

APPENDIX C

Site Inspection Photographs



1. Front of site looking north



2. Front of site looking south



3. North side of site looking east



4. North side of site looking west 2048-1



5. Rear of site looking west



6. Rear of site looking south



7. Rear of site looking south



8. Rear of site looking east



9. Southern side of site looking east



10. BH01 lithology



11. BH02 Lithology



12. BH05 Lithology

APPENDIX D

Field Investigation Documents

Soil Bore: BH01

Project Ref. No: 2048-1

Project Name: Elwood

Bore Diameter (mm): 75

OVA Type: NA

Date: 22/08/2021

Page Number: 1 of 1

Logged By: MC

Easting: NA **Northing:** NA

Datum: NA

Location Description: Refer to Figure

Depth (m bgl)	Soil Description	Graphic Symbol	Depth (m)	Sample Type	Sample ID	OVA (ppm)	Additional Observations
	Ground Surface		0.00				
	FILL SAND: medium grained, white, low organic matter, very soft, very loose, damp		0.00		BH01/0.1	0.0	Potential infiltration of water due to location near tap.
0.3	SAND: medium grained black, roots, soft, loose, moist		0.25				
			0.50		BH01/0.5	0.0	
0.7	NATURAL Clayey SAND: medium to coarse grained, yellow, orange, low plasticity clay, stiff, dry, saturated, includes reddy gravel		0.75				Saturated at 0.8m
			1.00		BH01/1.0	0.0	
	End of Log		1.25				
			1.50				
			1.75				
			2.00				

Sample Type

 Hand Auger
  Solid Stem Auger
  Push Tube
  Split Spoon
  Testpit Wall

Soil Bore: BH02

Project Ref. No: 2048-1

Project Name: Elwood

Bore Diameter (mm): 75

OVA Type: NA

Date: 22/08/2021

Page Number: 1 of 1

Logged By: MC






Easting: NA **Northing:** NA

Datum: NA

Location Description: Refer to Figure

Depth (m bgl)	Soil Description	Graphic Symbol	Depth (m)	Sample Type	Sample ID	OVA (ppm)	Additional Observations
	Ground Surface		0.00				
	FILL SAND: medium grained, black, grey, medium organic matter, soft, loose, dry		0.00		BH02/0.1	0.0	
0.6	NATURAL SAND: medium grained, yellow, grey, soft to firm, dense, damp		0.25				
			0.50				
			0.75		BH02/0.7	0.0	
0.9	Clayey SAND: low plasticity clay, firm, dense, saturated		1.00		BH02/1.0	0.0	
							Saturated at depth in sand
	End of Log		1.25				
			1.50				
			1.75				
			2.00				

Sample Type

 Hand Auger
  Solid Stem Auger
  Push Tube
  Split Spoon
  Testpit Wall

Soil Bore: BH03

Project Ref. No: 2048-1

Project Name: Elwood

Bore Diameter (mm): 75

OVA Type: NA

Date: 22/08/2021

Page Number: 1 of 1

Logged By: MC





Easting: NA **Northing:** NA

Datum: NA

Location Description: Refer to Figure

Depth (m bgl)	Soil Description	Graphic Symbol	Depth (m)	Sample Type	Sample ID	OVA (ppm)	Additional Observations
	Ground Surface		0.00				
	FILL SAND: fine to medium grained, brown, black, low organic odour, soft, loose, dry		0.00		BH03/0.1	0.0	
0.3	garden bed saturated		0.25				
0.6	NATURAL SAND: medium grained, yellow, soft, loose, moist		0.50		BH03/0.5	0.0	
0.8	Clayey SAND: medium grained, low plasticity clay, firm, dense, saturated		0.75				
			1.00		BH03/1.0	0.0	
	End of Log		1.25				
			1.50				
			1.75				
			2.00				

Sample Type

 Hand Auger
  Solid Stem Auger
  Push Tube
  Split Spoon
  Testpit Wall

Soil Bore: BH04

Project Ref. No: 2048-1

Project Name: Elwood

Bore Diameter (mm): 75

OVA Type: NA

Date: 22/08/2021

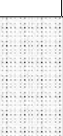

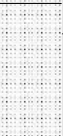



Page Number: 1 of 1

Logged By: MC






Easting: NA **Northing:** NA

Datum: NA

Location Description: Refer to Figure

Depth (m bgl)	Soil Description	Graphic Symbol	Depth (m)	Sample Type	Sample ID	OVA (ppm)	Additional Observations
	Ground Surface		0.00				
0.3	FILL SAND: medium grained, black, medium organic matter, soft, loose, dry		0.00		BH04/0.1	0.0	
	NATURAL SAND: light grey, yellow		0.25				
0.7			0.50		BH04/0.5	0.0	
	Clayey SAND: orange, brown, low plasticity clay, firm, dense, damp		0.75				
			1.00		BH04/1.0	0.0	Saturated @ 1.0m
	End of Log		1.25				
			1.50				
			1.75				
			2.00				

Sample Type

 Hand Auger
  Solid Stem Auger
  Push Tube
  Split Spoon
  Testpit Wall

Soil Bore: BH05

Project Ref. No: 2048-1

Project Name: Elwood

Bore Diameter (mm): 75

OVA Type: NA

Date: 22/08/2021

Page Number: 1 of 1






Logged By: MC

Easting: NA **Northing:** NA

Datum: NA

Location Description: Refer to Figure

Depth (m bgl)	Soil Description	Graphic Symbol	Depth (m)	Sample Type	Sample ID	OVA (ppm)	Additional Observations
	Ground Surface		0.00				
0.3	FILL SAND: black, medium organic matter		0.25		BH05/0.1	0.0	Clinker/Brick @ 0.3m
	NATURAL SAND: white, grey		0.50		BH05/0.5	0.0	
0.7	Clayey SAND: orange, brown, white		0.75				
			1.00		BH05/1.0	0.0	Saturated @ 1.0m
	End of Log		1.25				
			1.50				
			1.75				
			2.00				

Sample Type
 Hand Auger
  Solid Stem Auger
  Push Tube
  Split Spoon
  Testpit Wall

APPENDIX E

Chain of Custody Documents & Laboratory Reports

Australia

Melbourne 6 Monterey Road Dandenong South VIC 3175 Phone : +61 3 8564 5000 NATA # 1261 Site # 1254	Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone : +61 2 9900 8400 NATA # 1261 Site # 18217	Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794	Perth 46-48 Banksia Road Welshpool WA 6106 Phone : +61 8 9251 9600 NATA # 1261 Site # 23736	Newcastle 4/52 Industrial Drive Mayfield East NSW 2304 PO Box 60 Wickham 2293 Phone : +61 2 4968 8448 NATA # 1261 Site # 25079	New Zealand Auckland 35 O'Rorke Road Penrose, Auckland 1061 Phone : +64 9 526 45 51 IANZ # 1327	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Phone : 0800 856 450 IANZ # 1290
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Sample Receipt Advice

Company name: Atma Environmental
Contact name: Rory McPhillips
Project name: ELWOOD
Project ID: 2048-1
Turnaround time: 5 Day
Date/Time received: Aug 24, 2021 10:27 PM
Eurofins reference: 819243

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 5.9 degrees Celsius.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✓ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Samples received by the laboratory after 5.30pm are deemed to have been received the following working day.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Cassidy on phone : +61 3 8564 5000 or by email: MichaelCassidy@eurofins.com

Results will be delivered electronically via email to Rory McPhillips - rmcphillips@atmaenvironmental.com.

Atma Environmental
56 William St
Abbotsford
VIC 3067



NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: **Rory McPhillips**

Report **819243-S**
 Project name **ELWOOD**
 Project ID **2048-1**
 Received Date **Aug 24, 2021**

Client Sample ID			BH01_0.1	BH01_0.5	BH01_1.0	DUP_220821B
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Au44149	M21-Au44150	M21-Au44151	M21-Au44152
Date Sampled			Aug 22, 2021	Aug 22, 2021	Aug 22, 2021	Aug 22, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	-	-
TRH C10-C14	20	mg/kg	< 20	< 20	-	-
TRH C15-C28	50	mg/kg	130	< 50	-	-
TRH C29-C36	50	mg/kg	140	< 50	-	-
TRH C10-C36 (Total)	50	mg/kg	270	< 50	-	-
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	-	-
TRH C6-C10	20	mg/kg	< 20	< 20	-	-
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	-	-
TRH >C10-C16	50	mg/kg	< 50	< 50	-	-
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	-	-
TRH >C16-C34	100	mg/kg	230	< 100	-	-
TRH >C34-C40	100	mg/kg	< 100	< 100	-	-
TRH >C10-C40 (total)*	100	mg/kg	230	< 100	-	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	1.7	0.5	< 0.5	1.4
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	1.9	0.9	0.6	1.7
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	2.2	1.2	1.2	1.9
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	1.4	< 0.5	< 0.5	0.9
Benzo(a)pyrene	0.5	mg/kg	1.3	0.5	< 0.5	1.1
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	0.8	< 0.5	< 0.5	0.7
Benzo(g,h,i)perylene	0.5	mg/kg	0.7	< 0.5	< 0.5	1.1
Benzo(k)fluoranthene	0.5	mg/kg	0.7	< 0.5	< 0.5	0.7
Chrysene	0.5	mg/kg	1.4	< 0.5	< 0.5	1.1
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	2.8	0.6	< 0.5	1.4
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	0.7	< 0.5	< 0.5	0.6
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	1.0	< 0.5	< 0.5	0.6
Pyrene	0.5	mg/kg	3.1	0.7	< 0.5	1.6
Total PAH*	0.5	mg/kg	13.9	1.8	< 0.5	9.8
2-Fluorobiphenyl (surr.)	1	%	105	97	94	114
p-Terphenyl-d14 (surr.)	1	%	123	102	110	118

Client Sample ID			BH01_0.1	BH01_0.5	BH01_1.0	DUP_220821B
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Au44149	M21-Au44150	M21-Au44151	M21-Au44152
Date Sampled			Aug 22, 2021	Aug 22, 2021	Aug 22, 2021	Aug 22, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4,4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4,4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4,4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-HCH	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-HCH	0.05	mg/kg	< 0.05	-	-	-
d-HCH	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.05	mg/kg	< 0.05	-	-	-
Toxaphene	0.5	mg/kg	< 0.5	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorobenzene (surr.)	1	%	123	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	145	-	-	-
pH (units)(1:5 soil:CaCl2 extract at 25°C as rec.)	0.1	pH Units	6.3	-	-	-
% Moisture	1	%	18	20	12	17
Heavy Metals						
Arsenic	2	mg/kg	2.8	5.4	12	5.0
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	5.4	7.3	10	7.8
Copper	5	mg/kg	13	36	< 5	35
Lead	5	mg/kg	28	260	5.7	220
Mercury	0.1	mg/kg	< 0.1	0.2	< 0.1	0.2
Molybdenum	5	mg/kg	< 5	< 5	< 5	< 5
Nickel	5	mg/kg	< 5	6.9	< 5	6.2
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	2	mg/kg	< 2	< 2	< 2	< 2
Tin	10	mg/kg	< 10	< 10	< 10	< 10
Zinc	5	mg/kg	68	110	6.4	98

Client Sample ID			BH02_0.1	BH02_0.7	BH02_1.0	BH03_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Au44153	M21-Au44154	M21-Au44155	M21-Au44156
Date Sampled			Aug 22, 2021	Aug 22, 2021	Aug 22, 2021	Aug 22, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	< 20
TRH C15-C28	50	mg/kg	130	< 50	-	200
TRH C29-C36	50	mg/kg	160	< 50	-	230
TRH C10-C36 (Total)	50	mg/kg	290	< 50	-	430
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	-	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	-	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	-	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	-	< 50
TRH >C16-C34	100	mg/kg	230	< 100	-	350
TRH >C34-C40	100	mg/kg	100	< 100	-	150
TRH >C10-C40 (total)*	100	mg/kg	330	< 100	-	500
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	2.3	< 0.5	< 0.5	4.6
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	2.5	0.6	0.6	4.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	2.8	1.2	1.2	4.6
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.5
Benz(a)anthracene	0.5	mg/kg	1.5	< 0.5	< 0.5	3.2
Benzo(a)pyrene	0.5	mg/kg	1.8	< 0.5	< 0.5	3.0
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	1.2	< 0.5	< 0.5	2.0
Benzo(g,h,i)perylene	0.5	mg/kg	1.1	< 0.5	< 0.5	1.6
Benzo(k)fluoranthene	0.5	mg/kg	0.8	< 0.5	< 0.5	1.4
Chrysene	0.5	mg/kg	1.5	< 0.5	< 0.5	2.8
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.7
Fluoranthene	0.5	mg/kg	2.0	< 0.5	< 0.5	4.4
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	1.0	< 0.5	< 0.5	1.6
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	1.2
Pyrene	0.5	mg/kg	2.4	0.6	< 0.5	4.9
Total PAH*	0.5	mg/kg	13.3	0.6	< 0.5	27.3
2-Fluorobiphenyl (surr.)	1	%	57	61	54	59
p-Terphenyl-d14 (surr.)	1	%	71	77	84	66
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4,4'-DDD	0.05	mg/kg	< 0.05	-	-	< 0.05
4,4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4,4'-DDT	0.05	mg/kg	< 0.05	-	-	< 0.05
a-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
d-HCH	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05

Client Sample ID			BH02_0.1	BH02_0.7	BH02_1.0	BH03_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Au44153	M21-Au44154	M21-Au44155	M21-Au44156
Date Sampled			Aug 22, 2021	Aug 22, 2021	Aug 22, 2021	Aug 22, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	0.5	mg/kg	< 0.5	-	-	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	-	-	< 0.1
Dibutylchloroendate (surr.)	1	%	95	-	-	94
Tetrachloro-m-xylene (surr.)	1	%	124	-	-	107
pH (units)(1:5 soil:CaCl2 extract at 25°C as rec.)	0.1	pH Units	6.9	-	-	7.0
% Moisture	1	%	28	15	18	18
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride (Total)	100	mg/kg	-	-	-	< 100
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	-	-	-	7.3
Heavy Metals						
Arsenic	2	mg/kg	6.1	5.4	40	3.1
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	18	7.1	52	6.0
Copper	5	mg/kg	26	5.9	< 5	15
Lead	5	mg/kg	72	86	15	68
Mercury	0.1	mg/kg	< 0.1	0.1	< 0.1	< 0.1
Molybdenum	5	mg/kg	< 5	< 5	< 5	< 5
Nickel	5	mg/kg	19	< 5	13	6.3
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	2	mg/kg	< 2	< 2	< 2	< 2
Tin	10	mg/kg	< 10	< 10	< 10	< 10
Zinc	5	mg/kg	100	52	10	74
Volatile Organics						
Hexachlorobutadiene	0.5	mg/kg	-	-	-	< 0.5
Volatile Organics						
1,1-Dichloroethane	0.5	mg/kg	-	-	-	< 0.5
1,2,4-Trichlorobenzene	0.5	mg/kg	-	-	-	< 0.5
1,1-Dichloroethene	0.5	mg/kg	-	-	-	< 0.5
1,1,1-Trichloroethane	0.5	mg/kg	-	-	-	< 0.5
1,1,1,2-Tetrachloroethane	0.5	mg/kg	-	-	-	< 0.5
1,1,2-Trichloroethane	0.5	mg/kg	-	-	-	< 0.5
1,1,2,2-Tetrachloroethane	0.5	mg/kg	-	-	-	< 0.5
1,2-Dibromoethane	0.5	mg/kg	-	-	-	< 0.5
1,2-Dichlorobenzene	0.5	mg/kg	-	-	-	< 0.5
1,2-Dichloroethane	0.5	mg/kg	-	-	-	< 0.5
1,2-Dichloropropane	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			BH02_0.1	BH02_0.7	BH02_1.0	BH03_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Au44153	M21-Au44154	M21-Au44155	M21-Au44156
Date Sampled			Aug 22, 2021	Aug 22, 2021	Aug 22, 2021	Aug 22, 2021
Test/Reference	LOR	Unit				
Volatile Organics						
1,2,3-Trichloropropane	0.5	mg/kg	-	-	-	< 0.5
1,2,4-Trimethylbenzene	0.5	mg/kg	-	-	-	< 0.5
1,3-Dichlorobenzene	0.5	mg/kg	-	-	-	< 0.5
1,3-Dichloropropane	0.5	mg/kg	-	-	-	< 0.5
1,3,5-Trimethylbenzene	0.5	mg/kg	-	-	-	< 0.5
1,4-Dichlorobenzene	0.5	mg/kg	-	-	-	< 0.5
2-Butanone (MEK)	0.5	mg/kg	-	-	-	< 0.5
2-Propanone (Acetone)	0.5	mg/kg	-	-	-	< 0.5
4-Chlorotoluene	0.5	mg/kg	-	-	-	< 0.5
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	-	-	< 0.5
Allyl chloride	0.5	mg/kg	-	-	-	< 0.5
Benzene	0.1	mg/kg	-	-	-	< 0.1
Bromobenzene	0.5	mg/kg	-	-	-	< 0.5
Bromochloromethane	0.5	mg/kg	-	-	-	< 0.5
Bromodichloromethane	0.5	mg/kg	-	-	-	< 0.5
Bromoform	0.5	mg/kg	-	-	-	< 0.5
Bromomethane	0.5	mg/kg	-	-	-	< 0.5
Carbon disulfide	0.5	mg/kg	-	-	-	< 0.5
Carbon Tetrachloride	0.5	mg/kg	-	-	-	< 0.5
Chlorobenzene	0.5	mg/kg	-	-	-	< 0.5
Chloroethane	0.5	mg/kg	-	-	-	< 0.5
Chloroform	0.5	mg/kg	-	-	-	< 0.5
Chloromethane	0.5	mg/kg	-	-	-	< 0.5
cis-1,2-Dichloroethene	0.5	mg/kg	-	-	-	< 0.5
cis-1,3-Dichloropropene	0.5	mg/kg	-	-	-	< 0.5
Dibromochloromethane	0.5	mg/kg	-	-	-	< 0.5
Dibromomethane	0.5	mg/kg	-	-	-	< 0.5
Dichlorodifluoromethane	0.5	mg/kg	-	-	-	< 0.5
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.1
Iodomethane	0.5	mg/kg	-	-	-	< 0.5
Isopropyl benzene (Cumene)	0.5	mg/kg	-	-	-	< 0.5
m&p-Xylenes	0.2	mg/kg	-	-	-	< 0.2
Methylene Chloride	0.5	mg/kg	-	-	-	< 0.5
o-Xylene	0.1	mg/kg	-	-	-	< 0.1
Styrene	0.5	mg/kg	-	-	-	< 0.5
Tetrachloroethene	0.5	mg/kg	-	-	-	< 0.5
Toluene	0.1	mg/kg	-	-	-	< 0.1
trans-1,2-Dichloroethene	0.5	mg/kg	-	-	-	< 0.5
trans-1,3-Dichloropropene	0.5	mg/kg	-	-	-	< 0.5
Trichloroethene	0.5	mg/kg	-	-	-	< 0.5
Trichlorofluoromethane	0.5	mg/kg	-	-	-	< 0.5
Vinyl chloride	0.5	mg/kg	-	-	-	< 0.5
Xylenes - Total*	0.3	mg/kg	-	-	-	< 0.3
Total MAH*	0.5	mg/kg	-	-	-	< 0.5
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	-	-	< 0.5
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	-	-	< 0.5
4-Bromofluorobenzene (surr.)	1	%	-	-	-	147
Toluene-d8 (surr.)	1	%	-	-	-	148

Client Sample ID			BH02_0.1	BH02_0.7	BH02_1.0	BH03_0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Au44153	M21-Au44154	M21-Au44155	M21-Au44156
Date Sampled			Aug 22, 2021	Aug 22, 2021	Aug 22, 2021	Aug 22, 2021
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchloredate (surr.)	1	%	-	-	-	94
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	107
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2,4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2,4,5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2,4,6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2,6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4,6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4,6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2,4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2,4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	67
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20

Client Sample ID			BH03_0.5	BH03_1.0	BH04_0.1	BH04_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Au44157	M21-Au44158	M21-Au44159	M21-Au44160
Date Sampled			Aug 22, 2021	Aug 22, 2021	Aug 22, 2021	Aug 22, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	-	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	-	< 20	< 20
TRH C15-C28	50	mg/kg	740	-	160	< 50
TRH C29-C36	50	mg/kg	460	-	180	< 50
TRH C10-C36 (Total)	50	mg/kg	1200	-	340	< 50
Naphthalene ^{NO2}	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	-	< 20	< 20

Client Sample ID			BH03_0.5	BH03_1.0	BH04_0.1	BH04_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Au44157	M21-Au44158	M21-Au44159	M21-Au44160
Date Sampled			Aug 22, 2021	Aug 22, 2021	Aug 22, 2021	Aug 22, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	-	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	-	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	-	< 50	< 50
TRH >C16-C34	100	mg/kg	1100	-	290	< 100
TRH >C34-C40	100	mg/kg	270	-	100	< 100
TRH >C10-C40 (total)*	100	mg/kg	1370	-	390	< 100
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	16	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	16	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	16	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	3.1	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	5.4	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	13	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	10.0	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	6.7	< 0.5	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	5.6	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	5.9	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	14	< 0.5	< 0.5	< 0.5
Dibenz(a,h)anthracene	0.5	mg/kg	3.0	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	17	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	2.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	6.2	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	0.6	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	18	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	17	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	128	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	67	71	66	59
p-Terphenyl-d14 (surr.)	1	%	68	72	74	79
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	< 0.1
4,4'-DDD	0.05	mg/kg	-	-	< 0.05	< 0.05
4,4'-DDE	0.05	mg/kg	-	-	< 0.05	< 0.05
4,4'-DDT	0.05	mg/kg	-	-	< 0.05	< 0.05
a-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
b-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
d-HCH	0.05	mg/kg	-	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	-	< 0.05	< 0.05
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	< 0.05

Client Sample ID			BH03_0.5	BH03_1.0	BH04_0.1	BH04_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Au44157	M21-Au44158	M21-Au44159	M21-Au44160
Date Sampled			Aug 22, 2021	Aug 22, 2021	Aug 22, 2021	Aug 22, 2021
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Methoxychlor	0.05	mg/kg	-	-	< 0.05	< 0.05
Toxaphene	0.5	mg/kg	-	-	< 0.5	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	< 0.1
Dibutylchloroendate (surr.)	1	%	-	-	88	58
Tetrachloro-m-xylene (surr.)	1	%	-	-	101	107
pH (units)(1:5 soil:CaCl2 extract at 25°C as rec.)	0.1	pH Units	-	-	4.2	-
% Moisture	1	%	15	9.2	32	9.1
Chromium (hexavalent)	1	mg/kg	-	-	-	< 1
Cyanide (total)	5	mg/kg	-	-	-	< 5
Fluoride (Total)	100	mg/kg	-	-	-	< 100
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	-	-	-	7.3
Heavy Metals						
Arsenic	2	mg/kg	54	62	< 2	4.2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	25	26	< 5	7.6
Copper	5	mg/kg	34	< 5	5.7	< 5
Lead	5	mg/kg	250	10	5.3	8.3
Mercury	0.1	mg/kg	0.2	< 0.1	< 0.1	< 0.1
Molybdenum	5	mg/kg	< 5	< 5	< 5	< 5
Nickel	5	mg/kg	11	< 5	< 5	< 5
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	2	mg/kg	< 2	< 2	< 2	< 2
Tin	10	mg/kg	28	< 10	< 10	< 10
Zinc	5	mg/kg	210	13	17	< 5
Volatile Organics						
Hexachlorobutadiene	0.5	mg/kg	-	-	-	< 0.5
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	-	-	< 0.5
1.2.4-Trichlorobenzene	0.5	mg/kg	-	-	-	< 0.5
1.1-Dichloroethene	0.5	mg/kg	-	-	-	< 0.5
1.1.1-Trichloroethane	0.5	mg/kg	-	-	-	< 0.5
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	-	-	< 0.5
1.1.2-Trichloroethane	0.5	mg/kg	-	-	-	< 0.5
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	-	-	< 0.5
1.2-Dibromoethane	0.5	mg/kg	-	-	-	< 0.5
1.2-Dichlorobenzene	0.5	mg/kg	-	-	-	< 0.5
1.2-Dichloroethane	0.5	mg/kg	-	-	-	< 0.5
1.2-Dichloropropane	0.5	mg/kg	-	-	-	< 0.5
1.2.3-Trichloropropane	0.5	mg/kg	-	-	-	< 0.5
1.2.4-Trimethylbenzene	0.5	mg/kg	-	-	-	< 0.5
1.3-Dichlorobenzene	0.5	mg/kg	-	-	-	< 0.5
1.3-Dichloropropane	0.5	mg/kg	-	-	-	< 0.5
1.3.5-Trimethylbenzene	0.5	mg/kg	-	-	-	< 0.5
1.4-Dichlorobenzene	0.5	mg/kg	-	-	-	< 0.5
2-Butanone (MEK)	0.5	mg/kg	-	-	-	< 0.5

Client Sample ID			BH03_0.5 Soil M21-Au44157 Aug 22, 2021	BH03_1.0 Soil M21-Au44158 Aug 22, 2021	BH04_0.1 Soil M21-Au44159 Aug 22, 2021	BH04_0.5 Soil M21-Au44160 Aug 22, 2021
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Volatile Organics						
2-Propanone (Acetone)	0.5	mg/kg	-	-	-	< 0.5
4-Chlorotoluene	0.5	mg/kg	-	-	-	< 0.5
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	-	-	< 0.5
Allyl chloride	0.5	mg/kg	-	-	-	< 0.5
Benzene	0.1	mg/kg	-	-	-	< 0.1
Bromobenzene	0.5	mg/kg	-	-	-	< 0.5
Bromochloromethane	0.5	mg/kg	-	-	-	< 0.5
Bromodichloromethane	0.5	mg/kg	-	-	-	< 0.5
Bromoform	0.5	mg/kg	-	-	-	< 0.5
Bromomethane	0.5	mg/kg	-	-	-	< 0.5
Carbon disulfide	0.5	mg/kg	-	-	-	< 0.5
Carbon Tetrachloride	0.5	mg/kg	-	-	-	< 0.5
Chlorobenzene	0.5	mg/kg	-	-	-	< 0.5
Chloroethane	0.5	mg/kg	-	-	-	< 0.5
Chloroform	0.5	mg/kg	-	-	-	< 0.5
Chloromethane	0.5	mg/kg	-	-	-	< 0.5
cis-1.2-Dichloroethene	0.5	mg/kg	-	-	-	< 0.5
cis-1.3-Dichloropropene	0.5	mg/kg	-	-	-	< 0.5
Dibromochloromethane	0.5	mg/kg	-	-	-	< 0.5
Dibromomethane	0.5	mg/kg	-	-	-	< 0.5
Dichlorodifluoromethane	0.5	mg/kg	-	-	-	< 0.5
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.1
Iodomethane	0.5	mg/kg	-	-	-	< 0.5
Isopropyl benzene (Cumene)	0.5	mg/kg	-	-	-	< 0.5
m&p-Xylenes	0.2	mg/kg	-	-	-	< 0.2
Methylene Chloride	0.5	mg/kg	-	-	-	< 0.5
o-Xylene	0.1	mg/kg	-	-	-	< 0.1
Styrene	0.5	mg/kg	-	-	-	< 0.5
Tetrachloroethene	0.5	mg/kg	-	-	-	< 0.5
Toluene	0.1	mg/kg	-	-	-	< 0.1
trans-1.2-Dichloroethene	0.5	mg/kg	-	-	-	< 0.5
trans-1.3-Dichloropropene	0.5	mg/kg	-	-	-	< 0.5
Trichloroethene	0.5	mg/kg	-	-	-	< 0.5
Trichlorofluoromethane	0.5	mg/kg	-	-	-	< 0.5
Vinyl chloride	0.5	mg/kg	-	-	-	< 0.5
Xylenes - Total*	0.3	mg/kg	-	-	-	< 0.3
Total MAH*	0.5	mg/kg	-	-	-	< 0.5
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	-	-	< 0.5
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	-	-	< 0.5
4-Bromofluorobenzene (surr.)	1	%	-	-	-	55
Toluene-d8 (surr.)	1	%	-	-	-	55
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1242	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1248	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1254	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1260	0.1	mg/kg	-	-	-	< 0.1

Client Sample ID			BH03_0.5	BH03_1.0	BH04_0.1	BH04_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Au44157	M21-Au44158	M21-Au44159	M21-Au44160
Date Sampled			Aug 22, 2021	Aug 22, 2021	Aug 22, 2021	Aug 22, 2021
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Total PCB*	0.1	mg/kg	-	-	-	< 0.1
Dibutylchloroendate (surr.)	1	%	-	-	-	58
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	107
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	-	-	< 0.5
2,4-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
2,4,5-Trichlorophenol	1	mg/kg	-	-	-	< 1
2,4,6-Trichlorophenol	1	mg/kg	-	-	-	< 1
2,6-Dichlorophenol	0.5	mg/kg	-	-	-	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	-	-	< 1
Pentachlorophenol	1	mg/kg	-	-	-	< 1
Tetrachlorophenols - Total	10	mg/kg	-	-	-	< 10
Total Halogenated Phenol*	1	mg/kg	-	-	-	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4,6-dinitrophenol	20	mg/kg	-	-	-	< 20
2-Methyl-4,6-dinitrophenol	5	mg/kg	-	-	-	< 5
2-Nitrophenol	1.0	mg/kg	-	-	-	< 1
2,4-Dimethylphenol	0.5	mg/kg	-	-	-	< 0.5
2,4-Dinitrophenol	5	mg/kg	-	-	-	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	-	-	< 0.2
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	-	-	< 0.4
Total cresols*	0.5	mg/kg	-	-	-	< 0.5
4-Nitrophenol	5	mg/kg	-	-	-	< 5
Dinoseb	20	mg/kg	-	-	-	< 20
Phenol	0.5	mg/kg	-	-	-	< 0.5
Phenol-d6 (surr.)	1	%	-	-	-	73
Total Non-Halogenated Phenol*	20	mg/kg	-	-	-	< 20

Client Sample ID			BH04_1.0	BH05_0.1	BH05_0.5	BH05_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Au44161	M21-Au44162	M21-Au44163	M21-Au44164
Date Sampled			Aug 22, 2021	Aug 22, 2021	Aug 22, 2021	Aug 22, 2021
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	-	< 20	< 20	-
TRH C10-C14	20	mg/kg	-	< 20	< 20	-
TRH C15-C28	50	mg/kg	-	180	< 50	-
TRH C29-C36	50	mg/kg	-	180	< 50	-
TRH C10-C36 (Total)	50	mg/kg	-	360	< 50	-
Naphthalene ^{N02}	0.5	mg/kg	-	< 0.5	< 0.5	-
TRH C6-C10	20	mg/kg	-	< 20	< 20	-
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	-	< 20	< 20	-
TRH >C10-C16	50	mg/kg	-	< 50	< 50	-
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	-	< 50	< 50	-
TRH >C16-C34	100	mg/kg	-	300	< 100	-
TRH >C34-C40	100	mg/kg	-	110	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	-	410	< 100	-

Client Sample ID			BH04_1.0	BH05_0.1	BH05_0.5	BH05_1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M21-Au44161	M21-Au44162	M21-Au44163	M21-Au44164
Date Sampled			Aug 22, 2021	Aug 22, 2021	Aug 22, 2021	Aug 22, 2021
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	6.2	< 0.5	0.8
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	6.2	0.6	1.1
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	6.2	1.2	1.4
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	0.6	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	2.5	< 0.5	0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	4.6	< 0.5	0.7
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	2.4	< 0.5	< 0.5
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	2.6	< 0.5	0.7
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	1.8	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	4.8	< 0.5	0.6
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	0.7	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	3.4	< 0.5	0.8
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1,2,3-cd)pyrene	0.5	mg/kg	< 0.5	2.0	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	0.6	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	4.5	< 0.5	0.9
Total PAH*	0.5	mg/kg	< 0.5	30.5	< 0.5	4.2
2-Fluorobiphenyl (surr.)	1	%	62	77	68	73
p-Terphenyl-d14 (surr.)	1	%	72	63	76	67
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4,4'-DDD	0.05	mg/kg	-	0.06	-	-
4,4'-DDE	0.05	mg/kg	-	0.08	-	-
4,4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-HCH	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-HCH	0.05	mg/kg	-	< 0.05	-	-
d-HCH	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	0.77	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-HCH (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-	-
Toxaphene	0.5	mg/kg	-	< 0.5	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	0.77	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	0.14	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	0.91	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.1	-	-
Dibutylchloroendate (surr.)	1	%	-	85	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	69	-	-

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference	LOR	Unit	BH04_1.0 Soil M21-Au44161 Aug 22, 2021	BH05_0.1 Soil M21-Au44162 Aug 22, 2021	BH05_0.5 Soil M21-Au44163 Aug 22, 2021	BH05_1.0 Soil M21-Au44164 Aug 22, 2021
pH (units)(1:5 soil:CaCl2 extract at 25°C as rec.)	0.1	pH Units	-	7.6	6.4	-
% Moisture	1	%	22	12	15	16
Conductivity (1:5 aqueous extract at 25°C as rec.)	10	uS/cm	-	250	-	-
Heavy Metals						
Arsenic	2	mg/kg	9.0	23	21	3.0
Cadmium	0.4	mg/kg	< 0.4	0.4	< 0.4	< 0.4
Chromium	5	mg/kg	52	15	50	7.5
Copper	5	mg/kg	< 5	42	9.5	19
Lead	5	mg/kg	13	510	38	98
Mercury	0.1	mg/kg	< 0.1	0.2	0.1	< 0.1
Molybdenum	5	mg/kg	< 5	< 5	< 5	< 5
Nickel	5	mg/kg	13	12	18	< 5
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	2	mg/kg	< 2	< 2	< 2	< 2
Tin	10	mg/kg	< 10	37	< 10	< 10
Zinc	5	mg/kg	8.7	570	36	86
Cation Exchange Capacity						
Cation Exchange Capacity	0.05	meq/100g	-	12	-	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Vic EPA 1828.2 Table 3 (Solids)			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Aug 25, 2021	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Aug 25, 2021	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Aug 25, 2021	14 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Melbourne	Aug 25, 2021	14 Days
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)	Melbourne	Aug 25, 2021	14 Days
Chromium (hexavalent) - Method: APHA 3500-Cr Hexavalent Chromium- (Extraction:- USEPA3060)	Melbourne	Aug 25, 2021	28 Days
Cyanide (total) - Method: LTM-INO-4020 Total Free WAD Cyanide by CFA	Melbourne	Aug 25, 2021	14 Days
Fluoride (Total) - Method: LTM-INO-4150 Determination of Total Fluoride PART B – ISE	Melbourne	Aug 26, 2021	28 Days
pH (1:5 Aqueous extract at 25°C as rec.) - Method: LTM-GEN-7090 pH in soil by ISE	Melbourne	Aug 25, 2021	7 Days
Metals IWRG 621 : Metals M12 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Melbourne	Aug 25, 2021	28 Days
Volatile Organics - Method: USEPA 8260 - MGT 350A Volatile Organics by GCMS	Melbourne	Aug 25, 2021	7 Days
Volatile Organics - Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices (USEPA 8260)	Melbourne	Aug 25, 2021	7 Days
Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)	Melbourne	Aug 25, 2021	28 Days
Phenols (Halogenated) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Melbourne	Aug 25, 2021	14 Days
Phenols (non-Halogenated) - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Melbourne	Aug 25, 2021	14 Days
pH (units)(1:5 soil:CaCl ₂ extract at 25°C as rec.) - Method: LTM-GEN-7090 pH in soil by ISE	Melbourne	Aug 25, 2021	7 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Melbourne	Aug 24, 2021	14 Days
Conductivity (1:5 aqueous extract at 25°C as rec.) - Method: LTM-INO-4030 Conductivity	Melbourne	Aug 25, 2021	7 Days
Cation Exchange Capacity - Method: LTM-MET-3060 Cation Exchange Capacity by bases & Exchangeable Sodium Percentage	Melbourne	Aug 26, 2021	180 Days

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Company Name: Atma Environmental
Address: 56 William St
Abbotsford
VIC 3067
Project Name: ELWOOD
Project ID: 2048-1

Order No.:
Report #: 819243
Phone: 9429 6955
Fax: 9429 5911

Received: Aug 24, 2021 10:27 PM
Due: Sep 1, 2021
Priority: 5 Day
Contact Name: Rory McPhillips

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						HOLD	pH (units) (1:5 soil:CaCl2 extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals IWRG 621 : Metals M12	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons	Vic EPA 1828.2 Table 3 (Solids)
Melbourne Laboratory - NATA Site # 1254						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
Mayfield Laboratory - NATA Site # 25079														
External Laboratory														
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID									
1	BH01_0.1	Aug 22, 2021		Soil	M21-Au44149		X	X	X	X	X		X	
2	BH01_0.5	Aug 22, 2021		Soil	M21-Au44150			X		X	X		X	
3	BH01_1.0	Aug 22, 2021		Soil	M21-Au44151			X		X	X			
4	DUP_220821B	Aug 22, 2021		Soil	M21-Au44152			X		X	X			
5	BH02_0.1	Aug 22, 2021		Soil	M21-Au44153		X	X	X	X	X		X	
6	BH02_0.7	Aug 22, 2021		Soil	M21-Au44154			X		X	X		X	
7	BH02_1.0	Aug 22, 2021		Soil	M21-Au44155			X		X	X			
8	BH03_0.1	Aug 22, 2021		Soil	M21-Au44156		X				X			X
9	BH03_0.5	Aug 22, 2021		Soil	M21-Au44157			X		X	X		X	

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Address: 56 William St
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VIC 3067
Project Name: ELWOOD
Project ID: 2048-1

Order No.:
Report #: 819243
Phone: 9429 6955
Fax: 9429 5911

Received: Aug 24, 2021 10:27 PM
Due: Sep 1, 2021
Priority: 5 Day
Contact Name: Rory McPhillips

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						HOLD	pH (units) (1:5 soil:CaCl2 extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals IWRG 621 : Metals M12	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons	Vic EPA 1828.2 Table 3 (Solids)
Melbourne Laboratory - NATA Site # 1254						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
Mayfield Laboratory - NATA Site # 25079														
External Laboratory														
10	BH03_1.0	Aug 22, 2021		Soil	M21-Au44158			X		X	X			
11	BH04_0.1	Aug 22, 2021		Soil	M21-Au44159		X	X	X	X	X		X	
12	BH04_0.5	Aug 22, 2021		Soil	M21-Au44160						X			X
13	BH04_1.0	Aug 22, 2021		Soil	M21-Au44161			X		X	X			
14	BH05_0.1	Aug 22, 2021		Soil	M21-Au44162		X	X	X	X	X	X	X	
15	BH05_0.5	Aug 22, 2021		Soil	M21-Au44163		X	X		X	X		X	
16	BH05_1.0	Aug 22, 2021		Soil	M21-Au44164			X		X	X			
17	DECON_2208 21B	Aug 22, 2021		Water	M21-Au44165					X				
18	TRIP_220821 B	Aug 22, 2021		Water	M21-Au44166	X								

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Order No.:
Report #: 819243
Phone: 9429 6955
Fax: 9429 5911

Received: Aug 24, 2021 10:27 PM
Due: Sep 1, 2021
Priority: 5 Day
Contact Name: Rory McPhillips

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail	HOLD	pH (units) (1:5 soil:CaCl2 extract at 25°C as rec.)	Polyyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals IWRG 621 : Metals M12	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons	Vic EPA 1828.2 Table 3 (Solids)
	X	X	X	X	X	X	X	X	X
Melbourne Laboratory - NATA Site # 1254	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory - NATA Site # 25079									
External Laboratory									
Test Counts	1	6	14	4	15	16	1	8	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NC	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g,h,i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a,h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4,4'-DDD	mg/kg	< 0.05			0.05	Pass	
4,4'-DDE	mg/kg	< 0.05			0.05	Pass	
4,4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-HCH	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-HCH	mg/kg	< 0.05			0.05	Pass	
d-HCH	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-HCH (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 0.5			0.5	Pass	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Cyanide (total)	mg/kg	< 5			5	Pass	
Fluoride (Total)	mg/kg	< 100			100	Pass	
Conductivity (1:5 aqueous extract at 25°C as rec.)	uS/cm	< 10			10	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 2			2	Pass	
Tin	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Volatile Organics							
Hexachlorobutadiene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Volatile Organics							
1.1-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.1-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
1.1.1-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.1.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dibromoethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.3-Trichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.3.5-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.4-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
2-Butanone (MEK)	mg/kg	< 0.5			0.5	Pass	
2-Propanone (Acetone)	mg/kg	< 0.5			0.5	Pass	
4-Chlorotoluene	mg/kg	< 0.5			0.5	Pass	
4-Methyl-2-pentanone (MIBK)	mg/kg	< 0.5			0.5	Pass	
Allyl chloride	mg/kg	< 0.5			0.5	Pass	
Benzene	mg/kg	< 0.1			0.1	Pass	
Bromobenzene	mg/kg	< 0.5			0.5	Pass	
Bromochloromethane	mg/kg	< 0.5			0.5	Pass	
Bromodichloromethane	mg/kg	< 0.5			0.5	Pass	
Bromoform	mg/kg	< 0.5			0.5	Pass	
Bromomethane	mg/kg	< 0.5			0.5	Pass	
Carbon disulfide	mg/kg	< 0.5			0.5	Pass	
Carbon Tetrachloride	mg/kg	< 0.5			0.5	Pass	
Chlorobenzene	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chloroethane	mg/kg	< 0.5			0.5	Pass	
Chloroform	mg/kg	< 0.5			0.5	Pass	
Chloromethane	mg/kg	< 0.5			0.5	Pass	
cis-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
cis-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Dibromochloromethane	mg/kg	< 0.5			0.5	Pass	
Dibromomethane	mg/kg	< 0.5			0.5	Pass	
Dichlorodifluoromethane	mg/kg	< 0.5			0.5	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
Iodomethane	mg/kg	< 0.5			0.5	Pass	
Isopropyl benzene (Cumene)	mg/kg	< 0.5			0.5	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
Methylene Chloride	mg/kg	< 0.5			0.5	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Styrene	mg/kg	< 0.5			0.5	Pass	
Tetrachloroethene	mg/kg	< 0.5			0.5	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
trans-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Trichloroethene	mg/kg	< 0.5			0.5	Pass	
Trichlorofluoromethane	mg/kg	< 0.5			0.5	Pass	
Vinyl chloride	mg/kg	< 0.5			0.5	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
Total cresols*	mg/kg	-			0.5	N/A	
4-Nitrophenol	mg/kg	< 5			5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Total Non-Halogenated Phenol*	mg/kg	< 0			20	Pass	
Method Blank							
Cation Exchange Capacity							
Cation Exchange Capacity	meq/100g	< 0.05			0.05	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	93			70-130	Pass	
TRH C10-C14	%	110			70-130	Pass	
Naphthalene	%	83			70-130	Pass	
TRH C6-C10	%	89			70-130	Pass	
TRH >C10-C16	%	115			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	71			70-130	Pass	
Acenaphthylene	%	74			70-130	Pass	
Anthracene	%	71			70-130	Pass	
Benz(a)anthracene	%	102			70-130	Pass	
Benzo(a)pyrene	%	76			70-130	Pass	
Benzo(b&j)fluoranthene	%	96			70-130	Pass	
Benzo(g,h,i)perylene	%	94			70-130	Pass	
Benzo(k)fluoranthene	%	104			70-130	Pass	
Chrysene	%	105			70-130	Pass	
Dibenz(a,h)anthracene	%	88			70-130	Pass	
Fluoranthene	%	73			70-130	Pass	
Fluorene	%	79			70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	81			70-130	Pass	
Naphthalene	%	77			70-130	Pass	
Phenanthrene	%	93			70-130	Pass	
Pyrene	%	73			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	76			70-130	Pass	
4,4'-DDD	%	93			70-130	Pass	
4,4'-DDE	%	99			70-130	Pass	
4,4'-DDT	%	82			70-130	Pass	
a-HCH	%	101			70-130	Pass	
Aldrin	%	94			70-130	Pass	
b-HCH	%	109			70-130	Pass	
d-HCH	%	102			70-130	Pass	
Dieldrin	%	86			70-130	Pass	
Endosulfan I	%	106			70-130	Pass	
Endosulfan II	%	95			70-130	Pass	
Endosulfan sulphate	%	79			70-130	Pass	
Endrin	%	88			70-130	Pass	
Endrin aldehyde	%	111			70-130	Pass	
Endrin ketone	%	82			70-130	Pass	
g-HCH (Lindane)	%	125			70-130	Pass	
Heptachlor	%	88			70-130	Pass	
Heptachlor epoxide	%	77			70-130	Pass	
Hexachlorobenzene	%	109			70-130	Pass	
Methoxychlor	%	104			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chromium (hexavalent)	%	91			70-130	Pass	
Cyanide (total)	%	106			70-130	Pass	
Fluoride (Total)	%	97			70-130	Pass	
Conductivity (1:5 aqueous extract at 25°C as rec.)	%	93			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	110			80-120	Pass	
Cadmium	%	101			80-120	Pass	
Chromium	%	109			80-120	Pass	
Copper	%	107			80-120	Pass	
Lead	%	112			80-120	Pass	
Mercury	%	107			80-120	Pass	
Molybdenum	%	111			80-120	Pass	
Nickel	%	106			80-120	Pass	
Selenium	%	105			80-120	Pass	
Silver	%	105			80-120	Pass	
Tin	%	108			80-120	Pass	
Zinc	%	106			80-120	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethene	%	122			70-130	Pass	
1.1.1-Trichloroethane	%	79			70-130	Pass	
1.2-Dichlorobenzene	%	123			70-130	Pass	
1.2-Dichloroethane	%	114			70-130	Pass	
Benzene	%	86			70-130	Pass	
Ethylbenzene	%	112			70-130	Pass	
m&p-Xylenes	%	125			70-130	Pass	
Toluene	%	113			70-130	Pass	
Trichloroethene	%	90			70-130	Pass	
Xylenes - Total*	%	122			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	78			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	99			25-140	Pass	
2.4-Dichlorophenol	%	95			25-140	Pass	
2.4.5-Trichlorophenol	%	76			30-130	Pass	
2.4.6-Trichlorophenol	%	96			30-130	Pass	
2.6-Dichlorophenol	%	87			30-130	Pass	
4-Chloro-3-methylphenol	%	106			30-130	Pass	
Pentachlorophenol	%	67			30-130	Pass	
Tetrachlorophenols - Total	%	56			30-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	66			30-130	Pass	
2-Methyl-4.6-dinitrophenol	%	81			30-130	Pass	
2-Nitrophenol	%	108			30-130	Pass	
2.4-Dimethylphenol	%	106			30-130	Pass	
2.4-Dinitrophenol	%	34			30-130	Pass	
2-Methylphenol (o-Cresol)	%	90			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	%	110			30-130	Pass	
Total cresols*	%	103			30-130	Pass	
4-Nitrophenol	%	101			30-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Dinoseb			%	94			30-130	Pass	
Phenol			%	117			25-145	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C6-C9	M21-Au47114	NCP	%	74			70-130	Pass	
TRH C10-C14	M21-Au44042	NCP	%	97			70-130	Pass	
Naphthalene	M21-Au47114	NCP	%	83			70-130	Pass	
TRH C6-C10	M21-Au47114	NCP	%	72			70-130	Pass	
TRH >C10-C16	M21-Au44042	NCP	%	100			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M21-Au42367	NCP	%	77			70-130	Pass	
Acenaphthylene	M21-Au42367	NCP	%	92			70-130	Pass	
Anthracene	M21-Au42367	NCP	%	87			70-130	Pass	
Benz(a)anthracene	M21-Au42367	NCP	%	79			70-130	Pass	
Benzo(a)pyrene	M21-Au42367	NCP	%	85			70-130	Pass	
Benzo(b&i)fluoranthene	M21-Au42367	NCP	%	82			70-130	Pass	
Benzo(g,h,i)perylene	M21-Au42367	NCP	%	78			70-130	Pass	
Benzo(k)fluoranthene	M21-Au42367	NCP	%	89			70-130	Pass	
Chrysene	M21-Au42367	NCP	%	93			70-130	Pass	
Dibenz(a,h)anthracene	M21-Au42367	NCP	%	77			70-130	Pass	
Fluoranthene	M21-Au42367	NCP	%	84			70-130	Pass	
Fluorene	M21-Au42367	NCP	%	98			70-130	Pass	
Indeno(1,2,3-cd)pyrene	M21-Au42367	NCP	%	72			70-130	Pass	
Naphthalene	M21-Au42367	NCP	%	88			70-130	Pass	
Phenanthrene	M21-Au42367	NCP	%	78			70-130	Pass	
Pyrene	M21-Au42367	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M21-Au44995	NCP	%	105			75-125	Pass	
Cadmium	M21-Au44995	NCP	%	106			75-125	Pass	
Chromium	M21-Au44995	NCP	%	105			75-125	Pass	
Copper	M21-Au44995	NCP	%	96			75-125	Pass	
Lead	M21-Au44995	NCP	%	89			75-125	Pass	
Mercury	M21-Au44995	NCP	%	115			75-125	Pass	
Molybdenum	M21-Au44995	NCP	%	111			75-125	Pass	
Nickel	M21-Au44995	NCP	%	101			75-125	Pass	
Selenium	M21-Au44995	NCP	%	102			75-125	Pass	
Silver	M21-Au44995	NCP	%	104			75-125	Pass	
Tin	M21-Au44995	NCP	%	105			75-125	Pass	
Zinc	M21-Au44995	NCP	%	88			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	M21-Au44153	CP	%	98			70-130	Pass	
4,4'-DDE	M21-Au44153	CP	%	87			70-130	Pass	
4,4'-DDT	M21-Au44153	CP	%	97			70-130	Pass	
a-HCH	M21-Au44153	CP	%	112			70-130	Pass	
Aldrin	M21-Au44153	CP	%	99			70-130	Pass	
b-HCH	M21-Au44153	CP	%	89			70-130	Pass	
d-HCH	M21-Au44153	CP	%	95			70-130	Pass	
Dieldrin	M21-Au44153	CP	%	99			70-130	Pass	
Endosulfan I	M21-Au44153	CP	%	82			70-130	Pass	
Endosulfan II	M21-Au44153	CP	%	102			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	M21-Au44153	CP	%	108			70-130	Pass	
Endrin	M21-Au44153	CP	%	99			70-130	Pass	
Endrin ketone	M21-Au44153	CP	%	101			70-130	Pass	
g-HCH (Lindane)	M21-Au44153	CP	%	90			70-130	Pass	
Heptachlor	M21-Au44153	CP	%	102			70-130	Pass	
Heptachlor epoxide	M21-Au44153	CP	%	93			70-130	Pass	
Hexachlorobenzene	M21-Au44153	CP	%	95			70-130	Pass	
Methoxychlor	M21-Au44153	CP	%	99			70-130	Pass	
Spike - % Recovery									
Volatile Organics				Result 1					
1.1-Dichloroethene	M21-Au45640	NCP	%	102			70-130	Pass	
1.1.1-Trichloroethane	M21-Au45640	NCP	%	77			70-130	Pass	
1.2-Dichlorobenzene	M21-Au45640	NCP	%	110			70-130	Pass	
1.2-Dichloroethane	M21-Au45640	NCP	%	106			70-130	Pass	
Benzene	M21-Au35881	NCP	%	101			70-130	Pass	
Ethylbenzene	M21-Au35881	NCP	%	111			70-130	Pass	
m&p-Xylenes	M21-Au35881	NCP	%	117			70-130	Pass	
o-Xylene	M21-Au35881	NCP	%	112			70-130	Pass	
Toluene	M21-Au35881	NCP	%	124			70-130	Pass	
Trichloroethene	M21-Au45640	NCP	%	76			70-130	Pass	
Xylenes - Total*	M21-Au35881	NCP	%	116			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	B21-Au33720	NCP	%	92			30-130	Pass	
2.4-Dichlorophenol	B21-Au33720	NCP	%	94			30-130	Pass	
2.4.5-Trichlorophenol	M21-Au35952	NCP	%	61			30-130	Pass	
2.4.6-Trichlorophenol	B21-Au33720	NCP	%	84			30-130	Pass	
2.6-Dichlorophenol	B21-Au33720	NCP	%	64			30-130	Pass	
4-Chloro-3-methylphenol	B21-Au33720	NCP	%	94			30-130	Pass	
Pentachlorophenol	B21-Au33720	NCP	%	106			30-130	Pass	
Tetrachlorophenols - Total	B21-Au33720	NCP	%	72			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	B21-Au33720	NCP	%	105			30-130	Pass	
2-Methyl-4.6-dinitrophenol	B21-Au33720	NCP	%	117			30-130	Pass	
2-Nitrophenol	B21-Au33720	NCP	%	88			30-130	Pass	
2.4-Dimethylphenol	B21-Au33720	NCP	%	86			30-130	Pass	
2.4-Dinitrophenol	B21-Au33720	NCP	%	98			30-130	Pass	
2-Methylphenol (o-Cresol)	B21-Au33720	NCP	%	86			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	B21-Au33720	NCP	%	87			30-130	Pass	
Total cresols*	B21-Au33720	NCP	%	86			70-130	Pass	
4-Nitrophenol	B21-Au33720	NCP	%	110			30-130	Pass	
Dinoseb	B21-Au33720	NCP	%	109			30-130	Pass	
Phenol	B21-Au33720	NCP	%	86			30-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	M21-Au44160	CP	%	78			70-130	Pass	
Aroclor-1260	M21-Au44160	CP	%	115			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C10-C14	M21-Au44053	NCP	mg/kg	23	26	12	30%	Pass	
TRH C15-C28	M21-Au44053	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M21-Au44053	NCP	mg/kg	< 50	< 50	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH >C10-C16	M21-Au44053	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M21-Au44053	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M21-Au44053	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
pH (units)(1:5 soil:CaCl2 extract at 25°C as rec.)	M21-Au31109	NCP	pH Units	10	10	pass	30%	Pass	
% Moisture	M21-Au44149	CP	%	18	17	6.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M21-Au45511	NCP	mg/kg	6.1	7.4	20	30%	Pass	
Cadmium	M21-Au45511	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M21-Au45511	NCP	mg/kg	40	50	21	30%	Pass	
Copper	M21-Au45511	NCP	mg/kg	22	25	13	30%	Pass	
Lead	M21-Au45511	NCP	mg/kg	27	32	18	30%	Pass	
Mercury	M21-Au45511	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M21-Au45511	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M21-Au45511	NCP	mg/kg	18	21	13	30%	Pass	
Selenium	M21-Au45511	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M21-Au45511	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Tin	M21-Au45511	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M21-Au45511	NCP	mg/kg	45	52	15	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M21-Au44156	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Naphthalene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M21-Au44156	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M21-Au44156	CP	mg/kg	2.8	3.0	6.0	30%	Pass	
Fluorene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M21-Au44156	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4,4'-DDD	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDE	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4,4'-DDT	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-HCH	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-HCH	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-HCH	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-HCH (Lindane)	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Hexachlorobenzene	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	M21-Au44156	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Toxaphene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Chromium (hexavalent)	M21-Au44156	CP	mg/kg	< 1	< 1	<1	30%	Pass
Cyanide (total)	M21-Au46890	NCP	mg/kg	< 5	< 5	<1	30%	Pass
Fluoride (Total)	M21-Au47479	NCP	mg/kg	< 100	< 100	<1	30%	Pass
pH (1:5 Aqueous extract at 25°C as rec.)	M21-Au44049	NCP	pH Units	6.4	6.4	pass	30%	Pass
Duplicate								
Volatile Organics				Result 1	Result 2	RPD		
Hexachlorobutadiene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Volatile Organics				Result 1	Result 2	RPD		
1.1-Dichloroethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2.4-Trichlorobenzene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.1-Dichloroethene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.1.1-Trichloroethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.1.1.2-Tetrachloroethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.1.2-Trichloroethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.1.2.2-Tetrachloroethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2-Dibromoethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2-Dichlorobenzene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2-Dichloroethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2-Dichloropropane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2.3-Trichloropropane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.2.4-Trimethylbenzene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.3-Dichlorobenzene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.3-Dichloropropane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.3.5-Trimethylbenzene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
1.4-Dichlorobenzene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2-Butanone (MEK)	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2-Propanone (Acetone)	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4-Chlorotoluene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4-Methyl-2-pentanone (MIBK)	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Allyl chloride	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Benzene	M21-Au44156	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Bromobenzene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bromochloromethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bromodichloromethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bromoform	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Bromomethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Carbon disulfide	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Carbon Tetrachloride	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chlorobenzene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chloroethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chloroform	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Chloromethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
cis-1.2-Dichloroethene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
cis-1.3-Dichloropropene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibromochloromethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dibromomethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Dichlorodifluoromethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass

Duplicate								
Volatile Organics				Result 1	Result 2	RPD		
Ethylbenzene	M21-Au44156	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Iodomethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Isopropyl benzene (Cumene)	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
m&p-Xylenes	M21-Au44156	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Methylene Chloride	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
o-Xylene	M21-Au44156	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Styrene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Tetrachloroethene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Toluene	M21-Au44156	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
trans-1,2-Dichloroethene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
trans-1,3-Dichloropropene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Trichloroethene	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Trichlorofluoromethane	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Vinyl chloride	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Xylenes - Total*	M21-Au44156	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass
Duplicate								
Polychlorinated Biphenyls				Result 1	Result 2	RPD		
Aroclor-1016	M21-Au44156	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1221	M21-Au44156	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1232	M21-Au44156	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1242	M21-Au44156	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1248	M21-Au44156	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1254	M21-Au44156	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1260	M21-Au44156	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Total PCB*	M21-Au44156	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Duplicate								
Phenols (Halogenated)				Result 1	Result 2	RPD		
2-Chlorophenol	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4-Dichlorophenol	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4,5-Trichlorophenol	M21-Au44156	CP	mg/kg	< 1	< 1	<1	30%	Pass
2,4,6-Trichlorophenol	M21-Au44156	CP	mg/kg	< 1	< 1	<1	30%	Pass
4-Chloro-3-methylphenol	M21-Au44156	CP	mg/kg	< 1	< 1	<1	30%	Pass
Pentachlorophenol	M21-Au44156	CP	mg/kg	< 1	< 1	<1	30%	Pass
Tetrachlorophenols - Total	M21-Au44156	CP	mg/kg	< 10	< 10	<1	30%	Pass
Duplicate								
Phenols (non-Halogenated)				Result 1	Result 2	RPD		
2-Cyclohexyl-4,6-dinitrophenol	M21-Au44156	CP	mg/kg	< 20	< 20	<1	30%	Pass
2-Methyl-4,6-dinitrophenol	M21-Au44156	CP	mg/kg	< 5	< 5	<1	30%	Pass
2-Nitrophenol	M21-Au44156	CP	mg/kg	< 1	< 1	<1	30%	Pass
2,4-Dimethylphenol	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
2,4-Dinitrophenol	M21-Au44156	CP	mg/kg	< 5	< 5	<1	30%	Pass
2-Methylphenol (o-Cresol)	M21-Au44156	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
3&4-Methylphenol (m&p-Cresol)	M21-Au44156	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Total cresols*	M21-Au38833	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
4-Nitrophenol	M21-Au44156	CP	mg/kg	< 5	< 5	<1	30%	Pass
Dinoseb	M21-Au44156	CP	mg/kg	< 20	< 20	<1	30%	Pass
Phenol	M21-Au44156	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
% Moisture	M21-Au44159	CP	%	32	31	3.0	30%	Pass
Duplicate								
				Result 1	Result 2	RPD		
Conductivity (1:5 aqueous extract at 25°C as rec.)	M21-Au44049	NCP	uS/cm	25	31	21	30%	Pass

Duplicate									
Cation Exchange Capacity				Result 1	Result 2	RPD			
Cation Exchange Capacity	S21-Au35657	NCP	meq/100g	20	21	1.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Emily Daos	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Scott Beddoes	Senior Analyst-Inorganic (VIC)
Vivian Wang	Senior Analyst-Volatile (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

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Atma Environmental
56 William St
Abbotsford
VIC 3067



NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
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 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: **Rory McPhillips**

Report **819243-W**
 Project name **ELWOOD**
 Project ID **2048-1**
 Received Date **Aug 24, 2021**

Client Sample ID			DECON_22082 1B
Sample Matrix			Water
Eurofins Sample No.			M21-Au44165
Date Sampled			Aug 22, 2021
Test/Reference	LOR	Unit	
Heavy Metals			
Arsenic	0.001	mg/L	< 0.001
Cadmium	0.0002	mg/L	< 0.0002
Chromium	0.001	mg/L	< 0.001
Copper	0.001	mg/L	< 0.001
Lead	0.001	mg/L	< 0.001
Mercury	0.0001	mg/L	< 0.0001
Molybdenum	0.005	mg/L	< 0.005
Nickel	0.001	mg/L	< 0.001
Selenium	0.001	mg/L	< 0.001
Silver	0.005	mg/L	< 0.005
Tin	0.005	mg/L	< 0.005
Zinc	0.005	mg/L	< 0.005

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description

Vic EPA 1828.2 Table 3 (Solids)

Metals IWRG 621 : Metals M12

- Method:

Testing Site

Melbourne

Extracted

Aug 24, 2021

Holding Time

28 Days

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261 Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rourke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Company Name: Atma Environmental
Address: 56 William St
Abbotsford
VIC 3067
Project Name: ELWOOD
Project ID: 2048-1

Order No.:
Report #: 819243
Phone: 9429 6955
Fax: 9429 5911

Received: Aug 24, 2021 10:27 PM
Due: Sep 1, 2021
Priority: 5 Day
Contact Name: Rory McPhillips

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						HOLD	pH (units) (1:5 soil:CaCl2 extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals IWRG 621 : Metals M12	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons	Vic EPA 1828.2 Table 3 (Solids)
Melbourne Laboratory - NATA Site # 1254						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
Mayfield Laboratory - NATA Site # 25079														
External Laboratory														
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID									
1	BH01_0.1	Aug 22, 2021		Soil	M21-Au44149		X	X	X	X	X		X	
2	BH01_0.5	Aug 22, 2021		Soil	M21-Au44150			X		X	X		X	
3	BH01_1.0	Aug 22, 2021		Soil	M21-Au44151			X		X	X			
4	DUP_220821B	Aug 22, 2021		Soil	M21-Au44152			X		X	X			
5	BH02_0.1	Aug 22, 2021		Soil	M21-Au44153		X	X	X	X	X		X	
6	BH02_0.7	Aug 22, 2021		Soil	M21-Au44154			X		X	X		X	
7	BH02_1.0	Aug 22, 2021		Soil	M21-Au44155			X		X	X			
8	BH03_0.1	Aug 22, 2021		Soil	M21-Au44156		X				X			X
9	BH03_0.5	Aug 22, 2021		Soil	M21-Au44157			X		X	X		X	

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
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NATA # 1261 Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
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NATA # 1261 Site # 18217

Brisbane
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New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Company Name: Atma Environmental
Address: 56 William St
Abbotsford
VIC 3067
Project Name: ELWOOD
Project ID: 2048-1

Order No.:
Report #: 819243
Phone: 9429 6955
Fax: 9429 5911

Received: Aug 24, 2021 10:27 PM
Due: Sep 1, 2021
Priority: 5 Day
Contact Name: Rory McPhillips

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						HOLD	pH (units) (1:5 soil:CaCl2 extract at 25°C as rec.)	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	Metals IWRG 621 : Metals M12	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons	Vic EPA 1828.2 Table 3 (Solids)
Melbourne Laboratory - NATA Site # 1254						X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217														
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
Mayfield Laboratory - NATA Site # 25079														
External Laboratory														
10	BH03_1.0	Aug 22, 2021		Soil	M21-Au44158			X		X	X			
11	BH04_0.1	Aug 22, 2021		Soil	M21-Au44159		X	X	X	X	X		X	
12	BH04_0.5	Aug 22, 2021		Soil	M21-Au44160						X			X
13	BH04_1.0	Aug 22, 2021		Soil	M21-Au44161			X		X	X			
14	BH05_0.1	Aug 22, 2021		Soil	M21-Au44162		X	X	X	X	X	X	X	
15	BH05_0.5	Aug 22, 2021		Soil	M21-Au44163		X	X		X	X		X	
16	BH05_1.0	Aug 22, 2021		Soil	M21-Au44164			X		X	X			
17	DECON_2208 21B	Aug 22, 2021		Water	M21-Au44165					X				
18	TRIP_220821 B	Aug 22, 2021		Water	M21-Au44166	X								

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Melbourne Laboratory - NATA Site # 1254	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
Mayfield Laboratory - NATA Site # 25079									
External Laboratory									
Test Counts	1	6	14	4	15	16	1	8	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ug/L: micrograms per litre
ppm: Parts per million	ppb: Parts per billion	%: Percentage
org/100mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NC	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Molybdenum	mg/L	< 0.005			0.005	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Selenium	mg/L	< 0.001			0.001	Pass	
Silver	mg/L	< 0.005			0.005	Pass	
Tin	mg/L	< 0.005			0.005	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	102			80-120	Pass	
Cadmium	%	97			80-120	Pass	
Chromium	%	102			80-120	Pass	
Copper	%	99			80-120	Pass	
Lead	%	91			80-120	Pass	
Mercury	%	99			80-120	Pass	
Molybdenum	%	97			80-120	Pass	
Nickel	%	100			80-120	Pass	
Selenium	%	106			80-120	Pass	
Silver	%	91			80-120	Pass	
Tin	%	116			80-120	Pass	
Zinc	%	102			80-120	Pass	

Comments
Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised by:

Emily Daos	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

FW: Further Sample Analysis Request

Michael Cassidy <MichaelCassidy@eurofins.com>

Mon 6/09/2021 11:42 AM

To: #AU_CAU001_EnviroSampleVic <EnviroSampleVic@eurofins.com>

Thanks Canh,

Kind Regards,

Michael Cassidy

Phone: 8564 5940

Mobile: 0498 700 069

Email : MichaelCassidy@eurofins.com**From:** Rory McPhillips <rmcphillips@atmaenvironmental.com>**Sent:** Monday, 6 September 2021 11:38 AM**To:** Michael Cassidy <MichaelCassidy@eurofins.com>**Cc:** mickenviro@gmail.com**Subject:** Further Sample Analysis Request

EXTERNAL EMAIL*

Hi Michael,

Can you please arrange for the following further analysis (standard TAT):

Project #2048-1 (Eurofins Report #819243):

Sample ID	TRH Silica-Gel clean up	TRHs (total)	Arsenic ASLP (pH5)	Lead ASLP (pH5)	PAHs ASLP (pH5)
BH03_0.5	X		X		
BH03_1.0		X	X		X
BH05_0.1			X	X	X

Project #2048-2 (Eurofins Report #819243):

Sample ID	Arsenic ASLP (pH5)	Lead ASLP (pH5)	PAHs ASLP (pH5)
BH01_0.5	X	X	
BH04_1.5	X		X
BH05_0.9	X		

AU 44157 - GT155 - FH304
 AU 44158
 AU 44162 ↓
 AU 44108 - GT1359 - FH305
 AU 44418 - ↓
 AU 44422 - GT822 - FH305

Thanks,

822 324
Jake

Australia

Melbourne 6 Monterey Road Dandenong South VIC 3175 Phone : +61 3 8564 5000 NATA # 1261 Site # 1254	Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone : +61 2 9900 8400 NATA # 1261 Site # 18217	Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 20794	Perth 46-48 Banksia Road Welshpool WA 6106 Phone : +61 8 9251 9600 NATA # 1261 Site # 23736	Newcastle 4/52 Industrial Drive Mayfield East NSW 2304 PO Box 60 Wickham 2293 Phone : +61 2 4968 8448 NATA # 1261 Site # 25079	New Zealand Auckland 35 O'Rorke Road Penrose, Auckland 1061 Phone : +64 9 526 45 51 IANZ # 1327	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 Phone : 0800 856 450 IANZ # 1290
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Sample Receipt Advice

Company name: Atma Environmental
Contact name: Rory McPhillips
Project name: ELWOOD
Project ID: 2048-1
Turnaround time: 5 Day
Date/Time received: Sep 6, 2021 11:38 AM
Eurofins reference: 822324

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Michael Cassidy on phone : +61 3 8564 5000 or by email: MichaelCassidy@eurofins.com

Results will be delivered electronically via email to Rory McPhillips - rmcphillips@atmaenvironmental.com.

Atma Environmental
56 William St
Abbotsford
VIC 3067



NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: **Rory McPhillips**

Report **822324-L**
Project name **ELWOOD**
Project ID **2048-1**
Received Date **Sep 06, 2021**

Client Sample ID			BH03_0.5	BH03_1.0	BH05_0.1
Sample Matrix			AUS Leachate	AUS Leachate	AUS Leachate
Eurofins Sample No.			- pH 5.0	- pH 5.0	- pH 5.0
Date Sampled			M21-Se10296	M21-Se10297	M21-Se10298
Test/Reference	LOR	Unit	Aug 22, 2021	Aug 22, 2021	Aug 22, 2021
Heavy Metals					
Arsenic	0.01	mg/L	0.02	< 0.01	0.02
Lead	0.01	mg/L	-	-	0.15
AUS Leaching Procedure					
Leachate Fluid ^{C01}		comment	1.0	1.0	1.0
pH (initial)	0.1	pH Units	N/A	N/A	N/A
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.3	5.1	5.2
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	0.001	mg/L	-	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	-	< 0.001	< 0.001
Anthracene	0.001	mg/L	-	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	-	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	-	< 0.001	< 0.001
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	-	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	-	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	-	< 0.001	< 0.001
Chrysene	0.001	mg/L	-	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	-	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	-	< 0.001	< 0.001
Fluorene	0.001	mg/L	-	< 0.001	< 0.001
Indeno(1,2,3-cd)pyrene	0.001	mg/L	-	< 0.001	< 0.001
Naphthalene	0.001	mg/L	-	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	-	< 0.001	< 0.001
Pyrene	0.001	mg/L	-	< 0.001	< 0.001
Total PAH*	0.001	mg/L	-	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	-	82	143
p-Terphenyl-d14 (surr.)	1	%	-	110	67

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Melbourne	Sep 06, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
AUS Leaching Procedure			
pH (initial)	Melbourne	Sep 06, 2021	0 Days
- Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes			
pH (Leachate fluid)	Melbourne	Sep 06, 2021	0 Days
- Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes			
pH (off)	Melbourne	Sep 06, 2021	0 Days
- Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes			
Polycyclic Aromatic Hydrocarbons	Melbourne	Sep 08, 2021	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			

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Project ID: 2048-1

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Phone: 9429 6955
Fax: 9429 5911

Received: Sep 6, 2021 11:38 AM
Due: Sep 13, 2021
Priority: 5 Day
Contact Name: Rory McPhillips

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						Arsenic	Lead	Polycyclic Aromatic Hydrocarbons	AUS Leaching Procedure	TRH (after Silica Gel cleanup)	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254						X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217												
Brisbane Laboratory - NATA Site # 20794												
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Mayfield Laboratory - NATA Site # 25079												
External Laboratory												
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID							
1	BH03_0.5	Aug 22, 2021		Soil	M21-Se10294					X	X	
2	BH03_1.0	Aug 22, 2021		Soil	M21-Se10295						X	X
3	BH03_0.5	Aug 22, 2021		AUS Leachate - pH 5.0	M21-Se10296	X			X			
4	BH03_1.0	Aug 22, 2021		AUS Leachate - pH 5.0	M21-Se10297	X		X	X			
5	BH05_0.1	Aug 22, 2021		AUS Leachate - pH 5.0	M21-Se10298	X	X	X	X			
Test Counts						3	1	2	3	1	2	1

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RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NC	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank										
Heavy Metals										
Arsenic				mg/L	< 0.01			0.01	Pass	
Lead				mg/L	< 0.01			0.01	Pass	
Test	Lab Sample ID	QA Source		Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery										
Heavy Metals					Result 1					
Arsenic	M21-Se10215	NCP		%	119			75-125	Pass	
Spike - % Recovery										
Heavy Metals					Result 1					
Lead	M21-Se10215	NCP		%	117			75-125	Pass	
Test	Lab Sample ID	QA Source		Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate										
Heavy Metals					Result 1	Result 2	RPD			
Arsenic	M21-Se10215	NCP		mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate										
Heavy Metals					Result 1	Result 2	RPD			
Lead	M21-Se10215	NCP		mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate										
Polycyclic Aromatic Hydrocarbons					Result 1	Result 2	RPD			
Acenaphthene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g,h,i)perylene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a,h)anthracene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1,2,3-cd)pyrene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M21-Se07307	NCP		mg/L	< 0.001	< 0.001	<1	30%	Pass	

Comments
Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Harry Bacalis	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

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Atma Environmental
56 William St
Abbotsford
VIC 3067



NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: **Rory McPhillips**

Report **822324-S**
Project name **ELWOOD**
Project ID **2048-1**
Received Date **Sep 06, 2021**

Client Sample ID			BH03_0.5	BH03_1.0
Sample Matrix			Soil	Soil
Eurofins Sample No.			M21-Se10294	M21-Se10295
Date Sampled			Aug 22, 2021	Aug 22, 2021
Test/Reference	LOR	Unit		
TRH - 2013 NEPM Fractions (after silica gel clean-up)				
TRH >C10-C16 (after silica gel clean-up)	50	mg/kg	< 50	-
TRH >C16-C34 (after silica gel clean-up)	100	mg/kg	< 100	-
TRH >C34-C40 (after silica gel clean-up)	100	mg/kg	< 100	-
TRH >C10-C40 (total) (after silica-gel clean up)*	100	mg/kg	< 100	-
TRH - 1999 NEPM Fractions (after silica gel clean-up)				
TRH C10-C14 (after silica gel clean-up)	20	mg/kg	< 20	-
TRH C15-C28 (after silica gel clean-up)	50	mg/kg	< 50	-
TRH C29-C36 (after silica gel clean-up)	50	mg/kg	< 50	-
TRH C10-C36 (Total) (after silica gel clean-up)	100	mg/kg	< 50	-
% Moisture	1	%	14	9.9
Total Recoverable Hydrocarbons				
TRH C6-C9	20	mg/kg	-	< 20
TRH C10-C14	20	mg/kg	-	< 20
TRH C15-C28	50	mg/kg	-	< 50
TRH C29-C36	50	mg/kg	-	< 50
TRH C10-C36 (Total)	50	mg/kg	-	< 50
Naphthalene ^{N02}	0.5	mg/kg	-	< 0.5
TRH C6-C10	20	mg/kg	-	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	-	< 20
TRH >C10-C16	50	mg/kg	-	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	-	< 50
TRH >C16-C34	100	mg/kg	-	< 100
TRH >C34-C40	100	mg/kg	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	< 100

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
TRH - 2013 NEPM Fractions (after silica gel clean-up) - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Sep 06, 2021	14 Days
TRH - 1999 NEPM Fractions (after silica gel clean-up) - Method: TRH C6-C36 (Silica Gel Cleanup) - MGT 100A	Melbourne	Sep 06, 2021	14 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Melbourne	Sep 06, 2021	14 Days
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Sep 06, 2021	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Sep 06, 2021	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Sep 06, 2021	14 Days

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261 Site # 1254

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

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Company Name: Atma Environmental
Address: 56 William St
Abbotsford
VIC 3067
Project Name: ELWOOD
Project ID: 2048-1

Order No.:
Report #: 822324
Phone: 9429 6955
Fax: 9429 5911

Received: Sep 6, 2021 11:38 AM
Due: Sep 13, 2021
Priority: 5 Day
Contact Name: Rory McPhillips

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						Arsenic	Lead	Polyyclic Aromatic Hydrocarbons	AUS Leaching Procedure	TRH (after Silica Gel cleanup)	Moisture Set	Total Recoverable Hydrocarbons
Melbourne Laboratory - NATA Site # 1254						X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217												
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
Mayfield Laboratory - NATA Site # 25079												
External Laboratory												
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID							
1	BH03_0.5	Aug 22, 2021		Soil	M21-Se10294					X	X	
2	BH03_1.0	Aug 22, 2021		Soil	M21-Se10295						X	X
3	BH03_0.5	Aug 22, 2021		AUS Leachate - pH 5.0	M21-Se10296	X			X			
4	BH03_1.0	Aug 22, 2021		AUS Leachate - pH 5.0	M21-Se10297	X		X	X			
5	BH05_0.1	Aug 22, 2021		AUS Leachate - pH 5.0	M21-Se10298	X	X	X	X			
Test Counts						3	1	2	3	1	2	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NC	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
TRH - 2013 NEPM Fractions (after silica gel clean-up)									
TRH >C10-C16 (after silica gel clean-up)			mg/kg	< 50			50	Pass	
TRH >C16-C34 (after silica gel clean-up)			mg/kg	< 100			100	Pass	
TRH >C34-C40 (after silica gel clean-up)			mg/kg	< 100			100	Pass	
Method Blank									
TRH - 1999 NEPM Fractions (after silica gel clean-up)									
TRH C10-C14 (after silica gel clean-up)			mg/kg	< 20			20	Pass	
TRH C15-C28 (after silica gel clean-up)			mg/kg	< 50			50	Pass	
TRH C29-C36 (after silica gel clean-up)			mg/kg	< 50			50	Pass	
Method Blank									
Total Recoverable Hydrocarbons									
TRH C6-C9			mg/kg	< 20			20	Pass	
TRH C10-C14			mg/kg	< 20			20	Pass	
TRH C15-C28			mg/kg	< 50			50	Pass	
TRH C29-C36			mg/kg	< 50			50	Pass	
Naphthalene			mg/kg	< 0.5			0.5	Pass	
TRH C6-C10			mg/kg	< 20			20	Pass	
TRH >C10-C16			mg/kg	< 50			50	Pass	
TRH >C16-C34			mg/kg	< 100			100	Pass	
TRH >C34-C40			mg/kg	< 100			100	Pass	
LCS - % Recovery									
TRH - 2013 NEPM Fractions (after silica gel clean-up)									
TRH >C10-C16 (after silica gel clean-up)			%	119			70-130	Pass	
LCS - % Recovery									
TRH - 1999 NEPM Fractions (after silica gel clean-up)									
TRH C10-C14 (after silica gel clean-up)			%	130			70-130	Pass	
LCS - % Recovery									
Total Recoverable Hydrocarbons									
TRH C6-C9			%	87			70-130	Pass	
TRH C10-C14			%	100			70-130	Pass	
Naphthalene			%	115			70-130	Pass	
TRH C6-C10			%	80			70-130	Pass	
TRH >C10-C16			%	101			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	M21-Se10504	NCP	%	93			70-130	Pass	
Naphthalene	M21-Se09582	NCP	%	103			70-130	Pass	
TRH >C10-C16	M21-Se10504	NCP	%	93			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M21-Se10200	NCP	%	26	26	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	M21-Se09620	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	M21-Se10503	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M21-Se10503	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M21-Se10503	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Naphthalene	M21-Se09620	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate								
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD		
TRH C6-C10	M21-Se09620	NCP	mg/kg	< 20	< 20	<1	30%	Pass
TRH >C10-C16	M21-Se10503	NCP	mg/kg	< 50	< 50	<1	30%	Pass
TRH >C16-C34	M21-Se10503	NCP	mg/kg	< 100	< 100	<1	30%	Pass
TRH >C34-C40	M21-Se10503	NCP	mg/kg	< 100	< 100	<1	30%	Pass

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised by:

Harry Bacalis	Analytical Services Manager
Vivian Wang	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

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VIC 3067



NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: **Rory McPhillips**

Report **824601-L**
Project name **ELWOOD**
Project ID **2048-1**
Received Date **Sep 15, 2021**

Client Sample ID			BH03_0.5
Sample Matrix			AUS Leachate - pH 5.0
Eurofins Sample No.			M21-Se28897
Date Sampled			Aug 22, 2021
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Acenaphthene	0.001	mg/L	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001
Anthracene	0.001	mg/L	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001
Chrysene	0.001	mg/L	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001
Fluoranthene	0.001	mg/L	< 0.001
Fluorene	0.001	mg/L	< 0.001
Indeno(1,2,3-cd)pyrene	0.001	mg/L	< 0.001
Naphthalene	0.001	mg/L	< 0.001
Phenanthrene	0.001	mg/L	< 0.001
Pyrene	0.001	mg/L	< 0.001
Total PAH*	0.001	mg/L	< 0.001
2-Fluorobiphenyl (surr.)	1	%	106
p-Terphenyl-d14 (surr.)	1	%	99
AUS Leaching Procedure			
Leachate Fluid ^{C01}		comment	1.0
pH (initial)	0.1	pH Units	N/A
pH (Leachate fluid)	0.1	pH Units	4.9
pH (off)	0.1	pH Units	5.9

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Melbourne	Sep 15, 2021	7 Days
AUS Leaching Procedure			
pH (initial) - Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes	Melbourne	Sep 16, 2021	0 Days
pH (Leachate fluid) - Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes	Melbourne	Sep 16, 2021	0 Days
pH (off) - Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes	Melbourne	Sep 16, 2021	0 Days

Company Name: Atma Environmental
Address: 56 William St
Abbotsford
VIC 3067
Project Name: ELWOOD
Project ID: 2048-1

Order No.:
Report #: 824601
Phone: 9429 6955
Fax: 9429 5911

Received: Sep 15, 2021 9:30 AM
Due: Sep 16, 2021
Priority: 1 Day
Contact Name: Rory McPhillips

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						Polyyclic Aromatic Hydrocarbons	AUS Leaching Procedure
Melbourne Laboratory - NATA # 1261 Site # 1254						X	X
Sydney Laboratory - NATA # 1261 Site # 18217							
Brisbane Laboratory - NATA # 1261 Site # 20794							
Mayfield Laboratory - NATA # 1261 Site # 25079							
Perth Laboratory - NATA # 2377 Site # 2370							
External Laboratory							
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		
1	BH03_0.5	Aug 22, 2021		AUS Leachate - pH 5.0	M21-Se28897	X	X
Test Counts						1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NC	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " - " in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Comments
Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised by:

Michael Cassidy	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic (VIC)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

CHAIN OF CUSTODY RECORD
 Date: []/ []/ []

Alpha Environmental
 25 Nelson Street, MOOREFIELD, VIC
 3007 Australia

MICK C
 DATE: 5 April 2005

	1	2	3	4	5	6	7
BH01							
0.5							
1.0							
DUP-100016							
SPI-200018							
BH02							
0.1							
0.4							
1000							
BH03							
0.1							
0.4							
1000							

Environmental Division
 Melbourne
 Work Order Reference
EM2116836



Telephone : + 61-3-8549 9600

- 1 - IWRG 621
- 2 - M12 Metals (IWRG)
- 3 - PAHs
- 4 - TRH
- 5 - OCPs
- 6 - pH CaCl2
- 7 - CEC

Received:
 C/note:
 Date:

Carrier

CERTIFICATE OF ANALYSIS

Work Order : **EM2116836**
Client : **ATMA ENVIRONMENTAL P/L**
Contact : MR RORY McPHILLIPS
Address : 56 William Street
 ABBOTSFORD VIC, AUSTRALIA 3067
Telephone : +61 94296955
Project : 2048-1
Order number : ----
C-O-C number : ----
Sampler : MC
Site : ----
Quote number : EN/333 Seconday work only
No. of samples received : 1
No. of samples analysed : 1

Page : 1 of 5
Laboratory : Environmental Division Melbourne
Contact : Customer Services EM
Address : 4 Westall Rd Springvale VIC Australia 3171
Telephone : +61-3-8549 9600
Date Samples Received : 25-Aug-2021 09:00
Date Analysis Commenced : 26-Aug-2021
Issue Date : 31-Aug-2021 15:01



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

LOR = Limit of reporting

^ = This result is computed from individual analyte detections at or above the level of reporting

Ø = ALS is not NATA accredited for these tests.

~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a,h)anthracene (1.0), Benzo(g,h,i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP075(SIM): Where reported, Total Cresol is the sum of the reported concentrations of 2-Methylphenol and 3- & 4-Methylphenol at or above the LOR.



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)		Sample ID		SPL-220821B	----	----	----	----
		Sampling date / time		22-Aug-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	EM2116836-001	-----	-----	-----	-----
				Result	----	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	17.6	----	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	11	----	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	----	----	----	----
Chromium	7440-47-3	2	mg/kg	7	----	----	----	----
Copper	7440-50-8	5	mg/kg	53	----	----	----	----
Lead	7439-92-1	5	mg/kg	440	----	----	----	----
Nickel	7440-02-0	2	mg/kg	8	----	----	----	----
Zinc	7440-66-6	5	mg/kg	145	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	0.2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	----	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	0.6	----	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	----	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	----	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	2.7	----	----	----	----
Anthracene	120-12-7	0.5	mg/kg	0.9	----	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	7.7	----	----	----	----
Pyrene	129-00-0	0.5	mg/kg	8.3	----	----	----	----
Benzo(a)anthracene	56-55-3	0.5	mg/kg	4.0	----	----	----	----
Chrysene	218-01-9	0.5	mg/kg	4.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	4.9	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	2.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	4.7	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	2.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	2.5	----	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	44.3	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	6.0	----	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	6.3	----	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	6.6	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	75.0	----	----	----	----



Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Sample ID	SPL-220821B	----	----	----	----
				Sampling date / time	22-Aug-2021 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		EM2116836-001	-----	-----	-----	-----
				Result	----	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates - Continued									
2-Chlorophenol-D4	93951-73-6	0.5	%		85.3	----	----	----	----
2,4,6-Tribromophenol	118-79-6	0.5	%		81.4	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		99.4	----	----	----	----
Anthracene-d10	1719-06-8	0.5	%		111	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		102	----	----	----	----



Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	54	125
2-Chlorophenol-D4	93951-73-6	65	123
2,4,6-Tribromophenol	118-79-6	34	122
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	61	125
Anthracene-d10	1719-06-8	62	130
4-Terphenyl-d14	1718-51-0	67	133

QUALITY CONTROL REPORT

Work Order	: EM2116836	Page	: 1 of 5
Client	: ATMA ENVIRONMENTAL P/L	Laboratory	: Environmental Division Melbourne
Contact	: MR RORY McPHILLIPS	Contact	: Customer Services EM
Address	: 56 William Street ABBOTSFORD VIC, AUSTRALIA 3067	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: +61 94296955	Telephone	: +61-3-8549 9600
Project	: 2048-1	Date Samples Received	: 25-Aug-2021
Order number	: ----	Date Analysis Commenced	: 26-Aug-2021
C-O-C number	: ----	Issue Date	: 31-Aug-2021
Sampler	: MC		
Site	: ----		
Quote number	: EN/333 Seconday work only		
No. of samples received	: 1		
No. of samples analysed	: 1		



This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
Nancy Wang	2IC Organic Chemist	Melbourne Inorganics, Springvale, VIC
Nancy Wang	2IC Organic Chemist	Melbourne Organics, Springvale, VIC
Nikki Stepniewski	Senior Inorganic Instrument Chemist	Melbourne Inorganics, Springvale, VIC



General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
 Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
 CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
 LOR = Limit of reporting
 RPD = Relative Percentage Difference
 # = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 3869026)									
EM2116804-014	Anonymous	EG005T: Nickel	7440-02-0	2	mg/kg	72	74	1.7	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	24	37	43.6	No Limit
EM2116790-005	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	16	18	13.4	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	173	177	2.3	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	43	44	2.7	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.0	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	82	86	3.8	0% - 50%
		EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.0	No Limit
EM2116804-014	Anonymous	EG005T: Chromium	7440-47-3	2	mg/kg	78	76	1.5	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	61	41	39.6	0% - 50%
		EG005T: Copper	7440-50-8	5	mg/kg	36	21	53.4	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	6	10	43.6	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	82	86	3.8	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 3867178)									
EM2116764-002	Anonymous	EA055: Moisture Content	----	0.1	%	11.0	11.0	0.0	0% - 50%
EM2116764-043	Anonymous	EA055: Moisture Content	----	0.1	%	17.2	16.4	4.8	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 3869025)									
EM2116790-005	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EM2116804-014	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.0	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3869585)									
EM2116752-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	7.6	7.3	3.6	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<1.0	<1.0	0.0	No Limit

Page : 3 of 5
 Work Order : EM2116836
 Client : ATMA ENVIRONMENTAL P/L
 Project : 2048-1



Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 3869585) - continued									
EM2116752-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
			205-82-3						
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<1.0	<1.0	0.0	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<1.0	<1.0	0.0	No Limit



Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result			LCS	Low
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3869026)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	123 mg/kg	104	70.0	130
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	1.23 mg/kg	61.3	50.0	130
EG005T: Chromium	7440-47-3	2	mg/kg	<2	20.2 mg/kg	99.3	70.0	130
EG005T: Copper	7440-50-8	5	mg/kg	<5	55.9 mg/kg	90.2	70.0	130
EG005T: Lead	7439-92-1	5	mg/kg	<5	62.4 mg/kg	88.5	70.0	130
EG005T: Nickel	7440-02-0	2	mg/kg	<2	15.4 mg/kg	95.0	70.0	130
EG005T: Zinc	7440-66-6	5	mg/kg	<5	162 mg/kg	76.3	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3869025)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	0.64 mg/kg	88.3	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3869585)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	3 mg/kg	110	85.7	123
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	3 mg/kg	105	81.0	123
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	3 mg/kg	109	83.6	120
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	3 mg/kg	99.4	81.3	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	3 mg/kg	107	79.4	123
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	3 mg/kg	114	81.7	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	3 mg/kg	106	78.3	124
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	3 mg/kg	112	79.9	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	3 mg/kg	98.9	76.9	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	3 mg/kg	114	80.9	130
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2	0.5	mg/kg	<0.5	3 mg/kg	81.2	70.0	121
	205-82-3							
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	3 mg/kg	118	80.4	130
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	3 mg/kg	109	70.2	123
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	3 mg/kg	85.6	67.9	122
EP075(SIM): Dibenz(a,h)anthracene	53-70-3	0.5	mg/kg	<0.5	3 mg/kg	87.2	65.8	123
EP075(SIM): Benzo(g,h,i)perylene	191-24-2	0.5	mg/kg	<0.5	3 mg/kg	92.4	65.8	127

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Matrix Spike (MS) Report		
Spike	SpikeRecovery(%)	Acceptable Limits (%)

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 Work Order : EM2116836
 Client : ATMA ENVIRONMENTAL P/L
 Project : 2048-1



Sub-Matrix: **SOIL**

Sub-Matrix: SOIL				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 3869026)							
EM2116790-006	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	87.2	78.0	124
		EG005T: Cadmium	7440-43-9	50 mg/kg	95.6	79.7	116
		EG005T: Chromium	7440-47-3	50 mg/kg	106	79.0	121
		EG005T: Copper	7440-50-8	250 mg/kg	95.4	80.0	120
		EG005T: Lead	7439-92-1	250 mg/kg	92.7	80.0	120
		EG005T: Nickel	7440-02-0	50 mg/kg	89.2	78.0	120
		EG005T: Zinc	7440-66-6	250 mg/kg	94.0	80.0	120
EG035T: Total Recoverable Mercury by FIMS (QCLot: 3869025)							
EM2116790-006	Anonymous	EG035T: Mercury	7439-97-6	0.5 mg/kg	98.4	76.0	116
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 3869585)							
EM2116836-001	SPL-220821B	EP075(SIM): Acenaphthene	83-32-9	3 mg/kg	96.6	77.2	116
		EP075(SIM): Pyrene	129-00-0	3 mg/kg	77.9	65.5	136

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: EM2116836	Page	: 1 of 4
Client	: ATMA ENVIRONMENTAL P/L	Laboratory	: Environmental Division Melbourne
Contact	: MR RORY McPHILLIPS	Telephone	: +61-3-8549 9600
Project	: 2048-1	Date Samples Received	: 25-Aug-2021
Site	: ----	Issue Date	: 31-Aug-2021
Sampler	: MC	No. of samples received	: 1
Order number	: ----	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO** Method Blank value outliers occur.
- **NO** Duplicate outliers occur.
- **NO** Laboratory Control outliers occur.
- **NO** Matrix Spike outliers occur.
- For all regular sample matrices, **NO** surrogate recovery outliers occur.

Outliers : Analysis Holding Time Compliance

- **NO** Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- **NO** Quality Control Sample Frequency Outliers exist.



Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for VOC in soils vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: ✖ = Holding time breach ; ✔ = Within holding time.

Method	Sample Date	Extraction / Preparation			Analysis		
Container / Client Sample ID(s)		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055) SPL-220821B	22-Aug-2021	----	----	----	26-Aug-2021	05-Sep-2021	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T) SPL-220821B	22-Aug-2021	28-Aug-2021	18-Feb-2022	✓	28-Aug-2021	18-Feb-2022	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T) SPL-220821B	22-Aug-2021	28-Aug-2021	19-Sep-2021	✓	28-Aug-2021	19-Sep-2021	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) SPL-220821B	22-Aug-2021	27-Aug-2021	05-Sep-2021	✓	27-Aug-2021	06-Oct-2021	✓



Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: ✖ = Quality Control frequency not within specification ; ✔ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification	
Analytical Methods	Method	QC	Regular	Actual	Expected		Evaluation
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	17	11.76	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	3	20	15.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	10	10.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	17	5.88	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard



Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM Schedule B(3).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl ₂) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl ₂ which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3)
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM Schedule B(3)
Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM Schedule B(3).
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na ₂ SO ₄ and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.