1,1,1-Trichloroethane 1,1-Dichloropropene Carbon Tetrachloride 1,2-Dichloroethane Benzene 1,2-Dichloropropane Trichloroethene Bromodichloromethane Dibromomethane Cis-1,3-dichloropropene Toluene Trans-1,3-Dichloropropene 1,1,2-Trichloroethane 1,3-Dichloropropane Tetrachloroethene	BSOP12J by Headspace GC-MS	B



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Procedures based on/incorporating published procedures in the HMSO series 'Methods for the Examination of Waters and Associated Materials', (MEWAM), referenced by the ISBN number and year. Any additional or alternative reference is identified. (cont'd)	
Potable water (non regulatory), Ground Water and prepared Leachate (cont'd)	Volatile Organic Compounds (VOC's): (cont'd) Chloromethane Dibromochloromethane Chlorobenzene Ethyl Benzene m,p-Xylene o-Xylene Styrene Isopropylbenzene n-Propylbenzene Bromobenzene 1,2,3-Trimethylbenzene 1,3,5-Trimethylbenzene Tert-Butylbenzene 1,2,4-Trimethylbenzene Sec-Butylbenzene p-Isopropyltoluene 2-Chlorotoluene 4-Chlorotoluene 1,3-Dichlorobenzene 1,4-Dichlorobenzene n-Butylbenzene 1,2-Dichlorobenzene 1,2,4-Trichlorobenzene 1,2,3-Trichlorobenzene TAME (tert-amyl methyl ether) m/p-ethyl Toluene 2-ethyl Toluene	BSOP12J by Headspace GC-MS	B



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
LEACHATES WATERS, raw and clean WASTE WATERS, treated and untreated, industrial and domestic	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods based on 'Methods for Examination of Water and Associated Materials' 'MEWAM' Department of the Environment Standing Committee of Analysts identified and the Methods of the American Public Health Association - American Water Works Association - Water Pollution Control Federation (APHA-AWWA-WPCF) identified by method number	
	Ammonia	EKSOPIN55, Laboratory Procedures Method based on MEWAM ISBN 0117516139, HMSO 1981 by spectrophotometry	E
	Chemical Oxygen Demand	EKSOPIN59, Laboratory Procedures Method based on MEWAM ISBN 0117519154, HMSO 1986 by spectrophotometry	E
	Total Suspended Solids	EKSOPIN60, Laboratory Procedures Method based on MEWAM ISBN 0117511957X, HMSO 1980 by gravimetry	E
LEACHATES, SLUDGES SOILS WATERS, raw and clean WASTE WATERS, treated and untreated, industrial and domestic waste (cont'd)	Phenols (monohydric)	EKSOPIN51 Laboratory Procedures Manual based on MEWAM ISBN 0117516171, HMSO 1981 by spectrometry	E



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS Clean water, ground water Prepared Leachate Landfill leachate	<u>Chemical Tests</u> (cont'd) Arsenic Barium Beryllium Cadmium Chromium Cobalt Copper Lead Manganese Mercury Molybdenum Nickel Antimony Selenium Tin Vanadium Zinc	EKSOPIN61 Laboratories Procedures Manual using ICP-MS	E
SOILS, SLUDGES and SEDIMENTS	Boron (water soluble) Sulphate (water soluble)	EKSOPIN56 Laboratories Procedures Manual. Documented in-house method using ICP-OES	E
LEACHATES, SOILS, SLUDGES and SEDIMENTS, WATERS, Raw and Clean, WASTEWATERS, Treated and Untreated, Industrial and Domestic, FILTERS	Antimony Arsenic Barium Beryllium Cadmium Chromium Cobalt Copper Iron Lead Manganese Mercury Nickel Selenium Tin Vanadium Zinc	EKSOPIN56 Laboratories Procedures Manual based on MEWAM ISBN 0117516155, HMSO 1981 and APHA-AWWA-WPCF 1992, 18 th Edition by ICP-OES	E



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS, SLUDGES and SEDIMENTS, Filters	<u>Chemical Tests</u> (cont'd) Aluminium	EKSOPIN56 Laboratories Procedures Manual based on MEWAM ISBN 0117516155, HMSO 1981 and APHA-AWWA-WPCF 1992, 18 th Edition by ICP-OES	E
SOILS, SLUDGES and SEDIMENTS	<u>Semi-Volatile Organic Compounds (SVOC):</u> 1,2-Dichlorobenzene 1,2,4-Trichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2-Chloronaphthalene 2-Chlorophenol 2-methyl phenol 2-Methylnaphthalene 2-Nitroaniline 2-Nitrophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrotoluene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,6-Dinitrotoluene 3-Nitroaniline 3/4-Methylphenol 4-Bromophenyl phenylether 4-Chloro-3-methylphenol 4-Chloroaniline 4-Chlorophenyl phenylether 4-Nitroaniline	Documented in-house method EKSOP12E using GC-MS	E



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS, SLUDGES and SEDIMENTS (cont'd)	<u>Chemical Tests</u> (cont'd) <u>Semi-Volatile Organic Compounds (SVOC):</u> (cont'd) Acenaphthene Acenaphthylene Anthracene Azobenzene Benzo(a)Anthracene Benzo(a)Pyrene Benzo(b)Fluoranthene Benzo(k)Fluoranthene Benzo(ghi)Perylene Bis (2-chloroethoxy) methane Bis (2-chloroethyl) ether Bis (2-chloroisopropyl) ether Bis (2-ethylhexyl)phthalate Butyl benzylphthalate Carbazole Chrysene Di-n-butylphthalate Di-n-octylphthalate Dibenzo(ah)Anthracene Dibenzofuran Diethyl phthalate Dimethyl phthalate Fluoranthene Fluorene Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Indeno(123-cd)Pyrene Isophorone Naphthalene Nitrobenzene Pentachlorophenol Phenanthrene Phenol Pyrene	Documented in-house method EKSOP12E using GC-MS	E



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS, SLUDGES and SEDIMENTS (cont'd)	<u>Chemical Tests</u> (cont'd) Phenols: 2-methyl phenol 2,3-dimethylphenol 2,5-dimethylphenol 2,6-dimethylphenol 3/4-methylphenol Phenol	Documented in-house method EKSOP12B using GC-MS	E
	<u>Polynuclear Aromatic Hydrocarbons:</u> Acenaphthene Acenaphthylene Anthracene Benzo(a)Anthracene Benzo(a)Pyrene Benzo(ghi)Perylene Benzo(b)Fluoranthene Benzo(k)Fluoranthene Chrysene Dibenzo(ah)Anthracene Fluoranthene Fluorene Indeno(123-cd)Pyrene Naphthalene Phenanthrene Pyrene Total PAH (SUM of 16 above)	Documented in-house method EKSOP12A using GC-MS	E
GROUND WATER, SURFACE WATER and EFFLUENT	<u>Semi-Volatile Organic Compounds (SVOC):</u> 1,2-Dichlorobenzene 1,2,4-Trichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2-Chloronaphthalene 2-Chlorophenol 2-methyl phenol 2-Methylnaphthalene 2-Nitroaniline 2-Nitrophenol 2,4-Dichlorophenol 2,4-Dimethylphenol	Documented in-house method EKSOP12E using GC-MS	E



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
GROUND WATER, SURFACE WATER and EFFLUENT (cont'd)	<u>Chemical Tests</u> (cont'd) <u>Semi-Volatile Organic Compounds (SVOC):</u> (cont'd) 2,4-Dinitrotoluene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 2,6-Dinitrotoluene 3-Nitroaniline 3/4-Methylphenol 4-Bromophenyl phenylether 4-Chloro-3-methylphenol 4-Chloroaniline 4-Chlorophenyl phenylether 4-Nitroaniline Acenaphthene Acenaphthylene Anthracene Azobenzene Benzo(a)Anthracene Benzo(a)Pyrene Benzo(b)Fluoranthene Benzo(k)Fluoranthene Benzo(ghi)Perylene Bis (2-chloroethoxy) methane Bis (2-chloroethyl) ether Bis (2-chloroisopropyl) ether Bis (2-ethylhexyl)phthalate Butyl benzylphthalate Carbazole Chrysene Di-n-butylphthalate Di-n-octylphthalate Dibenzo(ah)Anthracene Dibenzofuran Diethyl phthalate Dimethyl phthalate Fluoranthene Fluorene Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane	Documented in-house method EKSOP12E using GC-MS	E



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
GROUND WATER, SURFACE WATER and EFFLUENT (cont'd)	<u>Chemical Tests</u> (cont'd)		
	<u>Semi-Volatile Organic Compounds (SVOC):</u> (cont'd) Indeno(123-cd)Pyrene Isophorone Naphthalene Nitrobenzene Pentachlorophenol Phenanthrene Phenol Pyrene	Documented in-house method EKSOP12E using GC-MS	E
	<u>Phenols:</u> 2-methyl phenol 2,3-dimethylphenol 2,5-dimethylphenol 2,6-dimethylphenol 3/4-methylphenol Phenol	Documented in-house method EKSOP12B using GC-MS	E
	<u>Polynuclear Aromatic Hydrocarbons:</u> Acenaphthene Acenaphthylene Anthracene Benzo(a)Anthracene Benzo(a)Pyrene Benzo(ghi)Perylene Benzo(b)Fluoranthene Benzo(k)Fluoranthene Chrysene Dibenzo(ah)Anthracene Fluoranthene Fluorene Indeno(123-cd)Pyrene Naphthalene Phenanthrene Pyrene Total PAH (SUM of 16 above)	Documented in-house method EKSOP12A using GC-MS	E



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
GROUND WATER, SURFACE WATER and EFFLUENT (cont'd)	<u>Chemical Tests</u> (cont'd) Speciated Petroleum Hydrocarbons Volatile (VPH) Band [C5 – C10] Total VPH: C5 to C10 (aliphatic and aromatic inclusive) Banded aliphatic fraction: >C5 to C6 >C6 to C7 >C7 to C8 >C8 to C10 >C5 to C10 Banded aromatic fraction: >C6 to C7 >C7 to C8 >C8 to C10 >C6 to C10	Documented in-house method EKSOP12I using headspace GC-MS	E
GROUND WATER, SURFACE WATER and WASTE WATERS, treated and untreated, industrial and domestic SOILS and SEDIMENTS	Speciated Petroleum Hydrocarbons Non-Volatile (EPH) Band [C10 – C35] Total EPH: C10 to C35 (aliphatic and aromatic inclusive)	Documented in-house method EKSOP100 using solvent extraction and GC-FID	E
GROUND WATER, SURFACE WATER and EFFLUENT	Banded aliphatic fraction: >C10 to C12 >C12 to C16 >C16 to C21 >C21 to C35 >C10 to C35 Banded aromatic fraction: >C10 to C12 >C12 to C16 >C16 to C21 >C21 to C35 >C10 to C35	Documented in-house method EKSOP100 using solvent extraction and GC-FID	E



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS and WATERS (Groundwaters and Leachates)	<u>Chemical Tests (cont'd)</u> <u>Volatile Organic Compounds</u> <u>EPA 624 Suite:</u> Dichlorodifluoromethane Chloromethane Vinyl Chloride Bromomethane Chloroethane Trichlorofluoromethane 1,1-Dichloroethylene Methylene Chloride 1,1-Dichloroethane Trans-1,2-Dichloroethylene MTBE 2,2-Dichloropropane cis-1,2-Dichloroethylene Bromochloromethane Chloroform 1,1,1-Trichloroethane Carbon Tetrachloride 1,1-Dichloropropene Benzene 1,2-Dichloroethane Trichloroethylene 1,2-Dichloropropane Dibromomethane Bromodichloromethane cis-1,3-Dichloropropene Toluene trans-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethylene 1,3-Dichloropropane Chlorodibromomethane 1,2-Dibromomethane Chlorobenzene 1,1,1,2-Tetrachloroethane Ethylbenzene m+p-Xylene o-Xylene Stryene Bromoform Isopropylbenzene 1,1,2,2-Tetrachloroethane	Documented In-House Method EKSOP12I using Headspace GC-MS	E



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS and WATERS (Groundwaters and Leachates) (cont'd)	<u>Chemical Tests</u> (cont'd) <u>Volatile Organic Compounds</u> <u>EPA 624 Suite Cont'd:</u> Bromobenzene 1,2,3-Trichloropropane Propylbenzene 2-Chlorotoluene 1,3,5-Trimethylbenzene 4-Chlorotoluene tert -Butylbenzene 1,2,4 -Trimethylbenzene sec -Butylbenzene p -Isopropyltoluene 1,3 -Dichlorobenzene 1,4-Dichlorobenzene n-Butylbenzene 1,2-Dichlorobenzene 1,2-Dibromo-3-chloropropane 1,2,4-Trichlorobenzene Hexachlorobutadiene Naphthalene 1,2,3-Trichlorobenzene	Documented In-House Method EKSOP12I using Headspace GC-MS	E
SOILS	<u>Chemical Tests</u> <u>Organochlorine Pesticides:</u> Alpha-HCH Beta-HCH Gamma-HCH (Lindane) HCB Heptachlor Heptachlor Epoxide Aldrin Isodrin Dieldrin Endrin Cis-Chlordane Trans-Chlordane Alpha-Endosulphan p,p-DDE p,p-DDD p,p-DDT	Documented In-House Method EKSOP12C using GC-MS	E



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (cont'd)	<u>Chemical Tests</u> (cont'd)		
	<u>Organophosphorus Pesticides:</u> Dichlorvos Mevinphos Omethoate Trifluralin Dimethoate Diazinon Pirimiphos-Methyl Malathion Fenitrothion Chlorpyrifos Parathion Clofenvinphos Carbofenthion Azinphos Methyl	Documented In-House Method EKSOP12D using GC-MS	E
LEACHATES SOILS, SLUDGES and WATERS, raw and clean	Total Cyanide	EKSOPIN53, Laboratory Procedures Manual by distillation and colorimetry	E
WASTE WATERS, treated and untreated, industrial and domestic	Easily Liberated Cyanide	EKSOPIN53, Laboratory Procedures Manual by distillation and colorimetry	E
WATERS, raw and clean WASTE WATERS, treated and untreated, industrial and domestic	Total Organic Carbon (TOC)	Documented In-House method EKSOP13 by TOC Analyser	E
De-ionised water, Tap Water (non-regulatory), Ground water, Surface Water, Waste Effluent Water, Landfill Leachate, Prepared Soil Leachate	Ammonia Chloride Hexavalent Chromium Fluoride Nitrate Nitrite Total Oxidised Nitrogen Phosphate Sulphate	GSOPIN15 by Selective Chemistry Analyser	E



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
LEACHATES SOILS, SLUDGES and SEDIMENTS WATERS, raw and clean WASTE WATERS, treated and untreated, industrial and domestic	<u>Chemical Tests</u> (cont'd) pH	EKSOPIN54 Laboratory Procedures Manual based on BS 1377:Part 3:1990, MEWAM, ISBN 0117514284, HMSO 1978 and APHA-AWWA-WPCF 1992, 18th Edition	E
SOILS and Groundwater	PCB EC7 Congeners PCB#28 2,4,4'- Trichlorobiphenyl PCB#52 2,2',5,5'- Tetrachlorobiphenyl PCB#101 2,2',4,5,5'- Pentachlorobiphenyl PCB#118 2,3',4,4',5- Pentachlorobiphenyl PCB#138 2,2',3,4,4',5'- Hexachlorobiphenyl PCB#153 2,2',4,4',5,5'- Hexachlorobiphenyl PCB#180 2,2',3,3',5,5',6'- Heptachlorobiphenyl	Documented in house method EKSOP12_29 by GCMS Analysis	E
SOILS (only)	<u>Chemical Tests</u> pH	Documented In-House Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil EKSOPIN54, Laboratory Procedures Manual based on BS 1377:Part 3:1990, MEWAM, ISBN 0117514284, HMSO 1978 and APHA-AWWA-WPCF 1992, 18th Edition	E



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
SOILS (only) (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil	E
	Arsenic Beryllium Cadmium Chromium Cobalt Copper Lead Nickel Zinc PCB EC7 Congeners PCB#28 2,4,4'-Trichlorobiphenyl PCB#52 2,2',5,5'-Tetrachlorobiphenyl PCB#101 2,2',4,5,5'-Pentachlorobiphenyl PCB#118 2,3',4,4',5-Pentachlorobiphenyl PCB#138 2,2',3,4,4',5'-Hexachlorobiphenyl PCB#153 2,2',4,4',5,5'-Hexachlorobiphenyl PCB#180 2,2',3,3',5,5',6'-Heptachlorobiphenyl	EKSOPIN56 Laboratories Procedures Manual based on MEWAM ISBN 0117516155, HMSO 1981 and APHA-AWWA-WPCF 1992, 18 th Edition by ICP-OES Documented in house method EKSOP12_29 by GCMS Analysis	



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
DAIRY	<u>Chemical Tests</u>		
Raw milk	Tests for Composition and Somatic cells	Documented In-house Method NIMILKSOP 60 using CombiScope	D
	Butterfat Protein Lactose Somatic Cell Count		
FOOD, FOOD PRODUCTS and ENVIRONMENTAL SWABS	<u>Microbiological Tests</u>	In-house Documented Methods	D
	<u>Enumeration</u>		
	Aerobic Colony Count	NISOPM01 using spread plate technique on Plate count agar at 30 °C for 72 hrs.	D
	<i>Bacillus cereus</i> (presumptive)	NISOPM08 using BACARA chromogenic agar spread plate with incubation at 37°C for 24 hrs.	D
	<i>E coli</i> (β Glucuronidase positive)	NISOPM26 based on BS ISO 16649-1:2001 and BS ISO 16649-2:2001	D
	Coagulase positive staphylococci	NISOPM07 based on ISO 6888-1:1999 using latex agglutination	D



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
FOOD and FOOD PRODUCTS	<u>Microbiological Tests</u>	In-house Documented Methods	
	<u>Detection</u>		
	<i>E. coli</i> 0157 (presumptive)	NISOPM05 based on BS EN ISO 16654:2001 using IMS	D
	<u>Enumeration</u>		
	<i>Listeria</i> spp including <i>Listeria monocytogenes</i>	NISOPM33 based on BS EN ISO 11290-2:1997+ A1:2004. Confirmation and Identification using Microgen biochemical gallery	D
	<i>Clostridium perfringens</i> (presumptive)	NISOPM27 based on BS EN ISO 7937:2004	D
FOOD, FOOD PRODUCTS, ANIMAL FEEDINGSTUFFS and ENVIRONMENTAL SWABS	Moulds	NISOPM22 based on BS ISO 21527-1:2008	D
	Yeasts	NISOPM22 based on BS ISO 21527-1:2008	D
	<u>Detection</u>		
	<i>Salmonella</i> spp	NISOPM02 based on BS EN ISO 6579:2002 + A1:2007 Confirmation using Microgen biochemical gallery and serology	D
	<i>Listeria</i> spp including <i>Listeria monocytogenes</i>	NISOPM10 based on BS EN ISO 11290-1:1997+ A1:2004. Confirmation and Identification using Microgen biochemical gallery	D
	<u>Enumeration</u>		
FOOD, FOOD PRODUCTS, ANIMAL FEEDINGSTUFFS, ENVIRONMENTAL SWABS and MILK	Coliforms (presumptive)	NISOPM34 based on BS ISO 4832:2006 using pour plate method	D
	<i>Enterobacteriaceae</i> (presumptive)	NISOPM35 based on BS ISO 21528-2:2004 using pour plate method	D



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ENVIRONMENTAL (BOOT) SWABS, CHICKBOX LINERS, FAECES, DUST	<u>Microbiological Tests</u> <u>Detection</u> <i>Salmonella</i> spp (presumptive)	In-house Documented Methods NISOPM24 based on BS EN ISO 6579:2002+A1:2007 using MSRV for the purposes of testing under The Control of Salmonella in Poultry Scheme Order (NI) 2008 with specific reference to EC 2160/2003 and The Control of Salmonella in Broiler Flocks Scheme Order (NI) 2009	D
FOOD, FOOD PRODUCTS, ENVIRONMENTAL SWABS, ANIMAL FEEDING STUFFS, MILK, CASING, COMPOST AND ANIMAL BY-PRODUCTS	<u>Detection</u> <i>Salmonella</i> spp (presumptive)	NISOPM36 based on BS EN ISO 6579:2002 + A1:2007 using VIDAS UP Salmonella (Afnor Bio 12/32-10/11). For non-regulatory purposes.	D
FOOD, FOOD PRODUCTS, ENVIRONMENTAL SWABS, MILK, CASING AND COMPOST	<i>Listeria</i> spp including <i>Listeria monocytogenes</i>	NISOPM37 based on BS EN ISO 11290-1:1996+A1:2004 using VIDAS UP Listeria (Afnor Bio 12/33-05/12)	D
FOOD, FOOD PRODUCTS, CASING AND COMPOST	<i>E.coli</i> 0157 (presumptive)	NISOPM38 based on BS EN ISO 16654:2001 using VIDAS UP E.Coli including H7 (Afnor Bio 12/25-05/09)	D
WATER (Potable, bottled)	<u>Microbiological Tests</u> <u>Enumeration</u> Coliforms & <i>E coli</i> (presumptive) <i>Clostridium perfringens</i> (presumptive) and sulphite reducing clostridia	In-house Documented Methods NISOPM13 based on 'The Microbiology of Drinking Water 2009', Part 4A NISOPM20 based on 'The Microbiology of Drinking Water 2010', Part 6	D D



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATER (Potable, bottled) (cont'd)	<u>Microbiological Tests</u> (cont'd)	In-house Documented Methods	
	Enterococci (presumptive)	NISOPM19 based on 'The Microbiology of Drinking Water 2012', Part 5A	D
	TVC (aerobic colony count) at 22 °C and 37 °C	NISOPM21 based on 'The Microbiology of Drinking Water 2012', Part 7A	D
FOODS and FOODSTUFFS	<u>Chemical Tests</u>	Documented In-House Methods	
	Detection and quantification of Pesticides, pesticide breakdown products and other organic compounds applied to or contaminating foodstuffs.	Methods developed and validated according to in house method CSOPP600 using one or more of the following techniques; solvent extraction, SPE and/or liquid-liquid extraction clean-up with an endpoint of GC MS/MS or LC MS-MS	
		CSOPP603, and CSOPP611 including the use of a Flexible Scope Protocol (See tables 1 -6 below for details - NB: The list may not be exhaustive as the Flexible Scope Protocol allows for the inclusion of additional compounds subject to the laboratory meeting the validation criteria specified in the Protocol)	C
SOFT FRUIT, VEGETABLES, ALLIUMS and CITRUS FRUIT	Dithiocarbamates	CSOPP604 by GC/FPD	C
ONIONS	Maleic Hydrazide	CSOPP602 by LC MS-MS	C
FRUITS	Chlormequat & Mepiquat	CSOPP606 by LC MS-MS	C
- Nuts, cereals and cereal products, dried fruit, seeds	Mycotoxins, as below: Aflatoxins B ₁ , B ₂ , G ₁ , G ₂	CSOPP605 using LC-MS/MS	C



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
FOODS and FOODSTUFFS (cont'd)	<u>Chemical Tests</u> (cont'd)	Documented In-House Methods	
Animal Feeds and Feeding Stuffs –Cereals, Maize, Oil Seed Meals and Compound Feed	Multi-Residue Mycotoxin Screen: Aflotoxins B1,B2,G1,G2 Fumonisin B1, B2, B3 Ochratoxin A Deoxynivalenol Acetyl – Deoxynivalenol HT-2 T-2 Zearalenone	CSOPP609 Solvent extraction, immuno-affinity clean-up, analysis by LC-MSMS	C
Soft Fruit, Vegetable and Citrus	Ethephon	Documented In-House Method CSOPP607 by LCMS/MS	C
Soft Fruit, Vegetable, Allium, Citrus, High oil content, Milk	Perchlorate Chlorate	Documented In-House Method CSOPP608 by LCMS/MS	C
Fruits, Vegetables, Dried Products, High Oil commodities and Cereals	<u>Glyphosate</u> <u>Glufosinate</u> <u>Methyl amino Phosphoric Acid</u>	Documented in house method CSOPP610 using LCMSMS	C
FOODS and FOOD PRODUCTS	<u>Chemical and Physical Tests</u>	Documented In-House Methods:	
- Foods in general	Ash	Method CSOPNut001 based on BS 4401-1:1998 by gravimetry	C
	Moisture Dry Matter	Method CSOPNut006 based on BS 4401-3:1997 by drying oven and gravimetry	C
	Moisture by vacuum	Method CSOPNut010 by vacuum oven and gravimetry	C
	Fat (total)	Method CSOPNut004 by NMR	C



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
FOODS and FOOD PRODUCTS - Foods in general	<u>Chemical and Physical Tests</u>	Documented In-House Methods:	
	Fatty Acid Composition/profile - Saturated fatty acids - Monounsaturated fatty acids - Polyunsaturated fatty acids - Trans fatty acids - Omega 3 fatty acids - Omega 6 fatty acids	Method CSOPNut003 by GC-FID	C
	Sugars (Glucose, Fructose, Lactose, Sucrose and Maltose) Individually and/or as sum of sugars	Method CSOPNut013 by Ion Chromatography	C
	Nitrogen/Protein	Method CSOPNut007 by Dumas	C
	Dietary fibre	Method CSOPNut002 based on AOAC 991.43	C
	Sodium Sodium expressed as salt (NaCl)	Method CSOPNut012 by flame photometry	C
	Chloride Chloride expressed as Salt	Method CSOPNut011 by chloride meter	C
	pH	Method CSOPNut009 based on BS 4401-9:1975 and BS 770-5:1976 by pH meter	C
FOODS and FOOD PRODUCTS	Water activity	Method CSOPNut015 using Aqualab dew point a_w meter	C
Food and Food Products, Wine	Sulphur dioxide	Method CSOPNut016 using optimised Monier-Williams method, based on AOAC 990.28	C



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
FOODS and FOOD PRODUCTS - Meats and meat products	<u>Chemical and Physical Tests</u>	Documented In-House Methods:	
	Hydroxyproline	Method CSOPNut005 based on ISO 3496:1994 by spectrophotometry	C
	Collagen	Calculation based on Hydroxyproline	C
	Connective tissue (Wet Fat Free)	Calculation based on Hydroxyproline	C
- Vegetable and vegetable products	Nitrate/Nitrite $\text{KNO}_2/\text{KNO}_3$ $\text{NaNO}_2/\text{NaNO}_3$	Method CSOPNut008 based on BS EN ISO 12014-4:2005 using Ion Chromatography with conductivity and/or UV detection	C
	Nitrate/Nitrite	Method CSOPNut008 based on BS 12014-2:1997 using Ion Chromatography with conductivity and/or UV detection	C
Food and Food Products	Calculations: Carbohydrate: - available, - total, Starch	Method CSOPNut014 by difference by difference by difference	C
	Energy kJ Energy kcal Fat in Dry Matter	based on EC1169/2011 Food Information for Customers by calculations	
	Salt Content in aqueous phase	By calculation: CSOPNut014 based on FDA Guide to Inspection of Low Acid Canned Food 7	C
	Apparent Fat Free Meat Content Apparent Lean Meat Content Apparent Total Meat Content Non meat Nitrogen	By Calculation: Method CSOPNut014 based on Stubbs and More Method using Generic (Average) or specific Nitrogen Factor by calculations	C



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
FOODS and FOOD PRODUCTS	<u>Chemical and Physical Tests</u>	Documented In-House Methods:	
	Apparent EC Meat Content:	By Calculation: Method CSOPNut014 based on the Stubbs and More Method, the Meat Products Regulation 2003 and EC2000/101	C
	Apparent Meat Content (fat free) Total meat Content ExcessConnective Tissue Excess Fat Connective Tissue (Collagen/Meat Protein)	Method CSOPNut014 Clitravi Method,Based on the Meat Products Regulation 2003 and EC2000/101 factor by calculation using Hydroxyproline correction	C
	Total Meat Content of Whole Product	Method CSOPNut014 Based on Method by separation and calculation	C
	Apparent Total Fish Content	By Calculation: Method CSOPNut014 based on Stubbs and More Method	C
	Added water - Stubbs and More	By Calculation: Method CSOPNut014 based on a modified Stubbs and More Method	C
	Added water - Danish Method	By Calculation: Method CSOPNut014 based on the Danish Method	C
	Added water - German Method	By Calculation: Method CSOPNut014 based on the German Method	C



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
FOODS and FOOD PRODUCTS and ENVIRONMENTAL SWABS	Detection and Quantification of Allergens	<u>Documented In-House Methods:</u>	
Foods / processed foods (excluding fermented products e.g. beer, soy sauce) and Extracts from Swabs	Determination of: Gliadin Gluten	Documented In-House Method CSOP FMB01 using R-Biopharm Ridascreen Gliadin kit (R5 Mendez ELISA).	C
Food and Food products and Environmental Swabs	<u>Almond/Mandel</u>	CSOP FMB02 using R-Biopharm Ridascreen®FAST ELISA kit..	C
	<u>Soya</u>	CSOP FMB03 using R-Biopharm Ridascreen®FAST ELISA kit..	C
	<u>Mustard</u>	CSOP FMB04 using R-Biopharm Ridascreen®FAST ELISA kit..	C
	<u>Peanut</u>	CSOP FMB05 using R-Biopharm Ridascreen®FAST ELISA kit..	C
	<u>Casein</u>	CSOP FMB06 using R-Biopharm Ridascreen®FAST ELISA kit..	C



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
FOODS, DAIRY and FOOD PRODUCTS and ENVIRONMENTAL SWABS	<u>Microbiological Tests</u> <u>Isolation and enumeration of:</u>	Documented In-House Methods	
- Foods in general and environmental swabs	Coliforms (presumptive) incubation at 37 °C	Method CSOPMicro02 using plate count based on BS EN ISO 4832:2006	C
- Dairy products and environmental swabs	Coliforms (presumptive) incubation at 30 °C	Method CSOPMicro02 using plate count based on BS EN ISO 4832:2006	C
- Foods in general, dairy products and environmental swabs	Aerobic colony count incubation at 30 °C for 48 h	Method CSOPMicro01 using plate count	C
	Aerobic colony count incubation at 30 °C for 72 h	Method CSOPMicro01 using plate count based on BS EN ISO 4833-1:2013	
- Foods in general, dairy products and environmental swabs (cont'd)	Enterobacteriaceae (presumptive)	Method CSOPMicro03 using plate count based on BS ISO 2158-2:2004	C
	<i>E coli</i> (β-glucuronidase positive)	Method CSOPMicro04 using selective medium, based on BS ISO 16649-2:2001	C
	Coagulase positive staphylococci, including <i>Staph. aureus</i> :	Method CSOPMicro05: using plate count based on BS EN ISO 6888-1:1999 Confirmation using Staphytect kit	C
	Yeasts (samples with aW >0.95)	Method CSOPMicro13 based on BS ISO 21527-1:2008	C



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
FOODS, DAIRY and FOOD PRODUCTS and ENVIRONMENTAL SWABS (cont'd)	<u>Microbiological Tests (cont'd)</u>	Documented In-House Methods	
- Foods in general, dairy products and environmental swabs (cont'd)	<u>Isolation and enumeration of:</u>		
	Moulds (samples with aW >0.95)	Method CSOPMicro13 based on BS ISO 21527-1:2008	C
swabs (cont'd)	<u>Detection of:</u>		
	<i>Listeria spp</i> including <i>Listeria monocytogenes</i>	Method CSOPMicro18 using enrichment & plate count based on BS EN ISO 11290-1:1996 + A1:2004 Confirmation and Identification using Microgen biochemical profile	C
	<i>Listeria spp</i> including <i>Listeria monocytogenes</i>	Method CSOPMicro20 using Solus ELISA with confirmation and Identification using Microgen biochemical profile	C
	<i>Salmonella spp</i>	Method CSOPMicro19 using enrichment and plating based on BS EN ISO 6579:2002 + A1:2007 Confirmation using Microgen biochemical profile and serology	C
	Thermotolerant <i>Campylobacter spp</i>	Method CSOPMicro21 using Solus ELISA with confirmation using Microgen biochemical profile and serology	
	<u>Isolation and enumeration of:</u>	Method CSOPMicro22 based on BS EN ISO 10272-1:2006	C
	<i>Pseudomonas spp</i> (presumptive)	Method CSOPMicro10 based on BS EN ISO 13720:2010 and BS EN ISO 11059:2009	C
	<i>Bacillus cereus</i> (presumptive)	Method CSOPMicro06 using BACARA chromogenic agar	C



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
FOODS, DAIRY and FOOD PRODUCTS and ENVIRONMENTAL SWABS (cont'd)	<u>Microbiological Tests (cont'd)</u>	Documented In-House Methods	
swabs (cont'd)	<u>Isolation and enumeration of:</u> <i>Bacillus cereus</i> (presumptive)	Method CSOPMicro35 using MYP agar based on BS EN ISO 7932:2004	C
FOODS, DAIRY and FOOD PRODUCTS	<u>Microbiological Tests (cont'd)</u>	Documented In-House Methods	
	<u>Isolation and enumeration of:</u> <i>Clostridium perfringens</i> (presumptive)	Method CSOPMicro07 based on BS EN ISO 7937:2004	C
	Lactic Acid Bacteria (presumptive)	Method CSOPMicro09 based on BS EN ISO 15214:1998	C
	<i>E coli</i> (β-glucuronidase positive)	Method CSOPMicro11 using selective medium, based on BS ISO 16649-1:2001	C
	<u>Isolation and enumeration of:</u> <i>Listeria spp</i> including <i>Listeria monocytogenes</i>	Method CSOPMicro23 using enrichment and plate count based on BS EN ISO 11290-2:1998 Confirmation and Identification using Microgen biochemical profile	C
WATERS - Drinking, potable and process (non-regulatory)	<u>Microbiological Tests</u>	Documented In-House Methods based on the Microbiology of Drinking Water (MDW)	C
	Total Viable Count at 22 °C	Method CSOPMicro24 using pour plate method based on MDW Part 7:2012	C
	Total Viable Count at 37 °C	Method CSOPMicro25 using pour plate method based on MDW Part 7:2012	C



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS - Drinking, potable and process (non-regulatory) (cont'd)	<u>Microbiological Tests</u> (cont'd)	Documented In-House Methods based on the Microbiology of Drinking Water (MDW)	C
	Coliforms and <i>E coli</i>	Method CSOPMicro26 using Colilert based on MDW Part 4d:2009	C
	<i>Pseudomonas aeruginosa</i> (presumptive)	Method CSOPMicro27 using membrane filtration based on MDW Part 8:2010	C
	<i>Sulphite Reducing Clostridia</i> :	Method CSOPMicro28 using membrane filtration based on MDW Part 6:2010	C
	Enterococci (presumptive)	Method CSOPMicro29 using membrane filtration based on MDW Part 5:2012	C
END			



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Table 1
MRPS Suite by CSOPP603 LCMSMS

Analyte	Soft Fruit	Vegetable	Allium	Citrus
2-(1-Naphthyl)acetamide	x	x		
3-hydroxycarbofuran	x	x		x
6-Benzyladenine	x	x	x	x
Acephate	x	x		x
Acetamiprid	x	x		x
Acibenzolar-S-methyl	x	x	x	x
Aldicarb	x	x		x
Aldicarb sulphone	x	x		x
Aldicarb sulfoxide	x	x		x
Aminocarb	x	x	x	x
Azinphos ethyl	x	x		x
Azinphos methyl	x	x		x
Bendiocarb	x	x	x	x
Butralin	x	x	x	x
Carbaryl	x	x	x	x
Carbendazim	x	x	x	x
Carbetamide	x	x		x
Carbofuran	x	x		x
Carpropamid	x		x	x
Chinomethionat	x		x	x
Chlorfluazuron	x	x	x	x
Chloridazon	x	x		
Chlorotoluron	x	x		x
Chlorpropham	x	x	x	x
Clofentezine	x	x	x	x
Clothianidin	x	x		x
Cyanazine	x	x	x	x
Cycluron	x	x	x	x
Cymoxanil	x	x		x
Demeton	x	x		
Demeton-s-methyl	x	x		x
Demeton-s-methyl sulphone	x	x		
Desmedipham	x	x		
Dicrotophos	x	x	x	x
Diethofencarb	x	x		x
Diflubenzuron	x	x		x
Dimefuron	x	x		
Dimethoate	x	x		x



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Analyte	Soft Fruit	Vegetable	Allium	Citrus
Diniconazole	x	x	x	x
Dioxacarb	x	x		
Disulfoton sulfoxide	x	x		x
Disulfoton sulphone	x	x		
Diuron	x	x		
DMSA	x	x	x	x
DMST	x	x	x	x
Dodemorph	x	x	x	x
Dodine	x	x		x
Enamectin	x	x	x	x
Ethidimuron	x	x		x
Ethiofencarb	x	x		
Ethiofencarb sulfone	x	x		
Ethiofencarb sulfoxide	x	x		
Ethiprole	x	x	x	x
Ethirimol	x	x		x
Fenamiphos sulfone	x	x		x
Fenamiphos sulfoxide	x	x	x	
Fenazaquin	x	x	x	x
Fenhexamid	x	x		x
Fenoxycarb	x	x		x
Fenpropidin	x	x	x	x
Fenpropimorph	x	x	x	x
Fenpyroximate	x	x	x	x
Fenuron	x	x		x
Flonicamid	x	x	x	x
Flufenoxuron	x	x	x	x
Fluometuron	x	x	x	x
Fluopicolide	x	x	x	x
Fluorochloridone	x	x		
Fluoxastrobin	x	x		x
Flurtamone	x	x	x	x
Flutriafol	x	x	x	x
Fuberidazole	x	x	x	x
Furathiocarb	x	x	x	x
Hexythiazox	x	x	x	x
Imazalil	x	x	x	x
Imibenconazole	x		x	x
Imidacloprid	x	x	x	x
Indoxacarb	x	x	x	x
Iprovalicarb	x	x	x	x
Isoprocarb	x	x		
Isoproturon	x	x	x	x
Isoxaben	x	x		
Karbutilate	x	x	x	x
Linuron	x	x		x



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Analyte	Soft Fruit	Vegetable	Allium	Citrus
Lufenuron	x	x	x	x
Malaoxon	x	x	x	x
Mandipropamid	x	x		
Mefenacet	x	x		
Metamitron	x	x	x	x
Metconazole	x	x	x	x
Methabenzthiazuron	x	x		x
Methamidophos	x	x	x	x
Methiocarb	x	x		x
Methiocarb sulfone	x	x		
Methiocarb Sulfoxide	x	x		
Methomyl	x	x	x	x
Methoxyfenozide	x	x	x	x
Metobromuron	x	x		x
Metoxuron	x	x		x
Monocrotophos	x	x		x
Monolinuron	x	x	x	x
Monuron	x	x	x	x
Neburon	x	x		x
Nitenpyram	x	x	x	x
Omethoate	x	x	x	x
Oxadiargyl	x	x		x
Oxamyl	x	x		x
Oxycarboxin	x	x		
Pencycuron	x	x		x
Phenmedipham	x	x		
Phorate sulfone	x	x		
Phorate sulfoxide	x	x		
Phosmet	x	x		
Phosphamidon	x	x	x	x
Phoxim	x	x		
Pirimicarb	x	x	x	x
Pirimicarb desmethyl	x	x	x	x
Prochloraz	x	x		x
Promecarb	x	x		x
Propamocarb	x	x	x	x
Propaquizafop	x	x	x	x
Propargite	x	x		
Propoxur	x	x		
Pyrifenox	x	x	x	x
Rotenone	x	x		x
Spinosad	x	x		x
Spirodiclofen	x		x	x
Spiromesifen	x	x	x	x
Spiroxamine	x	x	x	x



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Analyte	Soft Fruit	Vegetable	Allium	Citrus
Tebufenozide	X	X	X	X
Teflubenzuron	X	X		X
Temephos	X	X		
Thiabendazole	X	X	X	X
Thiacloprid	X	X	X	X
Thiazafluron	X	X	X	X
Thiodicarb	X	X	X	X
Tridemorph	X	X	X	X
Trifloxysulfuron	X	X	X	X
Triflumuron	X	X		X
Triticonazole	X	X	X	X
Vamidothion	X	X	X	X
Vernolate	X	X	X	X
Zoxamide	X	X	X	X

END OF TABLE 1



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Table 2

MRPS Suite by CSOPP603 LCMS/MS

Accredited (x)

Full Testname	Nut	Dried Fruit
2-(1-Naphthyl)acetamide	X	X
3-hydroxycarbofuran	X	X
6-Benzyladenine	X	X
Acephate	X	X
Acetamiprid	X	X
Acibenzolar-S-methyl	X	X
Aldicarb	X	X
Aldicarb sulphone	X	X
Aldicarb sulphoxide	X	X
Aminocarb	X	X
Azinphos ethyl	X	X
Azinphos methyl		X
Azoxystrobin	X	X
Bendiocarb	X	X
Butralin	X	X
Carbaryl	X	X
Carbendazim	X	X
Carbetamide	X	X
Carbofuran	X	X
Carpropamid	X	X
chlorantraniliprole	X	X
Chlorbromuron	X	X
Chlorfluazuron	X	X
Chloridazon	X	X
Chlorotoluron	X	X
Chlorpropham	X	
Clofentezine	X	X
Clothianidin	X	X
Cyanazine	X	X
Cyazofamid		X
Cycluron	X	X
Cymoxanil	X	X
Cythioate	X	X



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Full Testname	Nut	Dried Fruit
Demeton		X
Demeton-s-methyl sulphone	X	X
Desmedipham	X	X
Dicrotophos	X	X
Diethofencarb	X	X
Diflubenzuron	X	X
Dimefuron	X	X
Dimethoate	X	X
Diniconazole	X	X
Dinotefuran		X
Dioxacarb	X	X
Disulfoton sulfoxide	X	X
Disulfoton sulphone	X	X
Diuron	X	X
DMSA	X	X
DMST	X	X
Dodemorph	X	X
Emamectin	X	X
Ethidimuron	X	X
Ethiofencarb	X	X
Ethiofencarb sulfone	X	X
Ethiofencarb sulfoxide	X	X
Ethiprole	X	X
Ethirimol	X	X
Fenamiphos sulfone	X	X
Fenamiphos sulfoxide	X	X
Fenazaquin	X	X
Fenchlorphos oxon	X	X
Fenhexamid	X	X
Fenoxycarb		X
Fenpropidin	X	X
Fenpropimorph	X	X
Fenpyroximate	X	X
Fenthion Sulphone		X
Fenthion Sulphoxide	X	X
Fenuron	X	X
Flonicamid	X	X
Fluazinam		X



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Full Testname	Nut	Dried Fruit
Flufenoxuron	X	
Fluometuron	X	X
Fluopicolide	X	X
Fluorochloridone	X	X
Fluoxastrobin		X
Flurtamone	X	X
Flutriafol	X	X
Forchlorfenuron	X	X
Fuberidazole	X	X
Furathiocarb	X	X
Hexythiazox	X	X
Imazalil	X	X
Imidacloprid	X	X
Indoxacarb	X	X
Iprovalicarb	X	X
Isoprocab	X	X
Isoproturon	X	X
Isoxaben	X	X
Karbutylate	X	X
Linuron	X	X
Lufenuron	X	
Malaoxon	X	X
Mandipropamid	X	X
Mefenacet	X	X
Metamitron	X	X
Metconazole	X	X
Methabenzthiazuron	X	X
Methamidophos	X	X
Methiocarb	X	X
Methiocarb sulfone	X	X
Methiocarb Sulfoxide	X	X
Methomyl	X	X
Methoxyfenozide	X	X
Metobromuron	X	X
Metoxuron		X
Monocrotophos	X	X
Monolinuron	X	X
Monuron	X	X
Neburon	X	X



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Full Testname	Nut	Dried Fruit
Nitenpyram	X	
Novaluron	X	
Omethoate	X	X
Oxamyl	X	X
Oxycarboxin	X	X
Pencycuron	X	X
Phenmedipham	X	X
Phorate sulfone	X	X
Phorate sulfoxide	X	X
Phosmet	X	X
Phosphamidon	X	X
Phoxim	X	X
Pirimicarb	X	X
Pirimicarb desmethyl	X	X
Prochloraz	X	X
Promecarb		X
Propamocarb	X	X
Propaquizafop	X	X
Propargite	X	X
Propoxur	X	X
PyrifenoX	X	X
Rotenone	X	X
Spinosad	X	X
Spirodiclofen	X	X
Spiromesifen		X
Spirotetramat	X	X
Spiroxamine	X	X
Tebufozide	X	X
Teflubenzuron	X	
Temephos	X	
Terbufos sulfone	X	X
Terbufos sulfoxide	X	X
Thiabendazole	X	X
Thiacloprid	X	X
Thiazafluron	X	X
Thidiazuron	X	X
Thiodicarb	X	X



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Full Testname	Nut	Dried Fruit
Thiofanox	X	X
Tridemorph		X
Trifloxysulfuron		X
Triflumuron	X	X
Triforine	X	X
Triticonazole	X	X
Vamidothion	X	X
Vernolate	X	X
Zoxamide	X	X
End of Table 2		



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Table 3
MRPS Suite by CSOPP603 LCMSMS

Analyte	Cereal 603	Feed 603	Analyte	Cereal 603	Feed 603
2-(Naphthyl)acetamide	x	x	Imazalil	x	x
6-Benzyladenine	x	x	Imibenconazole	x	x
Acephate	x	x	Iprovalicarb	x	x
Acetamiprid	x	x	Isoprocab	x	
Aldicarb sulfone	x	x	Isoproturon	x	x
Aldicarb sulfoxide	x	x	Isoxaben	x	
Aminocarb	x	x	Karbutylate	x	x
Azinphos ethyl	x		Malaoxon	x	
Azoxystrobin		x	Mandipropamid	x	x
Bendiocarb	x		Mefenacet	x	x
Butralin	x	x	Metamitron	x	x
Carbaryl	x		Metconazole	x	x
Carbetamide	x	x	Methabenzthiazuron	x	x
Carbofuran	x	x	Methamidophos	x	x
Carpromamid	x	x	Methiocarb	x	
Chlorantraniliprole		x	Methiocarb sulfone	x	x
Chlorfluazuron	x		Methiocarb sulfoxide	x	x
Chlorotoluron	x	x	Methomyl	x	
Clothianidin	x		Methoxyfenozide	x	
Cyanazine	x	x	Metoxuron	x	x
Cyazofamid	x	x	Monocrotophos	x	x
Cymoxanil	x		Monolinuron	x	
Cythioate	x		Monuron	x	x
Demeton-s-methyl sulfone	x	x	Neburon	x	x
Desmedipham	x	x	Nitenpyram	x	
Diclotophos	x		Novaluron	x	
Diethofencarb	x		Omethoate	x	x
Dimefuron	x	x	Oxamyl	x	x
Dimethoate	x	x	Oxycarboxin	x	x
Diniconazole	x	x	Pencycuron	x	x
Dinotefuran	x	x	Phenmedipham	x	x
Dioxacarb	x	x	Phosmet	x	
Disulfoton sulfoxide	x		Phosphamidon	x	



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Diuron	x	x	Pirimicarb	x	x
Dodemorph	x	x	Pirimicarb desmethyl	x	x
Dodine	x		Prochloraz	x	x
Emamectin benzoate		x	Promecarb	x	
Ethidimuron	x	x	Propamocarb	x	
Ethiprole		x	Propaquizafop	x	
Ethirimol	x	x	Pymetrozine	x	x
Fenamiphos sulfone	x	x	Pyrifenoxy	x	x
Fenamiphos sulfoxide	x	x	Rotenone	x	
Fenazaquin	x		Spirodiclofen	x	x
Fenchlorphos oxon		x	Spiromesifen	x	
Fenhexamid		x	Spirotetramat	x	x
Fenoxycarb	x	x	Spiroxamine	x	x
Fenpropidin		x	Tebufozate	x	x
Fenpropimorph	x		Terbufos sulfone	x	
Fenpyroximate	x	x	Terbufos sulfoxide	x	
Fenthion sulfoxide	x	x	Thiabendazole	x	x
Fenuron	x	x	Thiacloprid	x	x
Flonicamid	x	x	Thiazafluron	x	x
Fluazinam	x		Thidiazuron	x	
Fluometuron	x	x	Thiofanox	x	
Fluopicolide	x		Trichlofon	x	
Flurtamone	x	x	Trifloxysulfuron	x	x
Flutriafol I	x	x	Trifluridon	x	
Fenchlorfenuron	x		Triflurosulfuron methyl	x	
Fosthiazate	x	x	Triticonazole	x	x
Fuberidazole	x	x	Vamidothion	x	x
Furathiocarb	x	x	Vernolate	x	
Hexythiazox	x		Zoxamide	x	x



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Table 4

MRPS Suite by CSOPP611 GCMS/MS

Analyte	Soft Fruit	Vegetable	Allium	Citrus	High Oil
Acetochlor	X	X	X	X	X
Aclonifen	X	X	X	X	X
Alachlor	X	X	X	X	X
Aldrin	X	X	X	X	X
Ametryn	X	X	X	X	X
Atraton	X	X	X	X	X
Atrazine	X	X	X	X	X
Azaconazole	X	X	X	X	X
Azobenzene	X	X	X	X	
Azoxystrobin	X	X	X	X	X
Benalaxyl	X	X	X	X	X
Benfluralin	X	X		X	X
BHC-alpha (benzene hexachloride)	X	X	X	X	X
BHC-beta	X	X	X	X	X
BHC-delta	X	X	X	X	X
BHC-gamma (lindane, gamma HCH)	X	X	X	X	X
Bifenthrin	X	X	X	X	X
Bitertanol	X	X	X	X	X
Boscalid	X	X	X	X	X
Bromacil	X	X	X	X	X
Bromophos	X	X	X	X	X
Bromophos-ethyl	X	X	X	X	X
Bromopropylate	X	X	X	X	X
Bromuconazole	X	X	X	X	X
Bupirimate	X	X	X	X	
Buprofezin (z isomer)	X	X	X	X	X
Butachlor	X	X	X	X	X
Cadusafos	X	X	X	X	X
Carbophenothion	X	X		X	X
Carboxin	X	X	X	X	
Carfentrazone-ethyl	X	X	X	X	
Chlordane-cis & trans (alpha & gamma)	X	X	X	X	X
Chlordimeform	X	X	X	X	X
Chlorfenapyr	X	X	X	X	X
Chlorfenson	X	X	X	X	
Chlorfenvinphos	X	X	X	X	X



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Analyte	Soft Fruit	Vegetable	Allium	Citrus	High Oil
Chlormephos	X	X	X	X	X
Chlorobenzilate	X	X	X	X	X
Chloropropylate	X	X	X	X	X
Chlorpropham	X	X	X	X	X
Chlorpyrifos	X	X	X	X	X
Chlorpyrifos Methyl	X	X	X	X	X
Chlorthiophos	X	X	X	X	X
Clodinafop-propargyl	X	X	X	X	X
Clomazone	X	X	X	X	X
Cloquintocet-mexyl	X	X	X	X	X
Coumaphos	X	X	X	X	X
Cyflufenamid	X	X	X	X	
Cyfluthrin I - IV	X	X	X	X	X
Cyhalothrin (lambda & gamma)	X	X	X	X	X
Cypermethrin I - IV	X	X	X	X	X
Cyproconazole	X	X	X	X	X
Cyprodinil	X	X	X	X	X
DCPA (Dacthal, Chlorthal-dimethyl)	X	X	X	X	X
DDD-p,p'	X	X	X	X	X
DDE-p,p'	X	X	X	X	
DDT-p,p'	X		X	X	
Deltamethrin	X	X	X	X	X
Desmetryn	X	X	X	X	X
Dialifos	X	X	X	X	X
Diazinon	X	X	X	X	X
Dichlofenthion	X	X	X	X	X
Dichlorvos	X	X	X	X	
Diclobutrazol	X	X	X	X	X
Dicloran (Dichloran)	X	X	X	X	X
Dieldrin	X	X	X	X	X
Difenoconazol	X	X	X	X	X
Diflufenican	X	X	X	X	X
Dimethenamid	X	X	X	X	X
Dimethomorph	X	X	X		X
Dimoxystrobin	X	X	X	X	X
Diphenamid	X	X	X	X	X
Diphenylamine	X	X	X	X	X
Disulfoton	X	X	X	X	X
Edifenphos	X	X	X	X	X
Endosulfan I (alpha isomer)	X	X	X	X	X



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Analyte	Soft Fruit	Vegetable	Allium	Citrus	High Oil
Endosulfan II (beta isomer)	X	X	X	X	X
Endosulfan sulfate	X	X	X	X	X
Endrin	X	X	X	X	X
EPN	X	X	X	X	X
Epoxiconazole	X	X	X	X	X
EPTC	X	X	X	X	X
Etaconazole	X	X	X	X	X
Ethion	X	X	X	X	X
Ethofumesate	X	X	X	X	X
Ethoprophos (Ethoprop)	X	X	X	X	X
Etofenprox (Ethofenprox)	X	X	X	X	X
Etoxazole	X	X	X	X	X
Etrimfos	X	X	X	X	X
Famphur	X	X	X	X	X
Fenamidone	X	X	X	X	X
Fenamiphos (Phenamiphos)	X	X	X	X	X
Fenarimol	X	X	X	X	X
Fenbuconazole	X	X	X	X	X
Fenchlorphos	X	X	X	X	X
Fenhexamid	X	X	X	X	X
Fenitrothion	X	X		X	X
Fenpiclonil*	X	X	X	X	X
Fenpropathrin	X	X	X	X	X
Fenson	X	X	X	X	X
Fensulfothion	X	X	X	X	X
Fenthion	X	X	X	X	X
Fenvalerate	X	X	X	X	X
Fipronil	X	X	X	X	
Flamprop-isopropyl	X	X	X	X	X
Fluazifop-p-butyl	X	X	X	X	X
Flucythrinate	X	X	X	X	X
Fludioxonil	X	X	X	X	X
Flufenacet	X	X	X	X	X
Flumetralin	X	X	X	X	X
Flumioxazin	X	X	X	X	X
Flumorph	X	X	X	X	X
Fluopyram	X	X	X	X	X
Fluquinconazole	X	X	X	X	X
Fluroxypyr-l-methylheptyl	X	X	X	X	X
Flusilazole	X	X	X	X	X



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Analyte	Soft Fruit	Vegetable	Allium	Citrus	High Oil
Flutolanil	X	X	X	X	
Fluvalinate-tau	X	X	X	X	X
Fluxopyroxad	X	X	X	X	X
Furalaxyl	X	X	X	X	X
Haloxypop-2-ethoxy-ethyl	X	X	X	X	X
Haloxypop-methyl	X	X	X	X	X
Heptachlor exo-epoxide (isomer B)	X	X	X	X	X
Heptachlor-endo-epoxide (isomer A)	X	X	X	X	X
Heptenophos	X	X	X	X	X
Hexachlorobenzene	X	X	X	X	
Hexaconazole	X	X	X	X	
Hexazinone	X	X	X	X	X
Imazalil	X	X	X	X	X
Iodofenphos (Jodfenphos)	X		X	X	X
Iprodione	X	X	X	X	X
Isazofos (Miral, Isazophos)	X	X	X	X	X
Isocarbophos	X	X	X	X	X
Isodrin	X	X	X	X	
Isofenphos	X	X	X	X	X
Isofenphos-methyl	X	X	X	X	X
Isomethiozin	X	X	X	X	X
Isoprothiolane	X	X	X	X	X
Isoprazam	X	X	X	X	X
Isothiazoline (Octhilinone)	X	X		X	X
Kresoxim-methyl	X	X	X	X	X
Lenacil	X	X	X	X	X
Leptophos	X	X	X	X	X
Malathion	X	X	X	X	X
MCPA-thioethyl	X	X	X	X	X
Mecarbam	X	X	X	X	X
Mepanipyrin	X	X	X	X	X
Mephosfolan	X	X	X	X	X
Mepronil	X	X	X	X	X
Metazachlor	X	X	X	X	X
Methacrifos	X	X	X	X	X
Methidathion	X	X	X	X	X
Methoxychlor, p,p'-	X	X	X	X	X
Metolachlor	X	X	X	X	X
Metrafenone	X	X	X	X	X
Metribuzin	X	X	X	X	
Mevinphos (Phosdrin)	X	X	X	X	X



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Analyte	Soft Fruit	Vegetable	Allium	Citrus	High Oil
Mirex	X		X	X	
Molinate	X	X	X	X	X
Myclobutanil	X	X	X	X	X
Napropamide	X	X	X	X	X
Nitrofen	X	X	X	X	X
Nitrothal-isopropyl	X	X		X	X
Nuarimol	X	X	X	X	X
Ofurace	X	X	X	X	X
Orysastobin	X	X	X	X	X
Oxadiazon	X	X	X	X	X
Oxadixyl	X	X	X	X	X
Oxyfluorfen	X	X	X	X	X
Paclobutrazol	X	X	X	X	X
Parathion	X	X		X	
Parathion-methyl	X	X		X	
Penconazole	X	X	X	X	X
Pendimethalin (Penoxaline)	X	X		X	X
Pentachloroaniline	X	X	X	X	X
Permethrin	X	X	X	X	X
Pethoxamid	X	X	X	X	
Phenothrin	X	X	X	X	X
Phenthoate	X	X	X	X	X
Phenylphenol, 2-	X	X	X	X	X
Phorate	X	X	X	X	X
Phosalone	X	X	X	X	X
Phosfolan	X	X	X	X	X
Phosmet	X	X	X	X	X
Picoxystrobin	X	X	X	X	X
Pirimicarb	X	X	X	X	X
Pirimiphos-ethyl	X	X	X	X	X
Pirimiphos-methyl	X	X	X	X	X
Pretilachlor	X	X	X	X	X
Prochloraz		X	X	X	X
Procymidone	X	X	X	X	X
Profenofos	X	X	X	X	X
Prometon	X	X	X	X	X
Prometryn	X	X	X	X	X
Pronamide (Propyzamide)	X	X	X	X	X
Propachlor	X	X	X	X	X
Propanil (DCPA)	X	X	X	X	X
Propargite	X	X	X	X	X
Propazine	X	X	X	X	X



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Analyte	Soft Fruit	Vegetable	Allium	Citrus	High Oil
Propham	X	X	X	X	X
Propiconazole I & II	X	X	X	X	X
Proquinazid	X	X	X	X	X
Prosulfocarb	X	X	X	X	X
Prothiofos	X	X	X	X	X
Pyraflufen-ethyl	X	X	X	X	X
Pyrazophos	X	X	X	X	X
Pyridaben	X	X	X	X	X
Pyridaphenthion	X	X	X	X	X
Pyrimethanil	X	X	X	X	X
Pyriproxyfen	X	X	X	X	X
Quinalphos	X	X	X	X	X
Quinoxifen	X	X	X	X	
Quintozene	X	X	X	X	X
Quizalofop-ethyl	X	X	X	X	X
Secbumeton	X	X	X	X	X
Silafluofen	X	X	X	X	X
Simazine	X	X	X	X	X
Simeconazole	X	X	X	X	X
Sulfallate	X	X	X	X	X
Sulfentrazone	X	X	X	X	X
Sulprofos	X	X	X	X	X
Tebuconazole	X	X	X	X	X
Tebufenpyrad	X	X	X	X	X
Tebupirimfos	X	X	X	X	X
Tecnazene (TCNB)	X	X	X	X	X
Tefluthrin, cis-	X	X	X	X	X
Terbacil	X	X	X	X	X
Terbufos	X	X	X	X	X
Terbumeton	X	X	X	X	X
Terbutylazine	X	X	X	X	X
Terbutryn	X	X	X	X	X
Tetrachlorvinphos, E-isomer	X	X	X	X	X
Tetraconazole	X	X	X	X	X
Tetradifon	X	X	X	X	X
Tetramethrin	X	X	X	X	X
Tetrasul	X	X	X	X	



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Analyte	Soft Fruit	Vegetable	Allium	Citrus	High Oil
Thiobencarb (Benthiocarb)	X	X	X	X	X
Thiometon	X	X	X	X	X
Tolclofos-methyl	X	X	X	X	X
Triadimefon	X	X	X	X	X
Triadimenol	X	X	X	X	X
Triallate (Tri-allat)	X	X	X	X	X
Triazophos	X	X	X	X	X
Trichlorophenol, 2,4,6- (Prochloraz metabolite)	X	X	X	X	X
Trietazine	X	X	X	X	X
Trifloxystrobin	X	X	X	X	X
Trifluralin	X	X		X	X
Vinclozolin	X	X	X	X	X

END OF TABLE 4



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Table 5

MRPS Suite by CSOPP611 GCMS/MS ctd

Accredited (X)

Full Testname	Dried Fruit	Nut	
2,4,6-Trichlorophenol	X	X	
2-Methyl-4,6-dinitrophenol	X		
2-Phenylphenol		X	
Acetochlor	X	X	
Aclonifen	X	X	
Acrinathrin	X	X	
Alachlor	X	X	
Aldrin	X	X	
Ametryn	X	X	
Atraton	X	X	
Atrazine	X	X	
Azaconazole	X	X	
Azobenzene	X	X	
Azoxystrobin	X	X	
Benalaxyl	X	X	
Benfluralin	X	X	
Bifenox	X	X	
Bifenthrin	X	X	
Bitertanol	X	X	
Boscalid	X	X	
Bromacil	X	X	
Bromophos	X	X	
Bromophos-Ethyl	X	X	
Bromopropylate	X	X	
Bromuconazole		X	
Bupirimate	X	X	
Buprofezine	X	X	
Butachlor	X	X	
Cadusafos	X	X	
Captan			
Carbaryl	X	X	



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Full Testname	Dried Fruit	Nut	
Carbophenothion	X	X	
Carboxine	X		
Carfentrazone Ethyl	X	X	
Chlorbenzilate	X	X	
Chlordane (sum of cis and trans isomers)	X	X	
Chlordimeform		X	
Chlorfenapyr	X	X	
Chlorfenoson	X		
Chlorfenvinphos	X	X	
Chlormephos	X	X	
Chloropropylate	X	X	
Chlorothalonil	X		
Chlorpropham	X	X	
Chlorpyrifos	X	X	
Chlorpyrifos methyl	X	X	
Chlorthal Dimethyl	X	X	
Chlorthiophos	X	X	
Clodinafop propargy	X	X	
Clomazone	X	X	
Cloquintocet mexyl	X	X	
Coumaphos	X	X	
Cyflufenamid	X	X	
Cyfluthrin	X	X	
Cypermethrin	X	X	
Cyproconazole	X	X	
Cyprodinil	X	X	
Deltamethrin	X	X	
Desmetryn	X	X	
Dialifos	X	X	
Diazinon	X	X	
Dichlobenil		X	
Dichlofenthion	X	X	
Dichlorvos	X	X	
Diclobutrazol	X	X	
Dicloran	X	X	
Dieldrin		X	
Difenoconazole	X	X	



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Full Testname	Dried Fruit	Nut	
Diflufenican	X	X	
Dimethenamid	X	X	
Dimethomorph	X	X	
Dimoxystrobin	X	X	
Diphenamid	X	X	
Diphenylamine	X	X	
Disulfoton	X	X	
Edifenphos	X	X	
Endosulphan alpha	X	X	
Endosulphan beta	X	X	
Endosulphan sulphate	X	X	
Endrin		X	
Epn	X	X	
Epoxiconazole	X	X	
EPTC	X	X	
Etaconazole	X	X	
Ethion	X	X	
Ethofumesate	X	X	
Ethoprophos	X	X	
Etofenprox	X	X	
Etoxazole	X	X	
Etrimfos	X	X	
Famoxadone	X	X	
Famphur	X	X	
Fenamidone	X	X	
Fenamiphos	X	X	
Fenarimol	X	X	
Fenbuconazole	X	X	
Fenchlorphos	X	X	
Fenhexamid	X	X	
Fenitrothion	X	X	
Fenpropathrin	X	X	
Fenson	X	X	
Fensulfothion	X	X	
Fenthion	X	X	
Fenvalerate	X	X	
Fipronil	X	X	



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Full Testname	Dried Fruit	Nut	
Flamprop isopropyl	X	X	
Fluazifop-P-Butyl	X	X	
Flucythrinate	X	X	
Fludioxonil	X	X	
Flufenacet	X	X	
Flumetralin	X	X	
Flumioxazin	X	X	
Flumorph	X	X	
Fluopyram	X	X	
Fluquinconazole	X	X	
Fluroxypyr-1-methylheptyl ester	X	X	
Flusilazole	X	X	
Flutolanil	X	X	
Fluxapyroxad	X	X	
Furalaxyl	X	X	
Haloxypol etotyl	X	X	
Haloxypol Methyl	X	X	
Heptachlor epoxide	X	X	
Heptachlor exo Epoxide		X	
Heptenophos	X	X	
Hexachlorobenzene	X	X	
Hexachlorocyclohexane (alpha)	X	X	
Hexachlorocyclohexane (beta)	X	X	
Hexachlorocyclohexane (delta)	X	X	
Hexaconazole	X	X	
Hexazinone	X	X	
Imazalil		X	
Iodofenphos	X	X	
Iprodione	X	X	
Isazofos	X	X	
Isocarbophos	X	X	
Isodrin		X	
Isofenphos	X	X	
Isofenphos Methyl	X	X	
Isomethiozin	X	X	



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Full Testname	Dried Fruit	Nut	
Isoprothiolane	X	X	
Isopyrazam	X	X	
Isothiazolinone		X	
Kresoxim Methyl	X	X	
Lambda Cyhalothrin	X	X	
Lenacil	X	X	
Leptophos	X	X	
Lindane	X	X	
Malathion	X	X	
MCPA-thioethyl	X	X	
Mecarbam	X	X	
Mepanipyrim	X	X	
Mephosfolan	X	X	
Mepronil	X	X	
Metalaxyl	X		
Metazachlor	X	X	
Methacrifos	X	X	
Methidathion	X	X	
Methoxychlor	X	X	
Methyl Paraoxon	X	X	
Metolachlor	X	X	
Metrafenone	X	X	
Metribuzin		X	
Mevinphos	X	X	
Molinate		X	
Myclobutanil	X	X	
Napropamide	X	X	
Nitrofen	X	X	
Nitrothal isopropyl	X	X	
Nuarimol	X	X	
o,p'-DDT	X		
Ofurace	X	X	
Orysastrobin	X	X	
Oxadiazon	X	X	
Oxadixyl	X	X	



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Full Testname	Dried Fruit	Nut	
Oxyfluorfen	X	X	
p,p-DDD	X	X	
p,p-DDE	X	X	
p,p-DDT	X	X	
Paclobutrazol	X	X	
Paraoxon	X		
Parathion	X	X	
Parathion methyl	X	X	
Penconazole	X	X	
Pendimethalin	X	X	
Pentachloroaniline	X	X	
Permethrin	X	X	
Pethoxamid	X	X	
Phenothrin	X	X	
Phenthoate	X	X	
Phorate	X	X	
Phosalone	X	X	
Phosfolan	X	X	
Phosmet	X	X	
Picoxystrobin	X	X	
Piperonyl Butoxide		X	
Pirimicarb	X	X	
Pirimiphos Ethyl	X	X	
Pirimiphos methyl	X	X	
Pretilachlor	X	X	
Prochloraz	X	X	
Procymidone	X	X	
Profenofos	X	X	
Prometon	X	X	
Prometryn	X	X	
Propachlor	X	X	
Propanil	X	X	
Propargite	X	X	
Propazine	X	X	
Propham	X	X	
Propiconazole	X	X	
Propyzamide	X	X	
Proquinazid	X	X	



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Full Testname	Dried Fruit	Nut	
Prosulfocarb	X	X	
Prothiofos	X	X	
Pyraflufen ethyl	X	X	
Pyrazophos	X	X	
Pyridaben	X	X	
Pyridaphenthion	X	X	
Pyrimethanil	X	X	
Pyriproxyfen	X	X	
Quinalphos	X	X	
Quinoxifen	X	X	
Quintozene	X	X	
Quizalofop-ethyl	X	X	
Secbumeton	X	X	
Silafluofen	X	X	
Simazine	X	X	
Simeconazole	X	X	
Sulfallate	X	X	
Sulfentrazone	X		
Sulprofos	X	X	
Tau-Fluvalinate	X	X	
Tebuconazole	X	X	
Tebufenpyrad		X	
Tebupirimiphos	X	X	
Tecnazene	X	X	
Tefluthrin	X	X	
Terbacil	X	X	
Terbufos	X		
Terbumeton	X	X	
Terbutylazine	X	X	
Terbutryn	X	X	
Tetrachlorvinphos	X	X	
Tetraconazole	X	X	
Tetradifon	X	X	
tetraethyl dithiopyrophosphate	X	X	
Tetramethrin	X	X	
Thiobencarb	X	X	



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Full Testname	Dried Fruit	Nut	
Thiometon	X	X	
Tolclofos methyl	X	X	
Triadimefon	X	X	
Triadimenol	X	X	
Triallate	X	X	
Triazophos	X	X	
Trietazine		X	
Trifloxystrobin	X	X	
Trifluralin	X	X	
Vinclozolin	X	X	

End of Table 5



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Table 6
MRPS Suite by CSOPP611 GCMS/MS ctd

Analyte	Cereal 611	Feed 611	Analyte	Cereal 611	Feed 611
1,4-Dimethylnaphthalene	x		Dichlorvos	x	
Acetochlor	x	x	Diclobutrazol	x	x
Aclonifen	x	x	Dicloran (Dichloran)	x	x
Acrinathrin	x		Dieldrin	x	x
Alachlor	x	x	Difenoconazol	x	x
Aldrin	x	x	Diiflufenican	x	x
Ametryn	x	x	Dimethenamid	x	x
Anthraquinone	x	x	Dimethomorph	x	
Atraton	x	x	Dimoxystrobin	x	x
Atrazine	x	x	Dinoterb	x	
Azaconazole	x	x	Diphenamid	x	x
Azobenzene	x		Diphenylamine	x	
Azoxystrobin	x		Disulfoton	x	x
Benalaxyl	x	x	Edifenphos	x	x
Benfluralin	x		Endosulfan I (alpha isomer)	x	x
BHC-alpha (benzene hexachloride)	x	x	Endosulfan II (beta isomer)	x	x
BHC-beta	x	x	Endosulfan sulfate	x	x
BHC-delta	x	x	Endrin	x	x
BHC-gamma (Lindane, gamma HCH)	x	x	EPN	x	
Bifenox	x		Epoxiconazole	x	x
Bifenthrin	x	x	EPTC	x	x
Bitertanol	x		Etaconazole	x	x
Boscalid	x	x	Ethion	x	x
Bromacil	x		Ethofumesate	x	x
Bromophos	x	x	Ethoprophos (Ethoprop)	x	x
Bromophos-ethyl	x	x	Etufenprox (Ethofenprox)	x	
Bromopropylate	x	x	Etoazole	x	x
Bromuconazole	x	x	Etrifos	x	x



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Bupirimate	x	x	Famoxadone	x	
Buprofezin (Z-isomer)	x	x	Famphur	x	x
Butachlor	x	x	Fenamidone	x	x
Cadusafos	x	x	Fenamiphos (Phenamiphos)	x	x
Carbaryl	x		Fenarimol	x	x
Carbophenothion	x		Fenbuconazole	x	x
Carboxin	x		Fenchlorphos	x	x
Carfentrazone-ethyl	x	x	Fenhexamid	x	x
Chlordane-cis & trans (alpha & gamma)	x	x	Fenitrothion	x	x
Chlordimeform	x	x	Fenpiclonil	x	x
Chlorethoxyfos	x		Fenpropathrin	x	x
Chlorfenapyr	x	x	Fenson	x	x
Chlorfenson	x	x	Fensulfothion	x	
Chlorfenvinphos	x	x	Fenthion	x	x
Chlormephos	x	x	Fenvalerate	x	
Chlorobenzilate	x	x	Fipronil	x	x
Chloropropylate	x	x	Fipronil sulfone	x	x
Chlorpropham	x	x	Flamprop-isopropyl	x	
Chlorpyrifos	x	x	Fluazifop-p-butyl	x	x
Chlorpyrifos Methyl	x	x	Flucythrinate	x	
Chlorthion		x	Fludioxonil	x	x
Chlorthiophos	x	x	Flufenacet	x	
Clomazone	x	x	Flumetralin	x	x
Cloquintocet-mexyl	x	x	Flumorph	x	
Coumaphos	x		Fluopyram	x	x
Cyflufenamid	x	x	Fluquinconazole	x	x
Cyfluthrin I-IV	x		Fluroxypyr-1-methylheptyl	x	x
Cyhalothrin (lambda & gamma)	x		Flusilazole	x	x
Cypermethrin I-IV	x		Flutolanil	x	x
Cyproconazole	x	x	Fluvalinate-tau	x	
Cyprodinil	x	x	Fluxopyroxad	x	x
DCPA (Dacthal, Chlorthal-dimethyl)	x	x	Fonofos	x	x
DDD-p,p'	x	x	Furalaxyl	x	x
DDE-p,p'	x	x	Haloxypop-2-ethoxy-ethyl	x	x
DDT-p,p'	x	x	Haloxypop-methyl	x	x
DEET (Diethyl-m-Toluamide, N,N-)	x	x	Heptachlor	x	



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Desmetryn	x	x	Heptachlor exo-epoxide (isomer B)	x	x
Dialifos	x		Heptachlor-endo-epoxide (isomer A)	x	x
Diazinon	x	x	Heptenophos	x	x
Dichlofenthion	x	x	Hexachlorobenzene	x	x
Dichlorobenzonitrile, 2,6- (Dichlobenil)	x	x	Hexaconazole	x	x
Hexazinone	x	x	Prometryn	x	x
Imazalil	x	x	Pronamide (Propyzamide)	x	
Indoxacarb	x	x	Propachlor	x	x
Iodofenphos (Jodfenphos)	x	x	Propanil (DCPA)	x	x
Iprodione	x	x	Propargite	x	
Isazofos (Miral, Isazophos)	x	x	Propazine	x	x
Isocarbophos	x	x	Propetamphos	x	x
Isodrin	x	x	Propham	x	
Isofenphos	x	x	Propiconazole I & II	x	x
Isofenphos-methyl	x	x	Proquinazid	x	x
Isomethiozin	x	x	Prosulfocarb	x	x
Isoprothiolane	x	x	Prothiofos	x	x
Isopyrazam	x	x	Pyraflufen-ethyl	x	x
Isothiazoline (Octhilinone)	x	x	Pyrazophos	x	
Kresoxim-methyl	x	x	Pyridaben	x	x
Lenacil	x	x	Pyridaphenthion	x	x
Leptophos	x	x	Pyrimethanil	x	x
Malathion	x	x	Pyriproxyfen	x	x
MCPA-thioethyl	x	x	Quinalphos	x	
Mecarbam		x	Quinoxifen	x	x
Mepanipyrim	x	x	Quintozone	x	x
Mephosfolan	x	x	Quizalofop-ethyl	x	x
Mepronil	x	x	S421 (Octachlorodipropyl ether)	x	x
Metalaxyl (Mefenoxam)	x	x	Secbumeton	x	x
Metazachlor	x	x	Silafluofen	x	x
Methacrifos	x	x	Simeconazole	x	x
Methidathion	x		Sulfallate	x	x
Methoxychlor, p,p'-	x	x	Sulfentrazone	x	x
Metolachlor	x	x	Sulfotep	x	x
Metrafenone	x	x	Sulprofos	x	x



Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

Scientific Analysis Laboratories Ltd
Issue No: 077 Issue date: 16 August 2016

Testing performed by the Organisation at the locations specified

Metribuzin	x	x	Tebuconazole	x	x
Mirex	x		Tebufenpyrad	x	x
Molinate	x	x	Tebupirimfos	x	x
Myclobutanil	x	x	Tecnazene (TCNB)	x	x
Napropamide	x		Tefluthrin, cis-	x	x
Nitrofen	x	x	Terbacil	x	x
Nitrothal-isopropyl	x	x	Terbufos	x	x
Nuarimol	x	x	Terbumeton	x	x
Ofurace	x	x	Terbuthylazine	x	x
Orysastrobins	x		Terbutryn	x	x
Oxadiazon	x	x	Tetrachlorvinphos, E-isomer	x	x
Oxadixyl	x	x	Tetraconazole	x	x
Oxyfluorfen	x	x	Tetradifon	x	x
Paclobutrazol	x	x	Tetramethrin	x	
Parathion	x	x	Tetrasul	x	
Parathion-methyl	x	x	Thiobencarb (Benthiocarb)	x	x
Penconazole	x	x	Thiometon	x	x
Pendimethalin (Penoxaline)		x	Tolclofos-methyl	x	x
Pentachloroaniline	x	x	Triadimefon	x	x
Pentachlor (Solan, CMMP)	x	x	Triadimenol	x	x
Permethrin	x	x	Triallate (Tri-allat)	x	x
Pethoxamid	x	x	Triazamate	x	x
Phenothrin	x		Triazophos	x	
Phenthoate	x	x	Trichlorophenol, 2,4,6-(Prochloraz metabolite)	x	x
Phorate	x	x	Trietazine	x	x
Phosalone	x		Trifloxystrobin	x	
Phosfolan	x	x	Trifluralin	x	
Phosmet	x		Vinclozolin	x	x
Picoxystrobin	x	x	End of Table 6		
Piperonyl butoxide	x				
Pirimicarb	x	x			
Pirimiphos-ethyl	x	x			
Pirimiphos-methyl	x	x			
Pretilachlor	x	x			
Prochloraz	x	x			
Procymidone	x	x			
Profenofos	x	x			
Prometon	x				

Appendix 2: Laboratory test reports

Scientific Analysis Laboratories Ltd

Certificate of Analysis

Report Number: Supplemental A 626184-2

Date of Report: 08-Feb-2017

Customer: En-sure
Kappara Business Centre
113 Triq Birkirkara
San Gwann SGN4197
Malta
VAT Number: MT18486514

Customer Contact: Ms Rachel Decelis

Customer Job Reference: ES-WSS002

Customer Site Reference: WEEE Recycle Land Mon

Date Job Received at SAL: 12-Jan-2017

Date Analysis Started: 16-Jan-2017

Date Analysis Completed: 30-Jan-2017

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This report should not be reproduced except in full without the written approval of the laboratory

Tests covered by this certificate were conducted in accordance with SAL SOPs

All results have been reviewed in accordance with Section 25 of the SAL Quality Manual



Report checked
and authorised by :
Mr Richard Wong
Project Manager

Issued by :
Muhammad Waqas
Project Manager



Waste Acceptance Criteria

Customer Sample Reference : WEE-1-Surface

SAL Sample Reference : 626184 001

Project Site : WEEE Recycle Land Mon

Customer Reference : ES-WSS002

Depth : 0.00

Date Sampled : 03-JAN-2017

Bulk Product					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Acid Neutralising Capacity (pH 4)	Titration	2	Mol/kg	N	<2			
Acid Neutralising Capacity (pH 7)	Titration (pH 7)	2	Mol/kg	N	<2			
BTEX (Sum)	Calc	0.0040	mg/kg	N	<0.0040	6.0		
Loss on Ignition	Grav	0.1	%	N	1.1			10.0
Moisture	Grav	0.1	%	N	8.4			
Total Organic Carbon	OX/IR	0.1	%	N	4.3	3.0	5.0	6.0
Total Petroleum Hydrocarbons C10-C40 (Sum)	Calc	1	mg/kg	N	(13) 6	500.0		
PAH (Sum)	Calc	1.6	mg/kg	N	<1.6	100.0		
PCB EC7 (Sum)	Calc	0.0035	mg/kg	N	<0.0035	1.0		
pH	Probe			N	8.1		> 6.0	

Data for BS EN 12457-2 (10:1)					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Antimony	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.06	0.7	5.0
Arsenic	Calc WAC ICP/MS	0.0020	mg/kg	N	0.012	0.5	2.0	25.0
Barium	Calc WAC ICP/MS	0.010	mg/kg	N	0.011	20.0	100.0	300.0
Cadmium	Calc WAC ICP/MS	0.00020	mg/kg	N	0.00030	0.04	1.0	5.0
Chromium	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.5	10.0	70.0
Copper	Calc WAC ICP/MS	0.0050	mg/kg	N	0.012	2.0	50.0	100.0
Lead	Calc WAC ICP/MS	0.0030	mg/kg	N	<0.0030	0.5	10.0	50.0
Mercury	Calc WAC ICP/MS	0.00050	mg/kg	N	<0.00050	0.01	0.2	2.0
Molybdenum	Calc WAC ICP/MS	0.010	mg/kg	N	0.012	0.5	10.0	30.0
Nickel	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.4	10.0	40.0
Selenium	Calc WAC ICP/MS	0.0050	mg/kg	N	<0.0050	0.1	0.5	7.0
Zinc	Calc WAC ICP/MS	0.020	mg/kg	N	0.043	4.0	50.0	200.0
Chloride	Calc (W)	10	mg/kg	N	240	800.0	15000.0	25000.0
Fluoride	Calc (W)	0.50	mg/kg	N	4.3	10.0	150.0	500.0
Sulphate	Calc (W)	5	mg/kg	N	45	1000.0	20000.0	50000.0
Phenols (Total-Mono)	Calc	1.0	mg/kg	N	<1.0	1.0		
Dissolved Organic Carbon	Calc	10	mg/kg	N	50	500.0	800.0	1000.0
Total Dissolved Solids	Calc WAC ICP/MS	1000	mg/kg	N	<1000	4000.0	60000.0	100000.0

Following the recommendation from the Environment Agency (England and Wales)*, the leachate preparation in this report has been carried out to BS EN 12457-2 : One Stage batch test at a liquid to solid ratio of 10 l/kg. This is also compliant with Schedule 10 of the Environmental Permitting Regulations 2010.

Note : This is the minimum amount of testing which is required.

Further testing may be required if :

- evidence of immediately leachable parameters becomes available.
- evidence to indicate that the sample could be classified as hazardous under H1-H14 of the Waste(England and Wales) Regulations 2011(as amended) becomes available.

Acceptance of waste at landfill is always at the discretion of the Landfill Operator.

* Waste Sampling and Testing for Disposal at Landfill, EBPR1 11507B, Environment Agency (England and Wales) March 2013

Waste Acceptance Criteria

Customer Sample Reference : WEE-1-2m

SAL Sample Reference : 626184 002

Project Site : WEEE Recycle Land Mon

Customer Reference : ES-WSS002

Date Sampled : 03-JAN-2017

Depth : 2.00

Bulk Product					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Acid Neutralising Capacity (pH 4)	Titration	2	Mol/kg	N	<2			
Acid Neutralising Capacity (pH 7)	Titration (pH 7)	2	Mol/kg	N	<2			
BTEX (Sum)	Calc	0.0040	mg/kg	N	<0.0040	6.0		
Loss on Ignition	Grav	0.1	%	N	0.9			10.0
Moisture	Grav	0.1	%	N	10.5			
Total Organic Carbon	OX/IR	0.1	%	N	2.8	3.0	5.0	6.0
Total Petroleum Hydrocarbons C10-C40 (Sum)	Calc	1	mg/kg	N	⁽¹³⁾ 7	500.0		
PAH (Sum)	Calc	1.6	mg/kg	N	<1.6	100.0		
PCB EC7 (Sum)	Calc	0.0035	mg/kg	N	<0.0035	1.0		
pH	Probe			N	8.3		> 6.0	

Data for BS EN 12457-2 (10:1)					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Antimony	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.06	0.7	5.0
Arsenic	Calc WAC ICP/MS	0.0020	mg/kg	N	0.0073	0.5	2.0	25.0
Barium	Calc WAC ICP/MS	0.010	mg/kg	N	0.010	20.0	100.0	300.0
Cadmium	Calc WAC ICP/MS	0.00020	mg/kg	N	<0.00020	0.04	1.0	5.0
Chromium	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.5	10.0	70.0
Copper	Calc WAC ICP/MS	0.0050	mg/kg	N	0.0063	2.0	50.0	100.0
Lead	Calc WAC ICP/MS	0.0030	mg/kg	N	<0.0030	0.5	10.0	50.0
Mercury	Calc WAC ICP/MS	0.00050	mg/kg	N	<0.00050	0.01	0.2	2.0
Molybdenum	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.5	10.0	30.0
Nickel	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.4	10.0	40.0
Selenium	Calc WAC ICP/MS	0.0050	mg/kg	N	<0.0050	0.1	0.5	7.0
Zinc	Calc WAC ICP/MS	0.020	mg/kg	N	<0.020	4.0	50.0	200.0
Chloride	Calc (W)	10	mg/kg	N	36	800.0	15000.0	25000.0
Fluoride	Calc (W)	0.50	mg/kg	N	4.7	10.0	150.0	500.0
Sulphate	Calc (W)	5	mg/kg	N	37	1000.0	20000.0	50000.0
Phenols (Total-Mono)	Calc	1.0	mg/kg	N	<1.0	1.0		
Dissolved Organic Carbon	Calc	10	mg/kg	N	47	500.0	800.0	1000.0
Total Dissolved Solids	Calc WAC ICP/MS	1000	mg/kg	N	<1000	4000.0	60000.0	100000.0

Following the recommendation from the Environment Agency (England and Wales)*, the leachate preparation in this report has been carried out to BS EN 12457-2 : One Stage batch test at a liquid to solid ratio of 10 l/kg. This is also compliant with Schedule 10 of the Environmental Permitting Regulations 2010.

Note : This is the minimum amount of testing which is required.

Further testing may be required if :

- evidence of immediately leachable parameters becomes available.
- evidence to indicate that the sample could be classified as hazardous under H1-H14 of the Waste(England and Wales) Regulations 2011(as amended) becomes available.

Acceptance of waste at landfill is always at the discretion of the Landfill Operator.

* Waste Sampling and Testing for Disposal at Landfill, EBPR1 11507B, Environment Agency (England and Wales) March 2013

Waste Acceptance Criteria

Customer Sample Reference : WEE-2-Surface

SAL Sample Reference : 626184 003

Project Site : WEEE Recycle Land Mon

Customer Reference : ES-WSS002

Depth : 0.00

Date Sampled : 03-JAN-2017

Bulk Product					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Acid Neutralising Capacity (pH 4)	Titration	2	Mol/kg	N	<2			
Acid Neutralising Capacity (pH 7)	Titration (pH 7)	2	Mol/kg	N	<2			
BTEX (Sum)	Calc	0.0040	mg/kg	N	<0.0040	6.0		
Loss on Ignition	Grav	0.1	%	N	1.7			10.0
Moisture	Grav	0.1	%	N	14.2			
Total Organic Carbon	OX/IR	0.1	%	N	<0.1	3.0	5.0	6.0
Total Petroleum Hydrocarbons C10-C40 (Sum)	Calc	1	mg/kg	N	(13) 2	500.0		
PAH (Sum)	Calc	1.6	mg/kg	N	<1.6	100.0		
PCB EC7 (Sum)	Calc	0.0035	mg/kg	N	<0.0035	1.0		
pH	Probe			N	8.6		> 6.0	

Data for BS EN 12457-2 (10:1)					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Antimony	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.06	0.7	5.0
Arsenic	Calc WAC ICP/MS	0.0020	mg/kg	N	0.016	0.5	2.0	25.0
Barium	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	20.0	100.0	300.0
Cadmium	Calc WAC ICP/MS	0.00020	mg/kg	N	<0.00020	0.04	1.0	5.0
Chromium	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.5	10.0	70.0
Copper	Calc WAC ICP/MS	0.0050	mg/kg	N	0.0081	2.0	50.0	100.0
Lead	Calc WAC ICP/MS	0.0030	mg/kg	N	<0.0030	0.5	10.0	50.0
Mercury	Calc WAC ICP/MS	0.00050	mg/kg	N	<0.00050	0.01	0.2	2.0
Molybdenum	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.5	10.0	30.0
Nickel	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.4	10.0	40.0
Selenium	Calc WAC ICP/MS	0.0050	mg/kg	N	<0.0050	0.1	0.5	7.0
Zinc	Calc WAC ICP/MS	0.020	mg/kg	N	0.021	4.0	50.0	200.0
Chloride	Calc (W)	10	mg/kg	N	26	800.0	15000.0	25000.0
Fluoride	Calc (W)	0.50	mg/kg	N	4.8	10.0	150.0	500.0
Sulphate	Calc (W)	5	mg/kg	N	27	1000.0	20000.0	50000.0
Phenols (Total-Mono)	Calc	1.0	mg/kg	N	<1.0	1.0		
Dissolved Organic Carbon	Calc	10	mg/kg	N	66	500.0	800.0	1000.0
Total Dissolved Solids	Calc WAC ICP/MS	1000	mg/kg	N	<1000	4000.0	60000.0	100000.0

Following the recommendation from the Environment Agency (England and Wales)*, the leachate preparation in this report has been carried out to BS EN 12457-2 : One Stage batch test at a liquid to solid ratio of 10 l/kg. This is also compliant with Schedule 10 of the Environmental Permitting Regulations 2010.

Note : This is the minimum amount of testing which is required.

Further testing may be required if :

- evidence of immediately leachable parameters becomes available.
- evidence to indicate that the sample could be classified as hazardous under H1-H14 of the Waste(England and Wales) Regulations 2011(as amended) becomes available.

Acceptance of waste at landfill is always at the discretion of the Landfill Operator.

* Waste Sampling and Testing for Disposal at Landfill, EBPR1 11507B, Environment Agency (England and Wales) March 2013

Waste Acceptance Criteria

Customer Sample Reference : WEE-2-2m

SAL Sample Reference : 626184 004

Project Site : WEEE Recycle Land Mon

Customer Reference : ES-WSS002

Date Sampled : 03-JAN-2017

Depth : 2.00

Bulk Product					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Acid Neutralising Capacity (pH 4)	Titration	2	Mol/kg	N	<2			
Acid Neutralising Capacity (pH 7)	Titration (pH 7)	2	Mol/kg	N	<2			
BTEX (Sum)	Calc	0.0040	mg/kg	N	<0.0040	6.0		
Loss on Ignition	Grav	0.1	%	N	0.9			10.0
Moisture	Grav	0.1	%	N	8.6			
Total Organic Carbon	OX/IR	0.1	%	N	2.1	3.0	5.0	6.0
Total Petroleum Hydrocarbons C10-C40 (Sum)	Calc	1	mg/kg	N	(13) 6	500.0		
PAH (Sum)	Calc	1.6	mg/kg	N	<1.6	100.0		
PCB EC7 (Sum)	Calc	0.0035	mg/kg	N	<0.0035	1.0		
pH	Probe			N	8.4		> 6.0	



SCIENTIFIC ANALYSIS
LABORATORIES

Waste Acceptance Criteria

Customer Sample Reference : WEE-3-Surface

SAL Sample Reference : 626184 005

Project Site : WEEE Recycle Land Mon

Customer Reference : ES-WSS002

Date Sampled : 03-JAN-2017

Depth : 0.00

Bulk Product					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Acid Neutralising Capacity (pH 4)	Titration	2	Mol/kg	N	<2			
Acid Neutralising Capacity (pH 7)	Titration (pH 7)	2	Mol/kg	N	<2			
BTEX (Sum)	Calc	0.0040	mg/kg	N	<0.0040	6.0		
Loss on Ignition	Grav	0.1	%	N	1.0			10.0
Moisture	Grav	0.1	%	N	6.3			
Total Organic Carbon	OX/IR	0.1	%	N	2.7	3.0	5.0	6.0
Total Petroleum Hydrocarbons C10-C40 (Sum)	Calc	1	mg/kg	N	(13) 6	500.0		
PAH (Sum)	Calc	1.6	mg/kg	N	<1.6	100.0		
PCB EC7 (Sum)	Calc	0.0035	mg/kg	N	<0.0035	1.0		
pH	Probe			N	8.3		> 6.0	

Data for BS EN 12457-2 (10:1)					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Antimony	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.06	0.7	5.0
Arsenic	Calc WAC ICP/MS	0.0020	mg/kg	N	0.017	0.5	2.0	25.0
Barium	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	20.0	100.0	300.0
Cadmium	Calc WAC ICP/MS	0.00020	mg/kg	N	<0.00020	0.04	1.0	5.0
Chromium	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.5	10.0	70.0
Copper	Calc WAC ICP/MS	0.0050	mg/kg	N	0.0058	2.0	50.0	100.0
Lead	Calc WAC ICP/MS	0.0030	mg/kg	N	<0.0030	0.5	10.0	50.0
Mercury	Calc WAC ICP/MS	0.00050	mg/kg	N	<0.00050	0.01	0.2	2.0
Molybdenum	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.5	10.0	30.0
Nickel	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.4	10.0	40.0
Selenium	Calc WAC ICP/MS	0.0050	mg/kg	N	<0.0050	0.1	0.5	7.0
Zinc	Calc WAC ICP/MS	0.020	mg/kg	N	0.020	4.0	50.0	200.0
Chloride	Calc (W)	10	mg/kg	N	64	800.0	15000.0	25000.0
Fluoride	Calc (W)	0.50	mg/kg	N	4.2	10.0	150.0	500.0
Sulphate	Calc (W)	5	mg/kg	N	40	1000.0	20000.0	50000.0
Phenols (Total-Mono)	Calc	1.0	mg/kg	N	<1.0	1.0		
Dissolved Organic Carbon	Calc	10	mg/kg	N	57	500.0	800.0	1000.0
Total Dissolved Solids	Calc WAC ICP/MS	1000	mg/kg	N	<1000	4000.0	60000.0	100000.0

Following the recommendation from the Environment Agency (England and Wales)*, the leachate preparation in this report has been carried out to BS EN 12457-2 : One Stage batch test at a liquid to solid ratio of 10 l/kg. This is also compliant with Schedule 10 of the Environmental Permitting Regulations 2010.

Note : This is the minimum amount of testing which is required.

Further testing may be required if :

- evidence of immediately leachable parameters becomes available.
- evidence to indicate that the sample could be classified as hazardous under H1-H14 of the Waste(England and Wales) Regulations 2011(as amended) becomes available.

Acceptance of waste at landfill is always at the discretion of the Landfill Operator.

* Waste Sampling and Testing for Disposal at Landfill, EBPR1 11507B, Environment Agency (England and Wales) March 2013

Waste Acceptance Criteria

Customer Sample Reference : WEE-3-2m

SAL Sample Reference : 626184 006

Project Site : WEEE Recycle Land Mon

Customer Reference : ES-WSS002

Depth : 2.00

Date Sampled : 03-JAN-2017

Bulk Product					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Acid Neutralising Capacity (pH 4)	Titration	2	Mol/kg	N	<2			
Acid Neutralising Capacity (pH 7)	Titration (pH 7)	2	Mol/kg	N	<2			
BTEX (Sum)	Calc	0.0040	mg/kg	N	<0.0040	6.0		
Loss on Ignition	Grav	0.1	%	N	0.9			10.0
Moisture	Grav	0.1	%	N	7.9			
Total Organic Carbon	OX/IR	0.1	%	N	3.1	3.0	5.0	6.0
Total Petroleum Hydrocarbons C10-C40 (Sum)	Calc	1	mg/kg	N	(13) 2	500.0		
PAH (Sum)	Calc	1.6	mg/kg	N	<1.6	100.0		
PCB EC7 (Sum)	Calc	0.0035	mg/kg	N	<0.0035	1.0		
pH	Probe			N	8.4		> 6.0	



Waste Acceptance Criteria

Customer Sample Reference : WEE-4-Surface

SAL Sample Reference : 626184 007

Project Site : WEEE Recycle Land Mon

Customer Reference : ES-WSS002

Depth : 0.00

Date Sampled : 03-JAN-2017

Bulk Product					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Acid Neutralising Capacity (pH 4)	Titration	2	Mol/kg	N	<2			
Acid Neutralising Capacity (pH 7)	Titration (pH 7)	2	Mol/kg	N	<2			
BTEX (Sum)	Calc	0.0040	mg/kg	N	<0.0040	6.0		
Loss on Ignition	Grav	0.1	%	N	1.5			10.0
Moisture	Grav	0.1	%	N	13.2			
Total Organic Carbon	OX/IR	0.1	%	N	1.5	3.0	5.0	6.0
Total Petroleum Hydrocarbons C10-C40 (Sum)	Calc	1	mg/kg	N	(13) 8	500.0		
PAH (Sum)	Calc	1.6	mg/kg	N	<1.6	100.0		
PCB EC7 (Sum)	Calc	0.0035	mg/kg	N	<0.0035	1.0		
pH	Probe			N	8.2		> 6.0	

Data for BS EN 12457-2 (10:1)					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Antimony	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.06	0.7	5.0
Arsenic	Calc WAC ICP/MS	0.0020	mg/kg	N	0.0043	0.5	2.0	25.0
Barium	Calc WAC ICP/MS	0.010	mg/kg	N	0.010	20.0	100.0	300.0
Cadmium	Calc WAC ICP/MS	0.00020	mg/kg	N	<0.00020	0.04	1.0	5.0
Chromium	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.5	10.0	70.0
Copper	Calc WAC ICP/MS	0.0050	mg/kg	N	0.0091	2.0	50.0	100.0
Lead	Calc WAC ICP/MS	0.0030	mg/kg	N	<0.0030	0.5	10.0	50.0
Mercury	Calc WAC ICP/MS	0.00050	mg/kg	N	<0.00050	0.01	0.2	2.0
Molybdenum	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.5	10.0	30.0
Nickel	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.4	10.0	40.0
Selenium	Calc WAC ICP/MS	0.0050	mg/kg	N	<0.0050	0.1	0.5	7.0
Zinc	Calc WAC ICP/MS	0.020	mg/kg	N	0.33	4.0	50.0	200.0
Chloride	Calc (W)	10	mg/kg	N	210	800.0	15000.0	25000.0
Fluoride	Calc (W)	0.50	mg/kg	N	8.1	10.0	150.0	500.0
Sulphate	Calc (W)	5	mg/kg	N	59	1000.0	20000.0	50000.0
Phenols (Total-Mono)	Calc	1.0	mg/kg	N	<1.0	1.0		
Dissolved Organic Carbon	Calc	10	mg/kg	N	63	500.0	800.0	1000.0
Total Dissolved Solids	Calc WAC ICP/MS	1000	mg/kg	N	<1000	4000.0	60000.0	100000.0

Following the recommendation from the Environment Agency (England and Wales)*, the leachate preparation in this report has been carried out to BS EN 12457-2 : One Stage batch test at a liquid to solid ratio of 10 l/kg. This is also compliant with Schedule 10 of the Environmental Permitting Regulations 2010.

Note : This is the minimum amount of testing which is required.

Further testing may be required if :

- evidence of immediately leachable parameters becomes available.
- evidence to indicate that the sample could be classified as hazardous under H1-H14 of the Waste(England and Wales) Regulations 2011(as amended) becomes available.

Acceptance of waste at landfill is always at the discretion of the Landfill Operator.

* Waste Sampling and Testing for Disposal at Landfill, EBPR1 11507B, Environment Agency (England and Wales) March 2013

Waste Acceptance Criteria

Customer Sample Reference : WEE-4-2m

SAL Sample Reference : 626184 008

Project Site : WEEE Recycle Land Mon

Customer Reference : ES-WSS002

Date Sampled : 03-JAN-2017

Depth : 2.00

Bulk Product					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Acid Neutralising Capacity (pH 4)	Titration	2	Mol/kg	N	<2			
Acid Neutralising Capacity (pH 7)	Titration (pH 7)	2	Mol/kg	N	<2			
BTEX (Sum)	Calc	0.0040	mg/kg	N	<0.0040	6.0		
Loss on Ignition	Grav	0.1	%	N	1.7			10.0
Moisture	Grav	0.1	%	N	14.5			
Total Organic Carbon	OX/IR	0.1	%	N	0.9	3.0	5.0	6.0
Total Petroleum Hydrocarbons C10-C40 (Sum)	Calc	1	mg/kg	N	(13) 2	500.0		
PAH (Sum)	Calc	1.6	mg/kg	N	<1.6	100.0		
PCB EC7 (Sum)	Calc	0.0035	mg/kg	N	<0.0035	1.0		
pH	Probe			N	8.3		> 6.0	

Data for BS EN 12457-2 (10:1)					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Antimony	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.06	0.7	5.0
Arsenic	Calc WAC ICP/MS	0.0020	mg/kg	N	0.015	0.5	2.0	25.0
Barium	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	20.0	100.0	300.0
Cadmium	Calc WAC ICP/MS	0.00020	mg/kg	N	<0.00020	0.04	1.0	5.0
Chromium	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.5	10.0	70.0
Copper	Calc WAC ICP/MS	0.0050	mg/kg	N	<0.0050	2.0	50.0	100.0
Lead	Calc WAC ICP/MS	0.0030	mg/kg	N	<0.0030	0.5	10.0	50.0
Mercury	Calc WAC ICP/MS	0.00050	mg/kg	N	<0.00050	0.01	0.2	2.0
Molybdenum	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.5	10.0	30.0
Nickel	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.4	10.0	40.0
Selenium	Calc WAC ICP/MS	0.0050	mg/kg	N	<0.0050	0.1	0.5	7.0
Zinc	Calc WAC ICP/MS	0.020	mg/kg	N	<0.020	4.0	50.0	200.0
Chloride	Calc (W)	10	mg/kg	N	43	800.0	15000.0	25000.0
Fluoride	Calc (W)	0.50	mg/kg	N	5.6	10.0	150.0	500.0
Sulphate	Calc (W)	5	mg/kg	N	33	1000.0	20000.0	50000.0
Phenols (Total-Mono)	Calc	1.0	mg/kg	N	<1.0	1.0		
Dissolved Organic Carbon	Calc	10	mg/kg	N	64	500.0	800.0	1000.0
Total Dissolved Solids	Calc WAC ICP/MS	1000	mg/kg	N	<1000	4000.0	60000.0	100000.0

Following the recommendation from the Environment Agency (England and Wales)*, the leachate preparation in this report has been carried out to BS EN 12457-2 : One Stage batch test at a liquid to solid ratio of 10 l/kg. This is also compliant with Schedule 10 of the Environmental Permitting Regulations 2010.

Note : This is the minimum amount of testing which is required.

Further testing may be required if :

- evidence of immediately leachable parameters becomes available.
- evidence to indicate that the sample could be classified as hazardous under H1-H14 of the Waste(England and Wales) Regulations 2011(as amended) becomes available.

Acceptance of waste at landfill is always at the discretion of the Landfill Operator.

* Waste Sampling and Testing for Disposal at Landfill, EBPR1 11507B, Environment Agency (England and Wales) March 2013

Waste Acceptance Criteria

Customer Sample Reference : WEE-5-Surface

SAL Sample Reference : 626184 009

Project Site : WEEE Recycle Land Mon

Customer Reference : ES-WSS002

Date Sampled : 03-JAN-2017

Depth : 0.00

Bulk Product					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Acid Neutralising Capacity (pH 4)	Titration	2	Mol/kg	N	<2			
Acid Neutralising Capacity (pH 7)	Titration (pH 7)	2	Mol/kg	N	<2			
BTEX (Sum)	Calc	0.0040	mg/kg	N	<0.0040	6.0		
Loss on Ignition	Grav	0.1	%	N	1.1			10.0
Moisture	Grav	0.1	%	N	11.0			
Total Organic Carbon	OX/IR	0.1	%	N	1.0	3.0	5.0	6.0
Total Petroleum Hydrocarbons C10-C40 (Sum)	Calc	1	mg/kg	N	⁽¹³⁾ 2	500.0		
PAH (Sum)	Calc	1.6	mg/kg	N	<1.6	100.0		
PCB EC7 (Sum)	Calc	0.0035	mg/kg	N	<0.0035	1.0		
pH	Probe			N	8.4		> 6.0	

Data for BS EN 12457-2 (10:1)					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Antimony	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.06	0.7	5.0
Arsenic	Calc WAC ICP/MS	0.0020	mg/kg	N	0.0074	0.5	2.0	25.0
Barium	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	20.0	100.0	300.0
Cadmium	Calc WAC ICP/MS	0.00020	mg/kg	N	<0.00020	0.04	1.0	5.0
Chromium	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.5	10.0	70.0
Copper	Calc WAC ICP/MS	0.0050	mg/kg	N	0.0078	2.0	50.0	100.0
Lead	Calc WAC ICP/MS	0.0030	mg/kg	N	<0.0030	0.5	10.0	50.0
Mercury	Calc WAC ICP/MS	0.00050	mg/kg	N	<0.00050	0.01	0.2	2.0
Molybdenum	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.5	10.0	30.0
Nickel	Calc WAC ICP/MS	0.010	mg/kg	N	<0.010	0.4	10.0	40.0
Selenium	Calc WAC ICP/MS	0.0050	mg/kg	N	<0.0050	0.1	0.5	7.0
Zinc	Calc WAC ICP/MS	0.020	mg/kg	N	<0.020	4.0	50.0	200.0
Chloride	Calc (W)	10	mg/kg	N	69	800.0	15000.0	25000.0
Fluoride	Calc (W)	0.50	mg/kg	N	4.4	10.0	150.0	500.0
Sulphate	Calc (W)	5	mg/kg	N	25	1000.0	20000.0	50000.0
Phenols (Total-Mono)	Calc	1.0	mg/kg	N	<1.0	1.0		
Dissolved Organic Carbon	Calc	10	mg/kg	N	52	500.0	800.0	1000.0
Total Dissolved Solids	Calc WAC ICP/MS	1000	mg/kg	N	<1000	4000.0	60000.0	100000.0

Following the recommendation from the Environment Agency (England and Wales)*, the leachate preparation in this report has been carried out to BS EN 12457-2 : One Stage batch test at a liquid to solid ratio of 10 l/kg. This is also compliant with Schedule 10 of the Environmental Permitting Regulations 2010.

Note : This is the minimum amount of testing which is required.

Further testing may be required if :

- evidence of immediately leachable parameters becomes available.
- evidence to indicate that the sample could be classified as hazardous under H1-H14 of the Waste(England and Wales) Regulations 2011(as amended) becomes available.

Acceptance of waste at landfill is always at the discretion of the Landfill Operator.

* Waste Sampling and Testing for Disposal at Landfill, EBPR1 11507B, Environment Agency (England and Wales) March 2013

Waste Acceptance Criteria

Customer Sample Reference : WEE-5-2m

SAL Sample Reference : 626184 010

Project Site : WEEE Recycle Land Mon

Customer Reference : ES-WSS002

Date Sampled : 03-JAN-2017

Depth : 2.00

Bulk Product					Result	Inert Waste Landfill	Stable non reactive	Hazardous Waste Landfill
Determinand	Technique	LOD	Units	Symbol				
Acid Neutralising Capacity (pH 4)	Titration	2	Mol/kg	N	<2			
Acid Neutralising Capacity (pH 7)	Titration (pH 7)	2	Mol/kg	N	<2			
BTEX (Sum)	Calc	0.0040	mg/kg	N	<0.0040	6.0		
Loss on Ignition	Grav	0.1	%	N	1.7			10.0
Moisture	Grav	0.1	%	N	11.4			
Total Organic Carbon	OX/IR	0.1	%	N	<0.1	3.0	5.0	6.0
Total Petroleum Hydrocarbons C10-C40 (Sum)	Calc	1	mg/kg	N	(13) 1	500.0		
PAH (Sum)	Calc	1.6	mg/kg	N	<1.6	100.0		
PCB EC7 (Sum)	Calc	0.0035	mg/kg	N	<0.0035	1.0		
pH	Probe			N	8.4		> 6.0	



SAL Reference: 626184									
Project Site: WEEE Recycle Land Mon									
Customer Reference: ES-WSS002									
Leachate to BS EN 12457-2 (10:1)		Analysed as Water							
Waste Acceptance Criteria									
SAL Reference				626184 001	626184 002	626184 003	626184 005	626184 007	
Customer Sample Reference				WEE-1-Surface	WEE-1-2m	WEE-2-Surface	WEE-3-Surface	WEE-4-Surface	
Test Sample				10:1	10:1	10:1	10:1	10:1	
Depth				0.00	2.00	0.00	0.00	0.00	
Date Sampled				03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	
Determinand	Method	LOD	Units	Symbol					
Antimony (Dissolved)	ICP/MS (Filtered)	1	µg/l	U	<1	<1	<1	<1	<1
Arsenic (Dissolved)	ICP/MS (Filtered)	0.2	µg/l	U	1.2	0.7	1.6	1.7	0.4
Barium (Dissolved)	ICP/MS (Filtered)	1	µg/l	U	1	1	<1	<1	1
Cadmium (Dissolved)	ICP/MS (Filtered)	0.02	µg/l	U	0.03	<0.02	<0.02	<0.02	<0.02
Chromium (Dissolved)	ICP/MS (Filtered)	1	µg/l	U	<1	<1	<1	<1	<1
Copper (Dissolved)	ICP/MS (Filtered)	0.5	µg/l	U	1.2	0.6	0.8	0.6	0.9
Lead (Dissolved)	ICP/MS (Filtered)	0.3	µg/l	U	<0.3	<0.3	<0.3	<0.3	<0.3
Mercury (Dissolved)	ICP/MS (Filtered)	0.05	µg/l	U	<0.05	<0.05	<0.05	<0.05	<0.05
Molybdenum (Dissolved)	ICP/MS (Filtered)	1	µg/l	N	1	<1	<1	<1	<1
Nickel (Dissolved)	ICP/MS (Filtered)	1	µg/l	U	<1	<1	<1	<1	<1
Selenium (Dissolved)	ICP/MS (Filtered)	0.5	µg/l	U	<0.5	<0.5	<0.5	<0.5	<0.5
Zinc (Dissolved)	ICP/MS (Filtered)	2	µg/l	U	4	<2	2	2	33
Chloride	Discrete Analyser	1	mg/l	U	24	4	3	6	21
Fluoride	Discrete Analyser	0.05	mg/l	U	0.43	0.47	0.48	0.42	0.81
Sulphate	Discrete Analyser	0.5	mg/l	U	4.5	3.7	2.7	4.0	5.9
Phenols (Total-Mono)	Colorimetry	0.1	mg/l	U	<0.1	<0.1	<0.1	<0.1	<0.1
Dissolved Organic Carbon	OX/IR	1	mg/l	N	5	5	7	6	6
Total Dissolved Solids	Grav	100	mg/l	N	<100	<100	<100	<100	<100
Electrical Conductivity	Probe	10	µS/cm	N	140	66	70	80	130
Volume	Vol	1	ml	U	-	-	-	-	-

SAL Reference: 626184 Project Site: WEEE Recycle Land Mon Customer Reference: ES-WSS002 Leachate to BS EN 12457-2 (10:1) Analysed as Water Waste Acceptance Criteria									
SAL Reference			626184 008	626184 009					
Customer Sample Reference			WEE-4-2m	WEE-5-Surface					
Test Sample			10:1	10:1					
Depth			2.00	0.00					
Date Sampled			03-JAN-2017	03-JAN-2017					
Determinand	Method	LOD	Units	Symbol					
Antimony (Dissolved)	ICP/MS (Filtered)	1	µg/l	U	<1	<1			
Arsenic (Dissolved)	ICP/MS (Filtered)	0.2	µg/l	U	1.5	0.7			
Barium (Dissolved)	ICP/MS (Filtered)	1	µg/l	U	<1	<1			
Cadmium (Dissolved)	ICP/MS (Filtered)	0.02	µg/l	U	<0.02	<0.02			
Chromium (Dissolved)	ICP/MS (Filtered)	1	µg/l	U	<1	<1			
Copper (Dissolved)	ICP/MS (Filtered)	0.5	µg/l	U	<0.5	0.8			
Lead (Dissolved)	ICP/MS (Filtered)	0.3	µg/l	U	<0.3	<0.3			
Mercury (Dissolved)	ICP/MS (Filtered)	0.05	µg/l	U	<0.05	<0.05			
Molybdenum (Dissolved)	ICP/MS (Filtered)	1	µg/l	N	<1	<1			
Nickel (Dissolved)	ICP/MS (Filtered)	1	µg/l	U	<1	<1			
Selenium (Dissolved)	ICP/MS (Filtered)	0.5	µg/l	U	<0.5	<0.5			
Zinc (Dissolved)	ICP/MS (Filtered)	2	µg/l	U	<2	<2			
Chloride	Discrete Analyser	1	mg/l	U	4	7			
Fluoride	Discrete Analyser	0.05	mg/l	U	0.56	0.44			
Sulphate	Discrete Analyser	0.5	mg/l	U	3.3	2.5			
Phenols (Total-Mono)	Colorimetry	0.1	mg/l	U	<0.1	<0.1			
Dissolved Organic Carbon	OX/IR	1	mg/l	N	6	5			
Total Dissolved Solids	Grav	100	mg/l	N	<100	<100			
Electrical Conductivity	Probe	10	µS/cm	N	76	64			
Volume	Vol	1	ml	U	-	-			

SAL Reference: 626184													
Project Site: WEEE Recycle Land Mon													
Customer Reference: ES-WSS002													
Bulk Product		Analysed as Bulk Product											
BTEX													
SAL Reference				626184 001		626184 002		626184 003		626184 004		626184 005	
Customer Sample Reference				WEE-1-Surface		WEE-1-2m		WEE-2-Surface		WEE-2-2m		WEE-3-Surface	
Test Sample				AR		AR		AR		AR		AR	
Depth				0.00		2.00		0.00		2.00		0.00	
Date Sampled				03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017	
Determinand		Method		LOD		Units		Symbol					
Meta/Para-Xylene		GC/MS (Headspace)		1		µg/kg		N		<1		<1	
Benzene		GC/MS (Headspace)		1		µg/kg		N		(13) <1		(13) <1	
EthylBenzene		GC/MS (Headspace)		1		µg/kg		N		<1		<1	
Ortho-Xylene		GC/MS (Headspace)		1		µg/kg		N		<1		<1	
Toluene		GC/MS (Headspace)		1		µg/kg		N		<1		<1	

<div>SAL Reference: 626184</div> <div>Project Site: WEEE Recycle Land Mon</div> <div>Customer Reference: ES-WSS002</div>													
Bulk Product		Analysed as Bulk Product											
BTEX													
SAL Reference				626184 006		626184 007		626184 008		626184 009		626184 010	
Customer Sample Reference				WEE-3-2m		WEE-4-Surface		WEE-4-2m		WEE-5-Surface		WEE-5-2m	
Test Sample				AR		AR		AR		AR		AR	
Depth				2.00		0.00		2.00		0.00		2.00	
Date Sampled				03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017	
Determinand		Method	LOD	Units	Symbol								
Meta/Para-Xylene		GC/MS (Headspace)	1	µg/kg	N	<1		<1		<1		<1	
Benzene		GC/MS (Headspace)	1	µg/kg	N	(13) <1		(13) <1		(13) <1		(13) <1	
EthylBenzene		GC/MS (Headspace)	1	µg/kg	N	<1		<1		<1		<1	
Ortho-Xylene		GC/MS (Headspace)	1	µg/kg	N	<1		<1		<1		<1	
Toluene		GC/MS (Headspace)	1	µg/kg	N	<1		<1		<1		<1	

SAL Reference: 626184										
Project Site: WEEE Recycle Land Mon										
Customer Reference: ES-WSS002										
Bulk Product		Analysed as Bulk Product								
TPH										
SAL Reference					626184 001	626184 002	626184 003	626184 004	626184 005	
Customer Sample Reference					WEE-1-Surface	WEE-1-2m	WEE-2-Surface	WEE-2-2m	WEE-3-Surface	
Test Sample					AR	AR	AR	AR	AR	
Depth					0.00	2.00	0.00	2.00	0.00	
Date Sampled					03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	
Determinand		Method	LOD	Units	Symbol					
Total Petroleum Hydrocarbons		GC/FID	1	mg/kg	N	(13) 6	(13) 7	(13) 2	(13) 6	(13) 6
Total Petroleum Hydrocarbons (C35-C40)		GC/FID	1	mg/kg	N	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1

SAL Reference: 626184										
Project Site: WEEE Recycle Land Mon										
Customer Reference: ES-WSS002										
Bulk Product		Analysed as Bulk Product								
TPH										
SAL Reference					626184 006	626184 007	626184 008	626184 009	626184 010	
Customer Sample Reference					WEE-3-2m	WEE-4-Surface	WEE-4-2m	WEE-5-Surface	WEE-5-2m	
Test Sample					AR	AR	AR	AR	AR	
Depth					2.00	0.00	2.00	0.00	2.00	
Date Sampled					03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	
Determinand		Method	LOD	Units	Symbol					
Total Petroleum Hydrocarbons		GC/FID	1	mg/kg	N	(13) 2	(13) 8	(13) 2	(13) 2	(13) 1
Total Petroleum Hydrocarbons (C35-C40)		GC/FID	1	mg/kg	N	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1

SAL Reference: 626184									
Project Site: WEEE Recycle Land Mon									
Customer Reference: ES-WSS002									
Bulk Product Analysed as Bulk Product									
Polyaromatic Hydrocarbons (US EPA16)									
SAL Reference					626184 001	626184 002	626184 003	626184 004	626184 005
Customer Sample Reference					WEE-1-Surface	WEE-1-2m	WEE-2-Surface	WEE-2-2m	WEE-3-Surface
Test Sample					AR	AR	AR	AR	AR
Depth					0.00	2.00	0.00	2.00	0.00
Date Sampled					03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017
Determinand	Method	LOD	Units	Symbol					
Naphthalene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)Anthracene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b/k)Fluoranthene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)Pyrene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(123-cd)Pyrene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Coronene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Polyaromatic Hydrocarbons (Total)	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1

SAL Reference: 626184									
Project Site: WEEE Recycle Land Mon									
Customer Reference: ES-WSS002									
Bulk Product		Analysed as Bulk Product							
Polyaromatic Hydrocarbons (US EPA16)									
SAL Reference					626184 006	626184 007	626184 008	626184 009	626184 010
Customer Sample Reference					WEE-3-2m	WEE-4-Surface	WEE-4-2m	WEE-5-Surface	WEE-5-2m
Test Sample					AR	AR	AR	AR	AR
Depth					2.00	0.00	2.00	0.00	2.00
Date Sampled					03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017
Determinand	Method	LOD	Units	Symbol					
Naphthalene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Fluorene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)Anthracene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(b/k)Fluoranthene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)Pyrene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(123-cd)Pyrene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Coronene	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1
Polyaromatic Hydrocarbons (Total)	GC/MS	0.1	mg/kg	N	<0.1	<0.1	<0.1	<0.1	<0.1

SAL Reference: 626184 Project Site: WEEE Recycle Land Mon Customer Reference: ES-WSS002										
Bulk Product		Analysed as Bulk Product								
PCB EC7										
SAL Reference				626184 001	626184 002	626184 003	626184 004	626184 005		
Customer Sample Reference				WEE-1-Surface	WEE-1-2m	WEE-2-Surface	WEE-2-2m	WEE-3-Surface		
Test Sample				AR	AR	AR	AR	AR		
Depth				0.00	2.00	0.00	2.00	0.00		
Date Sampled				03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017		
Determinand		Method	LOD	Units	Symbol					
Polychlorinated biphenyl BZ#28		GC/MS (HR)	0.5	µg/kg	N	<0.5	<0.5	<0.5	<0.5	<0.5
Polychlorinated biphenyl BZ#52		GC/MS (HR)	0.5	µg/kg	N	<0.5	<0.5	<0.5	<0.5	<0.5
Polychlorinated biphenyl BZ#101		GC/MS (SIR)	0.5	µg/kg	N	<0.5	<0.5	<0.5	<0.5	<0.5
Polychlorinated biphenyl BZ#118		GC/MS (SIR)	0.5	µg/kg	N	<0.5	<0.5	<0.5	<0.5	<0.5
Polychlorinated biphenyl BZ#138		GC/MS (SIR)	0.5	µg/kg	N	<0.5	<0.5	<0.5	<0.5	<0.5
Polychlorinated biphenyl BZ#153		GC/MS (SIR)	0.5	µg/kg	N	<0.5	<0.5	<0.5	<0.5	<0.5
Polychlorinated biphenyl BZ#180		GC/MS (HR)	0.5	µg/kg	N	<0.5	<0.5	<0.5	<0.5	<0.5

<div>SAL Reference: 626184</div> <div>Project Site: WEEE Recycle Land Mon</div> <div>Customer Reference: ES-WSS002</div> <div><div>Bulk Product</div><div>Analysed as Bulk Product</div><div>PCB EC7</div></div>										
SAL Reference				626184 006	626184 007	626184 008	626184 009	626184 010		
Customer Sample Reference				WEE-3-2m	WEE-4-Surface	WEE-4-2m	WEE-5-Surface	WEE-5-2m		
Test Sample				AR	AR	AR	AR	AR		
Depth				2.00	0.00	2.00	0.00	2.00		
Date Sampled				03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017		
Determinand		Method	LOD	Units	Symbol					
Polychlorinated biphenyl BZ#28		GC/MS (HR)	0.5	µg/kg	N	<0.5	<0.5	<0.5	<0.5	
Polychlorinated biphenyl BZ#52		GC/MS (HR)	0.5	µg/kg	N	<0.5	<0.5	<0.5	<0.5	
Polychlorinated biphenyl BZ#101		GC/MS (SIR)	0.5	µg/kg	N	<0.5	<0.5	<0.5	<0.5	
Polychlorinated biphenyl BZ#118		GC/MS (SIR)	0.5	µg/kg	N	<0.5	<0.5	<0.5	<0.5	
Polychlorinated biphenyl BZ#138		GC/MS (SIR)	0.5	µg/kg	N	<0.5	<0.5	<0.5	<0.5	
Polychlorinated biphenyl BZ#153		GC/MS (SIR)	0.5	µg/kg	N	<0.5	<0.5	<0.5	<0.5	
Polychlorinated biphenyl BZ#180		GC/MS (HR)	0.5	µg/kg	N	<0.5	<0.5	<0.5	<0.5	

SCIENTIFIC ANALYSIS
LABORATORIES

SAL Reference: 626184 Project Site: WEEE Recycle Land Mon Customer Reference: ES-WSS002 Bulk Product Analysed as Bulk Product Metals									
SAL Reference					626184 001	626184 002	626184 003	626184 004	626184 005
Customer Sample Reference					WEE-1-Surface	WEE-1-2m	WEE-2-Surface	WEE-2-2m	WEE-3-Surface
Test Sample					A40	A40	A40	A40	A40
Depth					0.00	2.00	0.00	2.00	0.00
Date Sampled					03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017
Determinand	Method	LOD	Units	Symbol					
Antimony	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10
Arsenic	ICP/OES	1	mg/kg	N	6	3	3	4	4
Cadmium	ICP/OES	1	mg/kg	N	<1	<1	<1	<1	<1
Chromium	ICP/OES	1	mg/kg	N	15	15	17	14	13
Chromium VI	ICP/OES	1.0	mg/kg	N	<1.0	<1.0	<1.0	<1.0	<1.0
Cobalt	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10
Copper	ICP/OES	1	mg/kg	N	7	8	22	8	5
Lead	ICP/OES	1	mg/kg	N	2	2	2	1	1
Manganese	ICP/OES	1	mg/kg	N	76	58	63	51	53
Mercury	ICP/OES	1	mg/kg	N	1	<1	1	1	1
Nickel	ICP/OES	1	mg/kg	N	11	9	12	8	7
Selenium	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10
Thallium	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10
Tin	ICP/OES	2	mg/kg	N	<2	<2	<2	<2	<2
Vanadium	ICP/OES	10	mg/kg	N	13	12	13	12	12
Zinc	ICP/OES	1	mg/kg	N	21	22	27	21	19

SAL Reference: 626184 Project Site: WEEE Recycle Land Mon Customer Reference: ES-WSS002 Bulk Product Analysed as Bulk Product Metals									
SAL Reference					626184 006	626184 007	626184 008	626184 009	626184 010
Customer Sample Reference					WEE-3-2m	WEE-4-Surface	WEE-4-2m	WEE-5-Surface	WEE-5-2m
Test Sample					A40	A40	A40	A40	A40
Depth					2.00	0.00	2.00	0.00	2.00
Date Sampled					03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017
Determinand	Method	LOD	Units	Symbol					
Antimony	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10
Arsenic	ICP/OES	1	mg/kg	N	4	2	4	3	3
Cadmium	ICP/OES	1	mg/kg	N	<1	<1	<1	<1	<1
Chromium	ICP/OES	1	mg/kg	N	14	18	18	14	17
Chromium VI	ICP/OES	1.0	mg/kg	N	<1.0	<1.0	<1.0	<1.0	<1.0
Cobalt	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10
Copper	ICP/OES	1	mg/kg	N	7	4	6	5	5
Lead	ICP/OES	1	mg/kg	N	<1	2	2	1	2
Manganese	ICP/OES	1	mg/kg	N	53	66	61	47	87
Mercury	ICP/OES	1	mg/kg	N	1	<1	1	<1	<1
Nickel	ICP/OES	1	mg/kg	N	7	7	10	8	14
Selenium	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10
Thallium	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10
Tin	ICP/OES	2	mg/kg	N	<2	<2	<2	<2	<2
Vanadium	ICP/OES	10	mg/kg	N	11	12	13	11	12
Zinc	ICP/OES	1	mg/kg	N	19	16	22	18	22

SAL Reference: 626184													
Project Site: WEEE Recycle Land Mon													
Customer Reference: ES-WSS002													
Bulk Product		Analysed as Bulk Product											
Additional Metals													
SAL Reference				626184 001		626184 002		626184 003		626184 005		626184 007	
Customer Sample Reference				WEE-1-Surface		WEE-1-2m		WEE-2-Surface		WEE-3-Surface		WEE-4-Surface	
Test Sample				A40		A40		A40		A40		A40	
Depth				0.00		2.00		0.00		0.00		0.00	
Date Sampled				03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017	
Determinand		Method	LOD	Units	Symbol								
Silver	ICP/OES	1	mg/kg	N	<1	-	<1	<1	<1	<1	<1	<1	<1
Calcium	ICP/OES	1	mg/kg	N	400000	-	370000	420000	370000	420000	370000	420000	370000
Barium	ICP/OES	1	mg/kg	N	8	5	10	5	17	10	17	10	17
Aluminium	ICP/OES	1	mg/kg	N	7700	-	6300	3700	5900	6300	3700	5900	6300

SAL Reference: 626184						
Project Site: WEEE Recycle Land Mon						
Customer Reference: ES-WSS002						
Bulk Product		Analysed as Bulk Product				
Additional Metals						
SAL Reference					626184 008	626184 009
Customer Sample Reference					WEE-4-2m	WEE-5-Surface
Test Sample					A40	A40
Depth					2.00	0.00
Date Sampled					03-JAN-2017	03-JAN-2017
Determinand	Method	LOD	Units	Symbol		
Silver	ICP/OES	1	mg/kg	N	-	<1
Calcium	ICP/OES	1	mg/kg	N	-	370000
Barium	ICP/OES	1	mg/kg	N	8	8
Aluminium	ICP/OES	1	mg/ka	N	-	4000

SAL Reference: 626184													
Project Site: WEEE Recycle Land Mon													
Customer Reference: ES-WSS002													
Bulk Product		Analysed as Bulk Product											
Additional Metals suite 2													
SAL Reference				626184 001		626184 002		626184 003		626184 005		626184 007	
Customer Sample Reference				WEE-1-Surface		WEE-1-2m		WEE-2-Surface		WEE-3-Surface		WEE-4-Surface	
Test Sample				A40		A40		A40		A40		A40	
Depth				0.00		2.00		0.00		0.00		0.00	
Date Sampled				03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017	
SCIENTIFIC ANALYSIS													
Determinand		Method	LOD	Units	Symbol		5	10	5	17			
Barium		ICP/OES	1	mg/kg	N	8	5	10	5	17			
Molybdenum		ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10			

SAL Reference: 626184						
Project Site: WEEE Recycle Land Mon						
Customer Reference: ES-WSS002						
Bulk Product Analysed as Bulk Product						
Additional Metals suite 2						
SAL Reference					626184 008	626184 009
Customer Sample Reference					WEE-4-2m	WEE-5-Surface
Test Sample					A40	A40
Depth					2.00	0.00
Date Sampled					03-JAN-2017	03-JAN-2017
Determinand	Method	LOD	Units	Symbol		
Barium	ICP/OES	1	mg/kg	N	8	8
Molybdenum	ICP/OES	10	mg/kg	N	≤10	≤10

SAL Reference: 626184													
Project Site: WEEE Recycle Land Mon													
Customer Reference: ES-WSS002													
Bulk Product		Analysed as Bulk Product											
Rare Earth Metals													
SAL Reference				626184 001		626184 003		626184 005		626184 007		626184 009	
Customer Sample Reference				WEE-1-Surface		WEE-2-Surface		WEE-3-Surface		WEE-4-Surface		WEE-5-Surface	
Test Sample				AR		AR		AR		AR		AR	
Depth				0.00		0.00		0.00		0.00		0.00	
Date Sampled				03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017	
Determinand		Method	LOD	Units	Symbol								
Yttrium	ICP/OES	5	mg/kg	N	7	<5	<5	<5	9	<5	<5	<5	<5
Cerium	ICP/OES	5	mg/kg	N	<5	<5	<5	<5	<5	<5	<5	<5	<5
Lanthanum	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10	<10	<10	<10	<10
Praseodymium	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10	<10	<10	<10	<10
Neodymium	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10	<10	<10	<10	<10
Gadolinium	ICP/OES	1	mg/kg	N	<1	<1	<1	<1	<1	<1	<1	<1	<1
Terbium	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10	<10	<10	<10	<10
Dysprosium	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10	<10	<10	<10	<10
Erbium	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ytterbium	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10	<10	<10	<10	<10
Lutetium	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10	<10	<10	<10	<10

SAL Reference: 626184									
Project Site: WEEE Recycle Land Mon									
Customer Reference: ES-WSS002									
Bulk Product		Analysed as Bulk Product							
Rare Earth Metals									
SAL Reference					626184 001	626184 003	626184 005	626184 007	626184 009
Customer Sample Reference					WEE-1-Surface	WEE-2-Surface	WEE-3-Surface	WEE-4-Surface	WEE-5-Surface
Test Sample					A40	A40	A40	A40	A40
Depth					0.00	0.00	0.00	0.00	0.00
Date Sampled					03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017
Determinand	Method	LOD	Units	Symbol					
Scandium	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10
Samarium	ICP/OES	1	mg/kg	N	<1	<1	<1	<1	<1
Europium	ICP/OES	1	mg/kg	N	<1	<1	<1	<1	<1
Holmium	ICP/OES	1	mg/kg	N	<1	<1	<1	<1	<1
Thulium	ICP/OES	10	mg/kg	N	<10	<10	<10	<10	<10

SAL Reference: 626184											
Project Site: WEEE Recycle Land Mon											
Customer Reference: ES-WSS002											
Bulk Product		Analysed as Bulk Product									
Misc											
SAL Reference		626184 001		626184 002		626184 003		626184 004		626184 005	
Customer Sample Reference		WEE-1-Surface		WEE-1-2m		WEE-2-Surface		WEE-2-2m		WEE-3-Surface	
Test Sample		AR		AR		AR		AR		AR	
Depth		0.00		2.00		0.00		2.00		0.00	
Date Sampled		03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017	
Determinand		Method		LOD		Units		Symbol			
Asbestos Bulk ID		PLM						SU		N.D.	
Cyanide (Total)		Colorimetry		1		mg/kg		N		<1	
Methyl tert-Butyl Ether		GC/MS (Headspace)		1		µg/kg		N		<1	

SAL Reference: 626184													
Project Site: WEEE Recycle Land Mon													
Customer Reference: ES-WSS002													
Bulk Product		Analysed as Bulk Product											
Misc													
SAL Reference				626184 006		626184 007		626184 008		626184 009		626184 010	
Customer Sample Reference				WEE-3-2m		WEE-4-Surface		WEE-4-2m		WEE-5-Surface		WEE-5-2m	
Test Sample				AR		AR		AR		AR		AR	
Depth				2.00		0.00		2.00		0.00		2.00	
Date Sampled				03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017	
Determinand		Method		LOD	Units	Symbol							
Asbestos Bulk ID		PLM				SU	-	N.D.	N.D.	N.D.		-	
Cyanide (Total)		Colorimetry		1	mg/kg	N	<1	<1	<1	<1		<1	
Methyl tert-Butyl Ether		GC/MS (Headspace)		1	ug/kg	N	<1	<1	<1	<1		<1	

SAL Reference: 626184															
Project Site: WEEE Recycle Land Mon															
Customer Reference: ES-WSS002															
Bulk Product		Analysed as Bulk Product													
IC															
SAL Reference		626184 001		626184 002		626184 003		626184 004		626184 005					
Customer Sample Reference		WEE-1-Surface		WEE-1-2m		WEE-2-Surface		WEE-2-2m		WEE-3-Surface					
Test Sample		AR		AR		AR		AR		AR					
Depth		0.00		2.00		0.00		2.00		0.00					
Date Sampled		03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017					
Determinand		Method		LOD		Units		Symbol							
Sulphuric acid		IC		1		mg/kg		N		57		29	39	30	53

SAL Reference: 626184											
Project Site: WEEE Recycle Land Mon											
Customer Reference: ES-WSS002											
Bulk Product		Analysed as Bulk Product									
IC											
SAL Reference		626184 006		626184 007		626184 008		626184 009		626184 010	
Customer Sample Reference		WEE-3-2m		WEE-4-Surface		WEE-4-2m		WEE-5-Surface		WEE-5-2m	
Test Sample		AR		AR		AR		AR		AR	
Depth		2.00		0.00		2.00		0.00		2.00	
Date Sampled		03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017		03-JAN-2017	
Determinand		Method	LOD	Units	Symbol						
Sulphuric acid		IC	1	mg/kg	N	61	87	48	83	27	

SCIENTIFIC ANALYSIS
LABORATORIES

SAL Reference: 626184									
Project Site: WEEE Recycle Land Mon									
Customer Reference: ES-WSS002									
Bulk Product		Analysed as Bulk Product							
Volatile Organic Compounds (USEPA 624)									
SAL Reference			626184 001	626184 002	626184 003	626184 004	626184 005		
Customer Sample Reference			WEE-1-Surface	WEE-1-2m	WEE-2-Surface	WEE-2-2m	WEE-3-Surface		
Test Sample			AR	AR	AR	AR	AR		
Depth			0.00	2.00	0.00	2.00	0.00		
Date Sampled			03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017		
Determinand	Method	LOD	Units	Symbol					
1,1,1,2-Tetrachloroethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,1,2-Trichloroethylene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,1-Dichloroethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,1-Dichloroethylene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,1-Dichloropropene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2,3-Trichlorobenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2,4-Trimethylbenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2-dibromoethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2-Dichloroethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2-Dichloropropane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,3,5-Trimethylbenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,3-Dichlorobenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,3-Dichloropropane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
2,2-Dichloropropane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
2-Chlorotoluene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
4-Chlorotoluene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Benzene	GC/MS (Headspace)	1	µg/kg	N	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1
Bromobenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Bromochloromethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Bromodichloromethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Bromoform	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Bromomethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Carbon tetrachloride	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Chlorobenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Chlorodibromomethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Chloroethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Chloroform	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Chloromethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Cis-1,2-Dichloroethylene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Cis-1,3-Dichloropropene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Dibromomethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Dichlorodifluoromethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Dichloromethane	GC/MS (Headspace)	100	µg/kg	N	<100	<100	<100	<100	<100
EthylBenzene	GC/MS (Headspace)	1	µg/kg	N	<1	<1	<1	<1	<1
Isopropyl benzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Meta/Para-Xylene	GC/MS (Headspace)	1	µg/kg	N	<1	<1	<1	<1	<1
n-Propylbenzene	GC/MS (Headspace)	10	µg/kg	N	<10	<10	<10	<10	<10
Ortho-Xylene	GC/MS (Headspace)	1	µg/kg	N	<1	<1	<1	<1	<1
p-Isopropyltoluene	GC/MS (Headspace)	10	µg/kg	N	<10	<10	<10	<10	<10
Sec-Butylbenzene	GC/MS (Headspace)	10	µg/kg	N	<10	<10	<10	<10	<10
Styrene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Tert-Butylbenzene	GC/MS (Headspace)	10	µg/kg	N	<10	<10	<10	<10	<10
Tetrachloroethylene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Toluene	GC/MS (Headspace)	1	µg/kg	N	<1	<1	<1	<1	<1
Trans-1,2-Dichloroethylene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Trans-1,3-Dichloropropene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Trichlorofluoromethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Vinyl chloride monomer	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5

SAL Reference: 626184									
Project Site: WEEE Recycle Land Mon									
Customer Reference: ES-WSS002									
Bulk Product		Analysed as Bulk Product							
Volatile Organic Compounds (USEPA 624)									
SAL Reference			626184 006	626184 007	626184 008	626184 009	626184 010		
Customer Sample Reference			WEE-3-2m	WEE-4-Surface	WEE-4-2m	WEE-5-Surface	WEE-5-2m		
Test Sample			AR	AR	AR	AR	AR		
Depth			2.00	0.00	2.00	0.00	2.00		
Date Sampled			03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017	03-JAN-2017		
Determinand	Method	LOD	Units	Symbol					
1,1,1,2-Tetrachloroethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,1,2-Trichloroethylene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,1-Dichloroethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,1-Dichloroethylene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,1-Dichloropropene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2,3-Trichlorobenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2,4-Trimethylbenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2-dibromoethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2-Dichloroethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,2-Dichloropropane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,3,5-Trimethylbenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,3-Dichlorobenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,3-Dichloropropane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
2,2-Dichloropropane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
2-Chlorotoluene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
4-Chlorotoluene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Benzene	GC/MS (Headspace)	1	µg/kg	N	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1
Bromobenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Bromochloromethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Bromodichloromethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Bromoform	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Bromomethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Carbon tetrachloride	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Chlorobenzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Chlorodibromomethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Chloroethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Chloroform	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Chloromethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Cis-1,2-Dichloroethylene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Cis-1,3-Dichloropropene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Dibromomethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Dichlorodifluoromethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Dichloromethane	GC/MS (Headspace)	100	µg/kg	N	<100	<100	<100	<100	<100
EthylBenzene	GC/MS (Headspace)	1	µg/kg	N	<1	<1	<1	<1	<1
Isopropyl benzene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Meta/Para-Xylene	GC/MS (Headspace)	1	µg/kg	N	<1	<1	<1	<1	<1
n-Propylbenzene	GC/MS (Headspace)	10	µg/kg	N	<10	<10	<10	<10	<10
Ortho-Xylene	GC/MS (Headspace)	1	µg/kg	N	<1	<1	<1	<1	<1
p-Isopropyltoluene	GC/MS (Headspace)	10	µg/kg	N	<10	<10	<10	<10	<10
Sec-Butylbenzene	GC/MS (Headspace)	10	µg/kg	N	<10	<10	<10	<10	<10
Styrene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Tert-Butylbenzene	GC/MS (Headspace)	10	µg/kg	N	<10	<10	<10	<10	<10
Tetrachloroethylene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Toluene	GC/MS (Headspace)	1	µg/kg	N	<1	<1	<1	<1	<1
Trans-1,2-Dichloroethylene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Trans-1,3-Dichloropropene	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Trichlorofluoromethane	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5
Vinyl chloride monomer	GC/MS (Headspace)	5	µg/kg	N	<5	<5	<5	<5	<5

Index to symbols used in Supplemental A 626184-2

Value	Description
10:1	Leachate to BS EN 12457-2 (10:1)
10:1 S	Data for BS EN 12457-2 (10:1)
AR	As Received
A40	Assisted dried < 40C
N.D.	Not Detected
13	Results have been blank corrected.
S	Analysis was subcontracted
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Supplemental to include amended sample references from WEE-1 to WEE-1-Surface, WS1 to WEE-1-2m, WS2 to WEE-2-Surface, WS2 to WEE-2-2m, WS3 to WEE-3-Surface, WS3 to WEE-3-2m, WS4 to WEE-4-Surface, WS4 to WEE-4-2m, WS5 to WEE-5-Surface & WS5 to WEE-5-2m.

Report A with WAC & Chemical testing only

Asbestos ID performed at REC Asbestos





SCIENTIFIC ANALYSIS
LABORATORIES
DELIVERING SCIENCE

Scientific Analysis Laboratories is a
limited company registered in England and
Wales (No 2514788) whose address is at
Hadfield House, Hadfield Street, Manchester M16 9FE

Scientific Analysis Laboratories Ltd

Certificate of Analysis

Hadfield House
Hadfield Street
Cornbrook
Manchester
M16 9FE
Tel : 0161 874 2400
Fax : 0161 874 2468

Report Number: Supplemental B 626184-2

Date of Report: 08-Feb-2017

Customer: En-sure
Kappara Business Centre
113 Triq Birkirkara
San Gwann SGN4197
Malta
VAT Number: MT18486514

Customer Contact: Ms Rachel Decelis

Customer Job Reference: ES-WSS002

Customer Site Reference: WEEE Recycle Land Mon

Date Job Received at SAL: 12-Jan-2017

Date Analysis Started: 16-Jan-2017

Date Analysis Completed: 30-Jan-2017

The results reported relate to samples received in the laboratory and may not be representative of a whole batch.

This report should not be reproduced except in full without the written approval of the laboratory

Tests covered by this certificate were conducted in accordance with SAL SOPs

All results have been reviewed in accordance with Section 25 of the SAL Quality Manual

SCIENTIFIC ANALYSIS
LABORATORIES

Report checked
and authorised by :
Mr Richard Wong
Project Manager

Issued by :
Muhammad Waqas
Project Manager

Summary Of Results

Bulk Product

Dioxins

SAL Reference	Customer Sample Reference	Analysis	Symbol	WHO2005 Toxic Equivalents ng/kg	
				Lower Bound	Upper Bound
626184 007	WEE-4-Surface	Dioxins and Furans (Based on US EPA 1613)	N	0.0	0.73
626184 008	WEE-4-2m	Dioxins and Furans (Based on US EPA 1613)	N	0.00039	0.89



Bulk Product

Customer Sample Reference : WEE-4-Surface

SAL Sample Reference : 626184 007

Date Sampled : 03-JAN-2017

Depth : 0.00

Dioxins and Furans (Based on US EPA 1613)

Technique : GC/MS (HR)

Determinand	Symbol	LOD ng/kg	Result ng/kg	WHO2005 Toxic Equivalents ng/kg	
				Lower Bound	Upper Bound
2,3,7,8-TCDD	N	0.22	<0.22	0.0	0.22
1,2,3,7,8-PeCDD	N	0.20	<0.20	0.0	0.20
1,2,3,4,7,8-HxCDD	N	0.27	<0.27	0.0	0.027
1,2,3,6,7,8-HxCDD	N	0.26	<0.26	0.0	0.026
1,2,3,7,8,9-HxCDD	N	0.26	<0.26	0.0	0.026
1,2,3,4,6,7,8-HpCDD	N	1.0	<1.0	0.0	0.010
OCDD	N	1.3	<1.3	0.0	0.00039
Dioxins Totals :				0.0	0.51
2,3,7,8-TCDF	N	0.24	<0.24	0.0	0.024
1,2,3,7,8-PeCDF	N	0.20	<0.20	0.0	0.0060
2,3,4,7,8-PeCDF	N	0.20	<0.20	0.0	0.060
1,2,3,4,7,8-HxCDF	N	0.33	<0.33	0.0	0.033
1,2,3,6,7,8-HxCDF	N	0.33	<0.33	0.0	0.033
2,3,4,6,7,8-HxCDF	N	0.27	<0.27	0.0	0.027
1,2,3,7,8,9-HxCDF	N	0.24	<0.24	0.0	0.024
1,2,3,4,6,7,8-HpCDF	N	0.80	<0.80	0.0	0.0080
1,2,3,4,7,8,9-HpCDF	N	0.80	<0.80	0.0	0.0080
OCDF	N	0.80	<0.80	0.0	0.00024
Furans Totals :				0.0	0.22
Totals :				0.0	0.73

SCIENTIFIC ANALYSIS
LABORATORIES

Bulk Product

Customer Sample Reference : WEE-4-2m
 SAL Sample Reference : 626184 008
 Date Sampled : 03-JAN-2017
 Depth : 2.00

Dioxins and Furans (Based on US EPA 1613)

Technique : GC/MS (HR)

Determinand	Symbol	LOD ng/kg	Result ng/kg	WHO2005 Toxic Equivalents ng/kg	
				Lower Bound	Upper Bound
2,3,7,8-TCDD	N	0.30	<0.30	0.0	0.30
1,2,3,7,8-PeCDD	N	0.30	<0.30	0.0	0.30
1,2,3,4,7,8-HxCDD	N	0.20	<0.20	0.0	0.020
1,2,3,6,7,8-HxCDD	N	0.20	<0.20	0.0	0.020
1,2,3,7,8,9-HxCDD	N	0.20	<0.20	0.0	0.020
1,2,3,4,6,7,8-HpCDD	N	0.80	<0.80	0.0	0.0080
OCDD	N	0.80	1.3	0.00039	0.00039
Dioxins Totals :				0.00039	0.67
2,3,7,8-TCDF	N	0.40	<0.40	0.0	0.040
1,2,3,7,8-PeCDF	N	0.20	<0.20	0.0	0.0060
2,3,4,7,8-PeCDF	N	0.20	<0.20	0.0	0.060
1,2,3,4,7,8-HxCDF	N	0.29	<0.29	0.0	0.029
1,2,3,6,7,8-HxCDF	N	0.28	<0.28	0.0	0.028
2,3,4,6,7,8-HxCDF	N	0.20	<0.20	0.0	0.020
1,2,3,7,8,9-HxCDF	N	0.21	<0.21	0.0	0.021
1,2,3,4,6,7,8-HpCDF	N	0.80	<0.80	0.0	0.0080
1,2,3,4,7,8,9-HpCDF	N	0.80	<0.80	0.0	0.0080
OCDF	N	0.80	<0.80	0.0	0.00024
Furans Totals :				0.0	0.22
Totals :				0.00039	0.89

SCIENTIFIC ANALYSIS
LABORATORIES

Index to symbols used in Supplemental B 626184-2

Value	Description
AR	As Received
N	Analysis is not UKAS accredited

Notes

Report B with dioxin results only
Supplemental B to include amended sample references from WS4 to WEE-4-Surface & WS4 to WEE-4-2m



Appendix 3: Hazardous property assessment report

Client Reference: ES WEE002

HAZARDOUS PROPERTY ASSESSMENT
Waste (England and Wales) Regulations 2011

Date of Assessment 2 Feb 2017

Hazardous Property/Determinand	Test/Assessment Method	Result %	Worst Case Compound	Result as Worst Case Compound	Hazard Statement	Hazardous Property	Threshold %	Conclusion
Arsenic	ICP/OES	0.0006	diasenic trioxide	0.0008	H350	HP7	0.1	Not Hazardous
					H300	HP6	0.25	Not Hazardous
					H314	HP8	1	Not Hazardous
					H400	HP14	0,1	Not Hazardous
					H410	HP14		Not Hazardous
Antimony	ICP/OES	0.001	antimony trichloride	0.0019	H302	HP6	5	Not Hazardous
					H314	HP4 HP8	25	Not Hazardous
					H335	HP6	5	Not Hazardous
					H411	HP14	0.1	Not Hazardous
Aluminium	ICP/OES	0.28	aluminium nitrate		H314	HP4 HP8	2<pH<11.5	Not Hazardous
Barium	ICP/OES	0.0017	barium sulphide	0.0043	H301	HP6	5	Not Hazardous
					H332	HP6	22.5	Not Hazardous
					H400	HP14	0.1	Not Hazardous
					H410	HP14	0.1	Not Hazardous
Calcium	ICP/OES	0.055	inert aggregate material					Not Hazardous
Cadmium	ICP/OES	<0.001	cadmium carbonate	<0.001	H332	HP6	22.5	Not Hazardous
					H312	HP6	0.25	Not Hazardous
					H302	HP6	0.25	Not Hazardous
					H400	HP14	0.1	Not Hazardous
					H410	HP14	0.1	Not Hazardous
Chromium	ICP/OES	0.0017	chromates	0.0054	H350	HP11	0.1	Not Hazardous
					H317	HP13	10	Not Hazardous

William A Cohen B.Sc
Consultant Environmental Chemist

Client Reference: ES WEE002

HAZARDOUS PROPERTY ASSESSMENT
Waste (England and Wales) Regulations 2011

Date of Assessment 2 Feb 2017

Hazardous Property/Determinand	Test/Assessment Method	Result %	Worst Case Compound	Result as Worst Case Compound	Hazard Statement	Hazardous Property	Threshold %	Conclusion
Cobalt	ICP/OES	0.001	cobalt sulphate	0.0026	H302	HP6	25	Not Hazardous
					H317	HP13	10	Not Hazardous
					H350	HP7	0.1	Not Hazardous
					H400	HP14	0.1	Not Hazardous
					H410	HP14	0.1	Not Hazardous
Mercury	ICP/OES	<0.0001		<0.0001				not detected -excluded
Manganese	ICP/OES	0.0076	manganese sulphate	0.0209	H302	HP6	25	Not Hazardous
					H373	HP5	10	Not Hazardous
					H411	HP14	0.1	Not Hazardous
Lead	ICP/OES	0.0002	lead ion	0.0002	H360	HP10	0.3	Not Hazardous
					H332	HP6	22.5	Not Hazardous
					H302	HP6	25	Not Hazardous
					H373	HP5	10	Not Hazardous
					H400	HP14	0.1	Not Hazardous
					H410	HP14	0.1	Not Hazardous
					H350	HP7	0.1	Not Hazardous
Selenium	ICP/OES	<0.001		<0.001	H331	HP6	3.5	not detected -excluded
					H301	HP6	5	not detected -excluded
					H373	HP6	5	not detected -excluded
					H410	HP14	0.1	not detected -excluded

Client Reference: ES WEE002

HAZARDOUS PROPERTY ASSESSMENT
Waste (England and Wales) Regulations 2011

Date of Assessment 2 Feb 2017

Hazardous Property/Determinand	Test/Assessment Method	Result %	Worst Case Compound	Result as Worst Case Compound	Hazard Statement	Hazardous Property	Threshold %	Conclusion
Copper	ICP/OES	0.0022	copper oxide	0.0028	H302	HP6	25	Not Hazardous
					H400	HP14	0.1	Not Hazardous
Nickel	ICP/OES	0.0014	nickel carbonate	0.0028	H410	HP14	0.1	Not Hazardous
					H350	HP7	0.1	Not Hazardous
					H341	HP11	1	Not Hazardous
					H360	HP10	0.3	Not Hazardous
					H372	HP5	1	Not Hazardous
					H332	HP6	22.5	Not Hazardous
					H302	HP6	25	Not Hazardous
					H315	HP4	20	Not Hazardous
					H334	HP13	10	Not Hazardous
					H317	HP13	10	Not Hazardous
					H319	HP4	20	Not Hazardous
Thallium	ICP/OES	0.001	thallium sulphate	0.0012	H400	HP14	0.1	Not Hazardous
					H410	HP14	0.1	Not Hazardous
					H300	HP6	0.1000	Not Hazardous
					H315	HP4	2<pH<11.5	Not Hazardous
					H372	HP5	1	Not Hazardous
Zinc	ICP/OES	0.0027	zinc oxide	0.0033	H411	HP14	0.1	Not Hazardous
					H400	HP14	0.1	Not Hazardous
pH		8.1		2<pH<11.5		HP4/HP8		Not Hazardous
Contact with acids			no reaction					Not Hazardous
Explosivity			no reaction					Not Hazardous
Asbestos	plm	ND						not detected -excluded

William A Cohen B.Sc
Consultant Environmental Chemist

Client Reference: ES WEE002

HAZARDOUS PROPERTY ASSESSMENT
Waste (England and Wales) Regulations 2011

Date of Assessment 2 Feb 2017

Hazardous Property/Determinand	Test/Assessment Method	Result %	Worst Case Compound	Result as Worst Case Compound	Hazard Statement	Hazardous Property	Threshold %	Conclusion
Rare Earth Metals	All insignificant(ie below 1000mg/kg or 0.1%) in respect of Hazardous Waste.							Not Hazardous
Organic Compounds								
Total Petroleum Hydrocarbons	GC FID	0.0007				HP5	10	Not Hazardous
Polychlorinated Biphenyls		0.0001				H350	0.1	Not Hazardous
Polyaromatic Hydrocarbons	GC MS	0.0001		0.0002		HP7	0.1	Not Hazardous
						HP11	0.1	Not Hazardous
						HP10	3	Not Hazardous
						HP14	2.5	Not Hazardous
Dioxins and Furans		0.89ng/kg I TEQ				HP16	50mg/kg	Not Hazardous
Overall Conclusion EWC Code								Not Hazardous 01-04-08

Hazardous Property/Determinand	Test/Assessment Method	Result %	Worst Case Compound	Result as Worst Case Compound	Hazard Statement	Hazardous Property	Threshold %	Conclusion
-----------------------------------	---------------------------	----------	------------------------	-------------------------------------	---------------------	-----------------------	----------------	------------

IMPORTANT NOTE

THIS ASSESSMENT IS BASED A REVIEW OF 7 SAMPLES :

SAL Refs: 626184 001,002,003,005,007,008,009

The highest result(worst case) for each parameter is selected for assessment.

SAL Report 626184 should therefore be read in conjunction with this report.

Result do not indicate that any further testing for dioxins and furans is needed.

Description and source of the waste was provided by the client.

Risk Phrases used in this assessment are based on EU 1277 2008

The conclusions in this assessment are based on guidance taken from WM3 1st edition 2015.

The terms “Hazardous” and “Not Hazardous” are used in the context of these Regulations. Further testing may be required if classification under the Waste Acceptance Criteria (Landfill Regulations 2000/EU Directive 99/3/EC as amended) is intended.

The term “Not Hazardous” does not imply that significant possibility of significant harm to human health or the environment is not present.

All reasonable skill and care has been exercised in production of this assessment.

Assessment Prepared by W A Cohen