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Scientific Analysis Laboratories Ltd

Certificate of Analysis

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

Report Number: 574769-1

Date of Report: 14-Jun-2016

Customer: B38 Group
Unit A
Cedar Court Office Park
Wakefield
WF4 3DB

Customer Contact: Mr Richard Sommerville

Customer Job Reference:
Customer Site Reference: Welsh Baptist
Date Job Received at SAL: 03-Jun-2016
Date Analysis Started: 03-Jun-2016
Date Analysis Completed: 14-Jun-2016

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
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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

UKAS TESTING
1549

Report checked and authorised by :
Mr Richard Wong
Project Manager

Issued by :
Mr Richard Wong
Project Manager

Waste Acceptance Criteria

Customer Sample Reference : External
SAL Sample Reference : 574769 001
Project Site : Welsh Baptist
Date Sampled : 03-JUN-2016

Soil					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	2	Mol/kg	N	<2			
BTEX (Sum)	Calc	0.0040	mg/kg	U	<0.0040	6.0		
Loss on Ignition	Grav	0.1	%	N	**2.6**			10.0
Moisture	Grav	0.1	%	N	**8.7**			
Total Organic Carbon	OX/IR	0.1	%	N	**1.2**	3.0	5.0	6.0
Total Petroleum Hydrocarbons C10-C40 (Sum)	Calc	1	mg/kg	N	(13) **140**	500.0		
PAH (Sum)	Calc	1.6	mg/kg	N	**95**	100.0		
PCB EC7 (Sum)	Calc	0.0035	mg/kg	U	(2) <0.0035	1.0		
pH	Probe			U	**7.9**		> 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	**0.014**	0.06	0.7	5.0
Arsenic	Calc WAC ICP/MS	0.0020	mg/kg	N	**0.046**	0.5	2.0	25.0
Barium	Calc WAC ICP/MS	0.010	mg/kg	N	**0.071**	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	**0.033**	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	**0.029**	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	**0.0055**	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	<10	800.0	15000.0	25000.0
Fluoride	Calc (W)	0.50	mg/kg	N	**6.9**	10.0	150.0	500.0
Sulphate	Calc (W)	5	mg/kg	N	**47**	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	**45**	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, EBPRI 11507B, Environment Agency (England and Wales) March 2013**

Waste Acceptance Criteria

Customer Sample Reference : Internal
SAL Sample Reference : 574769 002
Project Site : Welsh Baptist
Date Sampled : 03-JUN-2016

Soil					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	2	Mol/kg	N	<2			
BTEX (Sum)	Calc	0.0040	mg/kg	U	<0.0040	6.0		
Loss on Ignition	Grav	0.1	%	N	**1.9**			10.0
Moisture	Grav	0.1	%	N	**6.0**			
Total Organic Carbon	OX/IR	0.1	%	N	**0.8**	3.0	5.0	6.0
Total Petroleum Hydrocarbons C10-C40 (Sum)	Calc	1	mg/kg	N	(13) **61**	500.0		
PAH (Sum)	Calc	1.6	mg/kg	N	**21**	100.0		
PCB EC7 (Sum)	Calc	0.00035	mg/kg	U	<0.00035	1.0		
pH	Probe			U	**7.8**		> 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	**0.014**	0.06	0.7	5.0
Arsenic	Calc WAC ICP/MS	0.0020	mg/kg	N	**0.044**	0.5	2.0	25.0
Barium	Calc WAC ICP/MS	0.010	mg/kg	N	**0.062**	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	**0.029**	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	**0.020**	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	<10	800.0	15000.0	25000.0
Fluoride	Calc (W)	0.50	mg/kg	N	**8.6**	10.0	150.0	500.0
Sulphate	Calc (W)	5	mg/kg	N	**64**	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	**46**	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, EBPRI 11507B, Environment Agency (England and Wales) March 2013**

SAL Reference: 574769
Project Site: Welsh Baptist
Customer Reference:

Leachate to BS EN 12457-2 (10:1) Analysed as Water
Waste Acceptance Criteria

					SAL Reference	**574769 001**	**574769 002**
					Customer Sample Reference	**External**	**Internal**
					Test Sample	**10:1**	**10:1**
					Date Sampled	**03-JUN-2016**	**03-JUN-2016**
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	**4.6**	**4.4**
Barium (Dissolved)	ICP/MS (Filtered)	1	µg/l	U	**7**	**6**
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	**3.3**	**2.9**
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	**3**	**2**
Nickel (Dissolved)	ICP/MS (Filtered)	1	µg/l	U	<1	<1
Selenium (Dissolved)	ICP/MS (Filtered)	0.5	µg/l	U	**0.6**	<0.5
Zinc (Dissolved)	ICP/MS (Filtered)	2	µg/l	U	<2	<2
Chloride	Discrete Analyser	1	mg/l	U	<1	<1
Fluoride	Discrete Analyser	0.05	mg/l	U	**0.69**	**0.86**
Sulphate	Discrete Analyser	0.5	mg/l	U	**4.7**	**6.4**
Phenols (Total-Mono)	Colorimetry	0.1	mg/l	U	<0.1	<0.1
Dissolved Organic Carbon	OX/IR	1	mg/l	N	**4**	**5**
Electrical Conductivity	Probe	10	µS/cm	N	**95**	**99**
Total Dissolved Solids	Grav	100	mg/l	N	<100	<100
Volume	Vol	1	ml	U	-	-

SAL Reference: 574769
Project Site: Welsh Baptist
Customer Reference:

Soil Analysed as Soil
BTEX

					SAL Reference	**574769 001**	**574769 002**
					Customer Sample Reference	**External**	**Internal**
					Test Sample	**AR**	**AR**
					Date Sampled	**03-JUN-2016**	**03-JUN-2016**
Determinand	**Method**	**LOD**	**Units**	**Symbol**		
Benzene	GC/MS (Headspace)	1	µg/kg	U	(13) <1	(13) <1
Toluene	GC/MS (Headspace)	1	µg/kg	U	(13) <1	(13) <1
EthylBenzene	GC/MS (Headspace)	1	µg/kg	U	<1	<1
Xylene (Total)	GC/MS (Headspace)	1	µg/kg	U	<1	<1

SAL Reference: 574769
Project Site: Welsh Baptist
Customer Reference:

Soil Analysed as Soil
TPH

					SAL Reference	**574769 001**	**574769 002**
					Customer Sample Reference	**External**	**Internal**
					Test Sample	**AR**	**AR**
					Date Sampled	**03-JUN-2016**	**03-JUN-2016**
Determinand	**Method**	**LOD**	**Units**	**Symbol**		
Total Petroleum Hydrocarbons (C10-C35)	GC/FID	1	mg/kg	U	(13) **120**	(13) **54**
Total Petroleum Hydrocarbons (C35-C40)	GC/FID	1	mg/kg	N	(13) **15**	(13) **7**

SAL Reference: 574769
Project Site: Welsh Baptist
Customer Reference:

Soil Analysed as Soil
PAH EPA 16, Coronene

					SAL Reference	574769 001	574769 002
					Customer Sample Reference	External	Internal
					Test Sample	AR	AR
					Date Sampled	03-JUN-2016	03-JUN-2016
Determinand	**Method**	**LOD**	**Units**	**Symbol**			
Naphthalene	GC/MS	0.1	mg/kg	U		**0.3**	**0.1**
Acenaphthylene	GC/MS	0.1	mg/kg	U		**1.6**	**0.3**
Acenaphthene	GC/MS	0.1	mg/kg	U		**0.9**	**0.1**
Fluorene	GC/MS	0.1	mg/kg	U		**2.0**	**0.3**
Phenanthrene	GC/MS	0.1	mg/kg	U		**16**	**3.0**
Anthracene	GC/MS	0.1	mg/kg	U		**5.3**	**1.0**
Fluoranthene	GC/MS	0.1	mg/kg	U		**21**	**3.8**
Pyrene	GC/MS	0.1	mg/kg	U		**16**	**3.0**
Benzo(a)Anthracene	GC/MS	0.1	mg/kg	U		**8.0**	**2.0**
Chrysene	GC/MS	0.1	mg/kg	U		**6.4**	**1.5**
Benzo(b/k)Fluoranthene	GC/MS	0.1	mg/kg	U		**9.4**	**2.8**
Benzo(a)Pyrene	GC/MS	0.1	mg/kg	U		**5.1**	**1.5**
Indeno(123-cd)Pyrene	GC/MS	0.1	mg/kg	U		**1.7**	**0.7**
Dibenzo(ah)Anthracene	GC/MS	0.1	mg/kg	U		**0.5**	**0.2**
Benzo(ghi)Perylene	GC/MS	0.1	mg/kg	U		**1.9**	**0.7**
Coronene	GC/MS	0.1	mg/kg	N		**0.6**	**0.2**

SAL Reference: 574769
Project Site: Welsh Baptist
Customer Reference:

Soil Analysed as Soil
PCB EC7

					SAL Reference	574769 001	574769 002
					Customer Sample Reference	External	Internal
					Test Sample	AR	AR
					Date Sampled	03-JUN-2016	03-JUN-2016
Determinand	**Method**	**LOD**	**Units**	**Symbol**			
Polychlorinated biphenyl BZ#28	GC/MS (HR)	0.05	µg/kg	U		(2) <0.50	<0.05
Polychlorinated biphenyl BZ#52	GC/MS (HR)	0.05	µg/kg	U		(2) <0.50	<0.05
Polychlorinated biphenyl BZ#101	GC/MS (HR)	0.05	µg/kg	U		(2) <0.50	<0.05
Polychlorinated biphenyl BZ#118	GC/MS (HR)	0.05	µg/kg	U		(2) <0.50	<0.05
Polychlorinated biphenyl BZ#138	GC/MS (HR)	0.05	µg/kg	U		(2) <0.50	<0.05
Polychlorinated biphenyl BZ#153	GC/MS (HR)	0.05	µg/kg	U		(2) <0.50	<0.05
Polychlorinated biphenyl BZ#180	GC/MS (HR)	0.05	µg/kg	U		(2) <0.50	<0.05

SAL Reference: 574769
Project Site: Welsh Baptist
Customer Reference:

Soil Analysed as Soil
WAC Metals

				SAL Reference	**574769 001**	**574769 002**
				Customer Sample Reference	**External**	**Internal**
				Test Sample	**AR**	**AR**
				Date Sampled	**03-JUN-2016**	**03-JUN-2016**
Determinand	**Method**	**LOD**	**Units**	**Symbol**		
Antimony	ICP/OES	1	mg/kg	U	**1**	<1
Arsenic	ICP/OES	1	mg/kg	U	**8**	**2**
Barium	ICP/OES	1	mg/kg	U	**84**	**19**
Cadmium	ICP/OES	1	mg/kg	U	<1	<1
Chromium	ICP/OES	1	mg/kg	U	**12**	**3**
Copper	ICP/OES	1	mg/kg	U	**24**	**4**
Lead	ICP/OES	1	mg/kg	U	**110**	**18**
Mercury	ICP/OES	1	mg/kg	U	<1	<1
Molybdenum	ICP/OES	1	mg/kg	U	**1**	<1
Nickel	ICP/OES	1	mg/kg	U	**11**	**3**
Selenium	ICP/OES	3	mg/kg	U	<3	<3
Zinc	ICP/OES	1	mg/kg	U	**84**	**9**

Index to symbols used in 574769-1

Value	Description
10:1 S	Data for BS EN 12457-2 (10:1)
AR	As Received
10:1	Leachate to BS EN 12457-2 (10:1)
13	Results have been blank corrected.
2	LOD Raised Due to Matrix Interference
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited